Yellowstone County, Montana

MS4 Storm Water Management Program

Permit Years: 2017-2021

Updated February 21, 2019

Prepared by

HDR

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1 Introduction

Yellowstone County's storm drainage system is regulated by Montana's General Permit for Storm Water Discharges Associated with Small Municipal Separate Storm Sewer Systems (MS4), Permit Number MTR040000 (General Permit). The General Permit provides authorization to discharge storm water to waters of the state under the Montana Pollutant Discharge Elimination System (MPDES). The General Permit requires the County to develop, document, and maintain a Storm Water Management Program (SWMP) which includes management practices, control techniques, systems, designs, good standard engineering practices, and such other provisions necessary to reduce the discharge of pollutants from the permitted Small MS4 to the maximum extent practicable (MEP).

This SWMP describes Yellowstone County's (County) MS4 compliance program which includes best management practices (BMPs), control techniques, inventory of systems, designs, and engineering practices to comply with the requirements of the General Permit.

1.1 MS4 General Permit Compliance Status

On June 14th, 2018 Montana DEQ conducted an inspection of the County's SWMP to determine compliance with the General Permit. Montana DEQ concluded that the County's SWMP was deficient and identified violations in each of the five sections of the General Permit that were reviewed:

- Part II.A – Storm Water Management Program
- Part II.A.3 – Illicit Discharge Detection and Elimination
- Part II.B – Training
- Part II.C – Sharing Responsibility
- Part III – Special Conditions
  - Parts A and B
- Part IV – Monitoring, Recording, and Reporting Requirements
  - Parts A and B

The County developed a regulatory compliance schedule to address each violation and agreed to develop an updated SWMP that includes a plan and schedule to address all General Permit requirements over the remainder of the permit term. This SWMP addresses multiple violations and describes the County's plan to develop a comprehensive SWMP over the remainder of the permit term. A copy of the regulatory compliance schedule and a progress update is provided in Section 8. Additionally, a SWMP development schedule is provided in Appendix A.

This SWMP document will be updated and submitted with each annual report to document progress.

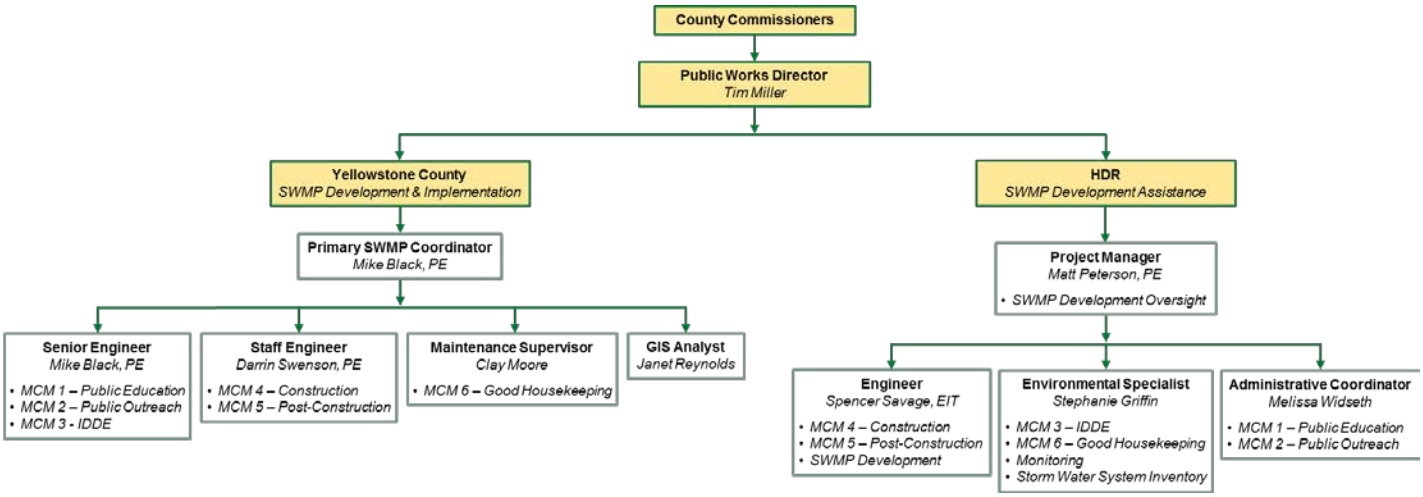
1.2 Storm Water Management Program Team

The County is responsible to develop and implement a coordinated storm water program that includes the development of a SWMP team comprised of persons responsible for implementation of the SWMP and the establishment of formal mechanisms for communication and coordination between team members (e.g., meetings, email updates, etc.) to ensure cooperation necessary to facilitate permit compliance and timely reporting. This section describes the County's SWMP team composition and coordination measures.

1.2.1 SWMP Team Composition

The County is governed by the Board of County Commissioners. The chair of the board, Denis Pitman, is the certified official to sign documents for the General Permit. The Public Works Department is responsible to develop, implement, adhere to, and enforce the General Permit requirements.

The County has hired HDR Engineering, Inc. to assist with development and implementation of their SWMP. County staff and HDR staff comprise of the SWMP team. HDR's staff members currently play a large role in the SWMP team. The long-term plan is for roles and responsibilities to transition to County staff members over the coming years as the program develops. The following organizational chart identifies SWMP team members and General Permit responsibilities. This organizational chart will be updated annually.



1.2.2 SWMP Team Coordination

Routine communication between team members is an essential component to a successful SWMP. The SWMP team uses the following mechanisms for regular communication between team members:

- Meetings
  - Monthly SWMP check-in meetings are scheduled for 9:30AM on the first Wednesday of each month. The intent of these meetings is to provide a progress update on program development and implementation. Attendees from the County and HDR will attend. Additionally, HDR's SWMP team members coordinate on a weekly basis and will continue to do so.
  - Meetings are held in person at the Yellowstone County Public Works office, as well as on the phone via conference call.
  - Meeting summaries will be developed to document meeting discussions and action items.

- Direct communication between team members
  - Email
  - Phone
  - Text
  - In-person meetings as needed

In order to efficiently share information, the SWMP team has developed a file system using Microsoft OneDrive to allow access to all team members. The main folder structure is provided below.

- Yellowstone County MS4 Program OneDrive root file structure
  - Annual Reports
  - Monitoring
  - Storm Water System Inventory
  - SWMP
  - SWMP Team Communication
  - Training

1.3 Sharing Responsibility

The General Permit allows MS4's to share responsibility to implement minimum control measures (MCMs) with other entities in order to satisfy permit requirements. In previous years, the County has partnered with other entities to implement permit requirements without engaging in formal agreements to share responsibilities. For example, the County coordinated a post-construction training session in 2018 that the City of Billings took part in.

The County does not currently have any formal agreements to receive assistance with fulfilling permit requirements or provide assistance to other MS4s to fulfill permit requirements. The County's SWMP team will continue to explore opportunities to coordinate with other entities, including the City of Billings, to implement the SWMP; however, development of formal agreements to share permit responsibilities is not anticipated.

NOTE: *The County has hired HDR Engineering, Inc. to help develop the SWMP; however, HDR is not formally responsible for implementation of any single MCM. HDR is considered to be an integral member of the SWMP team while the program is being developed. A description of HDR's role on the SWMP team is provided in Section 1.2.1.*

2 Description of Permit Area

The County MS4 area is comprised of multiple small areas surrounding the City of Billings and a few larger tracts along the Yellowstone River. The County's storm drainage system is separated from the sanitary sewer system, with storm drains discharging into local streams and rivers. This section describes the geographic area of General Permit coverage and receiving count MS4 waterbodies.

2.1 MS4 Boundary

The County's geographic area of General Permit coverage includes the U.S. Census designated urbanized areas for Yellowstone County in accordance with the 2010 census, with the exception of areas in the City of Billings limits. As of December 2018, the County's geographic area of General Permit coverage encompasses 16.22 square miles, shown in Figure 2-1.

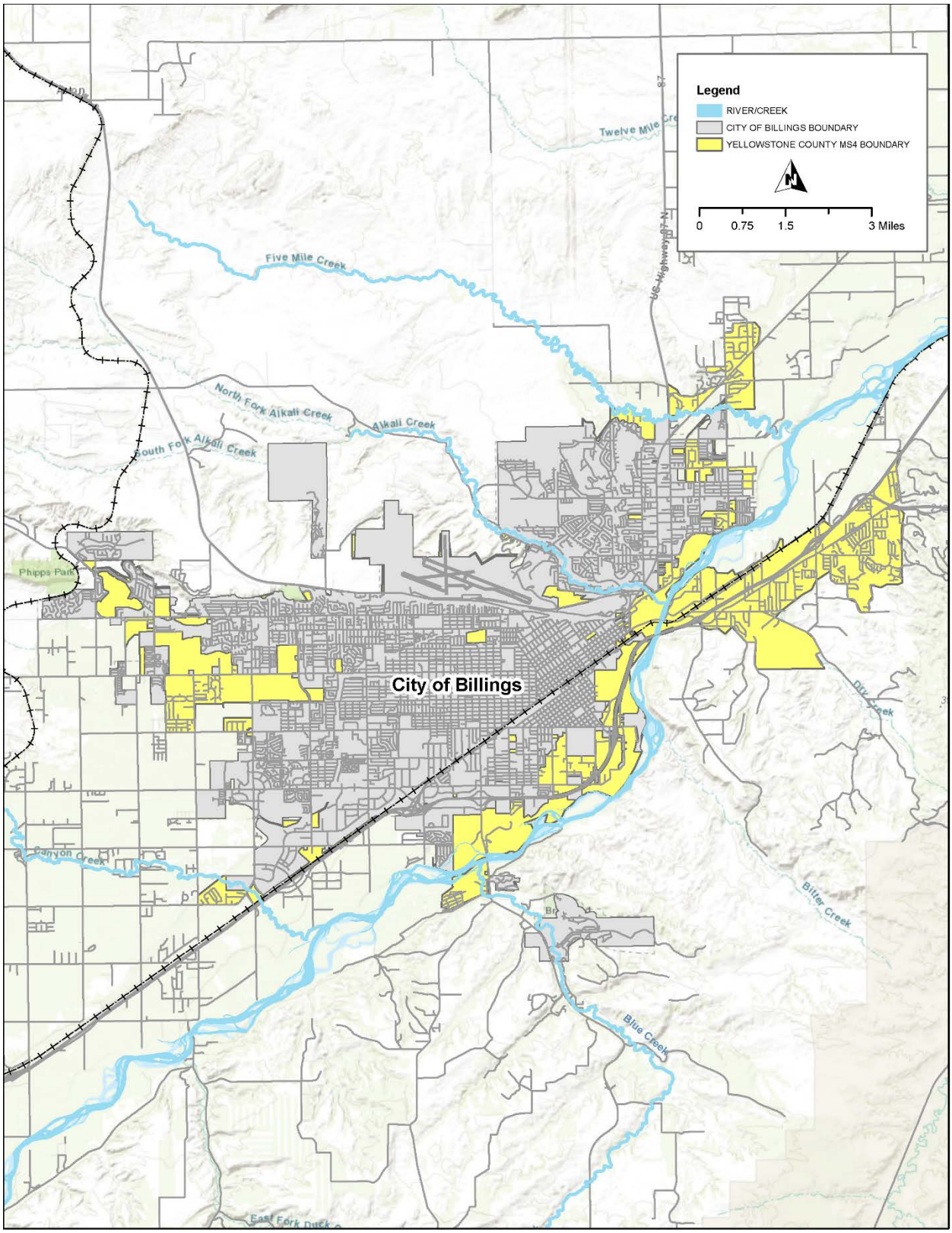


Figure 2-1. Geographic Area of General Permit Coverage

2.2 Receiving Waterbodies

The County has not yet identified all MS4 receiving waterbodies; however, according to the National Hydrography Dataset (NHD), the General Permit coverage area includes eight watersheds:

- Alkali Creek
- Brockway Coulee-Yellowstone River
- City of Billings-Yellowstone River
- Five Mile Creek
- Hogans Slough
- Lower Blue Creek
- Lower Canyon Creek
- Sevenmile Creek-Yellowstone River

Some of these watersheds contain smaller creeks that drain through the MS4 area. Additionally, within each of these watersheds there are drainage and irrigation systems that convey water through the MS4. A system wide inventory is in process to identify all MS4 inlets, outfalls, open channels, subsurface conduits/pipes, dry wells, and other similar conveyances. Further discussion on the inventory, receiving waterbodies, and MS4 outfalls is provided in Section 3.2.3.

3 Minimum Control Measure Management Program

The General Permit requires the County to develop, implement, and manage appropriate types of BMPs in order to minimize the discharge of pollutants to receiving waterbodies. These BMPs are required to be selected, designed, installed, implemented, inspected, and maintained in accordance with good engineering, hydrologic, and pollution control practices. To assist with the development, implementation, and management of BMPs, the General Permit outlines six MCMs which are the fundamental elements of this SWMP:

1. Public Education and Outreach
2. Public Involvement and Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Storm Water Management
5. Post-Construction Site Storm Water Management in New and Redevelopment
6. Pollution Prevention/Good Housekeeping for Permittee Operations

The following sections provide a description of the MCMs along with the associated requirements for permit compliance and the current compliance status for each requirement. Some requirements have been identified as being out of compliance per the General Permit's implementation schedule. For each non-compliant item, an action plan is provided that details the anticipated activities that will take place over the remainder of the permit term.

3.1 MCM 1 and 2: Public Education, Outreach, Involvement, and Participation

Elements of Education and Outreach Program
☑ Identify Key Target Audiences
☑ Identify Potential Pollutants
☐ Develop Outreach Strategy
☐ Develop and Distribute Outreach Material
☐ Revise and Update Storm Water Website

Public education, outreach, and participation are essential to preventing storm water pollution and protecting local waterbodies. Part II.A.1 and Part II.A.2 of the General Permit require the County to implement a storm water public education program and to develop a strategy to involve key target audiences. The intent of the program is to provide educational materials and outreach activities to key target audiences within the County to help raise awareness about the impacts of storm water discharges on local waterbodies. The program is also intended to educate the audiences about certain behaviors and activities that have the potential to pollute storm water while at the same time motivating a change in these behaviors and activities in order to reduce storm water pollution.

3.1.1 Key Target Audiences

Per Part II.A.1.a.i of the General Permit, the County has evaluated businesses, industries, and community behaviors to identify key target audiences for public education, outreach, and participation. The list of target audiences is provided in Table 3-1.

Table 3-1 Summary of Key Target Audiences

Key Target Audience	Description	Rationale	Potential Pollutants
Construction Industry	▪ Business managers ▪ Contractors ▪ Trades workers	Construction sites have a high potential to release pollutants if not managed properly.	Sediment, concrete washout, trash & debris, paint, equipment chemicals
Automotive Maintenance Facilities	▪ Commercial car-care ▪ Retail businesses ▪ Commercial car washes ▪ Gas stations	Facilities have a high potential to release significant pollutants.	Oil, fuel, cleaning chemicals, hazardous chemicals
Landscaping Companies	▪ Business that develop and maintain commercial and private landscape areas	Residual chemicals and debris have a high potential to be released into the MS4.	Fertilizers, pesticides, landscape debris, sediment
County Residents	▪ Residents within Yellowstone County MS4	Household maintenance, car maintenance, and pet waste have a high potential to release significant pollutants.	Landscape debris, household chemicals, pet waste, automotive chemicals

3.1.2 Storm Water Website

The County has a storm water webpage that provides information to the public about storm water. The webpage will be revised and updated in 2019 and a link to the website will be provided for key target audiences, interested stakeholders, and the general public through the County's Public Works website. Per Part II.A.1.a.ii and Part II.A.2.b of the General Permit, the website will include the following information:

- A copy of the General Permit
- Access/links to outreach material
- Current outreach event information
- SWMP documents and updates

- Copies of the annual reports
- An effective mechanism for providing continued public input for the SWMP
- Information on how to identify sources of illicit discharges
- Procedures on how to report an illicit discharge
- A summary of County's requirements for covered construction activities
- Instructions on how to submit construction project complaints

3.1.3 Outreach Strategy

A comprehensive public outreach plan will be developed during 2019 in order to comply with Part II.A.1.c and Part II.A.2.a of the General Permit. The foundation of this plan will be built upon two types of engagements: active engagement and passive engagement. Each engagement type will have specific strategies that are tailored to key target audiences. The concept of the plan is summarized in Table 3-2 and identifies the engagement type, potential engagement strategies, and applicable key target audiences. Copies of all educational and outreach material will be provided in Appendix C and submitted with the 2019 annual report.

Table 3-2 Anticipated Public Outreach Strategy

Engagement Type	Engagement Strategy	Applicable Key Target Audience
Active	▪ Presentations ▪ Meetings ▪ Trainings ▪ Tours ▪ Events	▪ Construction industry ▪ Automotive maintenance facilities ▪ Landscaping companies
Passive	▪ Storm water website ▪ Pamphlets/brochures/fliers	▪ Automotive maintenance facilities ▪ Landscaping companies ▪ County residents

3.2 MCM 3: Illicit Discharge Detection and Elimination

Administrative Rule of Montana (ARM) 17.30.1102(7) defines an illicit discharge as any discharge to a MS4 that is not composed entirely of storm water except discharges pursuant to an MPDES permit and discharges resulting from firefighting activities. Part II.A.3 of the General Permit requires the County to develop, implement, and enforce a program to detect and eliminate illicit discharges. The following sections describe the current status of the County's illicit discharge detection and elimination (IDDE) program and the activities that will take place over the remainder of the permit term.

NOTE: *The following sections outline Yellowstone County's plan for developing an IDDE program. Implementation of this program is dependent upon the County's ability to establish legal authority through a storm water ordinance or other regulatory mechanism which is currently being evaluated. Progress towards establishing legal authority is discussed in Section 3.2.4.*

3.2.1 Illicit Discharge Program Overview

Elements of IDDE Program
☑ Non-Storm Water Discharge Evaluation
☑ Occasional Incidental Non-Storm Water Discharge Evaluation
☐ Storm Water Sewer Inventory
☐ Illicit Discharge Prohibitions and Enforcement
☐ Outfall Inspections
☐ Illicit Discharge Investigations
☐ Investigation and Enforcement Documentation

The SWMP team is actively working to develop an IDDE program that addresses all permit requirements. The primary elements of the IDDE program will consist of non-storm water discharge evaluations, occasional incidental non-storm water discharge evaluations, a storm water sewer inventory, illicit discharge prohibitions, outfall inspections, and illicit discharge investigations. Once the program is developed, documentation will be provided in Appendix D and any updates or investigations will be documented in each annual report. The following sections describe the IDDE program in detail and document the current status of each requirement. For requirements that have yet to be addressed, a plan is provided that details future activities and the anticipated schedule for these activities in order to achieve compliance.

3.2.2 Non-Storm Water Discharge Evaluations

Per Part II.A.3.a.i and Part II.A.3.b.i of the General Permit, the County is required to annually evaluate non-storm water discharges and occasional incidental non-storm water discharges within the MS4 boundary. The purpose of this evaluation is to:

1. Determine if the non-storm water discharge is suspected of being a significant contributor of pollutants;
2. Identify what the potential associated pollutants are for each discharge; and,
3. Identify what local storm water management controls or conditions are or will be implemented to reduce pollution.

The 2018 non-storm water discharge and occasional incidental non-storm water discharge evaluations are provided in Table A-2 and Table A-3 in Appendix A. These discharges are not expected to be an issue in Yellowstone County and the evaluations will be updated annually and submitted with each annual report.

3.2.3 Storm Water Sewer Inventory

Major Milestone	Schedule & Deadline
▪ Submit Preliminary Map	☑ March 2019
▪ Phase 1 Field Investigation	☐ Summer 2019
▪ Submit Updated Map	☐ March 2020
▪ Phase 2 Field Investigation	☐ Summer 2020
▪ Submit Final Map	☐ March 2021

Per Part II.A.3.c of the General Permit, the County will develop an inventory of all storm water features within the MS4 boundary. These features will include inlets, outfalls, open channels, subsurface conduit/pipes, dry wells that discharge directly to ground water, and other similar discrete conveyances.

The 2018 inspection by Montana DEQ determined that the County's storm water inventory is deficient. The County has developed an inventory analysis plan and schedule to develop a system-wide storm sewer system inventory. The plan and schedule is shown in Table 3-5. As of March 2019, the County has reviewed hard-copy and digital data to develop a preliminary base map that identifies the type and location of storm water features. A copy of this map is provided in Appendix A as well as a summary table of waterbodies and conveyance systems within the MS4 boundary. This map and summary table are preliminary and serve as a mechanism for identifying additional areas

that need mapping. An updated table and map will be submitted with the 2019 annual report and a completed map will be submitted with the 2020 report.

Table 3-3. Storm Water Inventory Analysis Plan & Schedule

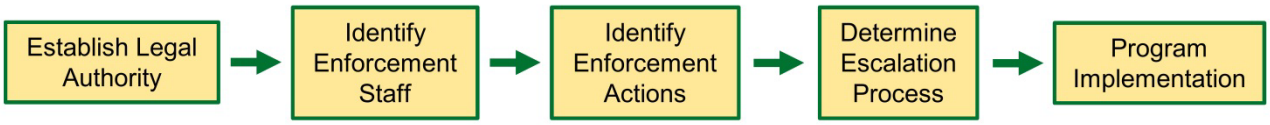
Task	Description	Dates
1. Confirm area to be mapped (County MS4 boundary)	Identify 2010 U.S. Census designated urbanized area and City of Billings MS4 boundaries	Sept 2018 (completed)
2. Identify items to be mapped	**Items to be mapped:** *MCM 3:* outfalls, surface waters that receive discharges from outfalls, inlets, open channels, subsurface conduits/pipes, dry wells, conveyances, high priority areas *MCM 5:* High priority existing post-construction storm water management controls, all new (post 2017) storm water management controls *MCM 6:* Location of permittee owned facilities and known activities that have the ability to release contaminants to the MS4	Sept 2018 (completed)
3. Desktop analysis and interviews	Review available hard-copy and digital data and interview field staff to create preliminary base map. Identify areas and data to be gathered during field investigation.	Nov 2018 to Apr 2019 (completed)
4. Submit preliminary map to DEQ	Results of desktop analysis with description of upcoming field investigation will be submitted with 2018 annual report	Mar 2019 (completed)
5. Field investigation (phase 1)	County and/or consultant staff will collect storm water inventory data using handheld GPS units. Use of intern(s) will be considered to maximize efficient use of funds. GPS data will be GIS compatible for integration with the County's GIS mapping platform.	May 2019 to Aug 2019
6. Field data analysis (phase 1)	Field data will be added to the preliminary base map by County or consultant staff. Preliminary high priority areas will be identified. Additional field investigation needs will be identified, if necessary.	Sept 2019 to Apr 2020
7. Submit updated map to DEQ	Results of phase 1 mapping analysis will be submitted with 2019 annual report. Description of upcoming field investigation will also be provided (if necessary).	Mar 2020
8. Field investigation (phase 2) (if necessary)	County and/or consultant staff will collect remaining items for storm water inventory data.	May 2020 to Aug 2020
9. Field data analysis (phase 2) (if necessary)	Field data will be added to the base map by County or consultant staff. High priority areas will be updated.	Sept 2020 to Apr 2021
10. Submit completed map to DEQ	Results of phase 2 inventory analyses will be submitted with 2020 annual report.	Mar 2021

3.2.4 Illicit Discharge Prohibitions

The County is investigating options to establish legal authority through either a storm water ordinance or other regulatory mechanism to prohibit illicit discharges and illicit connections. To help facilitate this, the SWMP team is coordinating with the County's legal counsel and reviewing

Missoula County's approach for establishing legal authority (Missoula County established legal authority by creating the Missoula Valley Water Quality District and by partnering with the City of Missoula to create City-County health codes). The County also plans to coordinate with the City of Billings and Montana Department of Transportation (MDT) to determine appropriate methods for detecting and eliminating illicit discharges that may originate within respective MS4 boundaries. If applicable, any formal agreements will be documented and added to this SWMP.

Per Part II.A.3.d of the General Permit, the County will work towards developing and implementing a formal ERP for illicit discharges and connections in 2019. The County anticipates using the draft ERP template for illicit discharges provided in Appendix H. To the extent feasible, the County will identify enforcement staff, applicable enforcement actions, and appropriate escalation processes. The flow chart shown below depicts the process to develop the illicit discharge ERP.



3.2.5 Outfall Inspections

Per Part II.A.3.e of the General Permit, the County will inspect and screen all County MS4 outfalls during dry weather. As discussed in Section 3.2.3, the County is in the process of identifying and locating its outfalls. The SWMP team will begin dry weather inspections in 2019 using the Outfall Reconnaissance Inventory form in Appendix D and summarize the results of these inspections in Table 3-6. High priority areas will be designated as the outfall inspections continue through the remainder of the permit term. Priority areas will be determined by considering factors such as water quality impacts, characteristics of the drainage area, age of the conveyance systems, and discharges to sensitive waterbodies.

Table 3-4. Dry-Weather Outfall Inspection Progress Template

Category	2019	2020	2021
Number of Outfalls Inspected			
Number of Illicit Discharges Identified			
Number of High Priority Outfalls Inspected			
Percentage of Outfalls Inspected During Permit Term			

3.2.6 Illicit Discharge Investigations

Per Part II.A.3.f of the General Permit, the County plans to develop an illicit discharge investigation and correction action plan in 2019. The County anticipates using the investigation and action plan template provided in Appendix D. Once a comprehensive plan has been fully developed, the final version will be added to this SWMP. The County also plans to develop a formal method for documenting illicit discharge investigations and the appropriate corrective action plan. This method will be based upon the information provided in the previously mentioned template.

3.3 MCM 4: Construction Site Storm Water Management

Construction sites are often considered a significant source of pollutants that have a high potential for discharging to local waterbodies. The primary pollutant of concern associated with active construction sites is sediment. Part II.A.4 of the General Permit requires the County to develop, implement, and enforce a program to reduce pollutants in storm water runoff that discharge to the MS4 from construction sites. The following sections describe the primary elements of the County's construction site storm water management program.

Elements of Construction Storm Water Management Program

- ☐ Ordinance or Regulatory Mechanism
- ☐ Plan Review and Approval Process
- ☐ Construction Site Inspections
- ☐ Program Enforcement

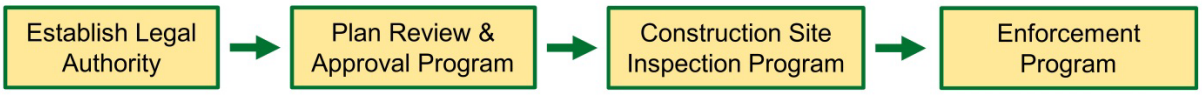
Figure 3-1. Example of Proper Construction BMP
Source: HDR, Inc.

Figure 3-2. Example of Poor Construction BMP

NOTE: *The following sections outline Yellowstone County's plan for developing a construction site storm water management program. Implementation of this program is dependent upon the County's ability to establish legal authority through a storm water ordinance or other regulatory mechanism which is currently being evaluated. Progress towards establishing legal authority is discussed in Section 3.3.2.*

3.3.1 Construction Program Overview

The County is working to develop a construction site storm water management program. The program will consist of establishing legal authority, implementing a plan review and approval process, performing construction site inspections, and enforcing the primary requirements of the program. The flow chart shown below depicts the process to develop this program.



The following sections describe the County's plan to develop, implement, and maintain these elements of the construction site storm water management program.

3.3.2 Construction Program Legal Authority

The County is investigating options to establish legal authority through either a storm water ordinance or other regulatory mechanism in order to enforce the construction storm water management program. Our goal is to identify a solution and work towards implementation of that

solution in 2019. Per Part II.A.4.a of the General Permit, the ordinance or other regulatory mechanism will attempt to address the following requirements:

1. All regulated construction projects will be required to design, implement, and maintain applicable construction storm water BMPs. Construction storm water BMPs shall be designed, implemented, and maintained in accordance with the minimum standards described as Non-Numeric Technology-Based Effluent Limits in the most current Montana DEQ General Permit for Storm Water Discharges Associated with Construction Activity.
2. Yellowstone County, as the regulating entity, will need the authority to enforce the construction site storm water management program and the authority to inspect privately-owned construction storm water BMPs.

3.3.3 Plan Review and Approval

Per Part II.A.4.b of the General Permit, a plan review and approval process will be developed during 2020. The process will require contractors to submit a complete set of construction plans or the project-specific storm water pollution prevention plan (SWPPP) prior to the beginning of construction. During the review process, the County will:

- Verify that construction storm water BMPs are adequately designed;
- Verify that construction storm water BMPs are located appropriately; and,
- Provide recommendations or comments if necessary.

To help facilitate the review and approval process, a plan review checklist will be developed and utilized during each review. A draft of the plan review checklist is provided in Appendix E.

3.3.4 Inspection Program

Elements of Inspection Program
☐ Standardized Inspection Form
☐ Inspection Frequency Protocol
☐ Project Inventory List
☐ Field Inspection Staff

As part of the ordinance or regulatory mechanism, the County must have the authority to inspect storm water pollution control measures associated with all regulated construction projects. The SWMP team will begin to develop a construction site storm water inspection program in 2020. This program will consist of the following elements in order to comply with Part II.A.4.c of the General Permit:

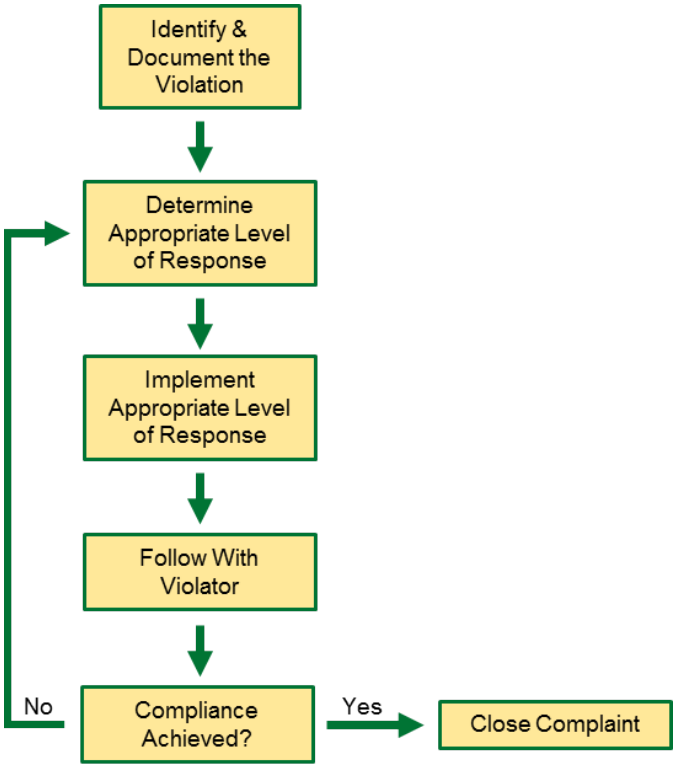
1. A standardized inspection form. A draft inspection form is provided in Appendix E.
2. An inventory of construction projects within the County that are covered under the Montana DEQ General Permit for Storm Water Discharges Associated with Construction Activity. The project inventory will document the following information:
    a. The project's associated authorization number.
    b. The geographic location, size, and topography of the project.
    c. The proximity to receiving waterbodies.
3. An inspection frequency protocol based upon the priority of the project. A draft inspection frequency determination worksheet is provided in Appendix E. At a minimum, the inspection frequency protocol will include the following requirements for high priority projects:
    a. One inspection at the beginning of construction.
    b. One inspection within 48-hours after each rain event of 0.25 inches or greater.
    c. One inspection within 48-hours after each occurrence of runoff from snowmelt due to thawing conditions that cause's visible surface erosion at the site.
    d. One inspection at the conclusion of the project prior to finalization.

This program is still in the development phase. As the program becomes fully developed, all documentation will be added to this SWMP and submitted with each annual report.

3.3.5 Enforcement

Per Part II.A.4.a of the General Permit, the County will work towards developing and implementing a formal ERP for construction site storm water management in 2020. The County anticipates using the draft ERP template for construction site storm water provided in Appendix H. The primary elements of this plan include identifying the violation, determining an appropriate level of response, implementing the appropriate level of response, following up with the violator, and closing the complaint. An enforcement response flowchart is shown in Figure 3-3.

Figure 3-3. Enforcement Response Flowchart for Construction Site Storm Water



3.4 MCM 5: Post-Construction Site Storm Water Management in New and Redevelopment

Elements of Post-Construction Storm Water Management Program

- ☐ Ordinance or Regulatory Mechanism
- ☐ Plan Review and Approval Process
- ☐ Post-Construction BMP Inspections
- ☐ Program Enforcement

Post-construction storm water management refers to implementing and maintaining long-term storm water management controls in order to prevent or minimize water quality impacts. Examples of post-construction storm water BMPs include extended detention basins, infiltration basins, biofiltration swales, and bioretention areas. Per Part II.A.5 of the General Permit, the County will develop, implement, and enforce a program that addresses storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre. This requirement also includes projects that are less than one acre but part of a larger common plan of development or sale. The following sections describe the primary elements of the County's post-construction storm water management program.

Figure 3-4. Example Infiltration Basin

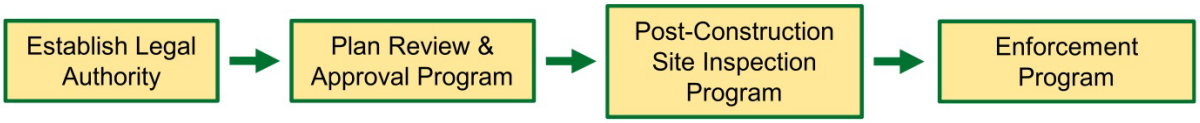
Figure 3-5. Example Bioretention Area

Source: Montana Post-Construction Storm Water BMP Design Guidance Manual

NOTE: *The following sections outline Yellowstone County's plan for developing a post-construction site storm water management program. Implementation of this program is dependent upon the County's ability to establish legal authority through a storm water ordinance or other regulatory mechanism which is currently being evaluated. Progress towards establishing legal authority is discussed in Section 3.4.2.*

3.4.1 Post-Construction Program Overview

The County currently does not have a post-construction storm water management program. However, The County is working to develop a program that will consist of establishing legal authority, implementing a plan review and approval process, performing post-construction site inspections, enforcing the primary requirements of the program, and developing a plan to facilitate future discussions on low-impact development (LID). The flow chart shown below depicts the process to develop this program.



The following sections describe the County's plan to develop, implement, and maintain these elements of the post-construction storm water management program.

3.4.2 Post-Construction Program Legal Authority

The County is currently investigating options to establish legal authority through either a storm water ordinance or other regulatory mechanism in order to enforce the post-construction storm water management program. Our goal is to identify a solution and work towards implementation of that solution in 2019. Per Part II.5.4.a of the General Permit, the regulatory mechanism will attempt to address the following requirements:

1. All regulated construction projects will be required to design, implement, and maintain applicable post-construction BMPs that satisfy the performance standard described in Part II.A.5.b.iii of the General Permit.
2. Yellowstone County, as the regulating entity, will need the authority to enforce the post-construction storm water management program and the authority to inspect privately-owned post-construction BMPs.

3.4.3 Plan Review and Approval

Per Part II.A.5.b of the General Permit, the County will begin to develop a plan review and approval process during 2021. The process will require contractors to submit a complete set of construction plans prior to construction to verify that post-construction BMPs are incorporated. During the review process, the County will:

- Verify that post-construction BMPs are designed to infiltrate, evapotranspire, and/or capture for reuse runoff generated from the first 0.5 inches of rainfall from a 24-hour storm preceded by 48 hours of no measureable precipitation;
- Verify that post-construction BMPs that cannot meet 0.5 inch requirement are treated by one of the required methods described in Part II.A.5.b.iii of the General Permit; and,
- Create and maintain an inventory of regulated projects that utilize offsite treatment for post-construction storm water runoff.

A draft plan review checklist has been developed and is provided in Appendix F.

3.4.4 Inspection Program

Elements of Inspection Program

- ☐ Standardized Inspection Forms
- ☐ BMP Inventory List
- ☐ Inspection Frequency Protocol
- ☐ Field Inspection Staff

The County will develop a post-construction BMP inspection program in 2021. The program will consist of the following elements in order to comply with Part II.A.5.c of the General Permit:

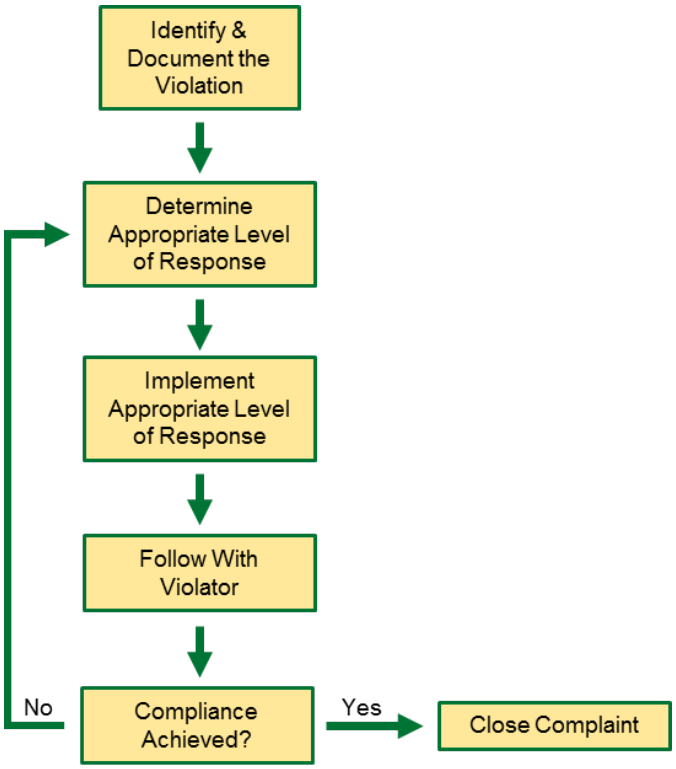
1. A standardized inspection form will be used during site inspections for applicable post-construction BMPs. Draft inspection forms will be based upon the BMP inspection forms located in Appendix F of the *Montana Post-Construction Storm Water BMP Design Guidance Manual (September 2017).*
2. An inventory of new County-owned and private post-construction BMPs.
3. An inventory of existing County-owned and private post-construction BMPs in high priority areas.
4. An inspection frequency protocol based on the priority of the project. A draft inspection frequency determination worksheet is provided in Appendix F. At a minimum, the inspection frequency protocol will include the following requirements for high priority projects:
    a. Inspect County-owned post-construction BMPs annually.
    b. Inspect or have inspected privately-owned post-construction BMPs annually.

This program is still in the development phase. As the program becomes fully developed, all documentation will be added to this SWMP.

3.4.5 Enforcement

Per Part II.A.5.a of the General Permit, the County will work towards developing and implementing a formal ERP for post-construction storm water management in 2021. The County anticipates using the draft ERP template for post-construction storm water provided in Appendix H. The primary elements of this plan include identifying the violation, determining an appropriate level of response, implementing the appropriate level of response, following up with the violator, and closing the complaint. An enforcement response flowchart is shown in Figure 3-6.

Figure 3-6. Enforcement Response Flowchart for Post-Construction Storm Water



3.4.6 Low-Impact Development Considerations

Per Part II.A.5.d of the General Permit, the County will convene appropriate staff in 2020 and discuss the use of LID infrastructure. The County will review applicable codes, ordinances, and policies that may deter or prevent the use of LID infrastructure and identify opportunities for change. A summary of the discussion will be submitted with the 2020 annual report.

3.5 MCM 6: Pollution Prevention/Good Housekeeping for Permittee Operations

Elements of Pollution Prevention and Good Housekeeping Operations

- ☐ Facility and Activity Inventory
- ☐ Facility and Activity SOPs
- ☐ Internal Storm Water Pollution Prevention Training

The County owns and operates various types of facilities within the MS4 boundary. Per Part II.A.6.a of the General Permit, the County will develop and implement an operation and maintenance program that has three primary components:

1. An inventory of County-owned and operated facilities and activities that have the potential to release pollutants.
2. Standard operating procedures (SOPs) for facilities and activities that identify storm water pollution prevention controls.
3. A program to conduct annual storm water pollution prevention training for all County staff directly involved with implementing the SOPs.

The following sections provide an overview of the County-owned and operated facilities, the activities that take place at each facility, and the plan for developing standard operating procedures that address pollution prevention.

3.5.1 Facility and Activity Inventory

The County currently owns and operates various types of facilities including parks, parking lots, buildings, and maintenance shops. A preliminary inventory of County owned and operated facilities was performed to identify activities that have the potential to release significant pollutants. A summary of this evaluation and the potential pollutants is provided in Table 3-7. A preliminary map that identifies the location of these facilities is provided in Appendix A. This facility and activity inventory will be completed in 2019.

Table 3-5. Preliminary Inventory of County Facilities & Associated Activities

Facility	Activities	Potential Pollutants								
		Sediment	Nutrients	Trash	Metals	Bacteria	Oil, Grease, Fuel	Organics	Pesticides/Herbicides	Hazardous Waste
County Courthouse	Building maintenance	X		X			X			X
County Sheriff's Office	Building maintenance Vehicle fleet repair and maintenance	X	X	X	X		X			X
County Shops and Weed District	Vehicle fleet repair and maintenance	X	X	X	X	X	X	X	X	X
MetraPark – Arena	Building maintenance	X	X	X	X		X		X	X
MetraPark – Buildings	Building maintenance Landscaping	X		X			X			X
MetraPark – Parking Lots	Street maintenance and repair	X		X			X			

Facility	Activities	Potential Pollutants								
		Sediment	Nutrients	Trash	Metals	Bacteria	Oil, Grease, Fuel	Organics	Pesticides/Herbicides	Hazardous Waste
County Roads	Road maintenance and repair Winter road operations	X	X	X	X	X	X	X		X
County Parks	Landscaping	X	X	X			X	X	X	
County Parking Lots	Street maintenance and repair	X		X			X			

3.5.2 Pollution Prevention Standard Operating Procedures

Per Part II.A.6.a.iii of the General Permit, the County will develop SOPs that identify storm water pollution prevention measures for the facilities and activities discuss in Section 3.5.1. These SOPs will be developed during the remainder of the permit term (starting in 2019). Completed SOPs will be submitted with each annual report.

4 Training

Part II.B of the General Permit requires the County to conduct training for SWMP team members and County staff who conduct activities associated with the SWMP. The following sections describe the County's MS4 training program and activities.

4.1 Storm Water Management Team Training

HDR is developing a Microsoft PowerPoint presentation (training) that summarizes the General Permit requirements and provides an overview of this updated SWMP. Matt Peterson will conduct the training for the SWMP team in March 2019. Additionally, this training will be provided to all new SWMP team member hires within the first 90 days of hire date.

4.2 Storm Water Awareness Training for Field and Facilities Staff

Storm water awareness training is required during the first and fourth permit years for all appropriate County field staff and staff who work at County facilities. The trainings provide education regarding storm water impacts, the MS4 permit, the detection and elimination of illicit discharges and the implementation of the ERP, and specifically addresses BMPs necessary to minimize discharges of pollutants during permittee activities or the operation of permittee facilities.

4.2.1 First Year Training

First year training is scheduled to take place on February 27th, 2019 (during the third permit year). The staff members listed in Table 4-1 will watch the video presentation developed by Excal Visual, inc. titled *Municipal Storm Water Pollution Prevention: Storm Watch*. The video focuses on BMPs such as good housekeeping, spill response, materials storage and handling, landscape

maintenance, and street maintenance. This training will not cover the ERP for illicit discharges because the ERP has yet to be developed.

Table 4-1. Storm Water Awareness Training Attendees

Name	Position/Responsibilities
Clay Moore	Assistant Road & Bridge Director
Bob Hillard	Sign Technician
Greg Fisher	Shop Foreman
Mike Scheino	Code Enforcement Operator

4.2.2 Fourth Year Training

A second, more comprehensive, storm water awareness training will be conducted in 2020, in accordance with the 4th year General Permit requirement. This training will include training on the ERP for illicit discharges, which will be developed in 2019 or 2020.

4.2.3 New Hire Training

All applicable new hires will receive storm water awareness training, as described above, within the first 90 days of hire date.

4.3 Construction Site Storm Water Management Training

Construction site training is required during the first and fourth permit years for all inspectors and plan reviewers responsible for implementation of the Construction Storm Water Management in New Development and Redevelopment minimum measure. At a minimum, the training must include inspection protocol and implementation of the ERP.

4.3.1 First Year Training

The Primary SWMP Coordinator, Mike Black, attended a construction storm water management training coordinated by Montana DEQ and Altitude Training Associates on October 17-18, 2018.

4.3.2 Fourth Year Training

A second, more comprehensive, construction site storm water management training will be conducted in 2020 for all construction site storm water inspectors and plan reviewers in accordance with the 4th year General Permit requirement. This training will include training on the ERP for construction site storm water management, which will be developed in 2019 or 2020.

4.3.3 New Hire Training

All applicable new hires will receive construction site storm water management training within the first 90 days of hire date.

4.4 Post-Construction Storm Water Management Training

Post-construction training is required during the first and fourth permit years for all inspectors and plan reviewers responsible for implementation of the Post-Construction Storm Water Management in New Development and Redevelopment minimum measure. At a minimum, the training must include

inspection protocol and implementation of the ERP. This section describes the County's approach to post-construction storm water management training.

4.4.1 First Year Training

First year training was conducted on December 18th, 2018 (during the second permit year). The County's post-construction storm water plan review and inspection program was not yet developed; therefore, the training provided a broader understanding of the General Permit's post-construction program requirements, including:

- Summary of MCM 5 permit requirements
- Overview of the Montana Post-Construction Storm Water BMP Design Guidance Manual
- Development design example, including post-construction BMP selection and design
- Inspection guidance
- Mock inspection of a hydrodynamic separator and dry detention basin in a City of Billings subdivision

Training on the ERP was not included because the Post-Construction Storm Water ERP had not yet been developed. City of Billings staff also participated in the training. The County's attendees are listed in Table 4-2. The training materials are provided in Appendix J.

Table 4-2. Post-Construction Plan Reviewers and Inspectors MCM 5 Training Attendees

Department	Position/Responsibilities
Tim Miler	Public Works Director
Mike Black	Primary SWMP Coordinator
Darin Swenson	Assistant MS4 Coordinator

4.4.2 Forth Year Training

A second, more comprehensive, MCM 5 inspector and plan reviewer training will be conducted in 2020, in accordance with the fourth year General Permit requirement. This training will include training on the post-construction ERP, which will likely be developed in 2020.

4.4.3 New Hire Training

All applicable new hires will receive post-construction storm water management training within the first 90 days of hire date.

4.5 Pollution Prevention Standard Operating Procedure Training

Per Part II.A.6.a of the General Permit, the SWMP team will develop a program to train applicable staff on the SOPs discussed in Section 3.5.2. Applicable staff to be trained will include storm water staff responsible for implementing the SOPs and staff that are involved with SOP-specific duties. Additionally, new storm water staff responsible for implementing SOPs will receive training within 90 days of hire.

5 Storm Water Management for Discharges to Impaired Waterbodies

Per Part III.A of the General Permit, the County will develop strategy to manage storm water that discharges to impaired waterbodies. The County currently discharges to three waterbodies that are listed as impaired but do not have an approved total maximum daily load (TMDL). The following sections provide an inventory of impaired waterbodies, the pollutants of impairment, and the BMPs that will be used to target and reduce pollutant of impairments.

5.1 Impaired Waterbody Inventory

Table 5-1 provides a summary of these impaired waterbodies along with their pollutants of impairment. Appendix A provides a map of the County's outfalls and associated waterbodies.

Table 5-1. Yellowstone County MS4 Impaired Waterbodies

Waterbody	Location	Impaired	Approved TMDL	MS4 WLA	Impairment(s)
Yellowstone River	City of Laurel PWS to City of Billings PWS	Yes	No	No	▪ Chlorophyll-a ▪ Nitrate-Nitrite ▪ Oil and Grease ▪ Other anthropogenic substrate alterations ▪ Physical substrate habitat alterations
Yellowstone River	City of Billings PWS to Huntley Diversion Dam	Yes	No	No	▪ Algae ▪ Arsenic ▪ Benthic Macroinvertebrates ▪ Dissolved Oxygen ▪ Eutrophication ▪ Oil and Grease ▪ Periphyton (Aufwuchs) Indicator Bioassessments ▪ Sediment
Canyon Creek	Highway 532 to mouth	Yes	No	No	▪ Flow Regime Modification

As previously mentioned, the County is currently developing an inventory of storm water infrastructure. The SWMP team will verify outfall locations during the 2019 field investigations and outfalls will be documented in Table 5-2. The County's plan for completion of an outfall inventory is described in Section 3.2.3. Table 5-2 will be updated annually.

Table 5-2. Preliminary Yellowstone County MS4 Outfalls[1]

Coordinates	Receiving Waterbody	Impaired Waterbody (Yes or No)
45.74887, -108.504781	City/County Drain	No
45.795249, -108.471365	Yegen Drain	No
45.800778, -108.469194	Alkali Creek	No
45.80783, -108.461751	Hilltop	No
45.842797, -108.422054	Five Mile Creek	No
45.738149, -108.536413	S Billings Blvd	No
45.734572, -108.536123	Blue Creek	No
45.733329, -108.566499	Hogans Slough	No
45.72021, -108.431779	Canyon Creek	Yes
45.827514, -108.431779	Holling Drain	No

[1] The outfalls listed in this table are preliminary. The County plans to coordinate with DEQ during 2019 to verify outfall locations.

5.2 Addressing Pollutants of Impairment

This section discusses BMPs that will be implemented over the coming year to target and reduce discharges of identified pollutants of impairment to the Yellowstone River. A summary of BMPs is provided in Table 5-3 and a detailed discussion for each pollutant of impairment is provided in the following sections.

Table 5-3. Pollutants of Impairment to be Targeted with BMPs

Impairment	Aligning Parameter from Table 1 in General Permit [1]	Impaired Waterbody	BMP(s)
Nitrate-Nitrite	Total Nitrogen	Yellowstone River, City of Laurel PWS to City of Billings PWS	See Section 5.2.1
Oil and Grease	Oil and Grease	Yellowstone River, City of Laurel PWS to City of Billings PWS Yellowstone River, City of Billings PWS to Huntley Diversion Dam	See Section 5.2.2
Dissolved Oxygen	Chemical Oxygen Demand	Yellowstone River, City of Billings PWS to Huntley Diversion Dam	See Section 5.2.3
Sediment	Total Suspended Solids	Yellowstone River, City of Billings PWS to Huntley Diversion Dam	See Section 5.2.4

[1] Only the identified pollutants of impairment that align with Table 1 in Part IV of the General Permit are included

5.2.1 Total Nitrogen

The table below outlines the possible contributors, selected BMPs, and the rationale for BMP selection to target and reduce total nitrogen.

Possible Contributor	BMP	Rationale
Residential Yard Maintenance	▪ Pamphlets/brochures/fliers ▪ Storm water website	Distributed educational and awareness material facilitates behavioral change.
Construction Activities	▪ Training[1] ▪ Plan review and approval[1] ▪ Site inspections[1] ▪ IDDE ERP[1]	Public messages, industry training, and plan review and approval verify storm water BMPs are incorporated. Site inspections verify BMPs are installed, operated, and maintained. IDDE ERP enforces SWMP requirements.
Municipal Facilities and Activities	▪ Training ▪ Implementing SOPs[1] ▪ Outfall inspections ▪ IDDE ERP[1]	Internal training and implementing SOPs encourage behavioral change. Outfall inspections and the IDDE ERP verify and control illicit discharges within the MS4.

[1]BMP will be implemented after it is developed, likely in 2020 or 2021

5.2.2 Oil and Grease

The table below outlines the possible contributors, selected BMPs, and the rationale for BMP selection to target and reduce oil and grease.

Possible Contributor	BMP	Rationale
Construction Activities	▪ Training[1] ▪ Plan review and approval[1] ▪ Site inspections[1] ▪ IDDE ERP[1]	Industry training and plan review and approval verify storm water BMPs are incorporated. Site inspections verify BMPs are installed, operated, and maintained. IDDE ERP enforces SWMP requirements.
Municipal Facilities and Activities	▪ Training ▪ Implementing SOPs[1] ▪ Outfall Inspections	Internal training and implementing SOPs encourage behavioral change. Outfall inspections verify and control illicit discharges within the MS4.
Automotive Maintenance	▪ Pamphlets/brochures/fliers ▪ Storm water website ▪ Outfall inspections ▪ IDDE ERP[1]	Distributed storm water educational and awareness material encourages behavioral change. Outfall inspections and the IDDE ERP verify and control illicit discharges within the MS4.

[1]BMP will be implemented after it is developed, likely in 2020 or 2021

5.2.3 Chemical Oxygen Demand

The water quality improvements and target BMPs addressed in Section 5.2.1 will result in improved chemical oxygen demand and dissolved oxygen concentrations. Therefore, the chemical oxygen demand and dissolved oxygen concentrations will improve by incorporating the BMPs for total nitrogen.

5.2.4 Total Suspended Solids

The table below outlines the possible contributors of total suspended solids selected BMPs, and the rationale for BMP selection to target and reduce total suspended solids.

Possible Contributor	BMP	Rationale
Construction Activities	▪ Training[1] ▪ Plan review and approval[1] ▪ Site inspections[1]	Industry training and plan review and approval verify that storm water BMPs are incorporated. Site inspections verify that BMPs are installed, operated, and maintained.
Municipal Facilities and activities	▪ Training ▪ Implementing SOPs[1] ▪ Outfall inspections ▪ IDDE ERP[1]	Internal training and implementing SOPs encourages behavior change. Outfall inspections and the IDDE ERP verify and control illicit discharges within the MS4.
Residential Neighborhoods	▪ Pamphlets/brochures/fliers ▪ Storm water website ▪ Outfall inspections	Distributed storm water educational and awareness material encourages behavioral change. Outfall inspections verify and control illicit discharges within the MS4.

[1]BMP will be implemented after it is developed, likely in 2020 or 2021

6 Self-Monitoring

The County is required to collect storm water samples semiannually at four locations for the following parameters:

- Sediment (Total Suspended Solids)
- Nutrients (Total Nitrogen, Total Phosphorus)
- Metals (Copper, Lead, Zinc)
- Oils and Grease
- pH
- Organics (Chemical Oxygen Demand)
- Water Temperature

The County selected Monitoring Option 1 as outlined in the General Permit. Two sampling locations represent storm water runoff from predominantly residential areas and the other two locations represent storm water runoff from predominantly commercial/industrial areas. The following table provides monitoring locations, land use correlations, and naming for each location. The County may re-evaluate these monitoring locations after the storm water sewer inventory is complete.

Table 6-1. Self-Monitoring Location Summary

Monitoring Site ID	Residential/ Commercial	Lat/Long	Receiving Waterbody	Description
001A	Primarily Commercial	45.7945 -108.484	Yellowstone River	Grab sample from automated sampler equipment in manhole
001B	Primarily Commercial	45.813 -108.413	Yellowstone River	Sample direct from catch basin
002A	Primarily Residential	45.795 -108.445	Yellowstone River	Bucket sampler in channel
002B	Primarily Residential	45.798 -108.443	Yellowstone River	

Monitoring results will be used by the County to self-evaluate measures taken to improve the quality of storm water discharges. Starting in 2019, each annual report will include an evaluation of the monitoring results relative to the long-term median. The evaluation will:

- Provide a comparison between monitoring locations;
- Discuss determinations for trends and outliers in monitoring results compared to the calculated long term median or results outside a pH range of 6.0 to 9.0 standard units; and
- Provide a rationale for BMPs planned to improve water quality of storm water discharges based on monitoring results.

The monitoring results from 2018 are provided in Appendix K.

7 Reporting

Per Part IV.F of the General Permit, the County will submit a completed Annual Report form, an updated version of this SWMP, and any relevant documents to DEQ by March 1st of each year of the General Permit term.

8 2018 SWMP Inspection Response Progress

As previously mentioned, the County has been working to address permit violations and all General Permit requirements. The County developed a regulatory compliance plan and schedule in September 2018 that outlined SWMP development tasks and the expected completion dates. Since then, the County has made progress on these tasks by diversifying the SWMP team, conducting internal storm water training, and developing the key elements described in this SWMP. A summary of these tasks and a progress update is provided in Table 8-1.

Table 8-1. Regulatory Compliance Schedule

Task	Permit Section	Scheduled Completion Date	Progress Update
Contract with HDR Engineering, Inc. to assist with initial audit response and develop compliance plan	N/A	N/A	Complete
Issue RFP to hire a consultant to develop and implement components of our SWMP for 2019-2021	N/A	October 1, 2018	Complete
Contract with consultant to develop and implement components of our SWMP for 2019-2021	N/A	October 31, 2018	Complete
Develop revised SWMP team org chart that identifies positions responsible for implementing each MCM	Part II.A - SWMP	December 31, 2018	Complete See Section 1.2.1
Establish SWMP team meeting schedule and SWMP file sharing system	Part II.A - SWMP	December 31, 2018	Complete See Section 1.2.2
Develop comprehensive General Permit and SWMP training for County SWMP team	Part II.B – Training	March 1, 2019	In progress
Conduct new General Permit and SWMP training for County SWMP team	Part II.B – Training	March 29, 2019	To be completed in March 2019
Purchase storm water awareness training DVD through Excal Visual, Inc. and develop training documentation materials	Part II.B – Training	November 31, 2018	Complete (Borrowed video from City of Billings)
Conduct storm water awareness training for County field staff & staff who work at permittee facilities	Part II.B – Training	December 31, 2018	Scheduled for February 27, 2019
Conduct training for inspectors and plan reviewers responsible for MCM 5 implementation	Part II.B – Training	November 30, 2018	Complete See Section 4.4

Task	Permit Section	Scheduled Completion Date	Progress Update
Investigate opportunities and coordinate with other entities to develop plans for sharing responsibility to fulfill permit requirements. This will be conducted as the revised SWMP is being developed.	Part II.C - Sharing Responsibility	February 1, 2019	Complete See Section 1.3
Develop and provide documentation of formal agreements with other entities sharing responsibility to implement MCMs (if applicable).	Part II.C - Sharing Responsibility	March 1, 2019	N/A See Section 1.3
Develop outfall inventory table and add to SWMP[1]	Part III – Special Conditions	March 1, 2019 March 1, 2020 March 1, 2021	In progress See Table 3-5
Develop a section in the SWMP that describes the County's plan to develop and implement BMPs to target and reduce discharges of identified pollutants of impairment listed in Table 5-3.	Part III – Special Conditions	March 1, 2019	In Progress See Section 5.2
Include a list in the MS4 annual report that describes BMPs to be implemented in 2019 that will target and reduce discharges of the identified pollutants of impairment to impaired waterbodies	Part III – Special Conditions	March 1, 2019	Complete See Section 5.2
Conduct the Non-Storm Water Discharge Evaluation (Table 3-3), to be submitted with each annual report	Part II.A.3 – Illicit Discharge Detection and Elimination Violations	March 1, 2019	Complete See Section 3.2.2
Conduct the Occasional Incidental Non-Storm Water Discharges (Table 3-4), to be submitted with each annual report	Part II.A.3 – Illicit Discharge Detection and Elimination Violations	March 1, 2019	Complete See Section 3.2.2
Conduct storm water facility inventory analysis	Part II.A.3 – Illicit Discharge Detection and Elimination Violations	See Table 3-5	In progress See Table 3-5
Determine on the most appropriate way to prohibit illicit discharges in the County	Part II.A.3 – Illicit Discharge Detection and Elimination Violations	December 31, 2018	In progress See Section 3.2.4
Develop and adopt an ordinance, regulatory mechanism, or written policies and procedures to prohibit illicit discharges in the County	Part II.A.3 – Illicit Discharge Detection and Elimination Violations	December 31, 2019	In progress See Section 3.2.4
Develop IDDE ERP	Part II.A.3 – Illicit Discharge Detection and Elimination Violations	December 31, 2019	See Section 3.2.4

Task	Permit Section	Scheduled Completion Date	Progress Update
Develop Illicit Discharge Investigation and Corrective Action Plan	Part II.A.3 – Illicit Discharge Detection and Elimination Violations	December 31, 2019	See Section 3.2.6
Develop and submit updated comprehensive SWMP	Part II.A - SWMP	March 1, 2019	Complete

[1] The outfall inventory will be updated annually while the Storm Water Inventory Analysis is being conducted

The County has also created a comprehensive SWMP Development Schedule, provided in Appendix A. The schedule outlines General Permit requirements and deadlines, the proposed schedule for when the County will complete each requirement, and the strategy that the County will use to complete each requirement. A summary of the schedule is provided in Table 8-2.

Table 8-2. Summary of SWMP Development Schedule

Permit Year	Anticipated Tasks
2019	▪ MCM 1 & 2 – Develop and implement elements of Public Education and Outreach Program ▪ MCM 3 – Develop elements of IDDE Program ▪ MCM 4 – Establish Construction Storm Water Ordinance or Regulatory Mechanism ▪ MCM 5 – Establish Post-Construction Storm Water Ordinance or Regulatory Mechanism ▪ MCM 6 – Finalize inventory of County-owned facilities and activities ▪ MCM 6 – Start to develop two SOPs ▪ Part IV – Continue self-monitoring and reporting
2020	▪ MCM 1 & 2 – Review program and distribute outreach material to key target audiences ▪ MCM 3 – Continue to enforce elements of IDDE Program ▪ MCM 4 – Develop elements of Construction Site Storm Water Management Program ▪ MCM 6 – Continue to develop SOPs ▪ MCM 6 – Conduct training on developed SOPs ▪ Part II.B – Conduct fourth year permit training ▪ Part IV – Continue Self-Monitoring and Reporting
2021	▪ MCM 1 & 2 – Review program and distribute outreach material to key target audiences ▪ MCM 3 – Continue to enforce elements of IDDE Program ▪ MCM 4 – Continue to enforce elements of Construction Site Storm Water Management Program ▪ MCM 5 – Develop elements of Post-Construction Storm Water Management Program ▪ MCM 6 – Conduct training on developed SOPs ▪ Part IV – Continue Self-Monitoring and Reporting

Appendix A. Supplemental Figures and Tables

LEGEND

- MONITORING LOCATION
- VALLEY GUTTERS
- SWALE
- RETENTION AREAS
- OUTFALL
- INLET
- FRENCH DRAIN
- CANALS/DITCHES
- DRAINS
- CREEK/STREAM
- RIVER/LAKE
- RAILROADS
- ROADS
- WATERSHED BOUNDARIES
- HUC 8 WETLANDS
- YELLOWSTONE COUNTY MS4 BOUNDARY
- CITY OF BILLINGS BOUNDARY

0 Miles 1

PLEASE NOTE: THE INFORMATION PROVIDED IN THIS DOCUMENT HAS BEEN ASSEMBLED FROM A VARIETY OF PUBLIC RECORDS AND OTHER READILY AVAILABLE PUBLIC SOURCES. HDR DOES NOT WARRANT THAT THE INFORMATION IS ACCURATE OR COMPLETE. WE HAVE, HOWEVER, ATTEMPTED TO REPRESENT THE INFORMATION OBTAINED FROM THESE SOURCES AS CAREFULLY AS POSSIBLE.

FIVE MILE CREEK
ALKALI CREEK
HOGANS SLOUGH
CITY OF BILLINGS-YELLOWSTONE RIVER
SEVENMILE CREEK-YELLOWSTONE RIVER
LOWER CANYON CREEK
BROCKWAY COULEE-YELLOWSTONE RIVER
LOWER BLUE CREEK
Sevenmile Creek
South Fork Alkali Creek
Cove Creek
Alkali Creek
Hogans Slough
Canyon Creek
Dry Creek
Dirt Creek
Spring Coulee
Bitter Creek
Cashen Coulee
001A
001B
002A
002B
ALKALI CREEK RD
HIGHWAY 87 N
HOLLOW DRAIN
MARY STREET DRAIN
BBWAC BARRETT LATERAL
W WICKS LN
WICKS LN
BENCH BLVD
BBWAC HILLTOP LATERAL
HILLTOP RD
OLD HARDIN RD
BECRAFT LN
COBLEWOOD DR
COBLESON DITCH
LOCKWOOD P/P LIFT CANAL
LOCKWOOD 1.90 LIFT CANAL
ARBROOK AVE
LAKE ELMO DR
E ALKALI CREEK RD
BILLINGS-BENCH WATER ASSOCIATION (BBWA) CANAL
8TH AVE N
COVE DITCH
RIMROCK RD
HIGH DITCH
BIG DITCH
BIRELY DRAIN
PINEY DRAIN
HIDDEN DRAIN
GRAND AVE
ZIMMERMAN TRL
24TH ST W
ARNOLD DRAIN
SNOW DITCH
CENTRAL AVE
MONAD-BANNISTER DRAIN
MONAD RD
SUDS
SHILOH DRAIN
BIRELY DRAIN (38TH STREET)
CANYON CREEK DITCH
CITY/COUNTY DRAIN
KING AVE E
KING AVE W
GREY EAGLE DITCH
SUBURBAN DITCH
ZOO DR
W GRAND DITCH
DANFORD DRAIN
HUNTLEY MAIN CANAL
HUNTLEY LAND SERVICE DITCH

NOTE: THIS INVENTORY MAP IS PRELIMINARY. STORM WATER SYSTEM INFRASTRUCTURE AND OUTFALL LOCATIONS ARE BASED ON A DESKTOP ANALYSIS. THIS MAP WILL BE UPDATED FOLLOWING A FIELD DATA ANALYSIS TO BE COMPLETED IN THE SUMMER OF 2019.

YELLOWSTONE COUNTY

STORM WATER SYSTEM INVENTORY MAP

FIGURE A-1

LEGEND

- MONITORING LOCATION
- VALLEY GUTTER
- SWALE
- RETENTIONAREAS
- OUTFALL
- INLET
- FRENCH DRAIN
- BRIDGES
- RAILROADS
- ROADS
- WATERSHED BOUNDARIES
- CANALS/DITCHES
- DRAINS
- CREEK/STREAM
- RIVER/LAKE
- YELLOWSTONE COUNTY MS4 BOUNDARY
- HUC 8 WETLANDS

0 Feet 3,000

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ALKALI CREEK
ALKALI CREEK RD
Alkali Creek
Cove Creek
HOGANS SLOUGH
Little Cove Creek
BIRELY DRAIN
BIRELY DRAIN (RIMROCK)
BIRELY DRAIN
COVE DITCH
RIMROCK RD
HIGH DITCH
ZIMMERMAN TRL
Hogans Slough
GRAND AVE
HIDDEN DRAIN
HIDDEN DRAIN
BIRELY DRAIN
BIRELY DRAIN
BIG DITCH
CITY OF BILLINGS-YELLOWSTONE RIVER
ARNOLD DRAIN
24TH ST W
COVE DITCH
PINEY DRAIN
BIRELY DRAIN
SNOW DITCH
BDPD
SHILOH DRAIN
BILLINGS BENCH WATER ASSOCIATION (BBWA) CANAL
CENTRAL AVE
MONAD BANNISTER DRAIN
MONAD RD
BIRELY DRAIN (30TH STREET)
LOWER CANYON CREEK
BIRELY DRAIN

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YELLOWSTONE COUNTY
STORM WATER SYSTEM INVENTORY DETAILED MAP
FIGURE DM-1

LEGEND

- MONITORING LOCATION
- VALLEY GUTTER
- SWALE
- RETENTIONAREAS
- OUTFALL
- INLET
- FRENCH DRAIN
- BRIDGES
- RAILROADS
- ROADS
- WATERSHED BOUNDARIES
- CANALS/DITCHES
- DRAINS
- CREEK/STREAM
- RIVER/LAKE
- YELLOWSTONE COUNTY MS4 BOUNDARY
- HUC 8 WETLANDS

0 Feet 3,000

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BIRELY DRAIN
BIRELY DRAIN
BIRELY DRAIN
BIRELY DRAIN (50TH STREET)
BDPD
SNOW DITCH
CENTRAL AVE
MONAD/BANNISTER DRAIN
SHILOH DRAIN
MONAD RD
CITY/COUNTY DRAIN
CANYON CREEK DITCH
KING AVE E
KING AVE W
HOGANS SLOUGH
Hogans Slough
SUBURBAN DITCH
GREY EAGLE DITCH
Canyon Creek
LOWER CANYON CREEK
ZOO DR
CITY OF BILLINGS-YELLOWSTONE RIVER
YELLOWSTONE RIVER
Blue Creek
DANFORD DRAIN
BILLINGS BENCH WATER ASSOCIATION (BBWA) CANAL
BROCKWAY COULEE-YELLOWSTONE RIVER
DANFORD DRAIN
Brockway Coulee

NOTE: THIS INVENTORY MAP IS PRELIMINARY. STORM WATER SYSTEM INFRASTRUCTURE AND OUTFALL LOCATIONS ARE BASED ON A DESKTOP ANALYSIS. THIS MAP WILL BE UPDATED FOLLOWING A FIELD DATA ANALYSIS TO BE COMPLETED IN THE SUMMER OF 2019.

YELLOWSTONE COUNTY
STORM WATER SYSTEM INVENTORY DETAILED MAP
FIGURE DM-1

LEGEND

- MONITORING LOCATION
- VALLEY GUTTER
- SWALE
- RETENTIONAREAS
- OUTFALL
- INLET
- FRENCH DRAIN
- BRIDGES
- RAILROADS
- ROADS
- WATERSHED BOUNDARIES
- CANALS/DITCHES
- DRAINS
- CREEK/STREAM
- RIVER/LAKE
- YELLOWSTONE COUNTY MS4 BOUNDARY
- HUC 8 WETLANDS

N

0 Feet 3,000

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FIVE MILE FIVE MILE CREEK

FIVE MILE CREEK

ALKALI CREEK RD

Alkali Creek

ALKALI CREEK

FIVE MILE CREEK

W WICKS LN

LAKE ELMO DR

HIGHWAY 87 N

Five Mile Creek

MARY STREET DRAIN

HOLLING DRAIN

BBWAC: BARRETT LATERAL

BENCH BLVD

WICKS LN

SEVENMILE CREEK-YELLOWSTONE RIVER

BBWAC HILLTOP LATERAL

HILLTOP RD

ARONSON AVE

E ALKALI CREEK RD

YELLOWSTONE RIVER

COULSON DITCH

OLD HARDIN RD

LOCKWOOD 60' LIFT CANAL

LOCKWOOD 100' LIFT CANAL

002B

002A

001A

6TH AVE N

COVE DITCH

RIMROCK RD

BIG DITCH

24TH ST W

HIGH DITCH

BILLINGS BENCH WATER ASSOCIATION (BBWA) CANAL

CITY OF BILLINGS-YELLOWSTONE RIVER

GRAND AVE

ARNOLD DRAIN

ZIMMERMAN TRL

YEGEN DRAIN DITCH

GREY EAGLE DITCH

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YELLOWSTONE COUNTY

STORM WATER SYSTEM INVENTORY DETAILED MAP

FIGURE DM-1

LEGEND

- MONITORING LOCATION
- VALLEY GUTTER
- SWALE
- RETENTIONAREAS
- OUTFALL
- INLET
- FRENCH DRAIN
- BRIDGES
- RAILROADS
- ROADS
- WATERSHED BOUNDARIES
- CANALS/DITCHES
- DRAINS
- CREEK/STREAM
- RIVER/LAKE
- YELLOWSTONE COUNTY MS4 BOUNDARY
- HUC 8 WETLANDS

0 Feet 3,000

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HIGHWAY 87 N
MIDWAY DRAIN
HUNTLEY MAIN CANAL
Sevenmile Creek
MILLER AND MCGIRL DITCH
FIVE MILE CREEK
Five Mile Creek
BILLINGS BENCH WATER ASSOCIATION (BBWA) CANAL
SEVENMILE CREEK-YELLOWSTONE RIVER
COULSON DITCH
MARY STREET DRAIN
HOLLING DRAIN
BBWAC: BARRETT LATERAL
LAKE ELMO DR
BENCH BLVD
WICKS LN
W WICKS LN
YELLOWSTONE RIVER
LOCKWOOD 100' LIFT CANAL
OLD HAR
ALKALI CREEK
Alkali Creek
ALKALI CREEK RD
ARONSON AVE
BBWAC HILLTOP LATERAL
HILLTOP RD
Dry Creek
LOCKWOOD 80' LIFT CANAL
001B
NOBLEWOOD DR
BECRAFT LN

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YELLOWSTONE COUNTY
STORM WATER SYSTEM INVENTORY DETAILED MAP
FIGURE DM-1

LEGEND

- MONITORING LOCATION
- VALLEY GUTTER
- SWALE
- RETENTIONAREAS
- OUTFALL
- INLET
- FRENCH DRAIN
- BRIDGES
- RAILROADS
- ROADS
- WATERSHED BOUNDARIES
- CANALS/DITCHES
- DRAINS
- CREEK/STREAM
- RIVER/LAKE
- YELLOWSTONE COUNTY MS4 BOUNDARY
- HUC 8 WETLANDS

N

0 Feet 3,000

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HIGHLINE DITCH
6TH AVE N
VEGEN DRAIN DITCH
DIV Creek
CITY OF BILLINGS-YELLOWSTONE RIVER
SEVENMILE CREEK-YELLOWSTONE RIVER
MONAD RD
CANYON CREEK DITCH
KING AVE W
CITY COUNTY DRAIN
KING AVE E
GREY EAGLE DITCH
YELLOWSTONE RIVER
Dirt Creek
HOGANS SLOUGH
SUBURBAN DITCH
GREY EAGLE DITCH
Hogans Slough
Blue Creek
LOWER BLUE CREEK

NOTE: THIS INVENTORY MAP IS PRELIMINARY. STORM WATER SYSTEM INFRASTRUCTURE AND OUTFALL LOCATIONS ARE BASED ON A DESKTOP ANALYSIS. THIS MAP WILL BE UPDATED FOLLOWING A FIELD DATA ANALYSIS TO BE COMPLETED IN THE SUMMER OF 2019.

YELLOWSTONE COUNTY
STORM WATER SYSTEM INVENTORY DETAILED MAP
FIGURE DM-1

PATH: I:\PROJECTS\YELLOWSTONE_COUNTY\10145212_DESKTOP_STORMWATER_INVENTORY_ANALYSIS\MAP_DOCS\WORKING\YELLOWSTONE_COUNTY_STORMWATER_SEWER_INVENTORY_DETAILED_MAPS.MXD - USER: SGRIFFIN - DATE: 2/21/2019

LEGEND

- MONITORING LOCATION
- VALLEY GUTTER
- SWALE
- RETENTIONAREAS
- OUTFALL
- INLET
- FRENCH DRAIN
- BRIDGES
- RAILROADS
- ROADS
- WATERSHED BOUNDARIES
- CANALS/DITCHES
- DRAINS
- CREEK/STREAM
- RIVER/LAKE
- YELLOWSTONE COUNTY MS4 BOUNDARY
- HUC 8 WETLANDS

0 Feet 3,000

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HIGHWAY 87 N
MARY STREET DRAIN
FIVE MILE CREEK
HOLLING DRAIN
Five Mile Creek
BBWAC: BARRETT LATERAL
BENCH BLVD
WICKS LN
YELLOWSTONE RIVER
BBWAC: HILLTOP LATERAL
OLD HARDIN RD
NOBLEWOOD DR
ARONSON AVE
ALKALI CREEK RD
HILLTOP RD
COULSON DITCH
001B
BECRAFT LN
SEVENMILE CREEK-YELLOWSTONE RIVER
LOCKWOOD 100' LIFT CANAL
ALKALI CREEK
E ALKALI CREEK RD
Alkali Creek
LOCKWOOD 60' LIFT CANAL
BILLINGS-BENCH WATER ASSOCIATION (BBWA) CANAL
002B
002A
001A
6TH AVE N
Dry Creek
CITY OF BILLINGS-YELLOWSTONE RIVER
YEGEN DRAIN DITCH
GREY EAGLE DITCH

NOTE: THIS INVENTORY MAP IS PRELIMINARY. STORM WATER SYSTEM INFRASTRUCTURE AND OUTFALL LOCATIONS ARE BASED ON A DESKTOP ANALYSIS. THIS MAP WILL BE UPDATED FOLLOWING A FIELD DATA ANALYSIS TO BE COMPLETED IN THE SUMMER OF 2019.

YELLOWSTONE COUNTY
STORM WATER SYSTEM INVENTORY DETAILED MAP
FIGURE DM-1

PATH: I:\PROJECTS\YELLOWSTONE_COUNTY\10145212_DESKTOP_STORMWATER_INVENTORY_ANALYSIS\MAP_DOCS\WORKING\YELLOWSTONE_COUNTY_STORMWATER_SEWER_INVENTORY_DETAILED_MAPS.MXD - USER: SGRIFFIN - DATE: 2/21/2019

LEGEND

- COUNTY BUILDING
- TRAILS
- RUNWAYTAXIWAY
- RAILROADS
- ROADS
- YELLOWSTONE COUNTY OWNERSHIP
- PARKS
- CREEK/STREAM
- RIVER/LAKE
- YELLOWSTONE COUNTY MS4 BOUNDARY
- CITY OF BILLINGS BOUNDARY

0 Miles 1

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Sevenmile Creek
South Fork Alkali Creek
Cove Creek
Alkali Creek
Dry Creek
Spring Coulee
Hogans Slough
Yellowstone River
Dirt Creek
Canyon Creek
Cashen Coulee
Bitter Creek

NOTE: THIS INVENTORY MAP IS PRELIMINARY. STORM WATER SYSTEM INFRASTRUCTURE, FACILITIES, AND OUTFALL LOCATIONS ARE BASED ON A DESKTOP ANALYSIS. THIS MAP WILL BE UPDATED FOLLOWING A FIELD DATA ANALYSIS TO BE COMPLETED IN THE SUMMER OF 2019.

YELLOWSTONE COUNTY
PRELIMINARY FACILITIES INVENTORY MAP

Table A-2. Non-Storm Water Discharge Evaluation

Category[1]	Suspected Significant Contributor of Pollutants (yes/no)	Potential Associated Pollutants	Local Controls or Conditions
Water line flushing	No	Chlorine, sediment	None
Landscape irrigation	No	Chlorine, sediment, nutrients	None
Diverted stream flows	No	Sediment	None
Rising ground waters	No	None	None
Uncontaminated ground water infiltration	No	None	None
Uncontaminated pumped ground water	No	Sediment	None
Discharges from potable water sources	No	Chlorine	None
Foundation drains	No	None	None
Air conditioning condensation	No	None	None
Irrigation water	Possibly	Nutrients, sediment, pesticides	To be investigated and developed, if necessary
Springs	No	None	None
Water from crawl space pumps	No	None	None
Footing drains	No	None	None
Lawn watering	No	Chlorine, nutrients	None
Individual residential car washing	No	Sediment, organics, metals, oil and grease	None
Flows from riparian habitats and wetlands	No	Sediment	None
Dechlorinated swimming pool discharges	No	Chlorine	None
Street wash water	No	Organics, metals, floatables, sediment, nutrients	None

[1] *Categories are in accordance with those listed in Part II.A.3.a of the General Permit*

Table A-3. Occasional Incidental Non-Storm Water Discharges not to be addressed as Illicit Discharges

Description of Occasional Incidental Non-Storm Water Discharge	Suspected Significant Contributor of Pollutants (yes/no)	Potential Associated Pollutants	Local Controls or Conditions
Charity Car Wash	No	Sediment, detergents, soaps, metals, oil and grease	To be Determined
Residential Car Washes	No	Sediment, detergents, soaps, metals, oil and grease	Provide education through public education and outreach program
Emergency water main breaks	No	Chlorine, sediment	To be Determined

Table A-4. Preliminary Summary of Waterbodies & Conveyance Systems in Yellowstone County MS4

Waterbodies	Total Outfalls	Impairments
Alkali Creek[1]	1	NA
Alkali Siphon	TBD	NA
Arnold Drain	TBD	NA
BDPD	TBD	NA
Big Ditch	TBD	NA
Billings Bench Water Association (BBWA) Canal: Barrett Lateral	TBD	NA
Billings Bench Water Association (BBWA) Canal: Hilltop Lateral	TBD	NA
Billings Bench Water Association (BBWA) Canal: Mary Street Lateral	TBD	NA
Birely Drain 50th Street	TBD	NA
Birely Drain 64th Street	TBD	NA
Birely Drain Rimrock	TBD	NA
Blue Creek[1]	TBD	NA
Canyon Creek[1]	1	▪ Flow Regime Modifications – Water Diversions
Canyon Creek Ditch	TBD	NA
City/County Drain	1	NA
Coulson Ditch	TBD	NA
Cove Creek MT43F002_021	TBD	NA
Cove Creek Ditch	TBD	NA
Danford Drain	TBD	NA
Dry Creek	TBD	NA
Five Mile Creek[1]	1	NA
Grey Eagle Ditch	TBD	NA
Hidden Drain	TBD	NA
High Ditch	TBD	NA
Hogan's Slough	TBD	NA
Hollering Drain	TBD	NA
King Drain	TBD	NA
Little Cove Drain	TBD	NA
Lockwood Ditch	TBD	NA
Lockwood 100' Lift Canal	TBD	NA
Lockwood 60' Lift Canal	TBD	NA

Waterbodies	Total Outfalls	Impairments
Mary Street Drain	TBD	NA
Monad Drain	TBD	NA
Piney Drain	TBD	NA
Shiloh Drain	TBD	NA
Snow Ditch	TBD	NA
Suburban Ditch	TBD	NA
Yegan Drain Ditch	1	NA
Yellowstone River[1] MT43F001_010	TBD	▪ Algae ▪ Arsenic ▪ Benthic Macroinvertebrates ▪ Dissolved Oxygen ▪ Eutrophication ▪ Oil and Grease ▪ Periphyton Indicator-Bioassessments ▪ Sediment
Yellowstone River[1] MT43F001_11		▪ Cause Unknown ▪ Chlorophyll-a ▪ Nitrate-Nitrite ▪ Oil and Grease ▪ Other anthropogenic substrate alterations ▪ Physical substrate habitat alterations

[1]Major watershed waterbody within Yellowstone County MS4 boundary.

General Requirement	Permit Section	Required BMP	Permit Deadline	Proposed Schedule	Strategy
Part II. SWMP					
Within 60 Days of the permit effective date and then reviewed annually, all permittees must develop a storm water management team, including a primary SWMP coordinator, and organizational chart which identifies the position responsible for implementing each minimum measure. Any updates to this information shall be submitted with Annual Reports.	Part II.A	N/A	March 2017 Review Annually	Complete, Review Annually	▪ Review and update current organizational chart in SWMP (if applicable).
During the entire permit term, all permittees must establish, document, and execute formalized mechanisms for regular communication between storm water management team members to allow for exchange of information and submittal of information necessary for permit compliance tracking and reporting.	Part II.A	N/A	N/A	Remainder of Permit Term	▪ Conduct monthly meetings and document discussions with formal meeting summaries. ▪ Use Microsoft OneDrive for file management.
MCM 1 – Public Education and Outreach					
a. Determine key target audiences most appropriate for storm water outreach.	Part II.A.1.a.i	▪ Analyze which business types and/or residential behaviors are common sources of illicit discharges, spills and dumping. ▪ Develop a list, description, and rationale for selecting these key target audiences based on business and residential groups associated with illegal discharges and improper disposal of waste to the MS4. ▪ List the pollutants associated with each key target audience.	End of 1st Permit Year	Complete	▪ See SWMP Section 3.1
	Part II.A.1.a.ii	▪ Develop and advertise a storm water website for access by key target audiences other interested stake holders, and the general public. ▪ At a minimum, the storm water website must include: o a copy of this General Permit; or o a link to the permittee's webpage containing: ▪ the permit, ▪ access to outreach materials, ▪ outreach event information (most recent and current), ▪ storm water management program documents and updates, ▪ annual reports (or an equivalent summary or document providing an annual overview, and the availability for the general public to request the annual report), and ▪ an effective mechanism for providing continued public input for the SWMP. ▪ This website must also include: o information regarding how to identify sources of illicit discharges; o procedures on how to report an illicit discharge; o a summary of the permittee's requirements for covered construction activities; and o how to submit construction project complaints. ▪ The website shall be available to the public on the internet.	End of 1st Permit Year	2019 Review Annually	▪ Collect and organize all information required on website. ▪ Coordinate with County's IT department to revise, update, and publicize all information required on website.
b. Development and utilize the permittee's website for public outreach and involvement.	Part II.A.1.b.i	▪ Develop outreach messages which promote benefits of non-polluting behaviors to the key target audience as well as benefits to storm water discharges.	End of 2nd Permit Year	2019	▪ Develop one pamphlet/brochure/flier that demonstrates appropriate non-polluting behaviors for each target audience. ▪ Publicize storm water outreach messages on storm water website.

General Requirement	Permit Section	Required BMP	Permit Deadline	Proposed Schedule	Strategy
c. Develop a tailored outreach strategy for each key target audience and specific storm water polluting behavior.	Part II.A.1.c.i	▪ Identify and, as needed, develop outreach formats and distribution channels for messages developed for each key target audience and associated storm water polluting behavior. ▪ Formats and distribution channels should be tailored to key target audiences and can utilize other existing formats and distribution channels, such as existing community newsletters. ▪ Submit a description of formats, distribution channels and schedule for each key target audience.	End of 2nd Permit Year	2019	▪ Review the anticipated outreach strategy for key target audiences. ▪ Develop, organize, and distribute educational and outreach material to key target audiences. ▪ Document approach in SWMP.
	Part II.A.1.c.ii	▪ Distribute outreach material to target audiences. ▪ Describe distribution in Annual Reports.	During the 3rd, 4th, and 5th Permit Years	2020 2021	▪ Analyze on an annual basis the effectiveness of outreach material and update as needed.
MCM 2 – Public Involvement and Participation					
a. Identify approaches for involving key target audiences in SWMP development and implementation.	Part II.A.2.a.i	▪ Identify approaches for involving the key target audiences (identified under Part II.A.1.a.1.) in the development and implementation of the SWMP over the five year permit term. ▪ For each key audience, describe: o The approach; o The target date(s) for implementation; and o Purpose of the involvement approach (e.g. raise awareness, change behavior, and improve the SWMP). ▪ Wherever possible, identify existing organizations with membership that represent some or all of the key target audiences and describe opportunities for partnering to involve membership in SWMP development and implementation. ▪ Document collaboration with existing organizations if this is an approach for involving key target audiences. ▪ Submit a description of public involvement approach, and schedule for each key audience in 1st Annual Report.	End of 1st Permit Year	2019	▪ Develop a comprehensive public outreach plan based on the anticipated outreach strategy described in Section 3.1.3 of the SWMP.
	Part II.A.2.a.ii	▪ Implement identified involvement approaches for each key target audience. ▪ Document participation and key target audience feedback on the approach in the SWMP and in each Annual Report.	During the 2nd, 3rd, 4th, and 5th Permit Years	2019	TBD
b. Develop and utilize the permittee's website for public involvement.	Part II.A.2.b.i	▪ Develop and advertise a storm water website for soliciting input from key target audiences, other interested stakeholders, and the general public. At a minimum, the storm water website must include: o Access to outreach materials; o Most recent or current outreach event information; o SWMP planning documents; o Annual reports (or an equivalent summary or document providing an annual overview, and the availability for the public to request the annual report); o A mechanism for collecting public input for the SWMP; and o Illicit discharge and construction project complaints. ▪ Website shall be available to the public on the internet.	End of 1st Permit Year	2019 2020 2021	▪ Collect and organize all information required on website. ▪ Coordinate with County's IT department to revise, update, and publicize all information required on website.

General Requirement	Permit Section	Required BMP	Permit Deadline	Proposed Schedule	Strategy
MCM 3 – Illicit Discharge Detection & Elimination					
a. Address the following more frequent categories of non-stormwater discharge or flows (i.e., illicit discharges) if identified as significant contributors of pollutants to the Small MS4: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined in ARM 17.30.1102(8)), uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water (discharges or flows from firefighting activities are excluded from the effective prohibition against non-storm water and need only be addressed where they are identified as significant sources of pollutants to state waters). These more frequent non-storm water discharges must be reasonably expected (based on information available to the permittee) to not be significant sources of pollutants to the Small MS4, because of either the nature of the discharges or conditions the permittee established for not allowing these discharges to the Small MS4.	Part II.A.3.a.i	▪ Evaluate and include, in each Annual Report: o A list of non-storm water discharges that the permittee has identified as significant contributors of pollutants; o The pollutants associated with each non-storm water significant contributor; and o Document any local controls or conditions placed on these discharges.	Annually	Complete, Review Annually	▪ Review and update on an annual basis the current list of non-storm water discharges. ▪ Evaluate options for establishing local. ▪ Implement controls if possible. ▪ See Section 3.2 of the SWMP.
b. Develop a list of other similar occasional incidental non-storm water discharge (e.g. non-commercial or charity car washes, etc.) that will not be addressed as illicit discharges. These non-storm water discharges must not be reasonably expected (based on information available to the permittee) to be significant sources of pollutants to the Small MS4, because of either the nature of the discharges or conditions the permittee established for allowing these discharges to the Small MS4 (e.g., a charity car wash with appropriate controls on frequency, proximity to sensitive waterbodies, BMPs for the wash water, etc.).	Part II.A.3.b.i	▪ Evaluate and include, in each Annual Report: o A list of occasional incidental non-storm water discharges that the permittee has determined will not be addressed as illicit discharges; o The pollutants associated with each non-storm water occasional incidental; and o Document any local controls or conditions placed on these discharges.	Annually	Complete, Review Annually	▪ Review and update on an annual basis the current list of occasional incidental non-storm water discharges. ▪ Evaluate options for establishing local controls. ▪ Implement controls if possible. ▪ See Section 3.2 of the SWMP.
	Part II.A.3.b.ii	▪ Include a provision prohibiting any occasional incidental, non-storm water discharge that is determined to be contributing significant amounts of pollutants to the Small MS4 in appropriate ordinances, regulatory mechanism or memoranda or agreements.	End of 2nd Permit Year	2019	▪ Continue to investigate options to establish legal authority by working with County's legal counsel and DEQ, if necessary. ▪ Review Missoula County's approach and process for establishing legal authority.
c. Inventory storm water sewer infrastructure to thoroughly track illicit discharges, contain spills, and determine high priority areas. When determining high priority areas, permittees must document and consider at a minimum, the following: industrial areas, previous areas with illicit discharges, known illegal dumping areas, the oldest portions of MS4 storm sewer infrastructure, any areas with onsite sewage disposal systems, and areas that discharge to an impaired waterbody.	Part II.A.3.c.i	▪ Update existing map showing: o The location and number of all outfalls (as defined in ARM 17.30.1102(14) and Part VIII of this General Permit); and o The names and location of all surface waters that receive discharges from those outfalls. ▪ Development of this map to accommodate the provisions of a comprehensive illicit discharge detection and elimination (IDDE) program and the SWMP would typically include mapping storm sewer system components including: o inlets;	End of 1st Permit Year	2019 2020	▪ Conduct phase 1 field investigations as described in SWMP. ▪ Update existing map with results from phase 1 field investigation. ▪ Submit updated map with 2019 Annual Report. ▪ Conduct phase 2 field investigations as described in SWMP. ▪ Update existing map with results from phase 2 field investigations.

General Requirement	Permit Section	Required BMP	Permit Deadline	Proposed Schedule	Strategy
		o open channels; o subsurface conduits/pipes o dry wells (discharges to groundwater directly); and o other similar discrete conveyances. ▪ List, label, or highlight determined high priority areas. ▪ Update the storm sewer map regularly and make available for review by the Department upon request			▪ Submit final map with 2020 annual report.
d. To the extent allowable under State, or local law, effectively prohibit, through ordinance or other regulatory mechanism, non-storm water discharges (except those listed under Part II.A.3.a) into the regulated storm sewer system and implement appropriate enforcement procedures and actions.	Part II.A.3.d.i	▪ If not done previously, adopt an ordinance or other regulatory mechanism to prohibit illicit discharges.	End of 2nd Permit Year	2019	▪ Continue to investigate options to establish legal authority by working with County's legal counsel and DEQ, if necessary. ▪ Review and consider Missoula County's approach and process for establishing legal authority.
	Part II.A.3.d.iii	▪ Solicit assistance from neighboring MS4s as necessary to detect and eliminate illicit discharge that may originate within the neighboring MS4 and formalize in cooperative agreement, i.e. memoranda of understanding. ▪ Agreements should specify investigation and enforcement responsibilities and these agreements should be described in each permittee's Enforcement Response Plan (ERP) (Part 11.A.3.d.iv.) and Illicit Discharge Investigation and Corrective Action Plan (Part II.A.3.f.). ▪ Formalize cooperative agreements, i.e. memoranda of understanding, with all neighboring MS4s as necessary to implement the IDDE program described in Part II.A.3.	End of 2nd Permit Year	2019	▪ Coordinate with City of Billings and MDT to evaluate potential opportunities for IDDE cooperation.
	Part II.A.3.d.iv	▪ Develop a formal ERP for illicit discharges. The ERP must describe: o Legal authority-through ordinance, formal policies or memoranda of understanding-to eliminate and abate illicit discharges. o Identify staff with enforcement authority; o Enforcement actions available; o Enforcement escalation process; and o Schedule to be utilized to quickly and consistently eliminate the source of the discharge, abate any damages and prevent recurrence. ▪ The ERP must include informal, formal, and judicial responses. o Informal responses may include: ▪ Telephone notification; ▪ Verbal notice; ▪ Notice of violation; and ▪ Meetings o Formal responses may include: ▪ Administrative order; ▪ Compliance schedule; ▪ Order to show cause; ▪ Monetary penalty (administrative); and ▪ Suspended service. o Judicial responses may include:	End of 2nd Permit Year	2019	▪ Draft ERP will be developed using template in Appendix D of the SWMP. ERP will be finalized after IDDE regulatory mechanism is established.

General Requirement	Permit Section	Required BMP	Permit Deadline	Proposed Schedule	Strategy
		▪ Injunctive relief; ▪ Consent decree; ▪ Civil penalties; and ▪ Criminal penalties.			
	Part II.A.3.d.v	▪ Implement ERP.	End of 2nd Permit Year	2019 2020	▪ If legal authority is established, implement the ERP.
e. Proactively inspect, during dry weather, all outfalls to detect illicit discharges and connections into the MS4 and identify high priority outfalls.	Part II.A.3.e.i	▪ Inspect and screen all of the permittee's outfalls during dry weather using the outfall field screening protocol developed by the *Center for Watershed Protection* or equivalent process. ▪ This process shall be completed by the end of the permit cycle.	Completed by the end of the 5th year. Progress documented in the Annual Reports.	2019 2020 2021	▪ Continue to identify and locate all outfalls during phase 1 and phase 2 field investigations. ▪ Inspect and screen a percentage of the identified outfalls each year so that all outfalls are inspected and screened by the end of the permit term.
	Part II.A.3.e.ii	▪ Using inspection and screening results, storm sewer maps, and other appropriate data, determine high priority outfalls. ▪ Priority is to be determined by the permittee and shall be based on potential water quality impact. When determining high priority outfalls, permittees must consider, at a minimum, outfalls: o Which drain industrial areas (as identified by the Small MS4s zoning regulations or growth policy); o Where illicit charges have been detected during past permit terms; o Which drain areas prone to incidents of illegal dumping; o Which drain the oldest portions of the Small MS4s storm sewer infrastructure; o Which serve areas primarily served by onsite sewage disposal systems; and/or o Which discharge into an impaired water body. ▪ Submit the list of high-priority outfalls with each 2nd-5th Annual Report. The 3rd-5th Year lists may reflect updated priority outfalls based on screening results.	End of 2nd Permit Year Re-evaluate during 3rd, 4th, and 5th Permit Years	2019 2020 2021	▪ After outfall inspections, review data and identify high priority outfalls and areas. ▪ Document the high priority areas on respective maps.
	Part II.A.3.e.iii	▪ Inspect and screen high priority outfalls during dry weather a minimum of one per year. ▪ Submit a summary of screening results with each 3rd-5th Annual Report	During 3rd, 4th, and 5th Permit Years	2020 2021	▪ Continue to identify and locate all storm water infrastructure and outfalls during phase 1 and phase 2 field investigations. ▪ Identify which outfalls are considered high priority. ▪ Inspect high priority outfalls (minimum of one) annually.

General Requirement	Permit Section	Required BMP	Permit Deadline	Proposed Schedule	Strategy
f. Consistently and effectively investigate suspected illicit discharges and connections and track subsequent compliance actions.	Part II.A.3.f.i	▪ Develop an illicit Discharge Investigation and Corrective Action Plan. This plan will describe the process that will be used to: o Locate the source of an illicit discharge and o Select the appropriate corrective action, i.e. enforcement action, abatement, etc. o At a minimum, this plan shall include processes to: ▪ Investigate all illicit discharges within 7 calendar days. Document circumstances that prevented this timeframe; ▪ Prioritize non-storm water discharges suspected of being sanitary sewage and/or significantly contaminated for investigation first; ▪ Confirmed illicit connections must be eliminated within a goal timeframe of 6 months. Document circumstances that prevented this timeframe. ▪ Notify Montana DEQ and appropriate agencies of dry weather flow believed to be an immediate threat to human health or the environment; ▪ Document that a good faith effort was made to find the source of the dry weather discharge and document each phase of the investigation in a case file; and ▪ Resolve and document the conclusion of all investigations. o The outfall where any illicit discharge is detected shall continue to be considered high priority and should be investigated as required in the permit. o The plan should refer to the permittee's ERP for execution of appropriate enforcement actions.	End of 1st Permit Year	2019	▪ Draft IDDE investigation and corrective action plan will be developed using the template in Appendix D of the SWMP. The plan will be finalized after the IDDE regulatory mechanism is established.
	Part II.A.3.f.ii	▪ Implement an Illicit Discharge Investigation and Corrective Action Plan.	End of 2nd Permit Year	2020	▪ Implement the developed IDDE investigation and corrective action plan after IDDE regulatory mechanism is established.
	Part II.A.3.f.iii	▪ Maintain documentation which describes the investigations conducted and corrective actions taken per the Illicit Discharge Investigation and Corrective Action Plan during dry weather screening or through other detection methods, e.g. public complaints. ▪ Submit summary with each Annual Report.	During 2nd, 3rd 4th and 5th Permit Years	2019 2020 2021	▪ Develop IDDE investigation and corrective action log template in 2019. ▪ Document investigations and corrective actions after IDDE regulatory mechanism is established.
MCM 4 – Construction Site Storm Water Management					
a. To the extent allowable under State, or local law, effectively require, through ordinance, or other regulatory mechanism, erosion and sediment controls and controls of other construction-related pollutant sources on regulated construction projects (construction storm water controls) and implement appropriate enforcement procedures and actions.	Part II A.4.a i	▪ If not completed previously, adopt an ordinance or other mechanism to require construction storm water controls on private and permittee-owned regulated projects. ▪ At a minimum the ordinance or other regulatory mechanism must: o require the construction storm water management minimum standards described as Non-Numeric Technology-Based Effluent Limits in the most current Montana DEQ General Permit for Storm Water Discharges Associated with Construction Activity to be implemented on all regulated construction projects, and o provide the permittee the authority to inspect privately-owned construction storm water management controls. ▪ Submit with 3rd Annual Report.	End of 3rd Permit Year	2019	▪ Continue to investigate options to establish legal authority by working with County's legal counsel and DEQ, if necessary. ▪ Consider whether Missoula County's construction program ordinance approach will work for Yellowstone County.

General Requirement	Permit Section	Required BMP	Permit Deadline	Proposed Schedule	Strategy
	Part II A.4.a iii	▪ Develop a formal ERP to ensure compliance with the construction storm water management regulatory mechanisms on regulated projects including private property. The sanctions and enforcement mechanisms to be used to ensure compliance will be included. ▪ The ERP must describe how the permittee will: o eliminate and abate illegal construction discharges; o identify staff with enforcement authority; o enforcement actions available and enforcement escalation process and include a schedule to be utilized to quickly, and consistently eliminate the source of the discharge; and o abate any damages and prevent recurrence. ▪ The ERP must include informal, formal, and judicial responses. o Informal responses may include telephone notification, verbal notice, notice of violation, and meetings. o Formal responses may include administrative order, compliance schedule, order to show cause, monetary penalty (administrative), and suspended service. o Judicial response may include injunctive relief, consent decree, civil penalties, and criminal penalties. ▪ In addition, the ERP must also include nonmonetary construction project-specific penalties such as stop work orders, bonding requirements, and/or permit denials for noncompliance. ▪ Submit documentation of progress towards creation of ERP with the 1st Annual Report.	End of 3rd Permit Year	2020	▪ Develop construction storm water ERP using the templates referenced in the SWMP.
	Part II A.4.a iv	▪ Implement ERP.	End of 4th Permit Year	2020 or 2021	▪ Implement the construction storm water ERP after legal authority is established.
b. Require that all regulated construction projects submit a construction storm water management plan prior to construction which is consistent with state and local requirements and which incorporates consideration of potential water quality impacts including storm water pollution prevention through appropriate erosion, sediment, and waste control BMPs. The storm water pollution prevention plan (SWPPP) developed pursuant to the MPDES General Permit for Storm Water Discharges Associated With Construction Activity (Permit Number MTR 100000) may substitute for this site plan for projects where a SWPPP is developed.	Part II A.4.b.i	▪ Develop a construction storm water management plan review checklist that documents, at a minimum, that the requirements described in the Non-Numeric Technology-Based Effluent Limits of the most current Montana DEQ General Permit for Storm Water Discharges Associated with Construction Activity have been included on all regulated project construction storm water management plans. ▪ The construction storm water management plan review checklist shall be used to ensure consistent review of submitted plans and to determine and document compliance with state and local requirements.	End of 1st Permit Year	2020	▪ Review and update the draft plan review checklist referenced in the SWMP.
	Part II A.4.b.ii	▪ Implement construction storm water management plan review checklist.	End of 1st Permit Year	2020 or 2021	▪ Implement the final construction storm water plan review checklist.
c. Ensure that all construction storm water management controls are installed, operated and maintained in order to function as designed.	Part II A.4.c.i	▪ Develop an inspection form or checklist to ensure consistent and thorough regulated project inspections. ▪ The checklist shall include, at a minimum, the requirements described in the No Numeric Technology-Based Effluent Limits of the most current Montana DEQ General Permit for Storm Water Discharges Associated with Construction Activity.	End of 1st Permit Year	2020	▪ Review and update the draft construction storm water site inspection form referenced in the SWMP.

General Requirement	Permit Section	Required BMP	Permit Deadline	Proposed Schedule	Strategy
	Part II A.4.c.iii	▪ Conduct inspections using inspection form.	End of 1st Permit Year	2020 2021	▪ If legal authority is established, perform construction site inspections using the final inspection form and the final inspection frequency determination protocol.
	Part II A.4.c.iv	▪ Develop and maintain/update a regulated project inventory to include, at a minimum, if the project is covered under the Montana DEQ General Permit for Storm Water Discharges Associated with Construction Activity and associated authorization number, the location, size, topography of site and proximity to water bodies for each project.	End of 1st Permit Year	2020	▪ Coordinate with DEQ and the County GIS department to track and identify regulated construction projects.
	Part II A.4.c.v	▪ Develop an inspection frequency determination protocol based upon the priority of the project. ▪ Priority is to be determined using specific criteria to include- at a minimum: o project size; o proximity to a water body; o steepness of project site slopes o discharge to waterbodies impaired for pollutants expected from active construction projects; and o past record of non-compliance by the operator of the construction site. ▪ The protocol shall establish the following minimum inspection frequency for all high priority projects: o once at commencement of construction after BMPs have been implemented; o once within 48-hours after each rain event of 0.25 inches or greater; o once within 48-hours after each occurrence of runoff from snowmelt due to thawing o conditions that causes visible surface erosion at the site; and o once at the conclusion of the project prior to finalization (i.e.release of bond, issuance of certificate of occupancy, etc.). ▪ In addition, the inspection frequency shall include: o recidivism reduction measures such as incentives; o disincentives; or o increased inspection frequency at non-compliant operator's sites.	End of 1st Permit Year	2020	▪ Review and update the draft inspection frequency determination worksheet referenced in the SWMP.
MCM 5 – Post-Construction Site Storm Water Management in New and Redevelopment					
a. To the extent allowable under State, or local law, effectively require, through ordinance, or other regulatory mechanism, erosion and sediment controls and controls of other construction-related pollutant sources on regulated construction projects (construction storm water controls) and implement appropriate enforcement procedures and actions.	Part II A.5.a.i	▪ If not completed previously, adopt an ordinance or other mechanism to require post-construction storm water management controls on regulated projects that, at a minimum, include the performance standard described in Part II.A.5.b.iii.	End of 4th Permit Year	2019	▪ Continue to investigate options to establish legal authority by working with County's legal counsel and DEQ, if necessary. ▪ Consider whether Missoula County's approach to the post-construction ordinance will work for Yellowstone County.

General Requirement	Permit Section	Required BMP	Permit Deadline	Proposed Schedule	Strategy
	Part II A.5.a.iii	▪ Develop a formal ERP to ensure compliance with installation, operation and maintenance requirements for post-construction storm water management controls on regulated projects including private property. ▪ The ERP must include informal, formal, and judicial responses. o Informal responses may include: ▪ telephone notification; ▪ verbal notice; ▪ notice of violation; and ▪ meetings. o Formal responses may include: ▪ administrative order; ▪ compliance schedule; ▪ order to show cause; ▪ monetary penalty (administrative); and ▪ suspend service . o Judicial responses may include: ▪ injunctive relief; ▪ consent decree; ▪ civil penalties; and ▪ criminal penalties. o The ERP must describe: ▪ legal authority to require inspection and maintenance of controls; ▪ identify staff with enforcement authority; ▪ the enforcements actions available; ▪ enforcement escalation process; and ▪ schedule to be utilized to quickly and consistently ensure compliance with post-construction requirements.	End of 4th Permit Year	2021	▪ Develop the post-construction storm water ERP using the templates referenced in the SWMP.
	Part II A.5.a.iv	▪ Implement ERP.	End of 5th Permit Year	2021	▪ Implement the post-construction ERP after legal authority is established.
b. Require that all regulated development projects submit a site plan which is consistent with state and local post-construction requirements which incorporates consideration of potential water quality impacts including appropriate post-construction storm water management controls.	Part II A.5.b.i	▪ Develop and implement a plan review checklist to ensure consistent review of submitted plans and to determine and document compliance with state and local post-construction requirements.	End of 1st Permit Year	2021	▪ Review and update the draft plan review checklist referenced in the SWMP.
	Part II A.5.b.iii	▪ Require that all regulated projects implement post-construction storm water management controls that are designed to infiltrate, evapotranspire, and/or capture for reuse the post-construction runoff generated from the first 0.5 inches of rainfall from a 24-hour storm preceded by 48 hours of no measurable precipitation. For projects that cannot meet 100% of the runoff reduction requirement, the remainder of the runoff from the first 0.5 inches of rainfall must be either: a. Treated onsite using post-construction storm water management control(s) expected to remove 80 percent total suspended solids (TSS); b. Managed offsite within the same subwatershed using post-construction storm water management control(s) that are designed to infiltrate, evapotranspire, and/or capture for reuse; or c. Treated offsite within the same subwatershed using post-construction storm water management control(s) expected to	End of 1st Permit Year	2021	▪ Implement the post-construction storm water performance standard after legal authority is established. ▪ Develop and implement criteria for allowing offsite treatment. ▪ Coordinate with the County's GIS department to document the location and relevant information for areas that utilize offsite treatment.

General Requirement	Permit Section	Required BMP	Permit Deadline	Proposed Schedule	Strategy
		remove 80 percent TSS. ▪ Permittees allowing offsite treatment shall do the following: a. Develop and apply criteria for determining the circumstances under which offsite treatment may be allowed. ▪ The criteria must be based on multiple factors, including but not limited to: i. technical or logistic infeasibility (e.g. lack of available space; ii. high groundwater; iii. groundwater contamination; iv. poorly infiltrating soils; v. shallow bedrock; vi. prohibitive costs; and vii. a land use that is inconsistent with capture and reuse or infiltration of storm water). ▪ Determinations may not be based solely on the difficulty and/or cost of implementation. ▪ The permittee must develop a formal review and approval process for determining projects eligible for offsite treatment. ▪ The offsite treatment option is to be used only after all onsite options have been evaluated and documented through the permittee's developed formal review and approval process. b. Create and maintain an inventory of regulated projects, which utilize offsite treatment of post-construction storm water runoff. The inventory must include the following information pertaining to each approved project: ▪ Geographic location of the project; ▪ Location of the offsite treatment facility which the project drains to; and ▪ Documentation of the rationale for approval of offsite treatment.			
c. Ensure that all post-construction storm water management controls are installed, operated and maintained in order to function as designed.	Part II A.5.c.i	▪ Develop and implement an inspection form or checklist to ensure consistent and thorough inspections of post-construction storm water management controls.	End of 2nd Permit Year	2021	▪ Review and update the draft inspection form referenced in the SWMP.
	Part II A.5.c.iii	▪ Develop and maintain/update an inventory (including at a minimum, a description and location) of all **new** permittee-owned and private post-construction storm water management controls installed since the effective date of the permit.	End of 2nd Permit Year	2019 2020	▪ Coordinate with the County's GIS department to develop a post-construction storm water BMP database. ▪ Continue to identify and locate all existing post-construction storm water BMPs during phase 1 and phase 2 field investigations.
	Part II A.5.c.iv	▪ Develop and maintain/update an inventory (including at a minimum, a description and location) of all **existing** permittee-owned and private high priority post-construction storm water management controls installed prior to the effective date of the permit. ▪ Priority is to be determined by the permittee and should be based on potential water quality impacts using specific criteria which may include: o operation and maintenance needs of the practices; o proximity to water body; o drainage area treated;	End of 3rd Permit Year	2019 2020	▪ Continue to identify and locate all existing post-construction storm water BMPs during phase 1 and phase 2 field investigations. ▪ Coordinate with the County's GIS department to develop a post-construction storm water BMP database.

General Requirement	Permit Section	Required BMP	Permit Deadline	Proposed Schedule	Strategy
		o land use type; and o location within an impaired waterbody watershed.			
	Part II A.5.c.vi	▪ Develop an inspection frequency determination protocol based upon the priority of the post-construction storm water management control. ▪ Priority is to be determined by the permittee and should be based on potential water quality impact using specific criteria which may include: o operation and maintenance needs of the practices; o proximity to water body; o drainage area treated; o land use type; and o location within an impaired water body watershed.	End of 2nd Permit Year	2021	▪ Review and update the draft inspection frequency determination worksheet referenced in the SWMP.
	Part II A.5.c.vii	▪ Develop a program to either: o conduct inspections of high-priority post-construction storm water management controls at least annually, OR o to require self-inspection and reporting by owners at least annually.	End of 2nd Permit Year	2021	▪ Develop inspection program and implement the inspection frequency protocol after legal authority is established.
	Part II A.5.c.viii	▪ Inspect permittee-owned high priority post-construction storm water management controls annually and document findings and resulting compliance actions.	During the 3rd, 4th,and 5th Permit Years	2020 2021	▪ Using the results of the phase 1 and phase 2 field investigations, inspect County-owned, post-construction storm water BMPs in high priority areas. ▪ Use the final version of the post-construction BMP inspection form.
	Part II A.5.c.ix	▪ Inspect or have inspected all high priority privately-owned post-construction storm water management controls annually ▪ Document findings and resulting compliance actions.	During the 3rdd 4th,and 5th Permit Years	2021	▪ After legal authority is established and using the results of the phase 1 and phase 2 field investigations, inspect privately-owned, post-construction storm water BMPs. ▪ Use the final version of the post-construction BMP inspection form.
d. Incorporate recommendations and requirements into plans, policies and ordinances which allow and support the utilization of LID concepts on public and private property.	Part II A.5.d.i	▪ Convene appropriate staff and conduct a discussion to evaluate existing barriers to implementing LID infrastructure in the permittee's codes, ordinances and policies. ▪ The outcome of this discussion must identify opportunities for change and address the potential inconsistencies between policies. ▪ Appropriate staff must include member(s) of various departments, some of which may include: o Parks and Recreation; o Public Works; o Planning; o Environmental Protection; o Utilities; and o Transportation.	End of 4th Permit Year	2020	▪ Coordinate with internal County departments to review codes or policies that deter or prevent the use of LID infrastructure.
MCM 6 – Pollution Prevention/Good Housekeeping for Permittee Operations					
a. Identify the operation and maintenance program to prevent or reduce pollutant runoff from permittee-owned/ operated facilities and field activities.	Part II A.6.a.i	▪ Create an inventory of permittee-owned/ operated facilities and activities that have the potential to release contaminants to the MS4. The inventory should include, at a minimum, the following: 1. Facilities:	End of 1st Permit Year	2019	▪ Review and update the current list of County facilities, activities, and pollutants that have the potential to release the MS4 (see Section 3.5 of the SWMP).

General Requirement	Permit Section	Required BMP	Permit Deadline	Proposed Schedule	Strategy
		o maintenance and storage yards; o waste handling and disposal areas; o vehicle fleet or maintenance shops with outdoor storage areas; o salt/sand storage locations; and o snow or dredge material disposal areas operated by the permittee. 2. Activities: o Park and open space maintenance; o parking lot maintenance; o building maintenance; o road maintenance/deicing; and o storm water system maintenance including catch basin cleaning. ▪ List the possible contaminant(s) from each facility/activity and list the local department(s) and position(s) responsible for pollution prevention with each facility/activity. ▪ Update the inventory annually.			
	Part II A.6.a.ii	▪ Develop a map that identifies the locations of facilities and known locations of activities identified in 6.a.i. ▪ Update the map annually.	During the 2nd, 3rd,4th , and 5th Permit Years	2019 2020 2021	▪ Review and update the facility inventory map.
	Part II A.6.a.iii	▪ Organize similar facilities and activities identified in 6.a.i. into categories, label the categories, and develop standard operating procedures (SOPs) for all categories. ▪ Development of the SOPs must include documented inspections and communication with relevant department personnel of2 facilities/activities per category prior to SOP category completion. ▪ The SOPs must identify storm water pollution controls (structural and non-structural controls, and operation improvements) to be installed, implemented, and/or maintained to minimize the discharge of contaminants. ▪ The permittee must complete, at a minimum, the required SOPs according to the following schedule: o one-fourth by the end of the 2nd permit year; o one-half by the end of the 3rd permit year; o three-fourths by the end of the 4th permit year; and o all by the end of the 5th permit year.	During the 2nd, 3rd,4th and 5th Permit Years	2019 2020 2021	▪ Utilize the template SOPs referenced in the SWMP for applicable facilities and activities and develop final versions.
	Part II A.6.a.iv	▪ Develop and internally document storm water pollution prevention training in conjunction with the development of the SOPs for each category.	During the 2nd, 3rd, 4th, and 5th Permit Years	2019 2020 2021	▪ Convene appropriate staff during the development of SOPs and schedule organized trainings for all staff members.
	Part II A.6.a.v	▪ Conduct annual storm water pollution prevention training for all permittee staff directly involved with implementing SOPs. ▪ Trainings will be conducted during the next permit year after development of each SOP. Example: SOP and training developed in 2nd Permit Year. Training conducted in 3rd Permit Year. ▪ Retain records of completed trainings and attendance.	During the 3rd, 4th,and 5th Permit Years	2020 2021	

General Requirement	Permit Section	Required BMP	Permit Deadline	Proposed Schedule	Strategy
Part II.B – Training					
The permittee is required to conduct and/or coordinate the following training and track/document of all municipal staff participation in each:	Part II B.1	▪ Conduct comprehensive training during the 1st year of the permit term for all members of the storm water management team to educate them about the new permit, the updated SWMP and implementation responsibilities for the upcoming permit term. New members of the storm water management team must receive the equivalent amount of training within 90 days of the hire date.	End of 1st Permit Year	2019	▪ Conduct new General Permit and SWMP training for County SWMP team by March 29, 2019.
	Part II B.2	▪ Conduct storm water awareness training, at a minimum, during 1st and 4th years of the permit term for all appropriate permittee field staff (and pretreatment inspection staff) and staff who work at permittee facilities. The training must provide education regarding storm water impacts, the MS4 permit, the detection and elimination of illicit discharges and the implementation of the ERP, and specifically address BMPs necessary to minimize discharges of pollutants during permittee activities or the operation of permittee facilities. Appropriate new field staff and staff who work at permittee facilities must receive the equivalent amount of training within 90 days of the hire date.	1st and 4th Permit Years	2019 2020	▪ Coordinate with the City of Billings to borrow the Excal Visual, Inc. DVD and develop training material. ▪ Conduct storm water awareness training for County staff who work at permittee facilities
	Part II B.3	▪ Conduct training, at a minimum, during the 1st and 4th years of the permit term for all inspectors and plan reviewers responsible for implementation of the Construction Site Storm Water Management Control Minimum Measure. Inspector training shall include inspection protocol and the implementation of the ERP upon development. New inspectors and plan reviewers must receive the equivalent amount of training within 90 days of the hire date.	1st and 4th Permit Years	(1st year training is complete) 2020	▪ TBD
	Part II B.4	▪ Conduct training, at a minimum, during the 1st and 4th years of the permit term for all inspectors and plan reviewers responsible for implementation of the Post-Construction Storm Water Management in New Development and Redevelopment Minimum Measure. Inspector training shall include inspection protocol and the implementation of the ERP. New inspectors and plan reviewers must receive the equivalent amount of training within 90 days of the hire date.	1st and 4th Permit Years	(1st year training is complete) 2020	▪ TBD
	Part II B.5	▪ Conduct training, at the schedule outlined within Part II.6.a.v, for storm water staff responsible for implementing Standard Operating Procedures (SOPs) developed as a requirement of the Pollution Prevention/Good Housekeeping Minimum Measure. Training must be oriented to staff involved with the SOP-specific duties. New storm water staff responsible for implementing SOPs must receive the equivalent amount of training within 90 days of the hire date.	During the 2nd, 3rd, 4th, and 5th Permit Years	2020 2021	▪ TBD
Part II.B – Sharing Responsibility					
Sharing Responsibility (optional)	Part II C	▪ Optional. If implemented, the MS4 should enter into a legally binding agreement with the other entity in order to minimize uncertainty about compliance with the MPDES permit.	N/A	Complete	▪ See Section 1.3 of the SWMP.
Part III – Special Conditions					
Special Conditions	Part III A	▪ The permittee's (SWMP) must identify all outfalls that discharge to impaired waterbodies, the impaired waterbodies, and the associated pollutant(s) of impairment. Information on impaired waterbodies may be obtained from the Department or from the Montana DEQ Clean Water Act Information Center website: http://cwaic.mt.gov/. This information will be submitted with each Annual Report.		2019 2020 2021	▪ Continue to identify and locate all outfalls during phase 1 and phase 2 field investigations discuss in the SWMP. ▪ Update the outfall summary table using the results from the field investigations.

General Requirement	Permit Section	Required BMP	Permit Deadline	Proposed Schedule	Strategy
	Part III A	▪ The permittee's SWMP must include a section that describes BMPs that target and reduce discharges of the identified pollutant(s) of impairment to impaired waterbodies without an approved TMDL. The permittee should only identify pollutants of impairment from Table 1 in Part IV The permittee's Annual Report must contain a summary of BMPs implemented over the reporting period and a schedule of BMPs planned for the following year.		2019 2020 2021	▪ Review and update on an annual basis the BMPs used to target and reduce pollutants of impairment and the planned BMPs for the coming calendar year (see Section 5.2 of the SWMP).
Part IV – Monitoring, Recording, and Reporting Requirements					
Self-Monitoring	Part IV. A	▪ (see permit for requirements)		2019 2020 2021	▪ Review and adjust, if needed, the current monitoring locations in 2019. ▪ Adjust the current monitoring approach if necessary in 2019. ▪ Develop monitoring results spreadsheet to track results and calculate long-term median pollutant concentrations. ▪ Conduct semi-annual monitoring.

Appendix B. MS4 General Permit

GENERAL PERMIT
FOR
STORM WATER DISCHARGES ASSOCIATED WITH SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s)

PERMIT NUMBER MTR040000

MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

AUTHORIZATION TO DISCHARGE UNDER THE MONTANA POLLUTANT DISCHARGE ELIMINATION SYSTEM (MPDES)

In compliance with Section 75-5-101 *et seq.,* Montana Code Annotated (MCA); Administrative Rules of Montana (ARM) 17.30.1101; 17.30.1301 *et seq.; and ARM* 17.30.601 *et seq.,* applicants with an authorization letter issued under this *General Permit for Storm Water Discharges Associated with Small Municipal Separate Storm Sewer Systems (Small MS4s)* are permitted to discharge storm water resulting only from Small MS4s in accordance with effluent limitations, monitoring requirements, and other conditions set forth herein.

This Permit shall become effective January 1, 2017.

This Permit and the authorization to discharge shall expire at midnight, December 31, 2021.

FOR THE MONTANA DEPARTMENT
OF ENVIRONMENTAL QUALITY

Jon Kenning, Chief
Water Protection Bureau

Issuance Date: November 30, 2016

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Part I. Permit Coverage

Discharges Authorized
Montana Pollutant Discharge Elimination System (MPDES) General Permit MTR040000 is a fourth-generation General Permit for storm water discharges associated with Small Municipal Separate Storm Sewer Systems (MS4s). Pursuant to 75-5-402, MCA and requirements found in ARM, Title 17, Chapter 30, Subchapters 11, 12, and 13, the Department of Environmental Quality (the Department or DEQ) regulates storm water discharges from Small MS4s. To elaborate, ARM 17.30.1105(1)(d) requires MPDES permit coverage for Small MS4s that are identified in ARM 17.30.1102(23) or designated pursuant to ARM 17.30.1107. Regulated Small MS4s are required to apply for, and obtain, authorization for the discharge of storm water into state waters per requirements of this General Permit.

Ineligibility for Coverage
This 2017 General Permit does not authorize, or supersede permitting requirements for "storm water discharge associated with industrial activity" as defined in ARM 17.30.1102(29), "storm water discharge associated with construction activity" as defined in ARM 17.30.1102(28), or storm water discharges required or covered under another MPDES permit. The 2017 General Permit does not relieve the permittee from any other statute, regulation, permits, or other regulatory requirements for activities occurring within their area and not associated with permitted storm water discharges with Small Municipal Separate Storm Sewer Systems.

Applicants
The Department may determine that a small MS4 applying for coverage does not qualify for authorization under the renewed 2017 General Permit for Storm Water Discharges associated with Small MS4s, citing that the specific source applying for authorization appears unable to comply with the one or more of the following requirements:

- effluent standards, effluent limitations, standards of performance for new sources of pollutants, toxic effluent standards and prohibitions, and pretreatment standards;
- water quality standards established pursuant to 75-5-301, MCA;
- prohibition of discharge of any radiological, chemical, or biological warfare agent or high-level radioactive waste;
- prohibition of any discharges to which the regional administrator has objected in writing;
- prohibition of any discharge which is in conflict with a plan or amendment thereto approved pursuant to section 208(b) of the Act;
- any additional requirements that the Department determines are necessary to carry out the provisions of 75-5-101, et seq., MCA.
- The storm water discharge is different in degree or nature from discharges reasonably expected from sources or activities within the category described in this MPDES General Permit (including pollutants from process wastewater streams).
- The MPDES permit authorization for the same operation has previously been denied or revoked.
- The discharge sought to be authorized under the 2017 General Permit is also included within an application or is subject to review under the Major Facility Siting Act, 75-20-101, et seq., MCA.

- The point source is, or will be, located in an area of unique ecological or recreational significance. Such determination must be based upon considerations of Montana stream classifications adopted under 75-5-301, MCA, impacts on fishery resources, local conditions at proposed discharge sites, and designations of wilderness areas under 16 USC 1132 or of wild and scenic rivers under 16 USC 1274.

If the Department determines ineligibility for a Small MS4, the Department shall proceed, unless the application withdrawn, to process the application through the Individual MPDES Permit requirements. The Department will contact the applicant regarding ineligibility and request more information and fees, as needed, for Individual MPDES Permit requirements.

Permittees
Per ARM 17.30.1341(9), the Department may require any Small MS4 authorized by the 2017 General Permit to obtain an Individual Permit instead. The Department may require a Small MS4 to get an Individual Permit citing one or more of the following reasons:

- a water quality management plan has been approved that contains requirements applicable to categories or subcategories of discharges or facilities covered in a general permit;
- the Department has determined that the Small MS4 is a significant contributor to pollution;
- a change has occurred in the availability of demonstrated technology or practices for the control or abatement of pollutants applicable to the Small MS4;
- the discharger is not in compliance with the conditions of the 2017 General Permit;
- circumstances have changed since the time of the request to be covered by the 2015 General Permit so that the Small MS4 is no longer appropriately controlled under the 2017 General Permit;
- effluent limitations guidelines have been promulgated for facilities covered under the 2017 General Permit; or
- a change in any condition that requires either a temporary or permanent reduction or elimination of the discharge authorized under the 2017 General Permit has occurred.

Public Notice
Prior to issuing a General Permit, the Department shall provide a public notice in accordance with the requirements of ARM 17.30.1372 and shall adhere to the requirements of ARM 17.30.1373 through 17.30.1377 regarding public comments and public hearings.

Application for Coverage
Per ARM 17.30.1111, owners or operators of Small MS4s must obtain coverage under a MPDES General Permit by completing a General Permit application or a MPDES Individual Permit by submitting an application for an Individual Permit, and complying with the application requirements set forth in ARM 17.30.1111(2).

In accordance with ARM 17.30.1341(4), a discharger who fails to submit a written application in accordance with the terms of this General Permit shall not be authorized to discharge under the permit. A complete and timely application to be covered in accordance with this General Permit's requirements fulfills the requirements for permit application for purposes of ARM

17.30.1105, 17.30.1111, 17.30.1313, 17.30.1322, and 17.30.1341. The application form, as provided by the Department, shall be completed and submitted to:

Montana Department of Environmental Quality
Water Protection Bureau
P.O. Box 200901
Helena, Montana 59620-0901

Authorization options for coverage under the 2017 General Permit are provided below.

New Authorizations (Not currently authorized under the 2015 General Permit)
Applicants seeking authorization under the 2017 General Permit shall submit a complete application package at least 30 days before the anticipated date of required permit coverage. If an applicant owns and operates Small MS4 areas throughout the state, the applicant can submit:

- application packages for each Small MS4 area separately,
- application packages for each Small MS4 area separately as a co-permittee with the interconnected Small MS4,
- application packages for each Small MS4 area to reflect both permittee and co-permittee statuses, as requested, or
- a single comprehensive application package to cover all Small MS4 areas in the state.

An application package includes:

- an application form, as provided by the Department,
- a storm water management program, and
- fees (renewal permit fees) as required under ARM 17.30.201.

If there are deficiencies with the application package, the Department may deny authorization under the permit or contact the MS4 for additional information necessary to ensure the application package meets requirements. If the request is denied, the Department may process the request as an Individual Permit (with additional fees); the applicant may withdraw the request; or the applicant may modify the MS4's operations to meet the conditions of the 2017 General Permit and re-apply for coverage under the 2017 General Permit.

Once determined adequate, the Department will issue an authorization letter to these MS4s confirming coverage under the 2017 General Permit beginning January 1, 2017 [ARM 17.30.1341(4)].

Continuing Authorizations issued under the 2015 General Permit
Permitted MS4s renewing authorizations under the 2017 General Permit shall submit a complete renewal application package at least 30 days in advance of the existing 2015 General Permit expiration.

A renewal application package includes:

- a renewal application form, as provided by the Department,
- a storm water management program, and
- fees (renewal permit fees) as required under ARM 17.30.201.

If there are deficiencies with the renewal application package, the Department may deny authorization under the permit or contact the MS4 for additional information necessary to ensure the application package meets requirements. If the request is denied, the Department may process the request as an Individual Permit (with additional fees); the applicant may withdraw the request; or the applicant may modify the MS4's operations to meet the conditions of the 2017 General Permit and re-apply for coverage under the 2017 General Permit.

Once determined adequate, the Department will issue an authorization letter to these MS4s confirming coverage under the 2017 General Permit beginning January 1, 2017 [ARM 17.30.1341(4)].

Co-permittees Authorizations (New or Continuing Authorizations)
When multiple Small MS4s apply for coverage under a single permit authorization number, they shall be considered co-permittees and shall be jointly responsible for compliance under the 2017 General Permit as set forth at ARM 17.30.1111(3) and (7). Each co-permittee must submit a separate application package to obtain authorization. Co-permittee authorizations may occur under the 2017 General Permit as a renewal authorization with continuing coverage status from the 2015 General Permit or a new authorization. Co-permittees will be subject to the requirements above based on their status: new or continuing.

Other Permitting Requirements
Submittal of the application package and receipt of an authorization letter from the Department does not eliminate a permittee's obligation to obtain other necessary permits to include MS4-related activities that utilize the storm sewer systems as a conveyance for non-storm water discharges to a receiving waterbody.

Permit Area of Permitted MS4s Under the 2015-Issued General Permit
This permit covers areas pursuant to ARM 17.30.1102(23) that are served by, or contribute to, municipal separate storm sewers owned or operated by the permittee that discharges to State waters as follows:

- Cities: Billings, Bozeman, Butte, Great Falls, Helena, Kalispell, and Missoula.

  For cities required to maintain coverage under this renewed permit, the geographic area of permit coverage will include the U.S. Census designated urbanized areas in accordance with the 2010 census for cities listed in ARM 17.30.1102(23)(a) and the entirety of the municipal incorporated boundary for cities listed in ARM 17.30.1102(23)(b). For the purposes of the 2017 General Permit, these permittees are referred to as Traditional MS4s.

- Counties: Cascade, Missoula, and Yellowstone.

  For counties required to maintain coverage under this renewed permit, the geographic area of permit coverage will include the U.S. Census designated urbanized areas in accordance with the 2010 census for counties listed in ARM 17.30.1102(23)(a). For the purposes of the 2017 General Permit, these permittees are referred to as Traditional MS4s.

- Other: Malmstrom Air Force Base, Montana State University, and University of Montana (Missoula).

  For all other permitted MS4s as identified in accordance with ARM 17.30.1102(23)(d) and required to maintain coverage under this renewed permit, the geographic area of permit coverage is the portion of the permittee's jurisdiction that is within permitted Traditional MS4s. For the purposes of the 2017 General Permit, these permittees are referred to as Non-Traditional MS4s.

Effluent Limitations
Effective immediately upon issuance of an authorization under the 2017 General Permit and lasting through the expiration date, the following conditions apply to all Small MS4s covered under this General Permit. There must be no discharge of pollutants via storm water runoff to State Waters except as provided for below.

A. Implementation of Best Management Practices (BMPs) consistent with the provisions of the Storm Water Management Program (SWMP) and the requirements in this General Permit shall constitute compliance with the requirement of reducing pollutants to the maximum extent practicable (MEP). Discharges of storm water containing pollutants associated with Small MS4s covered under this General Permit will be controlled through the development, implementation, and enforcement of a SWMP designed to reduce the discharge of pollutants from the permitted Small MS4 to the MEP, to protect water quality, and to satisfy the appropriate water quality requirements of the Montana Water Quality Act (MWQA).

B. For regulated Small MS4s which have been designated through ARM 17.30.1102(23) and had initial authorization under the preceding January 1, 2005 to December 31, 2009 General Permit for Storm Water Discharge Associated with Small Municipal Separate Storm Sewer System, the permittee was required to develop, implement, and enforce a SWMP, as stated in Part II of the 2005 General Permit, no later than the December 31, 2009 expiration date. This requirement is still valid and binding under this reissued January 1, 2017 to December 31, 2021 General Permit for Storm Water Discharge Associated with Small Municipal Separate Storm Sewer System (MS4), although for the new inclusions or revisions to the SWMP as stated in the reissued 2017 General Permit, the permittee must develop, implement, and enforce those additional or revised components as per the implementation timeframe specified.

C. For any regulated Small MS4s which have been designated through ARM 17.30.1102(23) or 17.30.1107 or an unregulated MS4 seeking coverage that has not been previously authorized, the permittee must develop, implement, and enforce a SWMP in accordance with the 2017 General Permit, no later than five years from the initial date of permit authorization.

D. If an individual MPDES permit is issued to any regulated Small MS4, coverage under the 2017 General Permit is terminated on the effective date of the final individual MPDES permit.

No discharge of storm water containing pollutants from process wastewater streams may occur under this General Permit.

No discharge of storm water containing pollutants from Small MS4s covered under this General Permit may cause or contribute to a violation of water quality standards.

Part II. Storm Water Management Program

A. Requirements

The permittee must develop, document, and maintain a SWMP which includes management practices, control techniques, systems, designs, good standard engineering practices, and such other provisions necessary to reduce the discharge of pollutants from the permitted Small MS4 to the MEP. This section describes required BMPs and implementation schedules or deadlines for each BMP. DEQ requires BMPs that are ***selected, designed, installed, implemented, inspected, and maintained*** (or replaced based on inspections) in accordance with good engineering, hydrologic, and pollution control practices. DEQ provides the flexibility for permittees to choose appropriate BMPs based on their location-specific discretion to self-determine appropriate BMPs to control pollutant sources. If applicable, retain documentation, specifications, and/or standard operating procedures used for BMP selection.

Pursuant to ARM 17.30.1111(6), the permittee shall effectively manage a storm water program inclusive of the six minimum control measures: Public Education and Outreach; Public Involvement and Participation; Illicit Discharge Detection & Elimination; Construction Site Storm Water Management; Post-Construction Site Storm Water Management in New and Redevelopment; and Pollution Prevention/Good Housekeeping for Permittee Operations.

The permittee shall effectively implement a coordinated storm water program inclusive of the development of a storm water management team comprised of persons responsible for implementation of the SWMP and the establishment of formal mechanisms for communication and coordination between team members (e.g. meetings, email updates, etc.) to ensure cooperation necessary to facilitate permit compliance and timely reporting.

Within 60 Days of the permit effective date and then reviewed annually, all permittees must develop a storm water management team, including a primary SWMP coordinator, and organizational chart which identifies the position responsible for implementing each minimum measure. Any updates to this information shall be submitted with Annual Reports.

During the entire permit term, all permittees must establish, document, and execute formalized mechanisms for regular communication between storm water management team members to allow for exchange of information and submittal of information necessary for permit compliance tracking and reporting.

Minimum Measure	Permittee	Required BMP	Deadline/ Implementation Schedule
1. PUBLIC EDUCATION AND OUTREACH The permittee shall implement a storm water public education program to develop or adapt, distribute, and evaluate educational materials and outreach activities to key target audiences in the MS4 that raise awareness about the impacts of storm water discharges on waterbodies, educate audiences about the behaviors and activities that have the potential to pollute storm water discharges, and motivate action to change behaviors to reduce pollutants in storm water runoff.			
a. Determine key target audiences most appropriate for storm water outreach.	All	i. • Analyze which business types and/or residential behaviors are common sources of illicit discharges, spills, and dumping. • Develop a list, description, and rationale for selecting these key target audiences based on business and residential groups associated with illegal discharges and improper disposal of waste to the MS4. • List the pollutants associated with each key target audience. • Submit with 1st Annual Report.	End of 1st Permit Year
	All	ii. • Develop and advertise a storm water website for access by key target audiences, other interested stakeholders, and the general public. • At a minimum, the storm water website must include: o a copy of this General Permit; or o a link to the permittee's webpage containing ▪ the permit, ▪ access to outreach materials, ▪ outreach event information (most recent and current), ▪ storm water management program documents and updates, ▪ annual reports (or an equivalent summary or document providing an annual overview, and the availability	End of 1st Permit Year

Minimum Measure	Permittee	Required BMP	Deadline/ Implementation Schedule
		for the general public to request the annual report), and ▪ an effective mechanism for providing continued public input for the SWMP. • The website must also include: o information regarding how to identify sources of illicit discharges; o procedures on how to report an illicit discharge; o a summary of the permittee's requirements for covered construction activities; and o how to submit construction project complaints. • The website shall be available to the public on the internet.	
b. Develop and utilize the permittee's website for public outreach and involvement.	All	i. • Develop outreach messages which promote benefits of non-polluting behaviors to the key target audience as well as benefits to storm water discharges. • Submit with 2nd Annual Report.	End of 2nd Permit Year
c. Develop a tailored outreach strategy for each key target audience and specific storm water polluting behavior.	All	i. • Identify and, as needed, develop outreach formats and distribution channels for messages developed for each key target audience and associated storm water polluting behavior. • Formats and distribution channels should be tailored to key target audiences and can utilize other existing formats and distribution channels, such as existing community newsletters. • Submit a description of formats, distribution channels and schedule for each key target audience in 2nd Annual Report.	End of 2nd Permit Year

Minimum Measure	Permittee	Required BMP	Deadline/ Implementation Schedule
	All	ii. • Distribute outreach materials to target audiences • Describe distribution in Annual Reports.	During the 3rd, 4th, and 5th Permit Years

Minimum Measure	Permittee	Required BMP	Deadline/ Implementation Schedule
2. PUBLIC INVOLVEMENT AND PARTICIPATION The permittee shall develop a strategy to involve key target audiences in the development and implementation of the SWMP that complies with state and local public notice requirements.			
a. Identify approaches for involving key target audiences in SWMP development and implementation.	All	i. • Identify approaches for involving the key target audiences (identified under Part II.A.1.a.i.) in the development and implementation of the SWMP over the five year permit term. • For each key audience, describe: o the approach; o the target date(s) for implementation; and o purpose of the involvement approach (e.g. raise awareness, change behavior, and improve the SWMP). • Wherever possible, identify existing organizations with membership that represent some or all of the key target audiences and describe opportunities for partnering to involve membership in SWMP development and implementation. • Document collaboration with existing organizations if this is an approach for involving key target audiences. • Submit a description of public involvement approach, and schedule for each key audience in 1st Annual Report.	End of 1st Permit Year

Minimum Measure	Permittee	Required BMP	Deadline/ Implementation Schedule
	All	ii. • Implement identified involvement approaches for each key target audience. • Document participation and key target audience feedback on the approach in the SWMP and in each Annual Report.	During the 2nd, 3rd, 4th, and 5th Permit Years
b. Develop and utilize the permittee's website for public involvement.	All	i. • Develop and advertise a storm water website for soliciting input from key target audiences, other interested stakeholders, and the general public. At a minimum, the storm water website must include: o access to outreach materials; o most recent or current outreach event information; o SWMP planning documents; o annual reports (or an equivalent summary or document providing an annual overview, and the availability for the public to request the annual report); o a mechanism for collecting public input for the SWMP; and o illicit discharge and construction project complaints. • Website shall be available to the public on the internet.	End of 1st Permit Year

Minimum Measure	Permittee	Required BMP	Deadline/ Implementation Schedule
3. ILLICIT DISCHARGE DETECTION & ELIMINATION The permittee shall develop, implement and enforce a program to detect and eliminate illicit discharges (as defined in ARM 17.30.1102(7)) into the permitted Small MS4.			
a. Address the following more frequent categories of non-storm water discharges or flows (i.e., illicit discharges) if identified as significant contributors of pollutants to the Small MS4: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined in ARM 17.30.1102(8)), uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water (discharges or flows from firefighting activities are excluded from the effective prohibition against non-storm water and need only be addressed where they are identified as significant sources of pollutants to state waters). These more frequent non-storm water discharges must be reasonably expected (based on information available to the permittee) to not be significant sources of	All	i. • Evaluate and include, in each Annual Report: o a list of non-storm water discharges that the permittee has identified as significant contributors of pollutants; o the pollutants associated with each non-storm water significant contributor; and o document any local controls or conditions placed on these discharges.	Annually

Minimum Measure	Permittee	Required BMP	Deadline/ Implementation Schedule
pollutants to the Small MS4, because of either the nature of the discharges or conditions the permittee established for not allowing these discharges to the Small MS4.			
b. Develop a list of other similar occasional incidental non-storm water discharges (e.g. non-commercial or charity car washes, etc.) that will not be addressed as illicit discharges. These non-storm water discharges must not be reasonably expected (based on information available to the permittee) to be significant sources of pollutants to the Small MS4, because of either the nature of the discharges or conditions the permittee established for allowing these discharges to the Small MS4 (e.g., a charity car wash with appropriate controls on frequency, proximity to sensitive waterbodies, BMPs for the wash water, etc.).	All	i. • Evaluate and include, in each Annual Report: o a list of occasional incidental non-storm water discharges that the permittee has determined will not be addressed as illicit discharges; o the pollutants associated with each non-storm water occasional incidental; and o document any local controls or conditions placed on these discharges.	Annually
	All	ii. • Include a provision prohibiting any occasional incidental non-storm water discharge that is determined to be contributing significant amounts of pollutants to the Small MS4 in appropriate ordinances, regulatory mechanism or memoranda of agreements.	End of 2nd Permit Year
c. Inventory storm water sewer infrastructure to thoroughly track illicit discharges, contain spills, and determine high priority areas. When determining high priority areas, permittees must document and consider, at a minimum, the following: industrial areas, previous areas with illicit discharges, known illegal dumping areas, the oldest portions of	All	i. • Update existing map showing: o the location and number of all outfalls (as defined in ARM 17.30.1102(14) and Part VIII of this General Permit); and o the names and location of all surface waters that receive discharges from those outfalls. • Development of this map to accommodate the provisions of a comprehensive illicit discharge detection and elimination (IDDE) program and	End of 1st Permit Year

Minimum Measure	Permittee	Required BMP	Deadline/ Implementation Schedule
MS4 storm sewer infrastructure, any areas with onsite sewage disposal systems, and areas that discharge to an impaired waterbody.		the SWMP would typically include mapping storm sewer system components including: o inlets; o open channels; o subsurface conduits/pipes; o dry wells (discharges to ground water directly); and o other similar discrete conveyances. • List, label, or highlight determined high priority areas. • Update the storm sewer map regularly and make available for review by the Department upon request.	
d. To the extent allowable under State, or local law, effectively prohibit, through ordinance or other regulatory mechanism, non-storm water discharges (except those listed under Part II.A.3.a.) into the regulated storm sewer system and implement appropriate enforcement procedures and actions.	Traditional MS4s	i. • If not done previously, adopt an ordinance or other regulatory mechanism to prohibit illicit discharges • Submit with 2nd Annual Report.	End of 2nd Permit Year
	Non-Traditional MS4s	ii. • If not done previously, adopt an ordinance or other regulatory mechanisms to prohibit illicit discharges. • Permittees without legal authority to enact an ordinance or other regulatory mechanism shall ensure that written policies and procedures are in place to exert authority (to the extent allowable) over MS4 users such as: o employees, o the traveling public, o contractors, etc. • Submit a summary of legal authority, written policy, and written procedures with the 2nd Annual Report.	End of 2nd Permit Year

Minimum Measure	Permittee	Required BMP	Deadline/ Implementation Schedule
	All	iii. • Solicit assistance from neighboring MS4s as necessary to detect and eliminate illicit discharges that may originate within the neighboring MS4 and formalize in cooperative agreements, i.e. memoranda of understanding. • Agreements should specify investigation and enforcement responsibilities and these agreements should be described in each permittee's Enforcement Response Plan (ERP) (Part II.A.3.d.iv.) and Illicit Discharge Investigation and Corrective Action Plan (Part II.A.3.f.). • Formalize cooperative agreements, i.e. memoranda of understanding, with all neighboring MS4s as necessary to implement the IDDE program described in Part II.A.3. • Submit a summary of the cooperative agreements with the 2nd Annual Report.	End of 2nd Permit Year
	All	iv. • Develop a formal ERP for illicit discharges. The ERP must describe: o legal authority – through ordinance, formal policies or memoranda of understanding – to eliminate and abate illicit discharges; o identify staff with enforcement authority; o enforcement actions available; o enforcement escalation process; and o schedule to be utilized to quickly and consistently eliminate the source of the discharge, abate any damages and prevent recurrence. • The ERP must include informal, formal, and judicial responses. o Informal responses may include:	End of 2nd Permit Year

Minimum Measure	Permittee	Required BMP	Deadline/ Implementation Schedule
		▪ telephone notification; ▪ verbal notice; ▪ notice of violation; and ▪ meetings. o Formal responses may include: ▪ administrative order; ▪ compliance schedule; ▪ order to show cause; ▪ monetary penalty (administrative); and ▪ suspended service. o Judicial responses may include: ▪ injunctive relief; ▪ consent decree; ▪ civil penalties; and ▪ criminal penalties. • Submit the ERP with the 2nd Annual Report.	
	All	v. • Implement ERP.	End of 2nd Permit Year
e. Proactively inspect, during dry weather, all outfalls to detect illicit discharges and connections into the MS4 and identify high priority outfalls.	All	i. • Inspect and screen all of the permittee's outfalls during dry weather using the outfall field screening protocol developed by the *Center for Watershed Protection* or equivalent process. • This process shall be completed by the end of the permit cycle.	Completed by the end of the 5th year. Progress documented in the Annual Reports.
	All	ii. • Using inspection and screening results, storm sewer maps, and other appropriate data, determine high priority outfalls. • Priority is to be determined by the permittee and shall be based on potential water quality impact. When determining high priority outfalls, permittees must consider, at a minimum, outfalls:	End of 2nd Permit Year Reevaluate during 3rd, 4th, and 5th Permit Years

Minimum Measure	Permittee	Required BMP	Deadline/ Implementation Schedule
		○ which drain industrial areas (as identified by the Small MS4s zoning regulations or growth policy); ○ where illicit discharges have been detected during past permit terms; ○ which drain areas prone to incidents of illegal dumping; ○ which drain the oldest portions of the Small MS4s storm sewer infrastructure; ○ which serve areas primarily served by onsite sewage disposal systems; and/or ○ which discharge into an impaired water body. • Submit the list of high-priority outfalls with each 2nd – 5th Annual Reports. The 3rd-5th Year lists may reflect updated priority outfalls based on screening results.	
	All	iii. • Inspect and screen high priority outfalls during dry weather a minimum of once per year. • Submit a summary of screening results with each 3rd – 5th Annual Report.	During 3rd, 4th, and 5th Permit Years
f. Consistently and effectively investigate suspected illicit discharges and connections and track subsequent compliance actions.	All	i. • Develop an Illicit Discharge Investigation and Corrective Action Plan. This plan will describe the process that will be used to: ○ locate the source of an illicit discharge and ○ select the appropriate corrective action, i.e. enforcement action, abatement, etc. ○ At a minimum, this plan shall include processes to: ▪ investigate all illicit discharges within 7 calendar days. Document circumstances that prevented this timeframe;	End of 1st Permit Year

Minimum Measure	Permittee	Required BMP	Deadline/ Implementation Schedule
		▪ prioritize non-storm water discharges suspected of being sanitary sewage and/or significantly contaminated for investigation first; ▪ confirmed illicit connections must be eliminated within a goal timeframe of 6 months. Document circumstances that prevented this timeframe; ▪ notify Montana DEQ and appropriate agencies of dry weather flows believed to be an immediate threat to human health or the environment; ▪ document that a good faith effort was made to find the source of the dry weather discharge and document each phase of the investigation in a case file; and, ▪ resolve and document the conclusion of all investigations. ▪ The outfall where any illicit discharge is detected shall continue to be considered high priority and should be investigated as required in the permit. ▪ The plan should refer to the permittee's ERP for execution of appropriate enforcement actions. ▪ Submit the plan with the 1st Annual Report.	
	All	ii. • Implement an Illicit Discharge Investigation and Corrective Action Plan.	End of 2nd Permit Year
	Traditional MS4s	iii. ▪ Maintain documentation which describes the investigations conducted and corrective actions taken per the Illicit Discharge Investigation	During 2nd, 3rd, 4th, and 5th Permit Years

Minimum Measure	Permittee	Required BMP	Deadline/ Implementation Schedule
		and Corrective Action Plan during dry weather screening or through other detection methods, e.g. public complaints. ▪ Submit summary with each Annual Report.	
	Non-Traditional MS4s	iv. ▪ Maintain documentation which describes the investigations conducted and corrective actions taken per the Illicit Discharge Investigation and Corrective Action Plan by the permittee or a neighboring MS4 for all illicit discharges – detected on the permittee's property that originates outside of the permittee's property – during dry weather screening or through other detection methods, e.g. public complaints. ▪ Submit summary with each Annual Report.	During 2nd, 3rd, 4th, and 5th Permit Years

Minimum Measure	Permittee	Required BMP	Deadline/ Implementation Schedule
4. CONSTRUCTION SITE STORM WATER MANAGEMENT The permittee shall develop, implement, and enforce a program to reduce pollutants in storm water runoff to the permitted Small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of storm water discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. If the Department waives its permitting requirements for storm water discharges associated with construction activity that disturbs less than five acres of total land area in accordance with ARM 17.30.1105(5), the Small MS4 permittee is not required to develop, implement, and/or enforce a program to reduce pollutant discharges from such sites.			
a. To the extent allowable under State, or local law, effectively require, through ordinance, or other regulatory mechanism, erosion and sediment controls and controls of other construction-related pollutant sources	Traditional MS4s	i. • If not completed previously, adopt an ordinance or other mechanism to require construction storm water controls on private and permittee-owned regulated projects. • At a minimum the ordinance or other regulatory mechanism must:	End of 3rd Permit Year

Minimum Measure	Permittee	Required BMP	Deadline/ Implementation Schedule
on regulated construction projects (construction storm water controls) and implement appropriate enforcement procedures and actions.		○ require the construction storm water management minimum standards described as Non-Numeric Technology-Based Effluent Limits in the most current Montana DEQ General Permit for Storm Water Discharges Associated with Construction Activity to be implemented on all regulated construction projects, and ○ provide the permittee the authority to inspect privately-owned construction storm water management controls. • Submit with 3rd Annual Report.	
	Non-Traditional MS4s	ii. • If not completed previously, at a regulatory minimum, adopt formal policies or other mechanisms to the extent allowable, such as contractual requirements applicable to contractors performing construction work requiring construction storm water controls on permittee-owned/operated projects. The permittee must consider and document private development projects regardless of legal authority. • Submit authority summary, written policy, and written procedures with the 3rd Annual Report.	End of 3rd Permit Year
	All	iii. • Develop a formal ERP to ensure compliance with the construction storm water management regulatory mechanisms on regulated projects including private property. The sanctions and enforcement mechanisms to be used to ensure compliance will be included.	End of 3rd Permit Year

Minimum Measure	Permittee	Required BMP	Deadline/ Implementation Schedule
		• The ERP must describe how the permittee will: o eliminate and abate illegal construction discharges; o identify staff with enforcement authority; o enforcement actions available and enforcement escalation process and include a schedule to be utilized to quickly, and consistently eliminate the source of the discharge; and o abate any damages and prevent recurrence. • The ERP must include informal, formal, and judicial responses. o Informal responses may include telephone notification, verbal notice, notice of violation, and meetings. o Formal responses may include administrative order, compliance schedule, order to show cause, monetary penalty (administrative), and suspended service. o Judicial response may include injunctive relief, consent decree, civil penalties, and criminal penalties. • In addition, the ERP must also include non-monetary construction project-specific penalties such as stop work orders, bonding requirements, and/or permit denials for non-compliance. • Submit documentation of progress towards creation of ERP with the 1st Annual Report. • Submit adopted ERP with the 3rd Annual Report.	

Minimum Measure	Permittee	Required BMP	Deadline/ Implementation Schedule
	All	iv. • Implement ERP.	End of 4th Permit Year
b. Require that all regulated construction projects submit a construction storm water management plan prior to construction which is consistent with state and local requirements and which incorporates consideration of potential water quality impacts including storm water pollution prevention through appropriate erosion, sediment, and waste control BMPs. The storm water pollution prevention plan (SWPPP) developed pursuant to the MPDES General Permit for Storm Water Discharges Associated With Construction Activity (Permit Number MTR100000) may substitute for this site plan for projects where a SWPPP is developed.	Traditional MS4s	i. • Develop a construction storm water management plan review checklist that documents, at a minimum, that the requirements described in the Non-Numeric Technology-Based Effluent Limits of the most current Montana DEQ General Permit for Storm Water Discharges Associated with Construction Activity have been included on all regulated project construction storm water management plans. • The construction storm water management plan review checklist shall be used to ensure consistent review of submitted plans and to determine and document compliance with state and local requirements. • Submit with the 1st Annual Report.	End of 1st Permit Year
	Traditional MS4s	ii. • Implement construction storm water management plan review checklist.	End of 1st Permit Year
	Non-Traditional MS4s	iii. • Develop and implement a plan review checklist which documents, at a minimum, that the requirements described in the Non-Numeric Technology-Based Effluent Limits of the most current Montana DEQ General Permit for Storm Water Discharges Associated with Construction Activity have been included on all permittee-owned/operated project site plans. The permittee may modify the plan review checklist based on the maximum extent of contractual agreements with documentation. • The plan review checklist shall be used to ensure consistent review of submitted plans for permittee-owned/operated projects and	End of 1st Permit Year

Minimum Measure	Permittee	Required BMP	Deadline/ Implementation Schedule
		to determine and document compliance with state and local requirements. • Submit with the 1st Annual Report.	
c. Ensure that all construction storm water management controls are installed, operated and maintained in order to function as designed.	Traditional MS4s	i. • Develop an inspection form or checklist to ensure consistent and thorough regulated project inspections. • The checklist shall include, at a minimum, the requirements described in the Non-Numeric Technology-Based Effluent Limits of the most current Montana DEQ General Permit for Storm Water Discharges Associated with Construction Activity. • Submit with the 1st Annual Report.	End of 1st Permit Year
	Non-Traditional MS4s	ii. • Develop an inspection form or checklist to ensure consistent and thorough regulated project inspections. • The checklist shall include, at a minimum, the requirements described in the Non-Numeric Technology-Based Effluent Limits of the most current Montana DEQ General Permit for Storm Water Discharges Associated with Construction Activity. The permittee may modify the plan review checklist based on the maximum extent of contractual agreements with documentation. • Submit with the 1st Annual Report.	End of 1st Permit Year
	All	iii. • Conduct inspections using inspection form.	End of 1st Permit Year
	All	iv. • Develop and maintain/update a regulated project inventory to include, at a minimum, if the project is covered under the Montana DEQ General Permit for Storm Water Discharges Associated with Construction Activity and associated authorization number, the location, size, topography of site and proximity to	End of 1st Permit Year

Minimum Measure	Permittee	Required BMP	Deadline/ Implementation Schedule
		waterbodies for each project.	
	All	v. • Develop an inspection frequency determination protocol based upon the priority of the project. • Priority is to be determined using specific criteria to include – at a minimum: o project size; o proximity to a water body; o steepness of project site slopes; o discharge to waterbodies impaired for pollutants expected from active construction projects; and o past record of non-compliance by the operator of the construction site. • The protocol shall establish the following minimum inspection frequency for all high priority projects: o once at commencement of construction after BMPs have been implemented; o once within 48-hours after each rain event of 0.25 inches or greater; o once within 48-hours after each occurrence of runoff from snowmelt due to thawing conditions that causes visible surface erosion at the site; and o once at the conclusion of the project prior to finalization (i.e. release of bond, issuance of certificate of occupancy, etc.). • In addition, the inspection frequency shall include: o recidivism reduction measures such as incentives; o disincentives; or	End of 1st Permit Year

Minimum Measure	Permittee	Required BMP	Deadline/ Implementation Schedule
		○ increased inspection frequency at non-compliant operator's sites.	

	Minimum Measure	Permittee	Required BMP	Deadline/ Implementation Schedule
5.	POST-CONSTRUCTION SITE STORM WATER MANAGEMENT IN NEW AND REDEVELOPMENT The permittee shall develop, implement, and enforce a program to address storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the permitted Small MS4. This program must ensure that controls are in place that would prevent or minimize water quality impacts.			
a.	To the extent allowable under State, or local law, effectively require, through ordinance, or other regulatory mechanism, post-construction storm water management controls and on regulated projects and implement appropriate enforcement procedures and actions.	Traditional MS4s	i. • If not completed previously, adopt an ordinance or other mechanism to require post-construction storm water management controls on regulated projects that, at a minimum, include the performance standard described in Part II.A.5.b.iii. • Submit with 4th Annual Report	End of 4th Permit Year
		Non-Traditional MS4s	ii. • If not completed previously, at a regulatory minimum, adopt formal policies or other mechanisms to the extent allowable, such as contractual requirements applicable to contractors performing construction work requiring post-construction storm water controls on permittee-owned/operated projects. The permittee must consider and document private development projects regardless of legal authority. • Submit authority summary, written policy, and written procedures with the 4th Annual Report	End of 4th Permit Year
		All	iii. • Develop a formal ERP to ensure compliance with installation, operation and maintenance	End of 4th Permit Year

	Minimum Measure	Permittee	Required BMP	Deadline/ Implementation Schedule
			requirements for post-construction storm water management controls on regulated projects including private property. • The ERP must include informal, formal, and judicial responses. o Informal responses may include: ▪ telephone notification; ▪ verbal notice; ▪ notice of violation; and ▪ meetings. o Formal responses may include: ▪ administrative order; ▪ compliance schedule; ▪ order to show cause; ▪ monetary penalty (administrative); and ▪ suspend service. o Judicial responses may include: ▪ injunctive relief; ▪ consent decree; ▪ civil penalties; and ▪ criminal penalties. • The ERP must describe: o legal authority to require inspection and maintenance of controls; o identify staff with enforcement authority; o the enforcements actions available; o enforcement escalation process; and o schedule to be utilized to quickly and consistently ensure compliance with post-construction requirements. • Submit the ERP with the 4th Annual Report.	
		All	iv. • Implement ERP.	End of 5th Permit Year

	Minimum Measure	Permittee	Required BMP	Deadline/ Implementation Schedule
b.	Require that all regulated development projects submit a site plan which is consistent with state and local post-construction requirements which incorporates consideration of potential water quality impacts including appropriate post-construction storm water management controls.	Traditional MS4s	i. • Develop and implement a plan review checklist to ensure consistent review of submitted plans and to determine and document compliance with state and local post-construction requirements • Submit with the 1st Annual Report.	End of 1st Permit Year
		Non-Traditional MS4s	ii. • Develop and implement a plan review checklist to ensure consistent review of plans for permittee-owned/operated projects and to determine and document compliance with state and local post-construction requirements. The permittee may modify the plan review checklist based on the maximum extent of contractual agreements with documentation. • Submit the checklist with the 1st Annual Report	End of 1st Permit Year
		All	iii. • Require that all regulated projects implement post-construction storm water management controls that are designed to infiltrate, evapotranspire, and/or capture for reuse the post-construction runoff generated from the first 0.5 inches of rainfall from a 24-hour storm preceded by 48 hours of no measurable precipitation. For projects that cannot meet 100% of the runoff reduction requirement, the remainder of the runoff from the first 0.5 inches of rainfall must be either: a. Treated onsite using post-construction storm water management control(s) expected to remove 80 percent total suspended solids (TSS); b. Managed offsite within the same sub-watershed using post-construction storm	End of 1st Permit Year

	Minimum Measure	Permittee	Required BMP	Deadline/ Implementation Schedule
			water management control(s) that are designed to infiltrate, evapotranspire, and/or capture for reuse; or c. Treated offsite within the same sub-watershed using post-construction storm water management control(s) expected to remove 80 percent TSS. • Permittees allowing offsite treatment shall do the following: a. Develop and apply criteria for determining the circumstances under which offsite treatment may be allowed. • The criteria must be based on multiple factors, including but not limited to: i. technical or logistic infeasibility (e.g. lack of available space; ii. high groundwater; iii. groundwater contamination; iv. poorly infiltrating soils; v. shallow bedrock; vi. prohibitive costs; and vii. a land use that is inconsistent with capture and reuse or infiltration of storm water). • Determinations may not be based solely on the difficulty and/or cost of implementation. • The permittee must develop a formal review and approval process for determining projects eligible for offsite treatment. • The offsite treatment option is to be used only after all onsite options have	

	Minimum Measure	Permittee	Required BMP	Deadline/ Implementation Schedule
			been evaluated and documented through the permittee's developed formal review and approval process. b. Create and maintain an inventory of regulated projects which utilize offsite treatment of post-construction storm water runoff. The inventory must include the following information pertaining to each approved project: • Geographic location of the project; • Location of the offsite treatment facility which the project drains to; and • Documentation of the rationale for approval of offsite treatment. • Submit adopted performance standards with the 1st Annual Report.	
c.	Ensure that all post-construction storm water management controls are installed, operated and maintained in order to function as designed.	Traditional MS4s	i. • Develop and implement an inspection form or checklist to ensure consistent and thorough inspections of post-construction storm water management controls. • Submit with 2nd Annual Report.	End of 2nd Permit Year
		Non-Traditional MS4s	ii. • Develop and implement an inspection form or checklist to ensure consistent and thorough inspections of post-construction storm water management controls. • The permittee may modify the inspection form or checklist based on the maximum extent of contractual agreements with documentation. • Submit with 2nd Annual Report.	2nd Permit Year
		All	iii. • Develop and maintain/update an inventory (including at a minimum, a description and location) of all **new** permittee-owned and	End of 2nd Permit Year

	Minimum Measure	Permittee	Required BMP	Deadline/ Implementation Schedule
			private post-construction storm water management controls installed since the effective date of the permit.	
		Traditional MS4s	iv. • Develop and maintain/update an inventory (including at a minimum, a description and location) of all **existing** permittee-owned and private high priority post-construction storm water management controls installed prior to the effective date of the permit. • Priority is to be determined by the permittee and should be based on potential water quality impact using specific criteria which may include: o operation and maintenance needs of the practices; o proximity to water body; o drainage area treated; o land use type; and o location within an impaired waterbody watershed.	End of 3rd Permit Year
		Non-Traditional MS4s	v. • Develop and maintain/update an inventory (including a description and location) of all existing permittee-owned post-construction BMPs.	End of 3rd Permit Year
		All	vi. • Develop an inspection frequency determination protocol based upon the priority of the post- construction storm water management control. • Priority is to be determined by the permittee and should be based on potential water quality impact using specific criteria which may include: o operation and maintenance needs	End of 2nd Permit Year

	Minimum Measure	Permittee	Required BMP	Deadline/ Implementation Schedule
			of the practices; o proximity to water body; o drainage area treated; o land use type; and o location within an impaired waterbody watershed. • Submit protocol with 2nd Annual Report.	
		Traditional MS4s	vii. • Develop a program to either: o conduct inspections of high-priority post-construction storm water management controls at least annually, OR o to require self-inspection and reporting by owners at least annually. o Submit program description with 2nd Annual Report.	End of 2nd Permit Year
		All	viii. • Inspect permittee-owned high priority post-construction storm water management controls annually and document findings and resulting compliance actions.	During the 3rd, 4th, and 5th Permit Years
		Traditional MS4s	ix. • Inspect or have inspected all high priority privately-owned post-construction storm water management controls annually • Document findings and resulting compliance actions.	During the 3rd, 4th, and 5th Permit Years
d.	Incorporate recommendations and requirements into plans, policies and ordinances which allow and support the utilization of LID concepts on public and private property.	All	i. • Convene appropriate staff and conduct a discussion to evaluate existing barriers to implementing LID infrastructure in the permittee's codes, ordinances and policies. • The outcome of this discussion must identify opportunities for change and address the potential inconsistencies between policies. • Appropriate staff must include member(s) of various departments, some of which may	End of 4th Permit Year

	Minimum Measure	Permittee	Required BMP	Deadline/ Implementation Schedule
			include: o Parks and Recreation; o Public Works; o Planning; o Environmental Protection; o Utilities; and o Transportation. • Submit a summary of the discussion outcomes with the 4th Annual Report.	

	Minimum Measure	Permittee	Required BMP	Deadline/ Implementation Schedule
6.	POLLUTION PREVENTION /GOOD HOUSEKEEPING FOR PERMITTEE OPERATIONS The permittee shall develop and implement an operation and maintenance program which includes a training component, and has the ultimate goal of preventing or reducing pollutant runoff from permittee operations.			
a.	Identify the operation and maintenance program to prevent or reduce pollutant runoff from permittee-owned/operated facilities and field activities.	All	i • Create an inventory of permittee-owned/operated facilities and activities that have the potential to release contaminants to the MS4. The inventory should include, at a minimum, the following: 1. Facilities: • maintenance and storage yards; • waste handling and disposal areas; • vehicle fleet or maintenance shops with outdoor storage areas; • salt/sand storage locations; and • snow or dredge material disposal areas operated by the permittee. 2. Activities: • park and open space maintenance;	End of 1st Permit Year

	Minimum Measure	Permittee	Required BMP	Deadline/ Implementation Schedule
			• parking lot maintenance; • building maintenance; • road maintenance/deicing; and • storm water system maintenance including catch basin cleaning. • List the possible contaminant(s) from each facility/activity and list the local department(s) and position(s) responsible for pollution prevention with each facility/activity. • Update the inventory annually.	
		All	ii. • Develop a map that identifies the locations of facilities and known locations of activities identified in 6.a.i. • Update the map annually.	During the 2nd, 3rd, 4th, and 5th Permit Years
		All	iii. • Organize similar facilities and activities identified in 6.a.i. into categories, label the categories, and develop standard operating procedures (SOPs) for all categories. • Development of the SOPs must include documented inspections and communication with relevant department personnel of 2 facilities/activities per category prior to SOP category completion. • The SOPs must identify storm water pollution controls (structural and non-structural controls, and operation improvements) to be installed, implemented, and/or maintained to minimize the discharge of contaminants. • The permittee must complete, at a minimum, the	During the 2nd, 3rd, 4th, and 5th Permit Years

	Minimum Measure	Permittee	Required BMP	Deadline/ Implementation Schedule
			required SOPs according to the following schedule: o one-fourth by the end of the 2nd permit year; o one-half by the end of the 3rd permit year; o three-fourths by the end of the 4th permit year; and o all by the end of the 5th permit year. • Submit the completed SOPs annually starting with the 2nd Annual Report.	
		All	iv. • Develop and internally document storm water pollution prevention training in conjunction with the development of the SOPs for each category.	During the 2nd, 3rd, 4th, and 5th Permit Years
		All	v. • Conduct annual storm water pollution prevention training for all permittee staff directly involved with implementing SOPs. • Trainings will be conducted during the next permit year after development of each SOP. ***Example: SOP and training developed in 2nd Permit Year. Training conducted in 3rd Permit Year.*** • Retain records of completed trainings and attendance.	During the 3rd, 4th, and 5th Permit Years

B. Training

The permittee is required to conduct and/or coordinate the following training and track/document of all municipal staff participation in each:

1. Conduct comprehensive training during the 1st year of the permit term for all members of the storm water management team to educate them about the new permit, the updated SWMP and implementation responsibilities for the upcoming permit term. New members of the storm water management team must receive the equivalent amount of training within 90 days of the hire date.
2. Conduct storm water awareness training, at a minimum, during 1st and 4th years of the permit term for all appropriate permittee field staff (and pretreatment inspection staff) and staff who work at permittee facilities. The training must provide education regarding storm water impacts, the MS4 permit, the detection and elimination of illicit discharges and the implementation of the ERP, and specifically address BMPs necessary to minimize discharges of pollutants during permittee activities or the operation of permittee facilities. Appropriate new field staff and staff who work at permittee facilities must receive the equivalent amount of training within 90 days of the hire date.
3. Conduct training, at a minimum, during the 1st and 4th years of the permit term for all inspectors and plan reviewers responsible for implementation of the Construction Site Storm Water Management Control Minimum Measure. Inspector training shall include inspection protocol and the implementation of the ERP upon development. New inspectors and plan reviewers must receive the equivalent amount of training within 90 days of the hire date.
4. Conduct training, at a minimum, during the 1st and 4th years of the permit term for all inspectors and plan reviewers responsible for implementation of the Post-Construction Storm Water Management in New Development and Redevelopment Minimum Measure. Inspector training shall include inspection protocol and the implementation of the ERP. New inspectors and plan reviewers must receive the equivalent amount of training within 90 days of the hire date.
5. Conduct training, at the schedule outlined within Part II.6.a.v, for storm water staff responsible for implementing Standard Operating Procedures (SOPs) developed as a requirement of the Pollution Prevention/Good Housekeeping Minimum Measure. Training must be oriented to staff involved with the SOP-specific duties. New storm water staff responsible for implementing SOPs must receive the equivalent amount of training within 90 days of the hire date.

C. Sharing Responsibility

In accordance with 17.30.1111(7), a small MS4 may share responsibility to implement the minimum control measures with another entity in order to satisfy their MPDES permit obligations to implement a minimum control measure. Shared responsibility is allowed only if the other entity implements the control measure, and the particular control measure, or component thereof, to a degree at least as stringent as the corresponding MPDES permit requirement. The other entity must agree to implement the control

measure on behalf of the owners and operators of the regulated small MS4. Written acceptance of this obligation is required. This obligation must be maintained as part of the description of the permittee's SWMP. In annual reports, the owners and operators must specify that they are relying on another entity to satisfy some of their permit obligations, unless the other entity is responsible to file the reports. The MS4 remains responsible for compliance with its permit obligations if the other entity fails to implement the control measure (or component thereof).

The MS4 should enter into a legally binding agreement with the other entity in order to minimize uncertainty about compliance with the MPDES permit.

D. Qualifying Local Program

If the application indicates a Qualifying Local Program requires a Small MS4 to implement one or more of the six minimum control measures as stated in ARM 17.30.1111 (9), and the permittee elects to do this in the application, then the permittee is directed to follow that qualifying program's requirements rather than the applicable storm water management program requirements stated in Part II.A.

E. Transfer of Ownership, Operational Authority, or Responsibility for SWMP Implementation

The permittee must implement the SWMP on all new areas added to the permittee's portion of the Small MS4 (or for which the permittee becomes responsible for implementation of storm water quality controls) as expeditiously as possible. Implementation may be accomplished as part of a phased plan to allow additional time for controls that cannot be implemented immediately.

Within 90 days of a transfer of ownership, operational authority, or responsibility for SWMP implementation, the permittee must have a plan for implementing the SWMP on all newly added areas. The plan may include schedules for implementation. Information on all new annexed areas and any resulting updates required to the SWMP must be included in the Annual Report.

F. Storm Water Management Program Updates Required by the Department

The Department may require changes to the SWMP as needed to:

1. Address impacts on receiving water quality caused, or contributed to, by discharges from the Small MS4;

2. Include more stringent requirements necessary to comply with new federal statutory or regulatory requirements; or

3. Include such other conditions deemed necessary by the Department to comply with the goals and requirements of the Montana Water Quality Act.

4. Update BMPs as necessary to improve program effectiveness per information and data submitted in permittees' Annual Reports.

5. Changes requested by the Department must be made in writing, set forth the time schedule for the permittee to develop the changes and update their program, and offer the permittee the opportunity propose alternatives to their program to meet the objective of the requested changes.

Part III. Special Conditions

A. Water Quality Controls for Storm Discharges to Impaired Waterbodies Pre-Total Maximum Daily Load (TMDL) Approval

The permittee's Storm Water Management Program (SWMP) must identify all outfalls that discharge to impaired waterbodies, the impaired waterbodies, and the associated pollutant(s) of impairment. Information on impaired waterbodies may be obtained from the Department or from the Montana DEQ Clean Water Act Information Center website: http://cwaic.mt.gov/. This information will be submitted with each Annual Report.

The permittee's SWMP must include a section that describes BMPs that target and reduce discharges of the identified pollutant(s) of impairment to impaired waterbodies without an approved TMDL. *The permittee should only identify pollutants of impairment from **Table 1** in Part IV.* The permittee's Annual Report must contain a summary of BMPs implemented over the reporting period and a schedule of BMPs planned for the following year.

B. Water Quality Controls for Storm Discharges to Impaired Waterbodies with Approved TMDL Wasteload Allocations (WLAs)

Addressing TMDLs in the SWMP

Appendix A of the permit contains a list of TMDLs with WLAs assigned to MS4s approved by the Department and EPA as of the effective date of this permit. The permittee's SWMP must identify all outfalls that discharge to impaired waterbodies with an approved MS4 WLA, the impaired waterbodies, and the associated pollutant(s) of impairment. This information will be submitted with each Annual Report.

The permittee must include in its SWMP a section identifying the measures and BMPs it plans to implement, describing the MS4's impairment priorities and long term strategy, and outlining interim milestones (i.e., a completion schedule for action items) for controlling the discharge of the pollutants of concern and making progress towards meeting the TMDL. **TMDL-Related Monitoring**, below, will be incorporated into this section.

The TMDL section of the SWMP must be submitted with the 4th year Annual Report for approval. The permittee will begin to implement the approved section no later than the start of the 5th permit year. The section must be annually evaluated based on monitoring results, revised as needed, and resubmitted with Annual Reports beginning with the 5th year Annual Report. Rationale must be provided for any revisions to this section. Revisions must be approved by the Department.

TMDL-Related Monitoring

The permittee must supplement the Self-Monitoring Requirements in Part IV with additional monitoring targeted at further evaluating MS4 loading to impaired waterbodies (Option 1) or at evaluating the effectiveness of BMPs selected for reducing MS4 loading to impaired waterbodies (Option 2). The same sample sites may be used for Self-Monitoring and TMDL Monitoring. Each permittee must inform the Department of its preferred Monitoring Option (1 or 2) with application for coverage under this renewed General Permit. Monitoring will begin no later than March 1 of the 2nd permit year.

Monitoring Option 1

1. At a minimum, the MS4 will select four sampling locations that discharge to impaired waterbodies. The location of these outfalls should consider the largest drainage areas, the surrounding land uses which could contribute to impairments, and high priority areas as identified by the IDDE minimum control measure. The permittee must submit a Sampling Plan to the Department for approval with the first Annual Report. The Sampling Plan should include strategy rationale, monitoring frequency, monitoring parameters, and monitoring locations. After the Sampling Plan is approved by the Department, the Permittee must provide a mechanism for public review of the plan.

2. Monitoring will be conducted semi-annually. Specific monitoring parameters will include pollutant(s) listed as a source of impairment specific to the receiving waterbody from the MS4. Monitoring data must be collected following procedures in 40 CFR Part 136, unless other test procedures have been specified in this General Permit.

Monitoring Option 2

1. As determined by the permittee and approved by the Department, Monitoring Option 2 provides the flexibility for a MS4-specific monitoring strategy that will provide the data required to track and evaluate effectiveness of BMPs. The permittee must submit a Sampling Plan to the Department for approval with the first Annual Report. The Sampling Plan should include strategy rationale, monitoring frequency, monitoring parameters, and monitoring locations. After the Sampling Plan is approved by the Department, the Permittee must provide a mechanism for public review.

Part IV. Monitoring, Recording and Reporting Requirements

A. Self-Monitoring Requirements

Storm water monitoring requirements must initiate: (1) on the effective date of authorization issued under this General Permit, (2) as outlined by Part IV.A.4., or (3) as otherwise directed by the Department. The Department reserves the right to require additional storm water sampling, testing, and reporting on a case-by-case basis.

1. Storm Water Discharge Monitoring

All permittees are required to perform sampling, testing, and reporting of storm water discharges for their Small MS4s under this General Permit, or as otherwise required by the Department.

2. Specific Monitoring Parameters

The required monitoring parameters are listed in Table 1.

Table 1. Small MS4 Monitoring Requirements

Parameter[1][2]	**Frequency**	**Type**[3]
Total Suspended Solids (TSS), mg/L	Semi-annual	Grab or Composite
Chemical Oxygen Demand (COD), mg/L	Semi-annual	Grab or Composite
Total Phosphorus, mg/L	Semi-annual	Grab or Composite
Total Nitrogen, mg/L	Semi-annual	Grab or Composite
pH, standard units	Semi-annual	Instantaneous
Copper, mg/L	Semi-annual	Grab or Composite
Lead, mg/L	Semi-annual	Grab or Composite
Zinc, mg/L	Semi-annual	Grab or Composite
Estimated Flow, gpm	Semi-annual	Instantaneous[4]
Oil and Grease[5], mg/L	Semi-annual	Grab

(1) Detection limits are pursuant to levels defined in Circular DEQ-7.
(2) Total recoverable methods to be used on all metals.
(3) See Definitions in Part VI. of this General Permit.
(4) Estimated flow rates are appropriate in cases where measurement gauges are not installed.
(5) Hexanes extraction (EPA Method 1664A).

3. Monitoring Locations

Permittees will choose from the two monitoring location options below and submit their selected option to the Department with their application for General Permit coverage:

a. Monitoring Option 1

For each semi-annual monitoring period, MS4 permittees must sample at the following locations within the permitted geographic area during a storm event with a measurable amount of discharge:

- 2 discharge points which represent storm water runoff drainage areas from a relatively commercial and/or industrial area; and,
- 2 discharge points which represent storm water runoff drainage areas from a relatively residential area.

Monitoring locations must be consistently identified as "001A" and "001B" for the industrial/commercial locations, and "002A" and "002B" for the residential locations. If a new monitoring location is added or used to replace an existing monitoring location, the new location will be identified according to the numeric alphabet scheme above.

b. Monitoring Option 2

For each semi-annual monitoring period, MS4 permittees must establish a network of at least four (4) monitoring locations and sample during a storm event with a measurable amount of discharge. At least one (1) monitoring location shall contain storm water runoff from a predominantly commercial and/or residential area and one (1) monitoring location shall contain storm water runoff from a predominantly residential area. At least one (1) monitoring location may be upstream, outside the MS4 boundary to evaluate water quality entering the MS4.

Monitoring locations must be consistently identified using a naming scheme of the permittee's choice, but the permittee can only use a chosen name once. If a new monitoring location is added or used to replace an existing monitoring location, a new name must be selected for the new location.

4. Storm Water Discharge Monitoring Schedule

Permittees authorized under the 2015 General Permit that were not required to monitor and obtain coverage under the 2017 General Permit are required to self-monitor starting January 1, 2018.

New authorizations under the 2017 General Permit (not authorized under the 2015 General Permit) are required to self-monitor starting three years from the date of authorization. These prescribed monitoring schedules provide flexibility for the permittee to establish a self-monitoring program.

5. Impaired Waterbodies Monitoring

Permittees with a storm water discharge to an impaired waterbody must conduct storm water discharge monitoring according to Part III. Special Conditions. Permittees must comply with all requirements associated with the TMDLs.

New authorizations under the 2017 General Permit (not authorized under the 2015 General Permit) will apply Part III.A requirements to both storm water discharges to impaired waterbodies with pre-total maximum daily load (TMDL) approval and approved TMDL wasteload allocations. Part III. B is not applicable during this permit cycle.

6. Monitoring Frequency

a. Sampling, testing, and reporting must be conducted at least semi-annually (two times per year) for each of the parameters listed in Table 1 above during a storm event with a measurable amount of discharge. One sample at each monitoring location must be taken between January 1st and June 30th of each permitted calendar year and the other sample between July 1st and December 31st.

b. If a permittee is not able to dependably obtain a sample at the identified required sampling outfall during a six-month monitoring period, rationale must be recorded in the corresponding annual report on why the collection of a sample was impracticable and the permittee must collect a substitute sample during the subsequent six-month monitoring period in addition to the required sample for that six-month monitoring period. The substitute sample and required six-month sample may be collected from back to back storm events with at least 48 hours of no measurable precipitation.

c. If a permittee fails to obtain the required sample for a six-month monitoring period, the permittee may request to replace the monitoring location outfall with appropriate rationale prior to the next calendar year. The Department must approve such requests prior to replacing a monitoring location. The new, approved outfall monitoring location will be identified with an unused outfall name/number. The permittee may not request to replace approved replacement monitoring locations again during the same permit cycle.

7. Monitoring Procedures

   Monitoring must be conducted according to test procedures approved under Part 136, Title 40 of the Code of Federal Regulations, unless other test procedures have been specified in this General Permit.

8. Penalties for Tampering

   The Montana Water Quality Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $25,000, or by imprisonment for not more than six months, or both.

B. Reporting and Evaluation of Monitoring Results

1. Monitoring results shall be submitted to the Department with each annual report.

2. Each annual report shall include a calculation of the long-term median concentration of each parameter in Table 1 of Part IV.A. The long-term median shall be calculated from all known monitoring results for each parameter at a monitoring location.

3. Monitoring results shall be used by permittees to self-evaluate measures taken to improve the quality of storm water discharges. Each annual report shall include an evaluation of the monitoring results relative to the long-term median. The evaluation must include (1) comparisons between monitoring locations, (2) discuss determinations for trends and outliers in monitoring results compared to the calculated long-term median, and results outside a pH range of 6.0 to 9.0 standard units, and (3) a schedule and rationale for BMPs planned to improve water quality of storm water discharges based on monitoring results.

C. Monitoring Records

The following information must be recorded and maintained at the office of the contact person/position for all storm water discharges which are sampled:

1. Date, exact place, and time of sampling;
2. Estimated duration (in hours) of the storm event(s) sampled;
3. Total rainfall measurements or estimates (in inches) of the storm event which generated the sampled runoff;
4. Name(s) of the individuals which performed the sampling or measurements; and
5. Analytical laboratory test result data and reports for storm water samples, and/or records, which minimally indicate:
   a. The date(s) analyses were performed;
   b. The time analyses were initiated;
   c. The initials or name(s) of individual(s) who performed the analyses;

d. References and written procedures, when available, for the analytical techniques or methods used; and
e. The results of such analyses, including the bench sheets, instrument readouts, computer disks or tapes, etc. used to determine these results.

D. Retention of Records

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this General Permit, and records of all data used to complete the application for this General Permit, for a period of at least three years from the date of sample, measurement, report, or application.

E. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained an any compliance schedule of the permit must be submitted to DEQ in either electronic or paper format and be postmarked no later than 14 days following each schedule date unless otherwise specified in the permit.

F. Annual Report

1. The permittee (or co-permittee if co-permitted under one permit authorization number) shall prepare and submit an annual report to the Department for each calendar year within the General Permit term.
2. The permittee shall electronically submit the signed copy of the annual report form and required attachments to the Department by March 1st of each year for the preceding calendar year. Electronic submission is through NetDMR.
3. Each co-permittee shall submit an annual report form pertaining to their respective permitted Small MS4(s) unless formal written shared responsibilities allow another entity to complete the annual report form obligations.
4. The Department has provided an annual report form for use by all permittees or co-permittees.
5. If additional information is requested with the annual report form, then the permittee must submit this additional information at the same time as the form.
6. Monitoring results and evaluations, as required in Part IV.B of the General Permit, must be attached to the annual report form.
7. If the permittee or co-permittee has made any updates, changes, or improvements to their Storm Water Management Program during the prior calendar year, then an attachment to the annual report must provide a date and description of these updates, changes, or improvements.
8. Full-size, hard-copies of storm sewer system maps, including updates, must be submitted directly to the Department by March 1st of each year if the map(s) was developed or modified during the calendar year for which the annual report pertains.
9. The completion of this annual report must initiate for the calendar year in which authorization under the General Permit was issued.

10. The annual report must comply with the signatory and certification requirements as stated in Part VI.
11. Updates or revisions to submitted documents after the initial required submittal per development of the SWMP as outlined in Part II shall be retained onsite with the last revision date, and documents must be available upon request.

G. Changes in Storm Water Coordinator

The application identifies a formal Storm Water Coordinator for each permittee or co-permittee. Should the Storm Water Coordinator person/position, mailing address, email address, or telephone number identified on the Application Form change, the permittee or co-permittee must notify the Department in writing of this change within 15 calendar days of the change. This written notification must specifically reference that there is a "change of the Storm Water Coordinator", specifically identify the permit authorization number, and specifically identify the formal "Small MS4 Name" as identified on the application. The written notification letter for a change in the Storm Water Coordinator must be signed by a person meeting the signatory requirements of Part VI.

H. Records For Inspection

A copy of the General Permit, permit authorization letter, required SWMP documents, Annual Reports, Discharge Monitoring Reports (if required), and other pertinent records required by the General Permit shall be maintained by the Storm Water Coordinator for their respective Small MS4, and shall be made available to Department inspectors upon request for all permittees and co-permittees.

I. Inspection and Entry

The permittee shall allow the head of DEQ or the Regional Administrator, or an authorized representative upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment) practices, operations regulated or required under this permit; and
4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance, any substance or parameters at any location.

J. Twenty-four Hour Notice of Noncompliance Reporting

1. The permittee shall report any serious incident of noncompliance affecting the environment as soon as possible, but no later than twenty-four (24) hours from the time the permittee first became aware of the circumstances. The report shall be made to the Water Protection Bureau at (406) 444-3080 or the Office of Disaster and

Emergency Services at (406) 324-4777. The following examples are considered serious incidents:

a. Any noncompliance which may seriously endanger health or the environment;
b. Any unanticipated bypass which exceeds any effluent limitation in the permit; or
c. Any upset which exceeds any effluent limitation in the permit.

2. A written submission shall also be provided within five days of the time that the permittee becomes aware of the circumstances. The written submission shall contain:
   a. A description of the noncompliance and its cause;
   b. The period of noncompliance, including exact dates and times;
   c. The estimated time noncompliance is expected to continue if it has not been corrected already; and
   d. DEQ may waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the Water Protection Bureau, by phone, (406) 444-3080.
   e. Reports shall be submitted to the following address:
   DEQ Water Protection Bureau, PO Box 200901, Helena, MT 59620.

K. Other Required Reporting

1. The permittee shall report any serious incident of illicit discharge within permitted MS4 boundaries that affects the environment as soon as possible, but no later than twenty-four (24) hours from the time the permittee first became aware of the circumstances. The report shall be made to the Water Protection Bureau at (406) 444-3080.

2. A written submission shall also be provided within five days of the time that the permittee becomes aware of the circumstances. The written submission shall contain:
   a. A description of the illicit discharge and its cause/origin;
   b. The period of illicit discharging, including exact dates and times;
   c. The estimated time for correction of the illicit discharge if it has not been corrected already; and
   d. DEQ may waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the Water Protection Bureau, by phone, (406) 444-3080.
   e. Reports shall be submitted to the following address:
   DEQ Water Protection Bureau, PO Box 200901, Helena, MT 59620.

Part V. Compliance Responsibilities

A. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Montana Water Quality Act and is grounds for enforcement action; for termination under the General Permit; or for denial of coverage under this General Permit renewal. The permittee shall give the Department advance notice of any planned changes at the permitted facility or of an activity which may result in permit noncompliance.

B. Penalties for Violations of Permit Conditions

The Montana Water Quality Act provides that any person who violates a permit condition of the Act is subject to civil or criminal penalties not to exceed $25,000 per day or one year in prison, or both, for the first conviction, and $50,000 per day of violation or by imprisonment for not more than two years, or both, for subsequent convictions. MCA 75-5-611(a) also provides for administrative penalties not to exceed $10,000 for each day of violation and up to a maximum not to exceed $100,000 for any related series of violations. Except as provided in permit conditions "Bypass of Treatment Facilities" and "Upset Conditions", nothing in this permit shall be construed to relieve the permittee of the civil or criminal penalties for noncompliance.

C. Need to Halt or Reduce Activity not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

D. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

E. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

F. Removed Substances

Collected screenings, grit, solids, sludges, or other pollutants removed in the course of treatment shall be disposed of in such a manner so as to prevent any pollutant from entering any waters of the state or creating a health hazard.

Part VI. General Requirements

A. Planned Changes

The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

1. The alteration or addition could significantly change the nature or increase the quantity of pollutant discharged. This notification applies to pollutants which are not subject to effluent limitations in the permit.

B. Anticipated Noncompliance

The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

C. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

D. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. The reapplication must be submitted at least 90 days before the expiration date of this permit.

E. Duty to Provide Information

The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Department, upon request, copies of records required to be kept by this permit.

F. Other Information

When the permittee becomes aware that it failed to submit any relevant facts in an application, or submitted incorrect information in an application or any report to the Department, it shall promptly submit such facts or information with a narrative explanation of the circumstances of the omission or incorrect submittal and why they weren't supplied earlier.

G. Signatory Requirements

All applications, reports or information submitted to the Department or the EPA shall be signed and certified.

1. All permit notices of intent shall be signed by either a principal executive officer or ranking elected official.

2. All reports required by the permit and other information requested by the Department shall be signed by a person described above or by a duly authorized representative of that person. A person is considered a duly authorized representative only if:

   a. The authorization is made in writing by a person described above and submitted to the Department; and

   b. The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or an individual occupying a named position.

3. Changes to authorization. If an authorization described above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the above requirements must be submitted to the Department prior to or together with any reports, information, or applications to be signed by an authorized representative.

4. Certification. Any person signing a document under this section shall make the following certification:

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

H. Penalties for Falsification of Reports

The Montana Water Quality Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction be punished by a fine of not more than $25,000 per violation, or by imprisonment for not more than six months per violation, or by both.

I. Availability of Reports

Except for data determined to be confidential under 40 CFR Part 2, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department. As required by the Clean Water Act, applications, permits and effluent data shall not be considered confidential.

J. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Clean Water Act.

K. Property Rights

The issuance of this permit does not convey any property or water rights of any sort, or any exclusive privileges.

L. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

M. Transfers

This permit is not transferable to a new permittee. A new owner or operator of a facility must apply according to the standard application procedures 30 days prior to taking responsibility for the facility.

N. Fees

The permittee is required to submit payment of an annual fee as set forth in ARM 17.30.201. If the permittee fails to pay the annual fee within 90 days after the due date for the payment, the Department may:

1. Impose an additional assessment computed at the rate established under ARM 17.30.201: and,

2. Suspend the processing of the application for a permit or authorization or, if the nonpayment involves an annual permit fee, suspend the permit, certificate or authorization for which the fee is required. The Department may lift suspension at any time up to one year after the suspension occurs if the holder has paid all outstanding fees, including all penalties, assessments and interest imposed under this sub-section. Suspensions are limited to one year, after which the permit will be terminated.

O. Reopener Provisions

This permit may be reopened and modified (following proper administrative procedures) to include the appropriate effluent limitations (and compliance schedule, if necessary), or other appropriate requirements if one or more of the following events occurs:

1. Water Quality Standards: The water quality standards of the receiving water(s) to which the permittee discharges are modified in such a manner as to require different permit conditions than contained in this permit.

2. Water Quality Standards are Exceeded: If it is found that water quality standards or trigger values in the receiving stream are exceeded either for parameters included in the permit or others, the Department may modify the permit conditions or water management plan.

3. TMDL or Wasteload Allocation: TMDL requirements or a wasteload allocation is developed and approved by the Department and/or EPA for incorporation in this permit.

4. Water Quality Management Plan: A revision to the current water quality management plan is approved and adopted which calls for different effluent limitations than contained in this permit.

P. Toxic Pollutants: A toxic standard or prohibition is established under Section 307(a) of the Clean Water Act for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit.

Part VII. Definitions

1. The "Act" means the Federal Clean Water Act.

2. "Best Management Practices" ("BMPs") means schedule of activities, prohibition of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of state waters. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

3. "Control measure" as used in this General Permit, means any Best Management Practice or other method used to prevent or reduce the discharge of pollutants to state waters.

4. The "Department" means the Montana Department of Environmental Quality.

5. "Flow-weighted composite sample" means a composite sample consisting of a mixture of aliquots collected at a constant time interval, where the volume of each aliquot is proportional to the flow rate of the discharge.

6. "Grab Sample" for monitoring requirements, is defined as a single "dip and take" sample collected at a representative point in the discharge stream.

7. "Green Infrastructure" means vegetation, soils, and natural processes used to manage water and create healthier urban environments. At the scale of a city or county, green infrastructure refers to the patchwork of natural areas that provides habitat, flood protection, cleaner air, and cleaner water. At the scale of a neighborhood or site, green infrastructure refers to storm water management systems that mimic nature by soaking up and storing water.

8. "Hazardous substance" means any substance designated under 40 CFR Part 116 pursuant to section 311 of the federal Clean Water Act.

9. "Illicit Connection" means any man-made conveyance connecting an illicit discharge directly to a municipal separate storm sewer.

10. "Illicit discharge" means any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to an MPDES permit (other than the MPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from firefighting activities.

11. "MEP" is an acronym for "Maximum Extent Practicable", the technology-based discharge standard for Municipal Separate Storm Sewer Systems to reduce pollutants in storm water discharges that was established by the Clean Water Act, Section 402(p). A discussion of MEP as it applies to Small MS4s is found in ARM 17.30.1111(5). The MEP standard requires the development, implementation, and enforcement of measures including BMPs, control techniques, system design, engineering methods, and other

provisions that the Department determines to be appropriate for the control of such pollutants. MEP is an iterative, dynamic, flexible standard that the permittee shall evaluate and update continuously, as necessary, to better tailor or expand the program based on its effectiveness in reducing pollutant discharge load.

12. "MS4" means a municipal separate storm sewer system.

13. "Municipal separate storm sewer" 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) that discharges to surface waters and is: (a) owned or operated by the state of Montana, a governmental subdivision of the state, a district, association, or other public body created by or pursuant to Montana law, including special districts such as sewer districts, flood control districts, drainage districts and similar entities, and designated and approved management agencies under section 208 of the federal Clean Water Act, which has jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, and is:
    a. designed or used for collecting or conveying storm water;
    b. not a combined sewer; and
    c. not part of a publicly owned treatment works (POTW) as defined in ARM Title 17, chapter 30, subchapter 13.

14. "Non-Traditional MS4" means MS4s which are designated as Small MS4s but are not cities or counties, such as drainage districts, transportation agencies, municipal utility districts, military bases, prisons and universities.

15. "Outfall" means the physical location where these conveyance structures discharge pollutants or storm water into surface water or where they leave the boundary of the designated MS4.The term does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances that connect segments of the same stream or other surface waters and that are used to convey surface waters.

16. "Owner or operator" means a person who owns, leases, operates, controls, or supervises a point source. "Point Source" means any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft, from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

17. "Process wastewater" means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product.

18. "Small municipal separate storm sewer system" means:
    a. small MS4s, and portions of them, that are located in the following urbanized areas in Montana as determined by the latest decennial census by the United States census bureau:
        i. the city of Billings and Yellowstone County;
        ii. the city of Missoula and Missoula County; and
        iii. the city of Great Falls and Cascade County;
    b. the following small MS4s serving a population of at least 10,000 as determined by the latest decennial census by the United States census bureau and that are located outside of an urbanized area:
        i. MS4s located in the city of Bozeman;
        ii. MS4s located in the city of Butte;
        iii. MS4s located in the city of Helena; and
        iv. MS4s located in the city of Kalispell;
    c. MS4s designated by the department pursuant to 17.30.1107; and
    d. systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large educational, 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.

19. "Small MS4" means a small municipal separate storm sewer system.

20. "State waters" is defined at 75-5-103, MCA.

21. "Storm Water" means storm water runoff, snow melt runoff, and surface runoff and drainage.

22. "Storm Water Management Program" or "SWMP" means a comprehensive program to manage the quality of storm water discharged from the Small municipal separate storm sewer system.

23. "Surface waters" means any waters on the earth's surface including, but not limited to, streams, lakes, ponds, and reservoirs, and irrigation and drainage systems discharging directly into a stream, lake, pond, reservoir, or other surface water. Water bodies used solely for treating, transporting, or impounding pollutants shall not be considered surface water.

24. "Time-weighted composite sample" means a composite sample consisting of a mixture of equal volume aliquots collected at a constant time interval.

25. "Total Maximum Daily Load" or "TMDL" is defined at 75-5-103, MCA.

26. “Traditional MS4” means all cities and counties covered by this General Permit.

27. "Waste Load Allocation" or "WLA" means the portion of a receiving water's loading capacity that is allocated to one of its existing or future point sources.

Appendix A: TMDLs with MS4 Approved WLAs

Basin: Upper Missouri

Affected MS4s: City of Helena
Pollutants of Concern: Total Phosphorus (TP), Total Nitrogen (TN), Total Suspended Solids (TSS)
MS4 WLA: None specified for Nutrients and Sediment in Prickly Pear Creek and Ten Mile Creek.
Assumptions and Actions Specified by the TMDL: The Department recognized that regulated storm water contributes only a small fraction of the total nutrient load and total sediment load. No additional requirements were imposed for permitted storm water facilities. However, to meet the intent of the TMDL goals and future recommendations, Helena MS4 must follow their permit requirements, evaluate potential impacts to impaired receiving waters, and utilize monitoring to implement an adaptive management approach to minimize pollutant loads.
Name and Date of TMDL: Framework Water Quality Restoration Plan and Total Maximum Daily Loads (TMDLs) for the Lake Helena Watershed Planning Area: Volume II – Final Report (August 2006)
Status of the TMDL: Final
Link to Main TMDL Document:
http://deq.mt.gov/Portals/112/Water/WQPB/CWAIC/TMDL/M09-TMDL-02a.pdf

Affected MS4s: City of Great Falls
Pollutants of Concern: Total Phosphorus (TP), Total Nitrogen (TN), and Sediment
MS4 WLA: None specified in the Lower Sun River.
Assumptions and Actions Specified by the TMDL:
In 2004, the MS4 was not considered a significant point source and no MS4 WLAs were developed. However, the Department recognized that urban areas have the potential to impact nutrient and sediment loading and future analysis is needed. To meet the intent of the TMDL goals and future recommendations, Great Falls MS4 must follow their permit requirements, evaluate potential impacts to impaired receiving waters, and utilize monitoring to implement an adaptive management approach to minimize pollutant loads.
Name and Date of TMDL: Water Quality Restoration Plan and Total Maximum Daily Loads for the Sun River Planning Area (December 2004)
Status of the TMDL: Final
Link to Main TMDL Document:
http://deq.mt.gov/Portals/112/Water/WQPB/CWAIC/TMDL/M13-TMDL-01a.pdf

Affected MS4s: City of Bozeman, Montana State University-Bozeman
Pollutants of Concern: Total Suspended Solids (TSS), Total Phosphorus (TP), Total Nitrogen (TN), E.coli
MS4 WLAs as follows: Note that WLAs apply to all MS4s that were co-permittees at the time of TMDL development; therefore, WLAs are aggregated and not individually assigned to each MS4.
TSS: The WLA is 137 tons of sediment per year for the Bozeman Creek watershed, which is a 37% reduction from the estimated existing load (218 tons/year). Because of the limited amount of data for Bear Creek, the Bear Creek WLA is also a 37% reduction (3.4 tons/year).
TSS Assumptions and Actions Specified by the TMDL: Percent reduction allocations were developed, but the WLAs are not intended to add load limits to the permit. WLAs are met by adhering to the permit requirements to minimize pollutant loads. As identified in the permit, monitoring data should continue to be evaluated to assess BMP performance and help determine whether and where additional BMP implementation may be necessary.
Nutrients: Since the storm water system should not be actively discharging during typical summer low flow conditions, both the existing load and WLA are defined as 0 (zero) for Bozeman Creek (Total Nitrogen), East Gallatin River (Total Nitrogen & Total Phosphorus); Bridger Creek (Nitrate), and Mandeville Creek (Total Nitrogen & Total Phosphorus).
Nutrient Assumptions and Actions Specified by the TMDL: When the storm water system is activated, the WLAs are met by adhering to the permit requirements and that monitoring can be used to implement an adaptive management approach to minimize pollutant loads. The MS4 is assigned a wasteload allocation of zero when the storm water system is not activated or functioning during storm events. As required by the permit, an illicit discharge detection and elimination program is necessary to achieve this WLA, which requires the permittees to regularly update the storm sewer system map, showing the location and number of outfalls.
Escherichia coli (E. coli): The MS4 will be assigned a wasteload allocation of 0 (zero) in Bozeman Creek when the storm water system is not activated.
E. coli Assumptions and Actions Specified by the TMDL: When the storm water system is activated, the WLAs are met by adhering to the permit requirements and that monitoring can be used to implement an adaptive management approach to minimize pollutant loads. The MS4 is assigned a wasteload allocation of zero when the storm water system is not activated or functioning during storm events. As required by the permit, an illicit discharge detection and elimination program is necessary to achieve this WLA, which requires the permittees to regularly update the storm sewer system map, showing the location and number of outfalls.
Name and Date of TMDL: Lower Gallatin Planning Area TMDLs & Framework Water Quality Improvement Plan (March 2013)
Status of the TMDL: Final
Link to Main TMDL Document:
http://deq.mt.gov/Portals/112/Water/WQPB/CWAIC/TMDL/M05-TMDL-02a.pdf

Basin: Columbia Basin

Affected MS4s: Butte-Silver Bow (BSB)
Pollutants of Concern: Total Phosphorus (TP), Total Nitrogen (TN), Total Suspended Solids (TSS), Metals (Arsenic, Cadmium, Copper, Lead, Mercury, and Zinc)
MS4 WLAs as follows:
TSS: The WLA is 179 tons of sediment per year from the BSB MS4 to Silver Bow Creek. (A 76% reduction from the current estimated load of 746 tons/yr.) The WLA comprises 8.5% of the Silver Bow Creek sediment TMDL.
TSS Assumptions and Actions Specified by the TMDL: Percent reduction allocations were developed, but the WLAs are not intended to add load limits to the permit. The WLAs are met by adhering to the permit requirements. As identified in the permit, monitoring data should continue to be evaluated to assess BMP performance and help determine whether and where additional BMP implementation may be necessary.
Nutrients: The MS4 will be assigned a WLA of zero (0) lbs/day TN and TP in Silver Bow Creek when the storm water system is not activated.
Nutrient Assumptions and Actions Specified by the TMDL: When the storm water system is activated, the WLAs are met by adhering to the permit requirements and that monitoring can be used to implement an adaptive management approach to minimize pollutant loads. The MS4 is assigned a wasteload allocation of zero when the storm water system is not activated or functioning during storm events. As required by the permit, an illicit discharge detection and elimination program is necessary to achieve this WLA, which requires the permittees to regularly update the storm sewer system map, showing the location and number of outfalls.
Metals: The Butte-Silver Bow MS4 and the Butte Area Superfund Site are presently addressed in Silver Bow Creek via a composite wasteload allocation (WLA_{Butte}) because the sections of these areas overlap.
WLA_{Butte}
Arsenic: 2.38 lbs/day
Cadmium: 0.07 lbs/day
Copper: 2.85 lbs/day
Lead: 1.09 lbs/day
Mercury: 0.01 lbs/day
Zinc: 36.6 lbs/day
Metals Assumptions and Actions Specified by the TMDL: The WLAs are met by adhering to the permit requirements because the Superfund site has the goal of meeting water quality targets in Silver Bow Creek with direction from the CERCLA program.
Name and Date of TMDL: Upper Clark Fork Phase 2 Sediment and Nutrients TMDLs and Framework Water Quality Improvement Plan (April 2014)
Status of the TMDL: Final
Link to Main TMDL Document:
http://deq.mt.gov/Portals/112/Water/WQPB/CWAIC/TMDL/C01-TMDL-04a.pdf

Affected MS4s: City of Kalispell
Pollutants of Concern: Total Phosphorus (TP), Total Nitrogen (TN), Nitrate + Nitrite, Dissolved Oxygen (DO), Sediment, Temperature
MS4 WLAs as follows:
Nutrients: The TP WLAs are Middle Ashley Creek 15 lbs/growing season (44% reduction), Spring Creek 13 lbs/growing season (44% reduction), and Lower Ashley Creek 54 lbs/growing season (44% reduction). The TN WLAs are Middle Ashley Creek 292 lbs/growing season (30% reduction), Spring Creek 269 lbs/growing season (30% reduction), and Lower Ashley Creek 1030 lbs/growing season (30% reduction). The TN TMDL for Lower Ashley Creek provides a surrogate TMDL and allocations to address the Nitrate + Nitrite impairment. Water quality improvements that address excess TN loading will adherently result in decreased Nitrate + Nitrite loading and concentrations.
Nutrient Assumptions and Actions Specified by the TMDL: The Kalispell MS4 does not continuously discharge, and it only sporadically discharges during the dry summer growing season. Percent reduction allocations were developed, but the WLAs are not intended to add load limits to the permit. The WLAs are met by adhering to the permit requirements. As identified in the permit, monitoring data should continue to be evaluated to assess BMP performance and help determine whether and where additional BMP implementation may be necessary.
Dissolved Oxygen: None specified for Ashley Creek and Spring Creek.
Dissolved Oxygen Assumptions and Actions Specified by the TMDL: Water quality improvements addressed in Nutrient TMDLs will result in improved DO concentrations. Therefore, the DO concentrations will increase by adhering to the permit requirements and discharge volumes. As identified in the permit, monitoring data should continue to be evaluated to assess BMP performance and help determine whether and where additional BMP implementation may be necessary.
Sediment: The Sediment WLAs are Middle Ashley Creek 15.4 tons/year (62% reduction), Lower Ashley Creek 46.5 tons/year (62% reduction), and Stillwater River 16.5 tons/year (62% reduction).
Sediment Assumptions and Actions Specified by the TMDL: Percent reduction allocations were developed, but the WLAs are not intended to add load limits to the permit. The WLAs are met by adhering to the permit requirements. As identified in the permit, monitoring data should continue to be evaluated to assess BMP performance and help determine whether and where additional BMP implementation may be necessary.
Temperature: None specified for Ashley Creek and Whitefish River.
Temperature Assumptions and Actions Specified by the TMDL: The discharge temperatures will be consistent with naturally occurring conditions by the City of Kalispell MS4 adhering to the permit requirements. As identified in the permit, monitoring data should continue to be evaluated to assess BMP performance and help determine whether and where additional BMP implementation may be necessary.
Name and Date of TMDL: Flathead-Stillwater Planning Area Nutrient, Sediment, and Temperature TMDLs and Water Quality Improvement Plan (December 2014) which references Flathead Lake Nutrient TMDL Document (Phase 1, 2002)
Status of the TMDL: Final

Link to Main TMDL Document:
http://deq.mt.gov/Portals/112/Water/WQPB/TMDL/PDF/FlatheadStillwater/C11-TMDL-02a.pdf

Affected MS4s: City of Missoula
Pollutants of Concern: Total Nitrogen (TN), Sediment, Metals (Arsenic, Cadmium, Copper, Lead, Iron, and Zinc)
MS4 WLAs as follows:
Nutrients: The TN WLA for Grant Creek is 0.0 lbs/day.
Nutrient Assumptions and Actions Specified by the TMDL: Percent reduction allocations were developed, but the WLAs are not intended to add load limits to the permit. The WLAs are met by adhering to the permit requirements. The MS4 is assigned a wasteload allocation of zero when the storm water system is not activated or functioning during storm events. As required by the permit, an illicit discharge detection and elimination program is necessary to achieve this WLA, which requires the permittees to regularly update the storm sewer system map, showing the location and number of outfalls. When the storm water system is activated, the WLAs are met by adhering to the permit requirements and that monitoring can be used to implement an adaptive management approach to minimize pollutant loads.
Sediment: The Sediment WLA for Grant Creek 7.8 tons/year (53% reduction).
Sediment Assumptions and Actions Specified by the TMDL: Percent reduction allocations were developed, but the WLAs are not intended to add load limits to the permit. The WLAs are met by adhering to the permit requirements. As identified in the permit, monitoring data should continue to be evaluated to assess BMP performance and help determine whether and where additional BMP implementation may be necessary.
Temperature: None specified for Grant Creek and Bitterroot River.
Temperature Assumptions and Actions Specified by the TMDL: No MS4 WLAs (except during periods of non-storm water runoff) were developed for Grant Creek or the Bitterroot River. To meet the intent of the TMDL goals and future recommendations, the MS4 must follow their permit requirements, evaluate potential impacts to impaired receiving waters, and implement Low Impact Development practices. The MS4 is assigned a wasteload allocation of zero when the storm water system is not activated or functioning during storm events. As required by the permit, an illicit discharge detection and elimination program is necessary to achieve this WLA. When the storm water system is activated, the WLAs are met by adhering to the permit requirements and that monitoring can be used to implement an adaptive management approach to minimize pollutant loads.
Metals: The Clark Fork River (MT76M001_030, Blackfoot River to Rattlesnake Creek) WLAs include a 55% reduction to metal loads, applicable to arsenic, cadmium, copper, iron, lead, and zinc. This reduction equates to 0.009 lbs/day of copper, 0.0045 lbs/day of lead, and 0.00004 lbs/day of zinc. No loads for arsenic, cadmium, or iron were calculated for this stream segment. The Clark Fork River (MT76M001_020, Rattlesnake Creek to Fish Creek) WLAs include a 40% reduction to metal loads, applicable to copper, iron, and lead. This reduction equates to 1.1 lbs/day of copper and 0.51 lbs/day of lead. No load for iron was calculated for this stream segment. The lead WLA for the Bitterroot River is 0.08 lbs/day (54% reduction).

Metals Assumptions and Actions Specified by the TMDL: Percent reductions and wasteload allocations were developed for the metals identified above in the Bitterroot River and Clark Fork River, but the WLAs are not intended to add load limits to the permit. The WLAs are met by adhering to the permit requirements. As identified in the permit, monitoring data should continue to be evaluated to assess BMP performance and help determine whether and where additional BMP implementation may be necessary.
Name and Date of TMDL: Silver Bow Creek and Clark Fork River Metals TMDLs (May 2014); Bitterroot Watershed Total Maximum Daily Loads and Water Quality Improvement Plan (December 2014); Bitterroot Temperature and Tributary Sediment Total Maximum Daily Loads and Framework Water Quality Improvement Plan (August 2011); and Central Clark Fork Basin Tributaries TMDLs and Water Quality Improvement Plan (September 2014).
Status of the TMDL: All final.
Links to Main TMDL Document:
http://deq.mt.gov/Portals/112/Water/WQPB/CWAIC/TMDL/C01-TMDL-05a.pdf
http://deq.mt.gov/Portals/112/Water/WQPB/TMDL/PDF/Bitterroot/C05-TMDL-04a.pdf
http://deq.mt.gov/Portals/112/Water/WQPB/CWAIC/TMDL/C05-TMDL-03a.pdf
http://deq.mt.gov/Portals/112/Water/WQPB/CWAIC/TMDL/COL-TMDL-01a.pdf

Appendix C. MCM 1 & 2 – Public Education, Outreach, Participation & Involvement

Appendix D. MCM 3 – Illicit Discharge Detection and Elimination

YELLOWSTONE COUNTY, MONTANA
OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID:	
Today's date:		Time (Military):	
Investigators:		Form completed by:	
Temperature (°F):	Rainfall (in.): Last 24 hours: Last 48 hours:		
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	

Land Use in Drainage Area (Check all that apply):

☐ Industrial ☐ Open Space ☐ Golf Course

☐ Ultra-Urban Residential (High Density) ☐ Institutional

☐ Suburban Residential Other: _____

☐ Commercial Known Industries: _____

Notes (e.g.., origin of outfall, if known):

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE		DIMENSIONS (IN.)	SUBMERGED
☐ **Pipe**	☐ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other: _____	☐ Circular ☐ Elliptical ☐ Box ☐ Other: _____	☐ Single ☐ Double ☐ Triple ☐ Other: _____	Diameter/Dimensions: _____	In Water: ☐ No ☐ Partially ☐ Fully With Sediment: ☐ No ☐ Partially ☐ Fully
☐ **Open drainage**	☐ Concrete ☐ Earthen ☐ rip-rap ☐ Other: _____	☐ Trapezoid ☐ Parabolic ☐ Other: _____		Depth: _____ Top Width: _____ Bottom Width: _____	
☐ **In-Stream**	**(applicable when collecting samples)**				
Flow Present?	☐ Yes ☐ No	***If No, Skip to Section 5***			
Flow Description (If present)	☐ Trickle ☐ Moderate ☐ Substantial				

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER		**RESULT**	**UNIT**	**EQUIPMENT**
☐Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
☐Flow #2	Flow depth		In	Tape measure
	Flow width	_____' _____"	Ft, In	Tape measure
	Measured length	_____' _____"	Ft, In	Tape measure
	Time of travel		S	Stop watch
Temperature			°F	Thermometer
pH			pH Units	Test strip/Probe
Conductivity			EC	Probe
Ammonia			mg/L	Test strip

YELLOWSTONE COUNTY, MONTANA
OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☐ No (*If No, Skip to Section 5)*

INDICATOR	CHECK if Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
Odor	☐	☐ Sewage ☐ Rancid/sour ☐ Petroleum/gas ☐ Sulfide ☐ Other:	☐ 1 – Faint	☐ 2 – Easily detected	☐ 3 – Noticeable from a distance
Color	☐	☐ Clear ☐ Brown ☐ Gray ☐ Yellow ☐ Green ☐ Orange ☐ Red ☐ Other:	☐ 1 – Faint colors in sample bottle	☐ 2 – Clearly visible in sample bottle	☐ 3 – Clearly visible in outfall flow
Turbidity	☐	See severity	☐ 1 – Slight cloudiness	☐ 2 – Cloudy	☐ 3 – Opaque
Floatables -Does Not Include Trash!!	☐	☐ Sewage (Toilet Paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other:	☐ 1 – Few/slight; origin not obvious	☐ 2 – Some; indications of origin (e.g., possible suds or oil sheen)	☐ 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☐ No (*If No, Skip to Section 6)*

INDICATOR	CHECK if Present	DESCRIPTION	COMMENTS
Outfall Damage	☐	☐ Spalling, Cracking or Chipping ☐ Peeling Paint ☐ Corrosion	
Deposits/Stains	☐	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	
Abnormal Vegetation	☐	☐ Excessive ☐ Inhibited	
Poor pool quality	☐	☐ Odors ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Suds ☐ Excessive Algae ☐ Other:	
Pipe benthic growth	☐	☐ Brown ☐ Orange ☐ Green ☐ Other:	

Section 6: Overall Outfall Characterization

☐ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

1. Sample for the lab?	☐ Yes	☐ No	
2. If yes, collected from:	☐ Flow	☐ Pool	
3. Intermittent flow trap set?	☐ Yes	☐ No	If Yes, type: ☐ OBM ☐ Caulk dam

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

Adapted from the Illicit Discharge Detection and Tracking Guide: Outfall Reconnaissance Inventory Form, by the Center for Watershed Protection

Instructions for use: The following template provides a suggested framework for an Illicit Discharge Investigation and Corrective Action Plan. Italics red colored text is provided as instructions and is intended to be deleted when the document is complete.

ILLICIT DISCHARGE INVESTIGATION AND CORRECTIVE ACTION PLAN WITHIN THE YELLOWSTONE COUNTY, MONTANA

[*INSERT DATE HERE*]

Introduction

In accordance with the General Permit for Storm Water Discharge Associated with Small Municipal Separate Storm Sewer System (MS4), issued by the Montana Department of Environmental Quality (DEQ), the City of *[Insert name here]* is required to develop and implement an illicit discharge investigation and corrective action plan. Illicit discharge as defined in the Administrative Rules of Montana (ARM) 17.30.1102(7) "means any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to an MPDES permit (other than the MPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities." This plan provides guidelines for tracking potential illicit discharges and criteria by which City personnel can determine the most appropriate corrective action to eliminate an illicit discharge. *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments*, developed by the Center for Watershed Protection (CWP), was utilized to guide the development of this plan. The complete document is available at [*insert location here (e.g. on City's server, internet link, hardcopy storage location, etc.)*] for reference.

This plan has been developed with the following objectives in mind:

- Identify the source of an illicit discharge
- Determine appropriate corrective actions
- Abate damages following detection of illicit discharge
- Prevent recurrence of illicit discharge violations

1. Source Detection and Investigation Procedures

Potential illicit discharges can be revealed through various sources such as outfall inspections, reports from staff, or public complaints. If the source of a potential illicit discharge is not immediately clear the City will begin an official illicit discharge investigation to trace the source of the illicit discharge following the procedures outlined in this section.

In cases where the source of an illicit discharge is immediately known (e.g. when an illegal dumping or illicit discharge problem is directly observed by a member of the City staff) it is generally not necessary to follow investigation procedures. In such cases the [*insert appropriate City personnel here*] will complete the steps outlined in Sections 1.1 - 1.4 and will then refer to the corrective action procedures provided in Section 2.

1.1 Documentation

When a potential illicit discharge is identified the [*insert appropriate City personnel here*] will start an investigation file. An Illicit Discharge Investigation and Corrective Action Form which includes a creation date, case description, and any information related to the observed or suspected problem will be filled out. The [*insert appropriate City personnel here*] will keep an accurate log of labor, materials and costs associated with the investigation for invoicing the responsible party, if necessary. The form will be started prior to completing any additional field work unless the nature of the discharge necessitates an immediate response. As the investigation proceeds, any field investigations, photographs, corrective actions, or other activities associated with the suspected problem area will be documented and saved on file as this becomes the City's official record of the illicit discharge detection and elimination (IDDE) investigation. Additional documentation may include the following:

List the forms and information specific to your City's process below

- Copy of Outfall Inspection Report
- Photographs

- Additional field notes
- Lab testing results
- Compliance letters sent and responses received
- Correspondence (mail, email, telephone logs)
- Proof of corrected problems (contract and invoice or clean field investigation report)

1.2 Site Visit

In cases where the City's [*Stormwater Division*] did not discover the potential illicit discharge (e.g. the City was made aware via a public complaint), the [*insert appropriate City personnel here*] will conduct a site visit to confirm the nature of the problem and determine the prioritization of the investigation.

1.3 Prioritization

Each suspected illicit discharge has the potential to cause damage to the MS4 and receiving waters; however, certain situations may warrant more immediate attention than others and each investigation must be prioritized in order to protect public health and avoid serious threats to the environment or damage to property. The following items will be considered when determining the immediacy of the investigation: *Edit the following list per your city's pollutants of concern, priority levels, and response times.*

- Discharges posing an immediate threat to human health
- Discharges within XX feet of a surface or drinking water source
- Discharges containing substances with significant potential to cause immediate damage to the environment
- Large volume (XX gallons) or continuous flow (XX gallons per minute)
- Potential threat of contaminating groundwater

1.4 Notification of Appropriate Agencies

Threat to Human Heath:

Discharges and/or activities which are believed to be an immediate threat to human health or the environment will be reported to Montana DEQ and [*insert other agencies, if necessary*]. DEQ's Enforcement Division may assist in the investigation and corrective action process if necessary. The phone number and website to access a Complaint/Spill Form are as follows:

Phone: (406) 444-0379

Website: http://deq.mt.gov/enf/spill.mcpx

The local health department protects people from health threats such as food-borne illnesses, natural and man-made disasters, toxic exposures, and preventable illness and injury. This includes hazardous spills near drinking water sources, parks with dogs and children, and potential to contaminant soils and groundwater. The health department phone number is:

Phone: (406) XXX-XXXX

Hazardous Materials:

The [*City Fire Department*] will be contacted for situations requiring hazardous materials response. When hazardous materials are suspected the [*insert appropriate person/position here*] will be contacted to determine if hazardous materials response is necessary:

Phone: (406) XXX-XXXX

[*Other*]:

Add any other local agencies that need to be contacted for specific responses.

1.5 Select Appropriate Investigation Method

The four investigation methods which may be used to trace and identify the source of a suspected illicit discharge are as follows:

- Storm Drain Network Investigations
- Drainage Area Investigations
- On-Site Investigations
- Septic System Investigations

The [*insert appropriate City personnel or department here*] will review available information (e.g. initial documentation, previous investigations conducted in the vicinity, etc.) and select the appropriate method. Each method, as described by the CWP, is briefly discussed below. Once the appropriate method is selected Chapter 13 of the CWP's *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments* will be consulted, which contains detailed guidance on how to efficiently conduct each investigation.

After the appropriate investigation method has been selected, the [*insert appropriate City personnel or department here*] will coordinate the appropriate resources to begin the investigation to trace and identify the source of the illicit discharge.

The four investigation methods are briefly introduced below, additional information and instructions for each method may be found in Chapter 13 of the CWP's IDDE Guidance Manual referenced above. The City may choose to either use this manual to further develop this section of the document or refer the reader to Chapter 13 of the IDDE Guidance Manual.

i.) Storm Drain Network Investigations

City personnel inspect manholes within the area of the suspected illicit discharge and examine the manhole contents for chemical or physical indicators of contaminants in an effort to narrow the illicit discharge location to an isolated pipe segment between two manholes. Indicators may include odor, color, staining, unusual films, floatables, or samples which may be taken for chemical testing in a laboratory. The City's storm drainage system map will be helpful in determining which manholes to visit and inspect. After the pipe segment has been isolated, on-site investigations may be used to locate the exact location of the illicit discharge.

ii.) Drainage Area Investigations

When there is strong evidence that suggests a specific and known contaminant or if the known contaminant points towards a short list of potential discharge sources, it is often most effective to survey the drainage area and focus on sites which are known to produce and/or contain the contaminant which has been identified within the storm drain network. The primary methods for conducting drainage area investigations include windshield surveys and mapping analyses. While conducting the investigation it is recommended to consult the mapped pipe network and compare this to maps of high priority businesses, land use types and zoning, and on-going construction projects.

iii.) On-Site Investigations

The on-site investigation diagnoses the exact location and source of an illicit discharge and should be performed after the illicit discharge has been isolated to a specific section of the storm drain network. Techniques such as dye testing the plumbing systems of households and buildings, video testing, and smoke testing may be necessary for this type of investigation. It is important to understand when a technique would work best for the application and to understand limitations that may deem the technique unusable.

iv.) Septic System Investigations

Some residential watersheds do not have sanitary sewer systems or stormwater conveyance piping, but rather have septic systems and alternative practices for dealing with stormwater volumes. Stormwater conveyance systems consisting of swales, ditches, and ponds are common in these watersheds and the illicit discharges often come from failing septic systems and illegal dumping. Two separate types of analyses are typically employed in these areas:

on-site septic investigations and detailed system inspections. On-site septic investigations typically include homeowner system audits or surface condition analyses. Detailed system inspections are more thorough, typically involve the use of infrared imagery, and are usually appropriate if the on-site investigations are not successful in locating the source of an illicit discharge.

1.6 Document Investigation Findings

Once the source of an illicit discharge has been identified, the [*insert appropriate staff personnel here*] will document the findings and progress towards the corrective action process. Documentation may include but are not limited to:

- Investigation method(s)
- Photographs
- Additional field notes
- Lab testing results

2. Corrective Action Process and Procedures

After the source of an illicit discharge has been identified, the [*insert appropriate City personnel or department here*] will begin the corrective action process to eliminate the discharge. Where applicable, corrective actions will focus first on education to promote voluntary compliance and escalate to increasingly severe enforcement actions as needed.

2.1 Determine Type of Illicit Discharge

The type of an illicit discharge can be generalized as either behavioral or structural, each of which is discussed below.

i.) Behavioral

The nature of the illicit discharge is an action, operation, or conduct and the illicit discharge will be eliminated when this behavior is modified.

ii.) Structural

The illicit discharge is caused by a physical configuration or connection which requires modification of the system in order to eliminate the discharge.

2.2 Assign Responsibility

The party responsible to fix the illicit discharge will be identified based on the nature and location of the illicit discharge.

i.) Private Property Owner

Discuss criteria for which a private property owner will be responsible to fix the illicit discharge and discuss how/if the City will work with the property owner to fix the problem.

ii.) Municipality

Discuss criteria for which the City will be responsible to fix the illicit discharge.

iii.) Other Public Entity

Discuss criteria for which a separate public entity will be responsible to fix the illicit discharge (e.g. MDT, a public university, etc…).

2.3 Select Appropriate Corrective Action

If deemed to be safe and within the [*insert appropriate staff personnel here*] authority and capabilities the illicit discharge may be eliminated immediately using appropriate and available methods. For situations requiring proper authorization and/or expertise, a work order will be generated and sent to [*insert appropriate staff personnel here*] for approval.

For cases where a private property owner is responsible the [*insert appropriate staff personnel here*] will coordinate with the Responsible Party to determine an appropriate method to eliminate the illicit discharge. If necessary, enforcement actions such as a compliance schedule will be created to ensure that the illicit discharge is eliminated in a timely manner (refer to the Enforcement Response Plan (ERP) to determine appropriate enforcement actions).

Chapters 8 and 14 of the CWP's *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments* provides a list of methods to remove and eliminate illicit discharges and will be used, if necessary, to determine the appropriate corrective action.

Complete this section using the workflow deemed appropriate for your MS4, if necessary.

2.4 Confirm and Document Elimination of Contamination Source

Modify this section to address which confirmation methods are appropriate for your MS4.

A site visit may be necessary to confirm the source has been eliminated, the corrected operations are sufficient, and/or the structural problem has been fixed according to the approved corrective action. In other cases it may be sufficient to allow a verbal confirmation from the property owner, a photograph of the modification, as-built drawings, or simply verify that all signs of the illicit discharge are gone. Once confirmed, the [*insert appropriate staff personnel here*] will close the investigation and correction file by noting the elimination of the discharge within the Illicit Discharge Investigation and Corrective Action Form.

2.5 Enforcement Actions

In circumstances where the responsible party does not volunteer compliance, refuses compliance, or disputes responsibility, the City will take enforcement actions consistent with the Enforcement Response Plan in order to ensure that the discharge is eliminated. Note that voluntary compliance in eliminating an illicit discharge may not preclude the responsible party from enforcement actions.

Modify and/or further develop this form, which is referenced in the Illicit Discharge Investigation and Corrective Action Plan

ATTACHMENT A
ILLICIT DISCHARGE INVESTIGATION & CORRECTIVE ACTION FORM

City Personnel Involved | Date

Type of Initial Notification (e.g. Phone call from public, result of City inspection, Dry weather screening, etc.)

Location of Illicit Discharge (Address)

Responsible Party Name/Company | Telephone ( ) - | ☐ *Repeat Offender* | ☐ *High Priority Site*

Street | City | Zip

Description of Investigations Conducted and Investigation Findings:

Description of Corrective Action:

Enforcement Action (if applicable):

Level of Response | Selected Remedy | Date for Follow-Up

Additional Notes:

Confirmation of Resolution:

City Personnel | Date

Appendix E. MCM 4 – Construction Site Storm Water Management

DATE RECEIVED

YELLOWSTONE COUNTY, MONTANA
PUBLIC WORKS DEPARTMENT
CONSTRUCTION STORMWATER MANAGEMENT PLAN REVIEW CHECKLIST

NAME OF PROJECT	PROJECT FILE NO.	ADDRESS

TOTAL PROJECT ACRES	TOTAL DISTURBED ACRES

Latitude: Longitude:

GPS LOCATION OF CONSTRUCTION SITE

APPLICANT	ADDRESS	PHONE NUMBER

OWNER *(If different from Applicant)*	ADDRESS	PHONE NUMBER

Review History

First Review

Plan Received on: _____ **Approved/Denied:** _____

Review Completed on: _____ **Comments:** _____

Reviewed by: _____ _____

Second Review

Plan Received on: _____ **Approved/Denied:** _____

Review Completed on: _____ **Comments:** _____

Reviewed by: _____ _____

Third Review

Plan Received on: _____ **Approved/Denied:** _____

Review Completed on: _____ **Comments:** _____

Reviewed by: _____ _____

REPORT OF TECHNICAL REVIEW

___ The Construction Stormwater Management Plan for the above named project or activity **includes** the necessary components identified within the attached checklist.

___ The Construction Stormwater Management Plan for the above named project or activity **does not include** the necessary components identified within the attached checklist through failure to include the following:

_____

_____

_____

Review by: _____

Signature: _____ **Date:** _____

Project Name: _____ Applicant: _____

General Information	Complete	Incomplete	N/A
1. Describe the project location (address, parcel number, etc…)			
a. Description of project activity			
2. Areas (ac)			
a. Total disturbed area			
b. Existing impervious area			
3. Construction schedule/sequence			
4. Identify site features			
a. Limits of improvements relative to neighbors or a Vicinity Map			
b. Limits of clearing and grading			
c. Existing vegetation delineated			
d. Existing and proposed site topography			
e. Existing and proposed runoff direction			
f. Surface waters and storm conveyance systems within 200' of project			
g. Description of outfall and receiving surface waters			
h. Protection of waterways, receiving surface waters and natural resources			
i. Construction Stormwater Management Plan is phased with construction			
j. Stockpile locations, staging areas and access points defined			
k. Show all areas of construction, including but not limited to: structures, retaining walls, roads, drives, utilities, trenches, scaffolds, catch basins, etc.			
l. Description of site soil			
m. Description of watershed tributary to site			
5. Maintenance Plan for Control Facilities			
6. Copies of Design Waivers or Variances			
7. Copy of NOI and SWPPP as submitted to DEQ, if applicable			
Erosion and Sediment Controls			
1. Design considerations and erosion control BMPs are specified to:			
a. Control stormwater volume and velocity within the site to minimize soil erosion through use of controls such as check dams, fiber rolls, etc.			
b. Control stormwater discharges, including both peak flowrates and total stormwater volume, to minimize erosion at outlets and to minimize downstream channel and streambank erosion through use of controls such as stilling basins, fiber rolls, etc.			
c. Minimize the amount of soil exposed during construction activity			
d. Minimize the disturbance of steep slopes			

Project Name: _____ Applicant: _____

Erosion and Sediment Controls (cont.)	Complete	Incomplete	N/A
e. Minimize sediment discharges from the site through use of perimeter controls such as silt fence, fiber rolls, diversion berms, etc.			
f. Provide and maintain natural buffers around surface waters, direct stormwater to vegetated areas to increase sediment removal and maximize stormwater infiltration, unless infeasible			
g. Minimize soil compaction and, unless infeasible, preserve topsoil			
Soil Stabilization			
1. The following soil stabilization requirements are clearly communicated:			
a. Stabilization of disturbed areas must be initiated immediately whenever any clearing, grading, excavating or other earth disturbing activities have permanently ceased on any portion of the site, or temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days			
b. If initiating vegetative stabilization measures immediately is infeasible, alternative stabilization measures must be specified			
Dewatering			
1. If applicable, discharges from dewatering activities are managed by appropriate controls such as sedimentation basins, sediment traps, etc. *Note: This does not preclude the contractor from the requirement to obtain a dewatering permit from MT DEQ.*			
Pollution Prevention Measures			
1. Pollution prevention measures are specified to:			
a. Specify treatment of wash waters in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge			
b. Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials present on the site to precipitation and to storm water			
c. Minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures			
Prohibited Discharges			
1. Wastewater from washout of concrete is prohibited or managed by appropriate controls			
2. A statement (or statements) which prohibit discharges of the following:			
a. Wastewater from washout and cleanout of stucco, paint, from release oils, curing compounds and other construction materials			
b. Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance			
c. Soaps or solvents used in vehicle and equipment washing			
Surface Outlets			
1. When discharging from basins and impoundments, outlet structures that withdraw water from the surface are used (unless infeasible)			

YELLOWSTONE COUNTY, MONTANA
PUBLIC WORKS DEPARTMENT
CONSTRUCTION SITE STORMWATER INSPECTION FREQUENCY DETERMINATION PROTOCOL

NAME OF PROJECT	PROJECT FILE NO.	ADDRESS

TOTAL PROJECT ACRES		TOTAL DISTURBED ACRES

OWNER	ADDRESS	PHONE NUMBER

Template Instructions: The following template contains example criteria which may be used to prioritize construction sites in order to determine inspection frequency. In accordance with the MS4 General Permit, high-priority sites are to be inspected a minimum of three times within the duration of a construction project. This template assumes that all other sites will be inspected at least once during a construction project's lifespan. Some of the criteria provided within the table below were taken directly from the General Permit. Criteria not required within the permit can be removed and/or additional criteria can be added, if desired. Rating values have not been provided because it is expected that each MS4 will utilized different rating values; therefore, rating values should be selected to meet the needs of your MS4 system.

YELLOWSTONE COUNTY PUBLIC WORKS

Instructions:

To determine the suggested inspection frequency of a given construction site, begin by filling out the Construction Site Rating Table below and add up all of the applied ratings. Then utilize the Inspection Frequency Determination Table to determine the priority and minimum inspection frequency for the site.

Construction Site Rating Table

Criteria	Rating System	Rating Value	Applied Rating for Each Criteria
Pre-determined priority of the control (if applicable)	Non High-Priority	0	
	High-Priority	X	
Project size	Less than 1 acre	X	
	1 to 5 acres	X	
	5+ acres	X	
Proximity to a surface water	1,000+ feet from site's outfall	X	
	200 to 1,000 feet from site's outfall	X	
	Direct discharge to surface water	X	
Steepness of project site slopes	Mostly Flat Ground	X	
	Slopes of 3:1	X	
	Slopes of 2:1 or steeper	X	
Discharge to a waterbody impaired for pollutants expected from active construction projects	No	X	
	Yes	X	
History of operator compliance	No history of non-compliant	X	
	Once non-compliant	X	
	2+ non-compliant	X	
Risk of Hazardous Material Spills/ Leaks	Low Risk: No hazardous materials stored on site	X	
	Medium Risk: Non-liquid hazardous materials stored on site	X	
	High Risk: Liquid hazardous materials stored on site	X	

Total = _____

The total of all the ratings will indicate the priority of the inspection for this construction site. The following is a suggested template which could be used to define inspection frequency based on site priority:

Inspection Frequency Determination Table

Total Rating Value	Priority	Inspection Frequency
0 to X	Low	1.
X to Y	Medium	1.
Y to Z	High	1. Once at commencement of construction after BMPs have been implemented
		2. Once within 48-hours after one rain event of 0.25 inches or greater
		3. Once at the conclusion of the project prior to finalization

Inspection Frequency for Construction Site

Site Priority: _____

Inspection Frequency:

YELLOWSTONE COUNTY, MONTANA
CONSTRUCTION SITE VISIT INSPECTION FORM

General Information

Project Name:

Location:

Date of Inspection: | Start/End Time:

Inspector's Name(s):

Inspector's Title(s):

Inspector's Contact Information (phone):

Describe Present Phase of Construction:

Type of Inspection:

❑ Beginning of Construction ❑ Pre-storm event ❑ During rain event

❑ Post-rain event ❑ Conclusion of Project ❑ Response to violation or complaint

Weather Information

Has it rained since the last inspection? ❑Yes ❑No

If yes, provide:

Storm Start Date & Time: Storm Duration (hrs): Approximate Rainfall (in):

Weather at time of this inspection:

❑ Clear ❑ Cloudy ❑ Raining ❑ Sleet ❑ Fog ❑ Snowing ❑ High Winds

❑ Other: Temperature:

Do you suspect that discharges may have occurred since the last inspection?

❑Yes ❑No

Are there any stormwater discharges at the time of inspection? ❑Yes ❑No

If yes, provide location(s) and a description of stormwater discharged from the site (presence of suspended sediment, turbid water, discoloration, and/or oil sheen:

Prohibited Discharges

Are there any prohibited discharges at the time of inspection? ❑Yes ❑No

If yes, provide location(s) and a description:

	BMP/Activity	Implemented?	Maintained?	Corrective Action Needed & Notes
Erosion and Sediment Controls				
1	Are stormwater volume and velocity controls being used to minimize soil erosion within the site? (e.g. check dams, fiber rolls, etc.)	❑Yes ❑No ❑ N/A	❑Yes ❑No ❑ N/A	
2	Are stormwater volume and velocity controls being used to minimize soil erosion at discharge locations? (e.g. stilling basins, fiber rolls, etc.)	❑Yes ❑No ❑ N/A	❑Yes ❑No ❑ N/A	
3	Are efforts being made to minimize the amount of soil exposed throughout the site?	❑Yes ❑No ❑ N/A	❑Yes ❑No ❑ N/A	
4	Are efforts being made to minimize the disturbance of steep slopes?	❑Yes ❑No ❑ N/A	❑Yes ❑No ❑ N/A	
5	Are perimeter controls and sediment barriers (e.g. silt fence) adequately installed (keyed into substrate) and maintained?	❑Yes ❑No ❑ N/A	❑Yes ❑No ❑ N/A	
6	Are storm drain inlets properly protected?	❑Yes ❑No ❑ N/A	❑Yes ❑No ❑ N/A	
7	Are discharge points and receiving waters free of sediment deposits? If no, provide locations.	❑Yes ❑No ❑ N/A	❑Yes ❑No ❑ N/A	
8	Is there evidence of sediment being tracked into the street?	❑Yes ❑No ❑ N/A	❑Yes ❑No ❑ N/A	
9	Are natural resource areas (e.g., streams, wetlands, mature trees, etc.) protected by natural buffers, barriers, or similar BMPs?	❑Yes ❑No ❑ N/A	❑Yes ❑No ❑ N/A	
10	Are efforts being made to minimize soil compaction and preserve topsoil?	❑Yes ❑No ❑ N/A	❑Yes ❑No ❑ N/A	

	BMP/Activity	Implemented?	Maintained?	Corrective Action Needed & Notes
Soil Stabilization				
11	Are all slopes and disturbed areas not actively being worked properly stabilized?	❑Yes ❑No ❑ N/A	❑Yes ❑No ❑ N/A	
Dewatering				
12	Are discharges from dewatering activities being managed by appropriate controls?	❑Yes ❑No ❑ N/A	❑Yes ❑No ❑ N/A	
Pollution Prevention Measures				
13	Are non-stormwater discharges (e.g., wash water, dewatering) properly controlled?	❑Yes ❑No ❑ N/A	❑Yes ❑No ❑ N/A	
14	Are materials that are potential stormwater contaminants stored inside or under cover?	❑Yes ❑No ❑ N/A	❑Yes ❑No ❑ N/A	
15	Is trash/litter from work areas collected and placed in covered dumpsters?	❑Yes ❑No ❑ N/A	❑Yes ❑No ❑ N/A	
16	Are washout facilities (e.g., paint, stucco, concrete) available, clearly marked, and maintained?	❑Yes ❑No ❑ N/A	❑Yes ❑No ❑ N/A	
17	Are vehicle and equipment fueling, cleaning, material storage, and maintenance areas free of spills, leaks, or other harmful materials?	❑Yes ❑No ❑ N/A	❑Yes ❑No ❑ N/A	
Surface Outlets and Miscellaneous				
18	When discharging from basins and impoundments, are outlet structures that withdraw water from the surface being used?	❑Yes ❑No ❑ N/A	❑Yes ❑No ❑ N/A	
19	Are there locations where additional BMPs appear to be necessary?	❑Yes ❑No ❑ N/A	❑Yes ❑No ❑ N/A	
Describe any incidents of non-compliance not described above:				

Inspector's Signature

Date

Appendix F. MCM 5 – Post-Construction Storm Water Management in New and Redevelopment Areas

DATE RECEIVED

YELLOWSTONE COUNTY, MONTANA
PUBLIC WORKS DEPARTMENT
POST-CONSTRUCTION STORMWATER MANAGEMENT
PLAN REVIEW CHECKLIST

NAME OF PROJECT	PROJECT FILE NO.	ADDRESS
TOTAL PROJECT ACRES		TOTAL DISTURBED ACRES
Latitude:		Longitude:
GPS LOCATION OF CONSTRUCTION SITE		
APPLICANT	ADDRESS	PHONE NUMBER
OWNER *(If different from Applicant)*	ADDRESS	PHONE NUMBER

Review History

First Review

Plan Received on: _____ **Approved/Denied:** _____

Review Completed on: _____ **Comments:** _____

Reviewed by: _____ _____

Second Review

Plan Received on: _____ **Approved/Denied:** _____

Review Completed on: _____ **Comments:** _____

Reviewed by: _____ _____

Third Review

Plan Received on: _____ **Approved/Denied:** _____

Review Completed on: _____ **Comments:** _____

Reviewed by: _____ _____

REPORT OF TECHNICAL REVIEW

____ The Stormwater Management Plan for the above named project or activity **includes** the necessary post-construction controls in order to comply with the State and local post-construction stormwater requirements (as identified within the attached checklist).

____ The Stormwater Management Plan for the above named project or activity **does not include** the necessary post-construction controls in order to comply with the State and local post-construction stormwater requirements (as identified within the attached checklist) through failure to include the following:

_____

_____

_____

Review by: _____

Signature: _____ **Date:** _____

Project Name: _____ Applicant: _____

	Complete	Incomplete	N/A
General Information			
1. Location			
a. Address, subdivision name, legal description, etc…			
2. Type of development (residential, commercial, etc...)			
3. Areas (ac)			
a. Total disturbed area			
b. Existing impervious area			
c. Post-development impervious area			
4. Drainage basin maps are provided which clearly label the following:			
a. Existing basin boundaries			
b. Existing time of concentration flowpaths for each basin			
c. Post-development basin boundaries			
d. Post-development time of concentration flowpaths for each basin			
e. Discharge location(s)			
f. Receiving waters within 200 feet of project are identified			
5. Montana Licensed Engineer Stamp			
Drainage Plan Content			
1. Topographic map of existing and finished grade contours at 2-foot max intervals			
2. Location of each permanent stormwater control			
3. Plan and profile of each permanent stormwater control			
4. Invert elevations, slopes, and lengths of storm drain facilities			
5. Size, types, invert elevations and lengths of all culverts and pipe systems			
6. Discharge points clearly labeled			
7. Receiving surface waters identified			
8. Existing on-site natural resources identified and protected			
9. FEMA floodplains identified			
Calculations and Design Documentation			
1. Hydrology calculations			
a. State runoff method used (rational, SCS, etc…)			
b. State modeling constants and assumptions			
c. Description of design storms (frequency, depth, duration)			
d. Existing and post-development land uses			

Project Name: _____ Applicant: _____

Calculations and Design Documentation (Continued)	Complete	Incomplete	N/A
e. Existing and post-development peak runoff rate for each design storm			
f. Existing and post-development runoff volume for each design storm			
2. Post-construction BMP sizing calculations			
a. State design requirements (0.5-inch requirement, TSS removal, or other)			
b. Required permanent controls capacities, flow rates, and operating levels			
c. Sizing calculations with results			
d. A statement documenting compliance with design requirements			
e. If 0.5-inch or TSS removal requirements are not met, provide documentation showing the impracticability of infiltration, evapotranspiration, capture for reuse, and treatment.			
3. Culvert and pipe system capacities and outlet velocities			
4. Ditch capacities and velocities			
Additional Information			
1. Permits, easements, setbacks, and discharge agreements			
2. Floodplain maps			
3. Operations and Maintenance Manual for each permanent stormwater control			
a. Identify the owner			
b. Identify the party responsible for long-term O&M			
c. A schedule of inspection and maintenance for routine and non-routine maintenance tasks to be conducted			
d. System failure and replacement criteria to define the structure's performance requirements			
4. Geotechnical Report			

YELLOWSTONE COUNTY, MONTANA
PUBLIC WORKS DEPARTMENT
POST-CONSTRUCTION STORMWATER MANAGEMENT CONTROL INSPECTION FREQUENCY DETERMINATION PROTOCOL

NAME OF STORMWATER CONTROL | **PROJECT FILE NO.** | **ADDRESS**

Latitude: **Longitude:**

GPS LOCATION

RESPONSIBLE PARTY | **PHONE NUMBER**

Template Instructions: The following template contains example criteria which may be used to prioritize post-construction stormwater management controls in order to determine inspection frequency. In accordance with the MS4 General Permit, high-priority sites are to be inspected annually, at a minimum. This template assumes that all other sites will be inspected at least once during the five year permit cycle. The criteria provided within the table below were taken directly from the General Permit and additional criteria can be added, if desired. Rating values have not been provided because it is expected that each MS4 will utilized different rating values; therefore, rating values should be selected to meet the needs of your MS4 system.

Instructions:

To determine the suggested inspection frequency of a given stormwater management control, begin by filling out the Post-Construction Stormwater Management Control Rating Table below and add up all of the applied ratings. Then utilize the Inspection Frequency Determination Table to determine the priority and minimum inspection frequency for the site.

Post-Construction Stormwater Management Control Rating Table

Criteria	Rating System	Rating Value	Applied Rating for Each Criteria
Pre-determined priority of the control (if applicable)	Non High-Priority	0	
	High-Priority	X	
Proximity to a surface water	1,000+ feet from site's outfall	*X*	
	200 to 1,000 feet from site's outfall	*X*	
	Direct discharge to surface water	*X*	
Drainage Area Treated	Less than X acre(s)	*X*	
	X to Y acres	*X*	
	Y+ acres	*X*	
Land Use Type	Residential	*X*	
	Commercial	*X*	
	Industrial	*X*	
	[other]	*X*	
Discharge to a waterbody impaired for pollutants expected from stormwater runoff	No	*X*	
	Yes	*X*	
[other]		*X*	
		X	
		X	

Total = _____

The total of all the ratings will indicate the priority of the inspection for this construction site. The following is a suggested template which could be used to define inspection frequency based on site priority:

Inspection Frequency Determination Table

Total Rating Value	Priority	Inspection Frequency[(1)]
0 to X	Low	1. Once every X year(s)
		2. [additional criteria if desired, e.g. after snowmelt, rain event, etc…]
		3.
X to Y	Medium	1. Once every X year(s)
		2. [additional criteria if desired, e.g. after snowmelt, rain event, etc…]
		3.
Y to Z	High	1. Once each year
		2. [additional criteria if desired, e.g. after snowmelt, rain event, etc…]
		3.

[(1)]Note: Consult the Operation and Maintenance (O&M) Plan/Manual for the given stormwater management control for additional inspection frequency requirements or recommendations. Compare O&M Manual/Plan to the results of the above table and select the inspection frequency which is more frequent for the given control.

Inspection Frequency for Post-Construction Stormwater Management Control

Site Priority: _____

Inspection Frequency:

Appendix G. MCM 6 – Pollution Prevention/Good Housekeeping for Permittee Operations

Appendix H. Enforcement Response Plan

Instructions for use: The following template provides a suggested framework for a municipal stormwater program Enforcement Response Plan. Italics red colored text is provided as suggested instructions and is intended to be deleted when the ERP is complete. Blue colored text is provided as example text and should be modified to meet each MS4s needs.

ENFORCEMENT RESPONSE PLAN FOR STORMWATER MANAGEMENT WITHIN THE YELLOWSTONE COUNTY, MONTANA

[*INSERT DATE HERE*]

Introduction

In accordance with the General Permit for Storm Water Discharge Associated with Small Municipal Separate Storm Sewer System (MS4), issued by the Montana Department of Environmental Quality (DEQ), the City of [*Insert name here*] is required to develop and implement an Enforcement Response Plan (ERP) to ensure compliance with stormwater regulations. The purpose of this ERP is to specify criteria by which City personnel can determine the enforcement action most appropriate to instances of non-compliance and communicate how the enforcement tools available to City personnel will be used to achieve compliance following violations of the City's stormwater regulations. This document addresses the Montana DEQ MS4 General Permit's ERP requirements for the following Minimum Control Measures (MCM's):

- MCM 4: Illicit Discharge Detection and Elimination
- MCM 5: Construction Site Storm Water Management
- MCM 6: Post-Construction Site Storm Water Management in New and Redevelopment

The enforcement actions and procedures within this plan are generally applicable to each of the three MCMs listed above; however, enforcement actions and procedures which are specific to an individual MCM are addressed within the attachments, listed as follows:

- Attachment A: Illicit Discharge Detection and Elimination
- Attachment B: Construction Site Storm Water Management
- Attachment C: Post-Construction Site Storm Water Management in New and Redevelopment

The procedures within this ERP have been developed with the following objectives in mind:

- Prevent pollutants from entering the MS4 and causing environmental harm.
- Communicate definitions for non-compliance.
- Establish appropriate enforcement action based on the nature and severity of the violation.
- Promote consistent and timely use of enforcement tools.
- Ensure that violators return to compliance in a timely manner.
- Recover costs incurred by the City due to operator non-compliance.
- Promote compliance through education and compliance assistance first and, if necessary, penalties second.

[*The agency*] has the authority to enforce stormwater regulations under the following sections of its municipal code:
Illicit Discharge Detection and Elimination: [*Insert ordinance references here*]
Construction Site Storm Water management: [*Insert ordinance references here*]
Post-Construction Site Storm Water Management: [*Insert ordinance references here*]
Add references from specific sections of your municipal code that allow your agency to enforce the City's stormwater requirements.

Acronyms

The following acronyms shall have the following meaning:

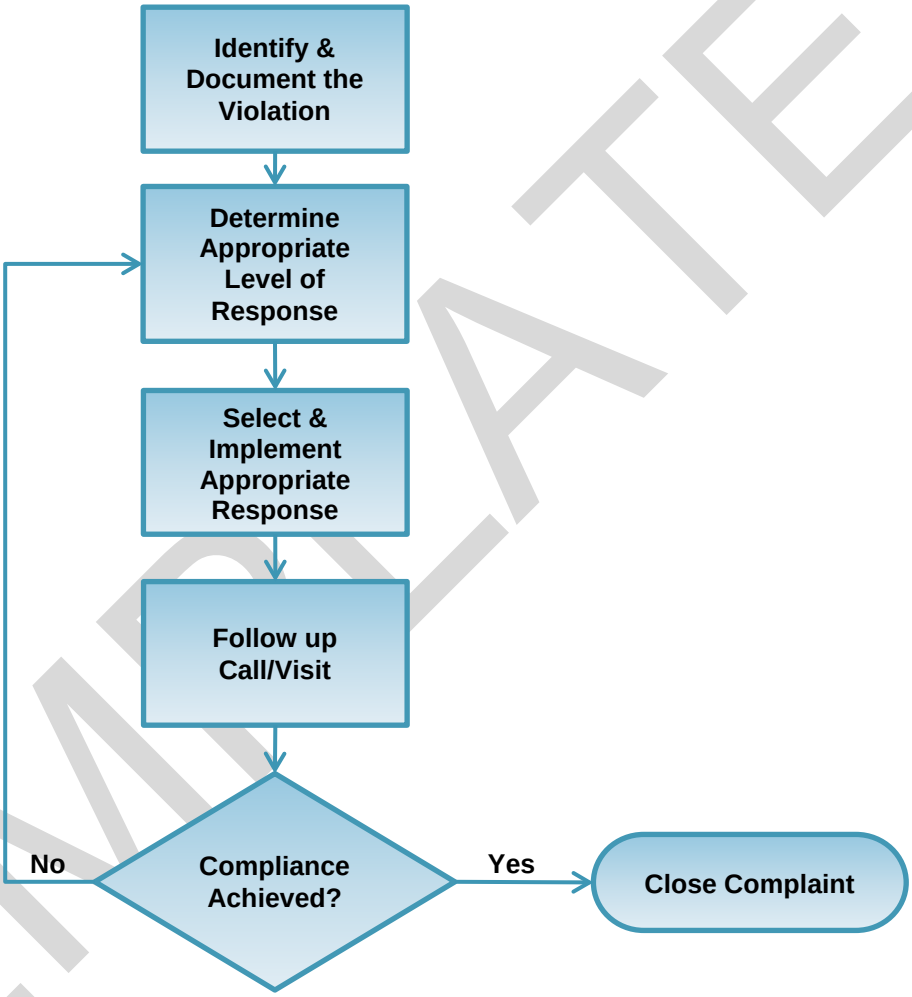
DEQ	Department of Environmental Quality
ERP	Enforcement Response Plan
MCM	Minimum Control Measure
MS4	Municipal Separate Storm Sewer System
NOV	Notice of Violation
SWO	Stop Work Order

Modify this list as applicable

1. Enforcement Response Plan Overview

The enforcement process consists of six basic steps beginning with identification of a violation and concluding with closing the complaint. The overall process is shown within the flowchart below and is further explained within the following sections.

Enforcement Response Flowchart for the City of [*Name*] Stormwater Management Program



This flowchart should be modified as necessary to meet the needs of the City's specific ERP process.

2. Determining the Appropriate Level of Response

Once a potential violation is identified, the appropriate level of response should be determined and an appropriate response remedy should then be selected. The City has five levels of responses, each of which is briefly described below.

2.1 Level 1: No Enforcement Action

There may be situations where city personnel are made aware of a potential violation; however, sufficient evidence does not exist to prove a violation is taking place. An example of such situation may be if a complaint is received stating that a private stormwater control has not been properly maintained; however, after a brief site inspection and/or verbal discussion, the City staff determines

the stormwater control is within compliance and no enforcement action is required. In such situations the potential violation and response should be documented using the Enforcement Response Documentation Form (Attachment D) so that it can be referenced in the future, if necessary.

Example situations should be modified to reflect potential situations that may occur within the MS4. It may also be appropriate to discuss how to determine if a site visit is in order, and if so, the appropriate procedures for conducting a site visit (i.e. permission to enter the site, if required). The City may also choose to remove this response level and consider the no action option as an informal response.

2.2 Level 2: Informal Response

The City will pursue compliance to stormwater violations through informal methods whenever reasonable. Informal responses include telephone notification, verbal notice, meeting, notice of violation (NOV), permit denial, and stop work order, each of which is described within Section 3.1. These methods are appropriate for situations where education is needed, violations do not pose a significant threat to human health or the environment, or the City believes that compliance can be achieved without the use of formal measures. In addition, implementation of informal measures often establishes the documentation necessary to implement formal enforcement actions if informal measures do not result in compliance.

Modify the discussion of when an informal response is appropriate in order to meet the needs of the City. Modify list of informal responses as applicable to the City.

2.3 Level 3: Formal Response

Formal procedures will be implemented to resolve prolonged non-compliance or immediate threats to human health and the environment. Formal responses include administrative order, compliance schedule, order to show cause (OSC), monetary penalty, and suspend service, each of which is described within Section 3.2.

Modify the discussion of when a formal response is appropriate in order to meet the needs of the City. Modify list of formal responses as applicable to the City.

2.4 Level 4: Judicial Response

A judicial response involves civil or criminal prosecution and will be implemented when a violation is significant and/or the responsible party is uncooperative throughout the City's attempts to achieve compliance using formal responses. Judicial responses include injunctive relief, consent decree, civil penalties and criminal penalties, each of which is discussed within Section 3.3.

Modify the discussion of when a judicial response is appropriate in order to meet the needs of the City. Modify list of judicial responses as applicable to the City.

2.5 Level 5: Referral to Other Agencies

Describe when referral to other agencies (i.e. Montana DEQ) would be appropriate based on the local enforcement procedures and levels of authority.

3. Selecting an Appropriate Response Remedy

Once the severity of the violation is determined it is necessary to identify and initiate the proper response. The City's selected response remedies are described below. Note that each violation must be documented even if the decision is to take no action. Documentation must explain why such action was/was not taken.

The following is a list of remedies suggested within the Montana DEQ MS4 General Permit. Not all remedies are required and the City may choose to modify, add-to, and/or remove remedies from it's ERP as it sees fit. It may also be beneficial to add detail as to when each remedy would be appropriate for use.

3.1 Informal Remedies

i.) Telephone Notification/Verbal Notice

A telephone notification or verbal notice will be used to obtain additional information pertaining to a potential violation or to resolve an infrequent violation. The initial contact will take place within [*insert time in days or hours*] of determining a potential violation. At a minimum, the conversation shall be documented with the following information: date/time call placed, the City staff member who initiated contact, the person contacted (responsible party), and the content of the conversation.

ii.) Meetings

A meeting will be requested with the responsible party when [*insert situations which warrant a meeting*]. The meeting will serve to educate the responsible party regarding the violation and to discuss measures which shall be taken to correct the violation. The meeting will be conducted by [*insert staff position/personnel*]. At a minimum, the meeting shall be documented with the following information: meeting location, date/time of meeting, meeting attendees, content of the conversation, and agreements made at the meeting.

iii.) Notice of Violation

A NOV is an official communication from the City to the responsible party which informs the party that a violation has occurred. It will be issued for relatively minor or infrequent violations of the City's stormwater ordinances and requirements. It is a prompt response to violations and documents the initial attempts of the City to resolve the violation.

The NOV will include the following information: the specific violation, photos (if possible), timeframe and actions required to return to compliance, and a warning that further enforcement action may be taken for failure to comply.

NOV's shall be sent via certified mail/return receipt or hand delivered and signed by the responsible party within [*# of days*] working days after discovery of the violation.

iv.) Permit Denials

Permits denials will be implemented for situations involving construction site stormwater violations. Permits will be denied for situations where [*insert situations which warrant permit denials*]. The following is a list of permits which may be denied as a result of violation of the City's stormwater management requirements: [*insert applicable permits here*].

v.) Stop Work Order

A SWO is applicable to construction site stormwater management violations. It is a notice which informs the construction site operator that a stormwater management violation is ongoing and work is not allowed to continue until the matter is resolved. The SWO will be issued for failure to comply with a NOV or for significant violations of the City's construction site stormwater requirements that require immediate action. The SWO will include the following information: the specific violation, contact information for the City personnel who must be contacted to discuss required remediation procedures, the timeframe for which the City must be contacted to discuss the situation, and a warning which notifies the site operator that failure to comply will result in formal enforcement actions.

3.2 Formal Remedies

i.) Administrative Order

An administrative order is a formal enforcement document which requires the responsible party to either cease the specified activity or implement specified corrective measures. An administrative order will be issued when informal remedies have been pursued and have not resulted in compliance.

ii.) Compliance Schedule

A compliance schedule directs the responsible party to address the violation and restore compliance by a specified date. A compliance schedule will be issued when [*insert situations which warrant issuance of a compliance schedule*]. The order will include the following: the specific violation, noncompliance (document the City's previous attempts to achieve compliance), state required actions to be completed by the responsible party, and the dates by which the actions must be completed to return to compliance.

Note that issuance of a compliance schedule does not necessarily relieve the responsible party of having to meet any existing stormwater control commitments, nor protect the responsible party from having additional fines levied for other violations during the compliance schedule period.

iii.) Order to Show Cause

An OSC directs the responsible party to appear before the [*insert appropriate authority here*] to explain its noncompliance and show cause why more severe enforcement actions should not be pursued. An OSC will be issued when [*insert situations which warrant issuance of an OSC*].

iv.) Monetary Penalty

An administrative fine is a monetary penalty assessed by the City to the responsible party for a violation of the City's stormwater management requirements.

Additional suggested text is as follows:
The fine is considered punitive in nature and is not related to any specific cost borne by the City. The amount of the fine will be proportional to the harm caused by the violation. The City will also recover damages to its MS4 or for the cost of fixing/maintaining stormwater infrastructure as stated in Section X.X of the Municipal Code.

Or, it may be more appropriate to provide a list or table of violations with the corresponding monetary value of the fine to be issued.

v.) Suspend Service

The City has the authority to [*insert service(s) which could be suspended as a result of violations. Note that this penalty may not be applicable to all stormwater related violations*]. These actions will be used against a responsibly party which fails to comply with previous remedies, or to prevent or stop discharges that are considered to pose an immediate or serious hazard or significant environmental damage.

3.3 Judicial Remedies

i.) Injunctive Relief

An injunction is a court order which directs the responsible party to cease a specified action or behavior. The City will seek injunctive relief if the responsible party refuses to comply with an administrative order or if delays in filing a civil suit would result in irreparable harm to the MS4 or receiving waterbody.

ii.) Consent Decree

A consent decree is an agreement between the City and the responsible party reached after a lawsuit has been filed. To be binding, the decree must also be signed by the judge assigned to the case. A consent decree will be pursued when [*insert situations which warrant pursuit of a consent decree*].

iii.) Civil Penalties

If necessary, a civil suit will be used to recover costs borne by the City in responding to the responsible party's noncompliance.

iv.) Criminal Penalties

Criminal prosecution is a formal process of charging the responsible party with violations of ordinance provisions that are punishable, upon conviction, by fines and/or imprisonment. Criminal prosecution will be pursued when when [*discuss appropriate situations*].

3.4 Additional Considerations

The following criteria will be considered to aid in determining the correct level of response:

i.) Magnitude

A minor isolated instance of non-compliance will typically be considered non-significant and addressed with informal responses; however, isolated incidents which may cause damage to the MS4 or pose a threat to human health and/or the environment will be considered significant and necessitate a formal enforcement action.

ii.) Duration

Regardless of magnitude, violations which continue over prolonged periods of time will result in escalated enforcement actions.

iii.) Compliance History

The responsible party's compliance history will be an important factor in determining the appropriate remedy to apply. The City has the authority to issue informal notices for the less severe violation if the responsible party has a good compliance history; however, recurring violations may lead the City to escalate the level of response in a shorter time-frame than usual.

iv.) Good Faith of the Operator

Good Faith is a characteristic of actions which show that the responsible party is intending to achieve compliance in a timely manner. If the responsible party is attempting in good faith to correct the violation the City's enforcement responses may be less severe; however, potential threats to human health and the environment will always take precedence when considering whether or not to base the City's level of response on the good faith of the responsible party.

In addition, while the responsible party's good faith in correcting its noncompliance may be a factor in determining which enforcement response is suitable, good faith does not preclude the responsible party from enforcement action.

4. Enforcement Roles and Responsibilities

Define staff responsibilities and identify staff positions with enforcement authority (i.e. identify the following: who initiates the first step in the enforcement/response process, who is responsible for informal actions, formal actions, and judicial actions, etc…). Example text is as follows; however, it may also be appropriate to create a table or list which identifies each position/staff member and the role that he/she is responsible for within the enforcement response process.

All significant violations and the responses shall be reported to the Storm Water Program Manager and/or the Public Works Director. The Public Works Director and City Attorney will be copied on all formal Enforcement Responses. The Public Works Director will consult with the City Attorney and City Administrator in Judicial Actions.

5. Escalation Process and Schedule for Construction Site Violations

The common violations and enforcement response schedules differ for each MCM; therefore, refer to the following attachments for this information:

- Attachment A: Illicit Discharge Detection and Elimination
- Attachment B: Construction Site Storm Water Management
- Attachment C: Post-Construction Site Storm Water Management in New and Redevelopment

Glossary of Terms

Modify the following glossary of terms and definition as necessary.

Administrative Fine - A monetary penalty assessed by the City to the responsible party for a violation of the City's stormwater management requirements.

Administrative Order - A formal enforcement document which requires the responsible party to either cease the specified activity or implement specified corrective measures.

Compliance Schedule - A schedule of required activities necessary for a responsible party to achieve compliance with specified stormwater program requirements.

Consent Decree - An agreement between the City and the responsible party reached after a lawsuit has been filed.

Criminal Prosecution - A formal process of charging the responsible party with violations of ordinance provisions that are punishable, upon conviction, by fines and/or imprisonment.

Good Faith Effort - A characteristic of actions which show that the responsible party is intending to achieve compliance in a timely manner.

Injunctive Relief - A court order which directs the responsible party to cease a specified action or behavior.

Judicial Action - An enforcement action that involves a court. (The action may either be civil or criminal in nature).

Notice of Violation - An official communication from the City to the responsible party which informs the party that a violation has occurred.

Responsible Party – The person or organization responsible for a violation.

Order to Show Cause - An administrative order directing the responsible party to appear before the [*insert appropriate authority here*] to explain its noncompliance and show cause why more severe enforcement actions should not be pursued.

ATTACHMENT A
ESCALATION PROCESS AND SCHEDULE FOR ILLICIT DISCHARGE VIOLATIONS

Table's A-1 and A-2 below provide typical responses to common illicit discharge violations and a typical schedule for escalation of enforcement actions. The City understands that each violation has unique circumstances and concerns; therefore, the tables below will serve as guidance only. Violations which a pose a significant threat to human health and/or the environment will utilize more severe enforcement actions on a compressed timeframe in order to quickly eliminate the violation, abate any damages, and prevent recurrence.

Modify and complete Table's A-1 and A-2 below to communicate the enforcement escalation process and schedule to be utilized to quickly and consistently eliminate illicit discharge violations within your MS4.

Table A-1: Common Illicit Discharge Violation Responses

Violation	Circumstances of Violation	Initial Level of Response	Initial Response Remedy
List common illicit discharge violations. Example below.	*Multiple circumstances may exist for certain violations.*	*List the appropriate level of response for the violation: No action, informal, formal, judicial, or referral to other agencies*	*Identify the appropriate remedy for the violation.*
Dumping household toxins in a storm drain	Isolated incident	Informal	Telephone notification
	Repeat violation	Formal	Monetary penalty

Table A-2: Escalation Process, Response Schedule, and Responsibilities for Illicit Discharge Violations

Response	Time Frame	Responsibility
List formal, informal, and judicial remedies to be used by the City. An example schedule is provided below.	*e.g. within 24 hours of violation, within 3-days of inspection, etc…*	*List staff responsible for selected response*
Telephone Notification	Within [#] hours of determining a potential violation	[*Staff member/position(s)*]
Notice of Violation	Within [#] days of violation	[*Staff member/position(s)*]
Compliance Schedule	Within [#] days of violation	[*Staff member/position(s)*]
Monetary Penalty	Within [#] days of violation	[*Staff member/position(s)*]
Judicial Actions	As deemed appropriate by [*Staff member/position(s)*]	[*Staff member/position(s)*]
Referral to other agencies	As deemed appropriate by [*Staff member/position(s)*]	[*Staff member/position(s)*]

ATTACHMENT B
ESCALATION PROCESS AND SCHEDULE FOR CONSTRUCITON VIOLATIONS

Table's B-1 and B-2 below provide typical responses to common construction site violations and a typical schedule for escalation of enforcement actions. The City understands that each violation has unique circumstances and concerns; therefore, the tables below will serve as guidance only. Violations which a pose a significant threat to human health and/or the environment will utilize more severe enforcement actions on a compressed timeframe in order to quickly eliminate the violation, abate any damages, and prevent recurrence.

Modify and complete Table's B-1 and B-2 below to communicate the enforcement escalation process and schedule to be utilized to quickly and consistently eliminate construction site violations within your MS4.

Table B-1: Common Construction Site Stormwater Violation Responses

Violation	Circumstances of Violation	Initial Level of Response	Initial Response Remedy
List common construction site stormwater violations. Example below.	*Multiple circumstances may exist for each violation.*	*List the appropriate level of response for the violation: No action, informal, formal, judicial, or referral to other agencies*	*Identify the appropriate remedy for the violation.*
Conducting earth disturbing activities without construction stormwater management permit	Operator is unaware of requirements	Informal	Telephone notification
	operator is aware but has chosen not to obtain appropriate permit	Formal	Stop work order

Table B-2: Escalation Process, Response Schedule, and Responsibilities for Construction Site Stormwater Violations

Response	Time Frame	Responsibility
List formal, informal, and judicial remedies to be used by the City. An example schedule is provided below.	*e.g. within 24 hours of violation, within 3-days of inspection, etc…*	*List staff responsible for selected response*
Telephone Notification	Within [#] hours of determining a potential violation	[*Staff member/position(s)*]
Notice of Violation	Within [#] days of violation	[*Staff member/position(s)*]
Stop Work Order	Within [#] days after NOV	[*Staff member/position(s)*]
Compliance Schedule	Within [#] days of violation	[*Staff member/position(s)*]
Monetary Penalty	Within [#] days of violation	[*Staff member/position(s)*]
Judicial Actions	As deemed appropriate by [*Staff member/position(s)*]	[*Staff member/position(s)*]
Referral to other agencies	As deemed appropriate by [*Staff member/position(s)*]	[*Staff member/position(s)*]

ATTACHMENT C
ESCALATION PROCESS AND SCHEDULE FOR POST-CONSTRUCTION STORMWATER MANAGEMENT VIOLATIONS

Table's C-1 and C-2 below provide typical responses to common post-construction stormwater management violations and a typical schedule for escalation of enforcement actions. The City understands that each violation has unique circumstances and concerns; therefore, the tables below will serve as guidance only. Violations which a pose a significant threat to human health and/or the environment will utilize more severe enforcement actions on a compressed timeframe in order to quickly eliminate the violation, abate any damages, and prevent recurrence.

Modify and complete Table's C-1 and C-2 below to communicate the enforcement escalation process and schedule to be utilized to quickly and consistently eliminate post-construction stormwater management violations within your MS4.

Table C-1: Common Post-Construction Stormwater Management Violation Responses

Violation	Circumstances of Violation	Initial Level of Response	Initial Response Remedy
List common post-construction stormwater violations. Example below.	*Multiple circumstances may exist for certain violations.*	*List the appropriate level of response for the violation: No action, informal, formal, judicial, or referral to other agencies*	*Identify the appropriate remedy for the violation.*
Failure to maintain a post-construction stormwater control	Isolated incident	Informal	Telephone notification
	Repeat violation	Formal	Monetary penalty

Table C-2: Escalation Process, Response Schedule, and Responsibilities for Post-Construction Stormwater Management Violations

Response	Time Frame	Responsibility
List formal, informal, and judicial remedies to be used by the City. An example schedule is provided below.	*e.g. within 24 hours of violation, within 3-days of inspection, etc…*	*List staff responsible for selected response*
Telephone Notification	Within [#] hours of determining a potential violation	[*Staff member/position(s)*]
Notice of Violation	Within [#] days of violation	[*Staff member/position(s)*]
Compliance Schedule	Within [#] days of violation	[*Staff member/position(s)*]
Monetary Penalty	Within [#] days of violation	[*Staff member/position(s)*]
Judicial Actions	As deemed appropriate by [*Staff member/position(s)*]	[*Staff member/position(s)*]
Referral to other agencies	As deemed appropriate by [*Staff member/position(s)*]	[*Staff member/position(s)*]

ATTACHMENT D
ENFORCEMENT RESPONSE DOCUMENTATION FORM

City Personnel Involved | Date

Description of Violation

Location of Violation (address)

Responsible Party | ( ) - Telephone

Street | City | Zip

Description of Violation:

Level of Response | Selected Remedy | Date for Follow-Up

Additional Notes:

Appendix I. (*Place Holder – Storm Water Ordinance/Regulatory Mechanism*)

Appendix J. Training Documentation

Post-Construction Storm Water Management Training

Yellowstone County MS4 Program

Date: Tuesday, December 18, 2018

Location: Yellowstone County Public Works

Attendee Name	Position/Responsibly	Signature
Mike Black	MS4 Coordinator	Mike Black
Tim Miller	Public Works Director	Tim Miller
Darin Swenson		Darin Swenson

Post-Construction Storm Water Management Training

Yellowstone County, Montana

December 18, 2018

01 Review Permit Requirements

02 Post-Construction BMP Manual Overview

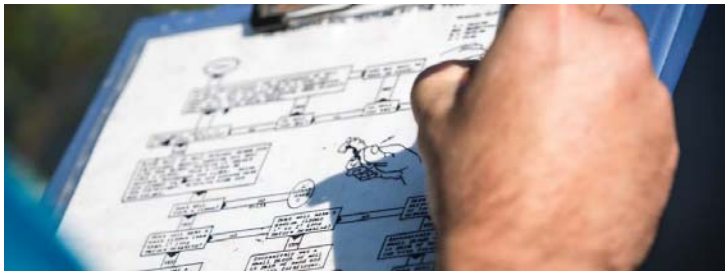
03 Post-Construction BMP Design Discussion

04 Post-Construction BMP Inspection Guidance

05 Site Visit

MCM 5: Summary of Permit Requirements

- Post-Construction Performance Standard (½" Requirement)
- Ordinance
- Enforcement Response Plan (ERP)
- Plan Review Checklist
- BMP Inventories
- Inspection Form(s)
- Conduct Inspections



CHAPTER 1
Introduction to the Manual

1.1 Purpose
1.2 Audience
1.3 MS4 General Permit Storm Water Criteria
1.4 Regulatory Considerations for Storm Water Management
1.5 Best Practices for Storm Water Management (Intro to LID)

Purpose & Audience

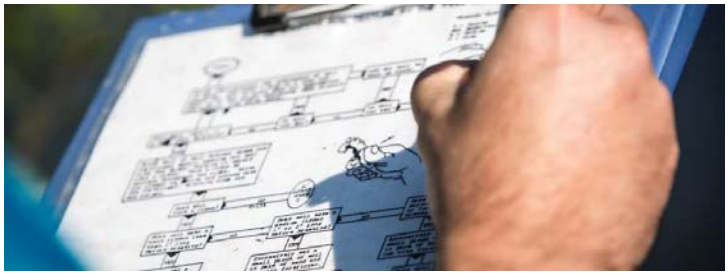
Purpose:

Guidance for

- Selecting
- Designing
- Constructing
- Inspecting
- Maintaining

Audience:

- Designers
- Contractors
- Project Owners
- MS4
  - Program manager
  - Plan reviewer
  - Inspectors



MS4 Permit Post-Construction Design Requirement

- Post-Construction Performance Standard
  - Manage runoff from 0.5-inches of rainfall
- Runoff Reduction Requirement
  - Onsite retention
- Runoff Treatment Requirement
  - Removal of 80% total suspended solids (TSS)

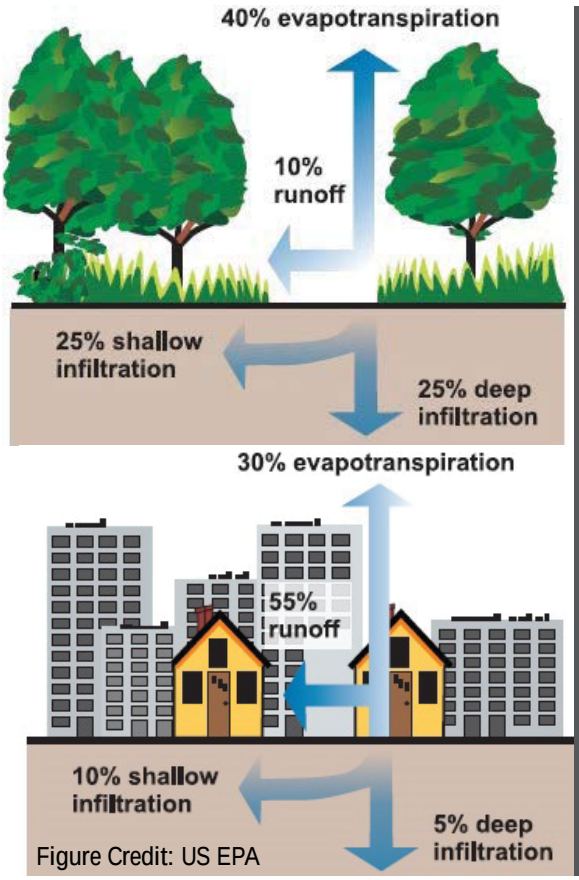
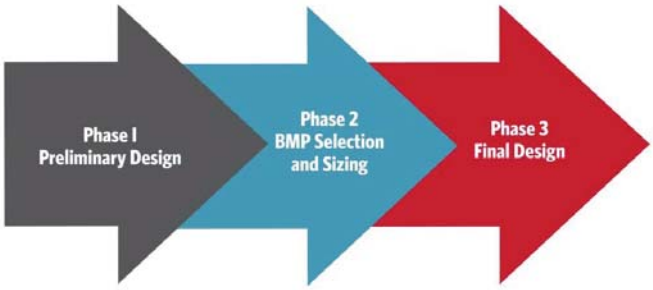
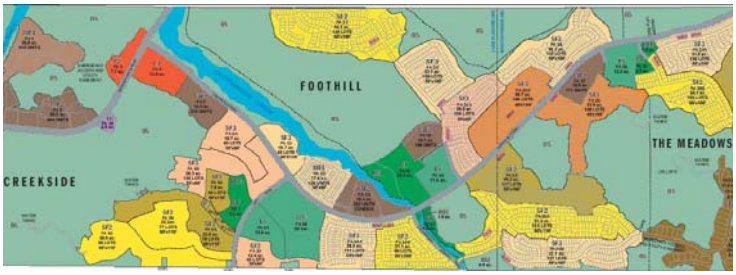


Figure Credit: US EPA

CHAPTER 2
Site Development

2.1 Recommended Process and Design Approach
2.2 Preliminary Design
2.3 BMP Selection and Sizing
2.4 Final Design

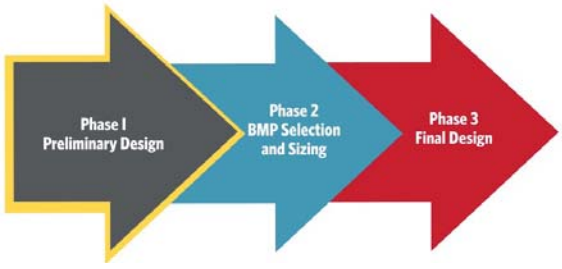




Site Development

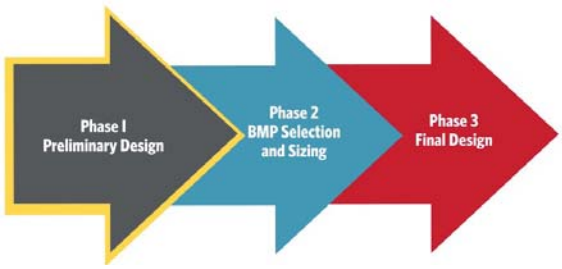
Preliminary Design

Site Assessment	Identify Design Standards and Requirements	Preliminary Site Layout	Hydrologic Analysis	
• Topography • Hydrologic Features • Soils • Land use • Etc…	→ • Local requirements • State requirements • Federal requirements • Etc…	→ • Site Grading • Roads • Buildings • General BMP location(s) • Etc…	→ Calculate Runoff Reduction Volume (RRV)	→ Proceed to BMP Selection and Sizing



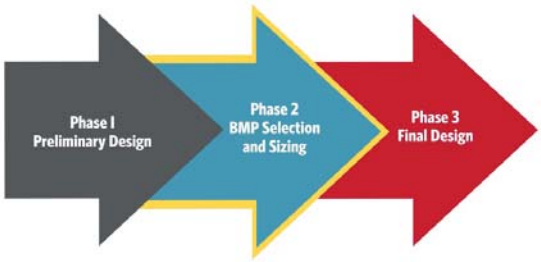
CHAPTER 3
Hydrologic Analysis Methodology

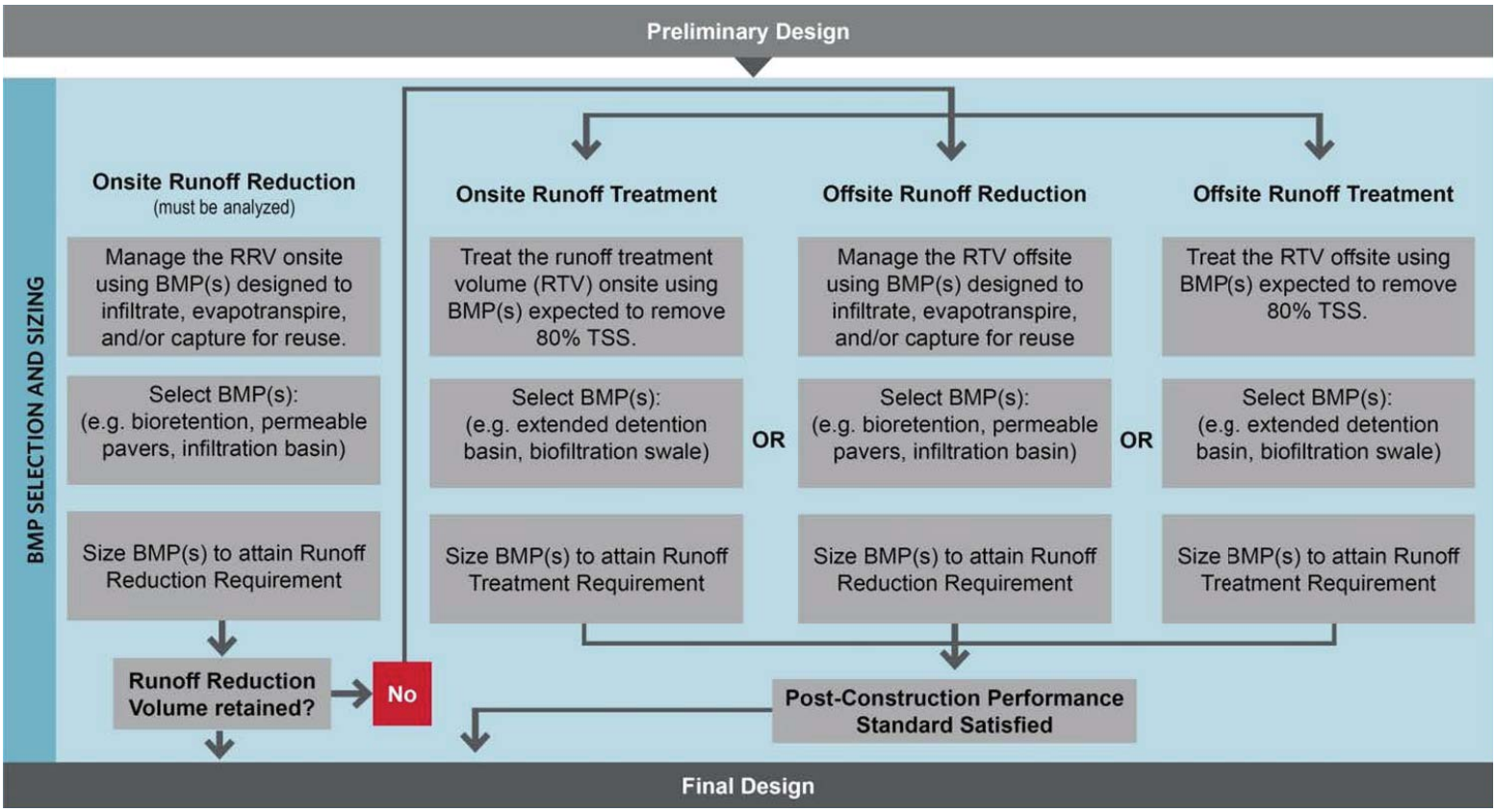
3.1 Hydrologic Basis of the Post-Construction Performance Standard
3.2 Runoff Reduction Volume (RRV)
3.3 Runoff Treatment Volume (RTV)
3.4 Runoff Treatment Flow Rate (RTF)
3.5 Flood Control



CHAPTER 4
Selection of Post-Construction BMPs

4.1 BMP Selection Process
4.2 Types and Functions of BMPs
4.3 Screening Factors
4.4 Cold Climate Considerations
4.5 Offsite Treatment Planning Guidance





Screening Factors

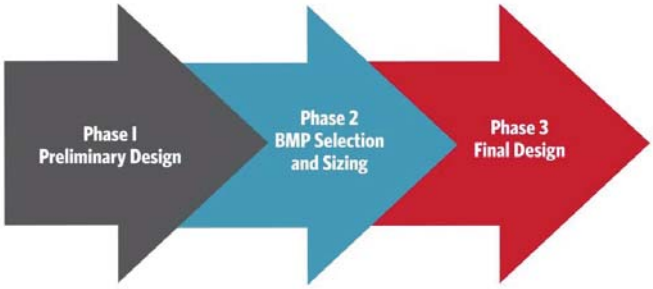
- Land Use
- Storm Water Management Objectives
- Physical Site Characteristics
- Special Storm Water Management Areas
- Maintenance
- Community Factors

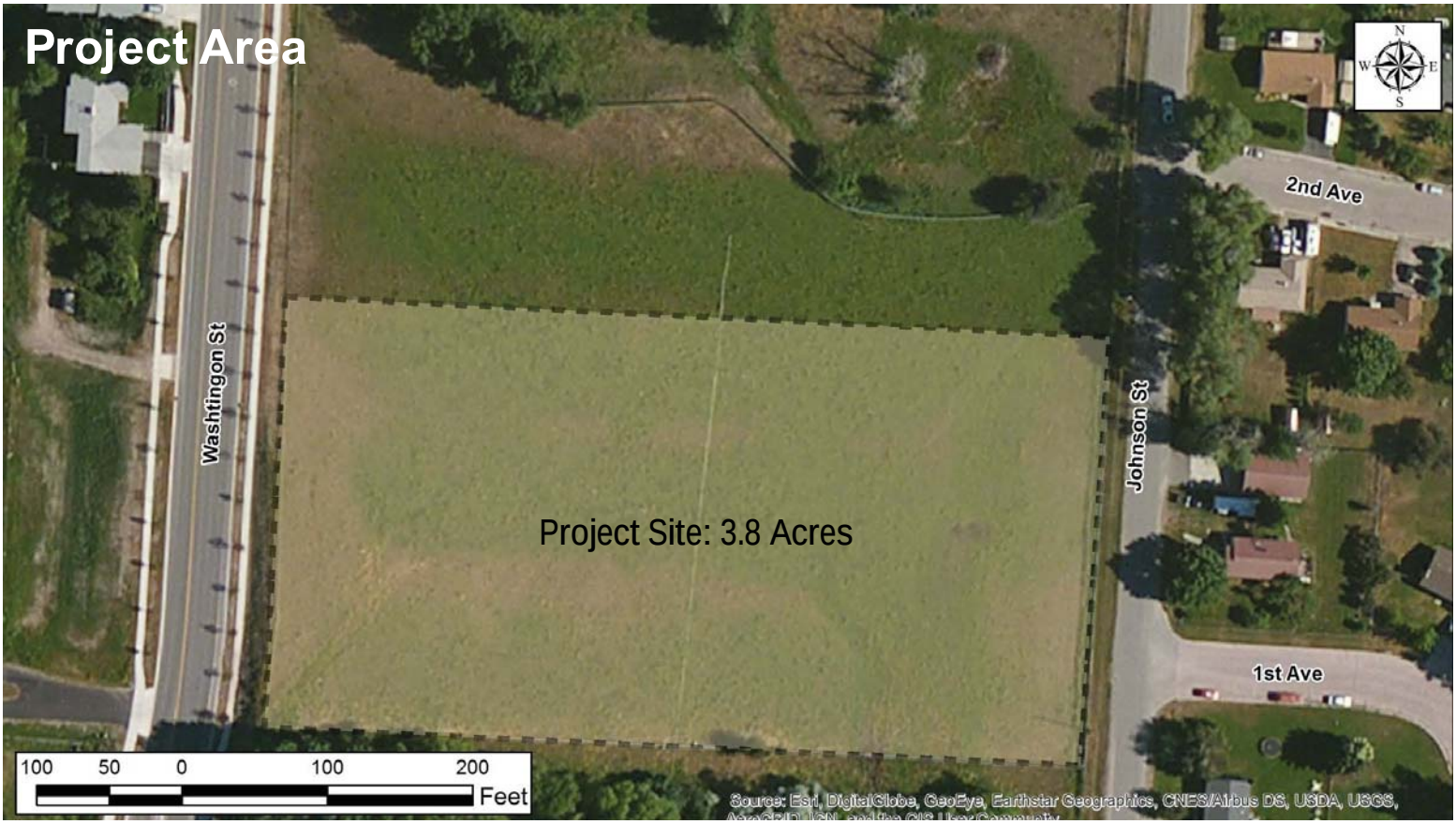
Selection of Post-Construction BMPs

BMP	Primary Function		Pollutant Removal Considerations						Site Applicability			
	Runoff Reduction[1]	Runoff Treatment[2]	TSS[3]	Total Phosphorus	Total Nitrogen	Temperature	Metals	Fecal Coliform	Contributing Drainage Area	Soil Characteristics	Depth to Groundwater and/or Bedrock	Maximum Site Slope
Infiltration Basin	✓		Preferred	Preferred	Preferred	Preferred	Preferred	Preferred	0 to 50 acres	HSG A or B	3-foot minimum	5%
Bioretention	✓[4]		Preferred	Avoid	Avoid	Preferred	Preferred	—	2.5 acres or less	Applicable to most soil types	*Infiltration:* 3-foot minimum *No infiltration:* 1-foot minimum	5%
Permeable Pavement Systems	✓		Preferred	Preferred	Preferred	Preferred	Preferred	Preferred	2:1 ratio	Applicable to most soil types	*Infiltration:* 3-foot minimum *No infiltration:* 1-foot minimum	6%
Dispersion	✓		Preferred	Preferred	Preferred	Preferred	Preferred	Preferred	Limit sheet flow to 150 feet	Applicable to most soil types	3-foot minimum	Low to Moderate
Biofiltration Swale		✓	Preferred	—	—	—	—	—	5 acres or less	Applicable to most soil types	1-foot minimum	Low to Moderate
Extended Detention Basin		✓	Preferred	—	—	Avoid	—	—	5 acres to 1 square mile	Applicable to most soil types	2-foot minimum	15%
Wet Detention Basin		✓	Preferred	Preferred	—	Avoid	—	—	10 acres minimum	Low infiltration rates preferred	No restrictions	25%
Proprietary Treatment Devices		✓	Varies for different units						Varies for different units			

DESIGN EXAMPLE

- Commercial Site
- 3.8 Acres
- Preliminary Design Considerations
- BMP Selection & Sizing
- Final Design





Design Example

Preliminary Design

Site Assessment
- Topography
- Hydrologic Features
- Soils
- Land use
- Etc…

→

Identify Design Standards and Requirements
- Local requirements
- State requirements
- Federal requirements
- Etc…

→

Preliminary Site Layout
- Site Grading
- Roads
- Buildings
- General BMP location(s)
- Etc…

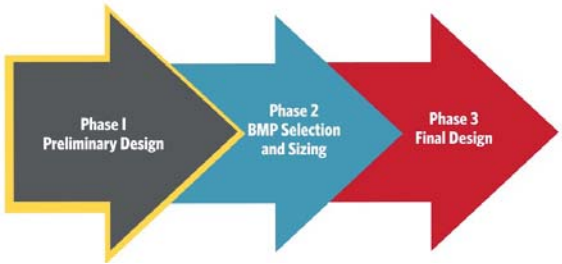
→

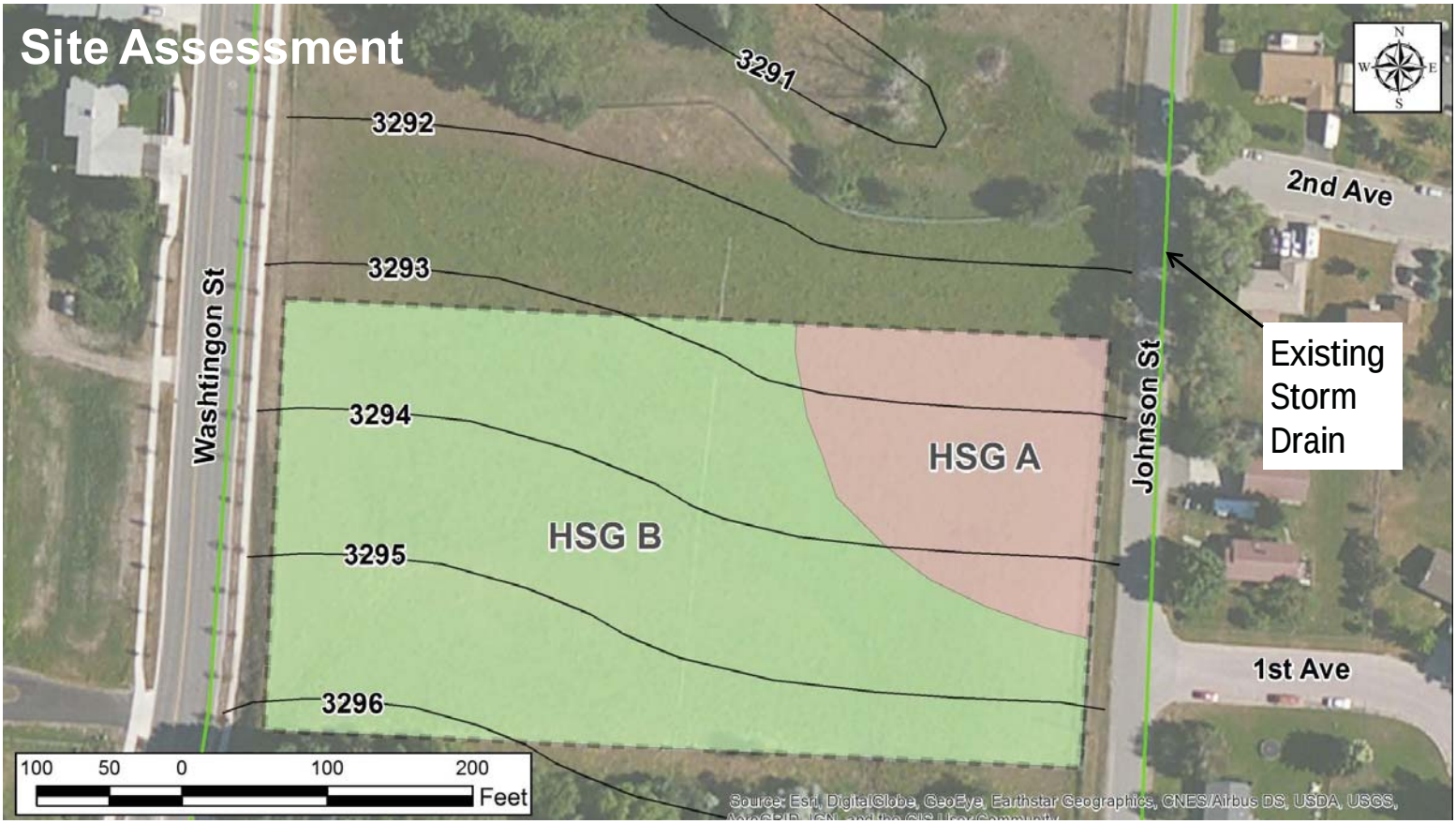
Hydrologic Analysis

Calculate Runoff Reduction Volume (RRV)

→

Proceed to BMP Selection and Sizing

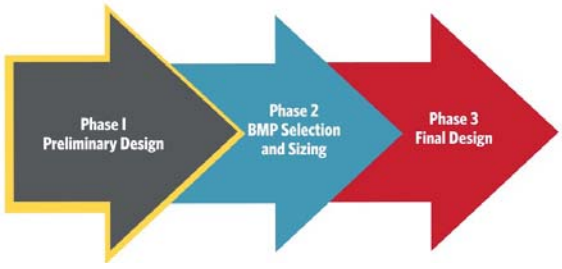




Design Example

Preliminary Design

Site Assessment	Identify Design Standards and Requirements	Preliminary Site Layout	Hydrologic Analysis	
• Topography • Hydrologic Features • Soils • Land use • Etc…	• Local requirements • State requirements • Federal requirements • Etc…	• Site Grading • Roads • Buildings • General BMP location(s) • Etc…	Calculate Runoff Reduction Volume (RRV)	Proceed to BMP Selection and Sizing



Preliminary Design

Site Assessment
- Topography
- Hydrologic Features
- Soils
- Land use
- Etc…

→

Identify Design Standards and Requirements
- Local requirements
- State requirements
- Federal requirements
- Etc…

→

Preliminary Site Layout
- Site Grading
- Roads
- Buildings
- General BMP location(s)
- Etc…

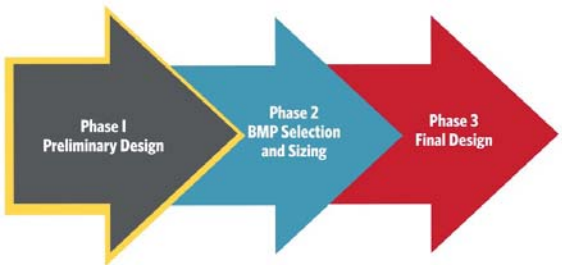
→

Hydrologic Analysis

Calculate Runoff Reduction Volume (RRV)

→

Proceed to BMP Selection and Sizing



Preliminary Design

Site Assessment
- Topography
- Hydrologic Features
- Soils
- Land use
- Etc…

→

Identify Design Standards and Requirements
- Local requirements
- State requirements
- Federal requirements
- Etc…

→

Preliminary Site Layout
- Site Grading
- Roads
- Buildings
- General BMP location(s)
- Etc…

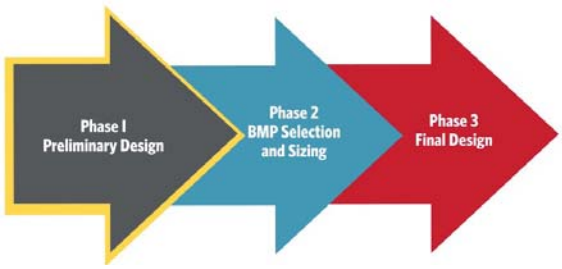
→

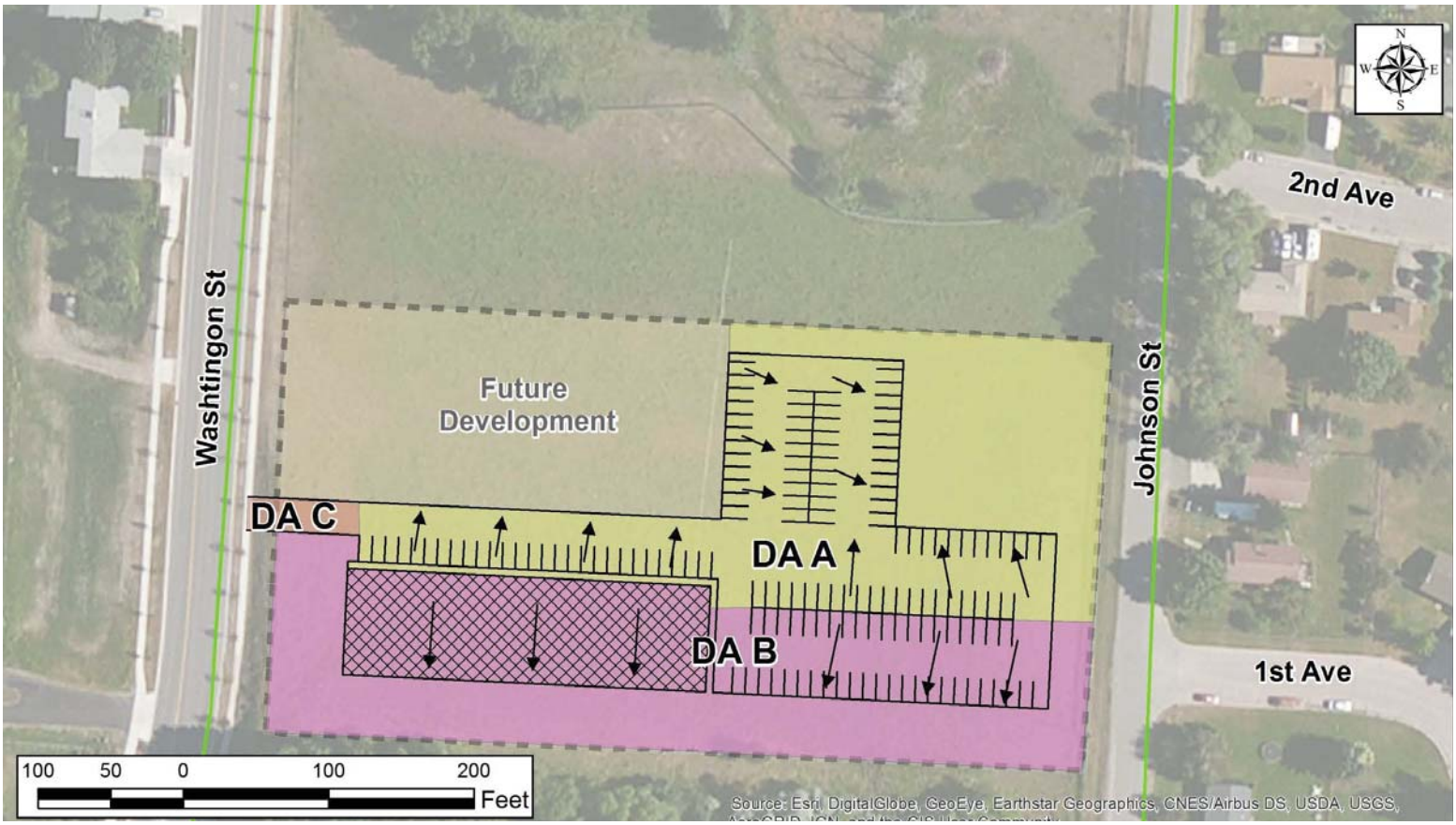
Hydrologic Analysis

Calculate Runoff Reduction Volume (RRV)

→

Proceed to BMP Selection and Sizing





Hydrology Calculations

- Calculation Runoff Reduction Volume (i.e., treatment volume)
- Infiltrate/treatment for ½-inch of rainfall
- Based on
  - Precipitation
  - Drainage Area
  - Percent Impervious (Runoff Coefficient)

$$RRV = \frac{PR_vA}{12}$$

Name	Drainage Area (acres)	Percent Impervious	RRV (ac-ft)	RRV (ft^3)
DA A	1.43	0.63	0.037	1600
DA B	1.43	0.52	0.031	1339
DA C	0.04	100	0.002	69

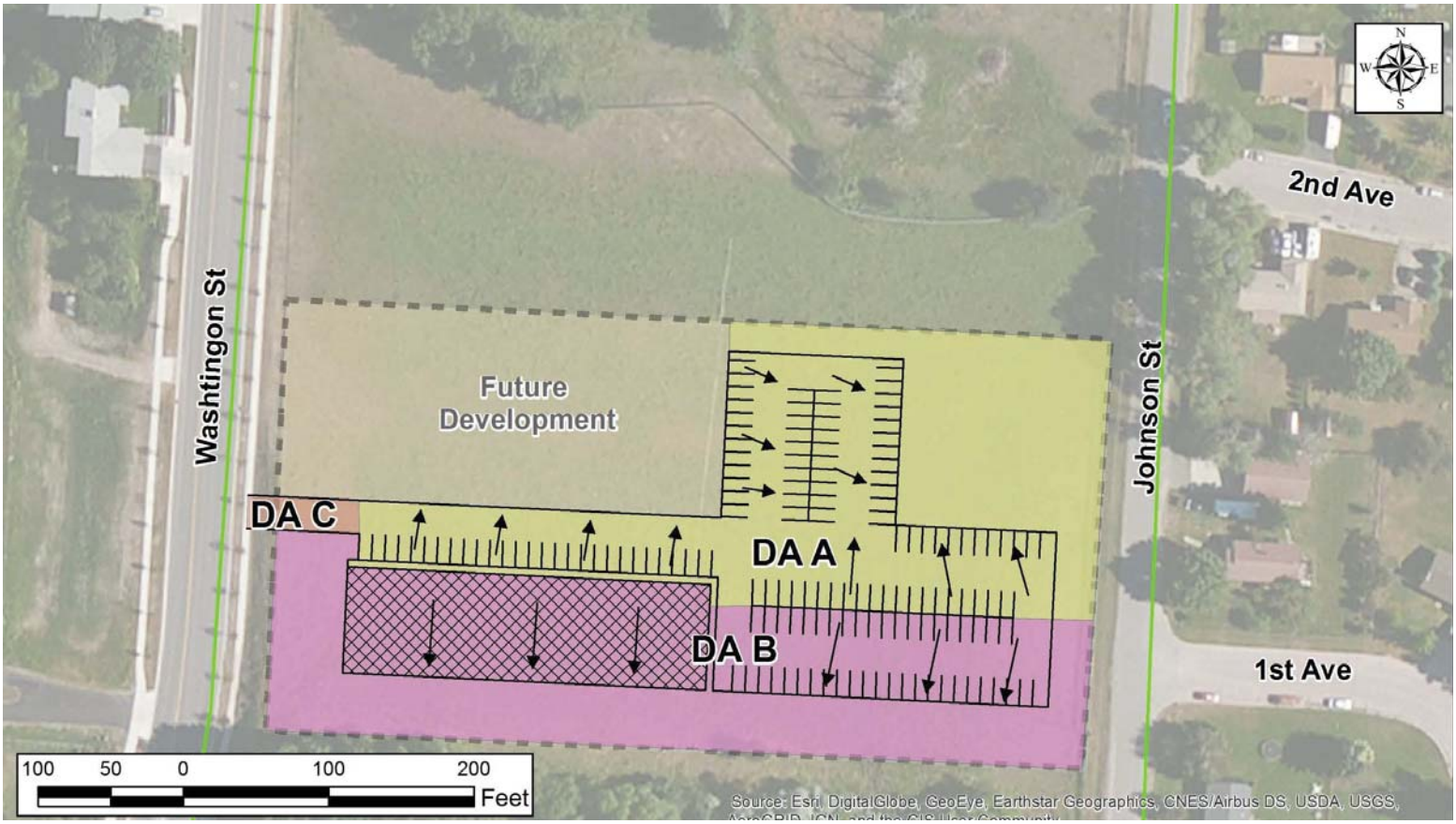
Design Example

Hydrology Calculations

- Calculation Runoff Reduction Volume (i.e., treatment volume)
- Infiltrate/treatment for ½-inch of rainfall
- Based on
  - Precipitation
  - Drainage Area
  - Percent Impervious (Runoff Coefficient)

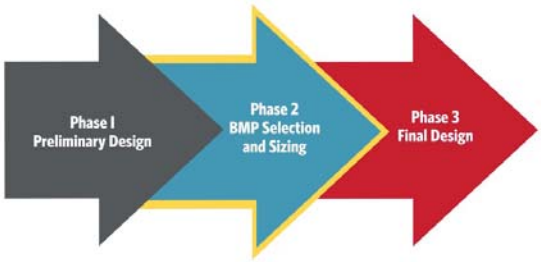
$$RRV = \frac{PR_vA}{12}$$

Name	Drainage Area (acres)	Percent Impervious	RRV (ac-ft)	RRV (ft^3)
DA A	1.43	0.63	0.037	1600
DA B	1.43	0.52	0.031	1339
DA C	0.04	100	0.002	69



BMP Selection (Drainage Area A)

- Focus: Onsite Runoff Reduction
- Pollutant Considerations
  - Only total suspended solids (TSS)



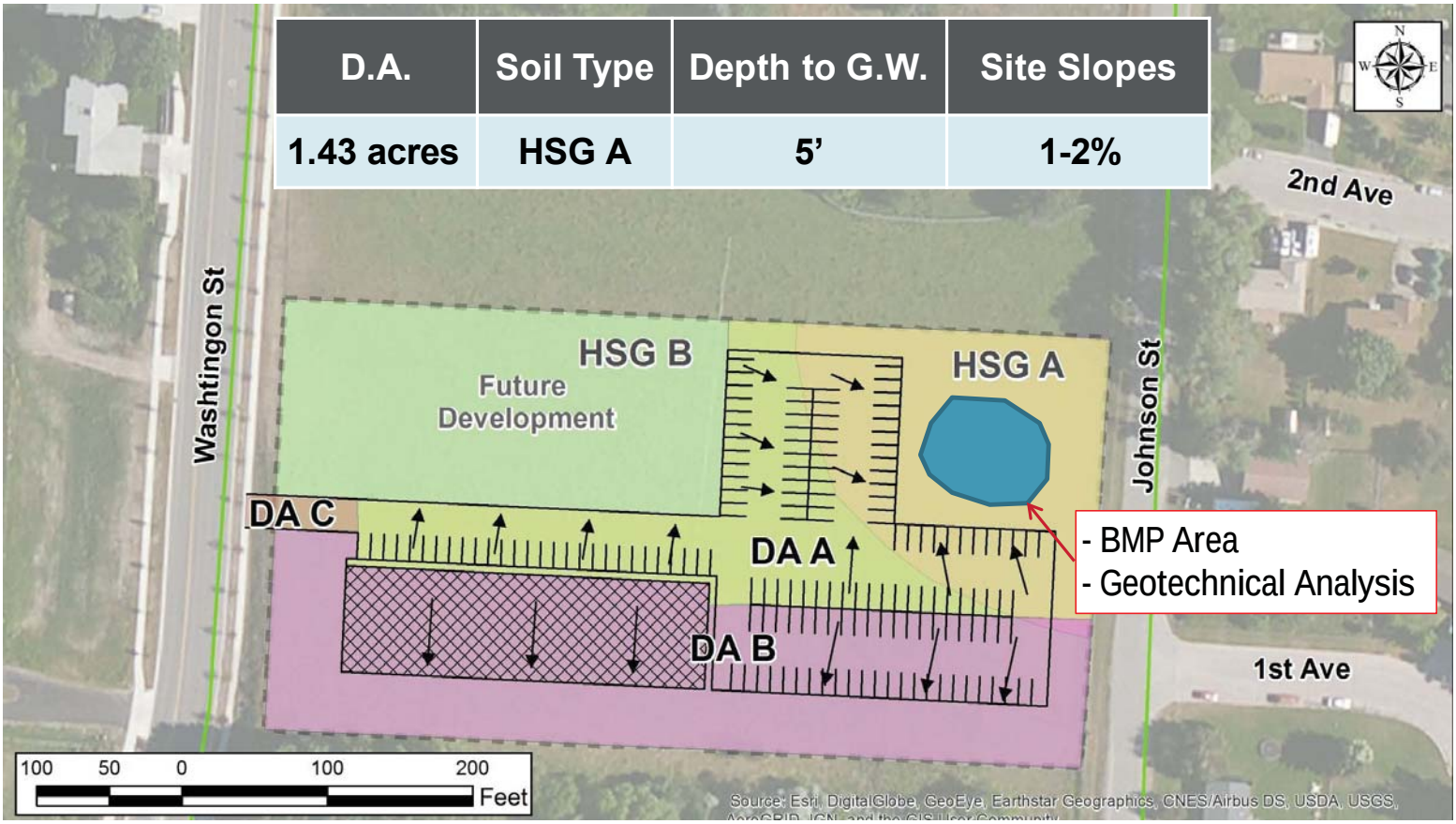


Table 4-3. BMP Summary Table

Name	Site Applicability			
	D.A.	Soils	Depth to G.W.	Maximum Slopes
Infiltration Basin	< 50 acres	HSG A or B	3 ft minimum	5%
Bioretention	< 2.5 acres	HSG A or B	3 ft minimum	5%
Permeable Pavement	2:1 ratio	HSG A or B	3 ft minimum	6%
Biofiltration Swale	< 5 acres	HSG A or B	3 ft minimum	Low to Moderate

Table 4-3. BMP Summary Table

Name	Site Applicability			
	D.A.	Soils	Depth to G.W.	Maximum Slopes
Infiltration Basin	< 50 acres	HSG A or B	3 ft minimum	5%
Bioretention	< 2.5 acres	HSG A or B	3 ft minimum	5%
Permeable Pavement	2:1 ratio	HSG A or B	3 ft minimum	6%
Biofiltration Swale	< 5 acres	HSG A or B	3 ft minimum	Low to Moderate

CHAPTER 5
Design Guidance for Post-Construction BMPs


Infiltration Basin


Bioretention


Permeable Pavement Systems


Dispersion


Biofiltration Swale

Extended Detention Basin


Wet Detention Basin


Proprietary Treatment Devices

Chapter 5 Layout

- BMP Summary Sheet
- Description
- Performance
- Site Selection
- Design & Sizing Procedure
- Vegetation Considerations
- Construction Considerations
- Maintenance
- Plan View & Typical Details

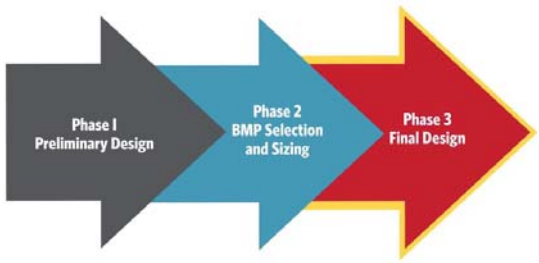


Figure 5.3-1. Bioretention Area
Source: Courtesy of the City of Bozeman

Description

Bioretention areas are shallow, landscaped depressions that capture and infiltrate or filter storm water runoff through plants, an engineered soil media, and often an underdrain.

Primary Components	Primary Function
▪ Inlet ▪ Pretreatment ▪ Surface ponding area ▪ Bioretention soil media ▪ Bioretention plants ▪ Underdrain (optional)	☑ Runoff reduction ☑ Runoff treatment

Benefits	Limitations
▪ Siting is generally not limited by native soils; design accommodations can be made for most soil types ▪ Dimensions are flexible, allowing this BMP to fit various site conditions ▪ Good retrofit capability	▪ Not recommended for contributing drainage basins greater than 2.5 acres ▪ Not recommended in developing or erosive watersheds given the potential for high sediment loads that can clog the BMP ▪ Not recommended for sites with steep slopes

Design and Site Selection Considerations

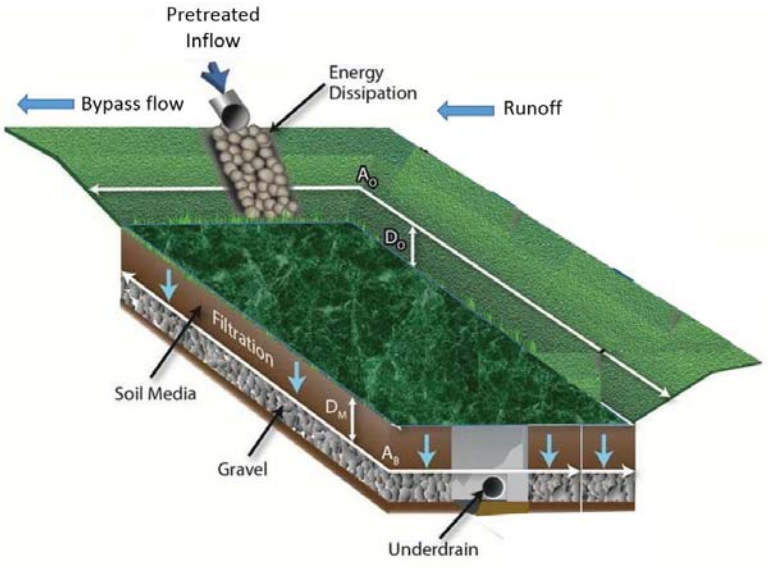
☑ Setbacks	☑ Underdrain (optional)
☑ Depth to groundwater or bedrock	☑ Facility liners (optional)
☑ Soil permeability	☑ Landscaping/planting
☑ Soil preparation/amendments/compost	☐ Fencing
☑ Pretreatment forebay	☑ Size of contributing drainage area
☑ Inlet and outlet spacing	☐ Area required
☑ Energy dissipater/level spreader	☑ Incorporate flood control

TMDL Considerations[1]			Maintenance Requirements
Avoid	Preferred		
☐	☑	Total suspended solids (TSS)	☑ Access roads or pullouts
☑	☐	Total phosphorus	☑ Sediment removal
☑	☐	Total nitrogen	☑ Irrigation, if applicable
☐	☑	Temperature	☑ Vegetation management
☐	☑	Metals	☐ Erosion and embankment stabilization repair
☐	☑	Fecal coliform	☑ Specialized equipment and training

5.3 Bioretention Area

5.3.2 Performance

- ☑ Runoff Reduction
- ☑ Runoff Treatment



5.3.3 Site Selection

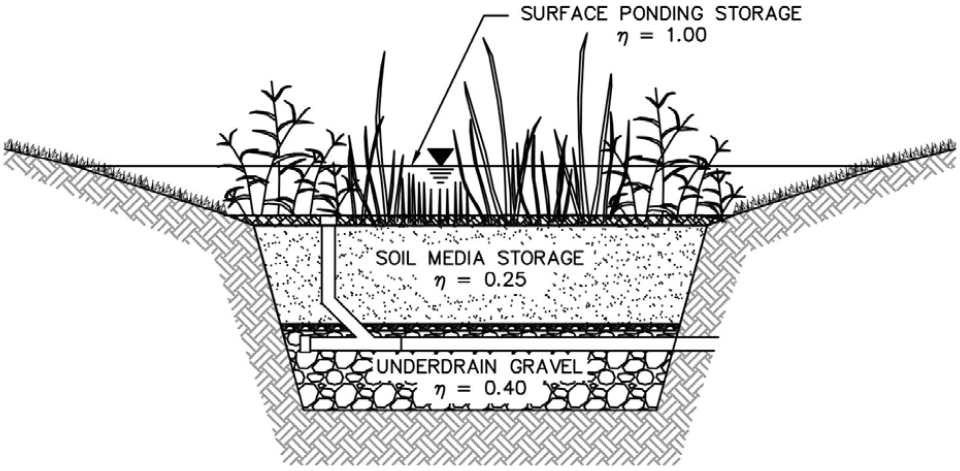
- Contributing Drainage Area
- Soil Characteristics
- Depth to Groundwater and/or Bedrock
- Site topography
- Land use and considerations of surrounding area
- Community and environmental considerations

5.3.3 Site Selection

- Contributing Drainage Area: <2.5 acres
- Soil Characteristics: Infiltrate within 48 hrs
- Depth to Groundwater and/or Bedrock: >3 ft
- Site topography: 1-5% grades
- Land use and considerations of surrounding area: avoid hotspots
- Community and environmental considerations: aesthetic feature

5.3.4 Design and Sizing Procedure

- Full, Partial, or No Infiltration
- Basin Storage Volume
- Geometry
- Inlet & Conveyance
- Pretreatment
- Surface Cover
- Bioretention Soil Media (Soil Amendments)
- Underdrain System
- Impermeable Liners
- Guidelines for Incorporating Flood Control



5.3 Bioretention Area

5.3.5 Vegetation Considerations

- Vegetation & landscaping plan
- Salt resistant vegetation
- Turf grass vs. mulch with plants
- Irrigation considerations
- Consider maintenance requirements
- Consult local specialists

5.3.6 Construction Considerations

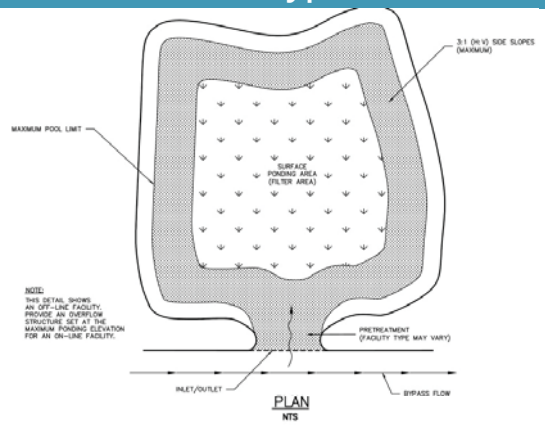
- Construction Site Management
- Construction Inspection
- Transitions to Post-Construction

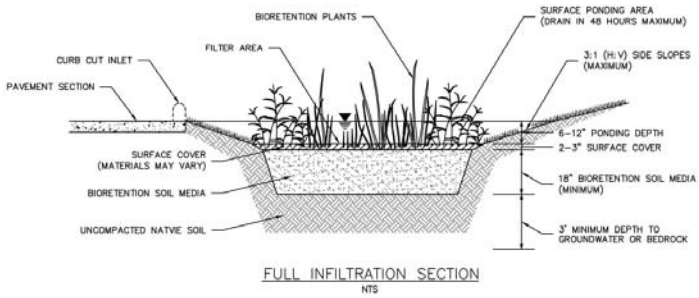
5.3 Bioretention Area

5.3.7 Maintenance

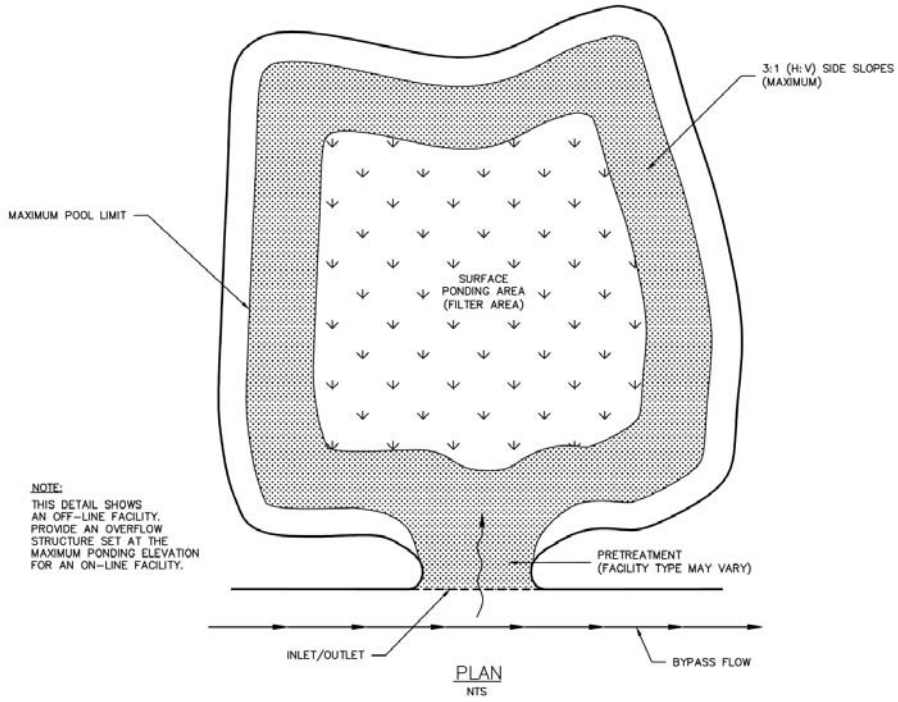
Activity	Frequency
▪ Inspect the bioretention area and contributing drainage area following rainfall events. Conduct any needed repairs or stabilization. ▪ One-time, spot fertilization may be needed for initial plantings. ▪ Follow the watering schedule provided by the designer because frequent watering is typically needed to establish vegetation.	Upon establishment
▪ Perform spot weeding, trash removal, and mulch raking.	Semiannually during growing season
▪ Add reinforcement planting to maintain the desired vegetation density. ▪ Manage all vegetation associated with the bioretention area. ▪ Remove sediment from inflow points, pretreatment facilities, diversion structures, and overflow structures (if applicable).	As needed

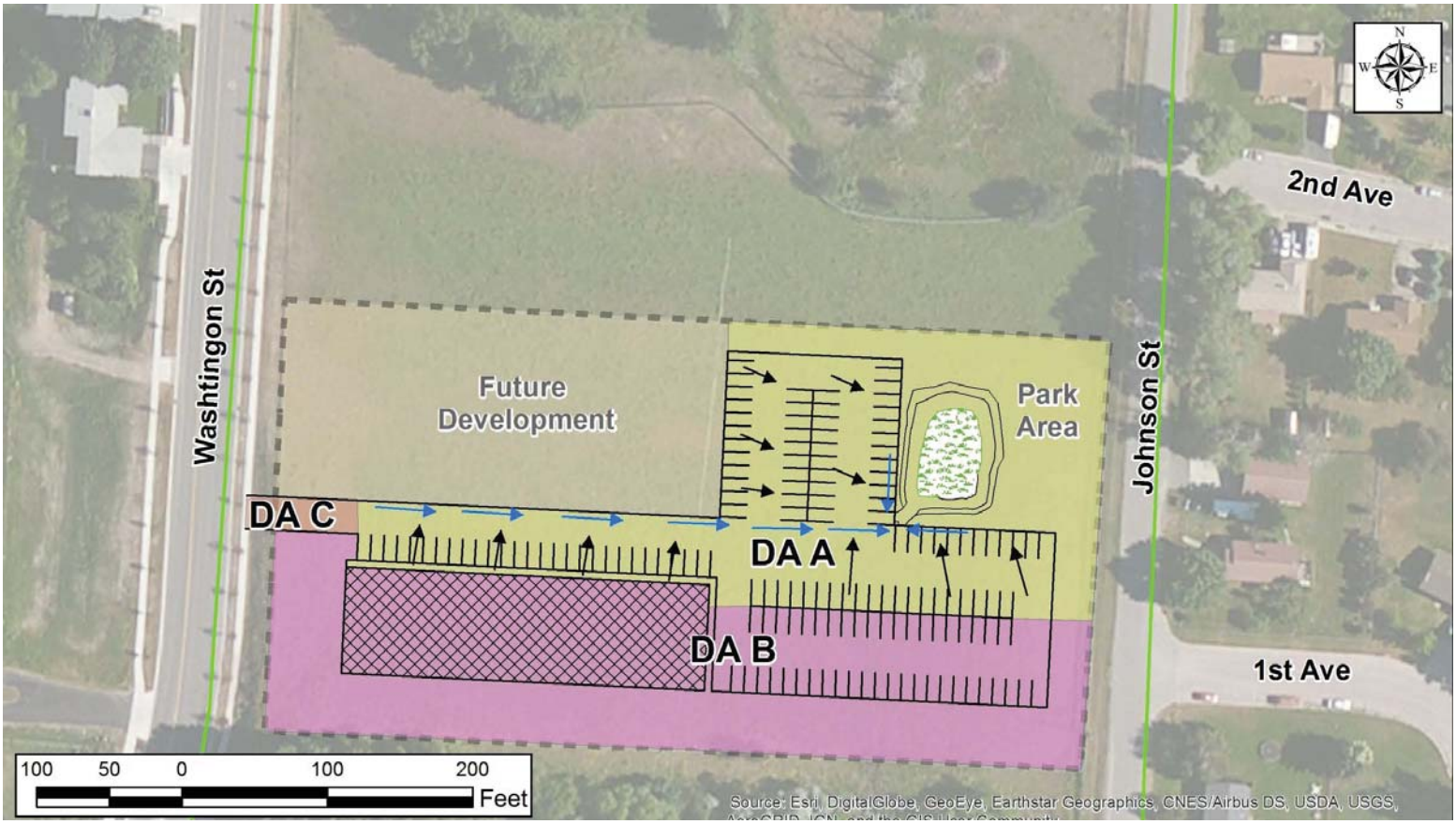
5.3.8 Plan View and Typical Details





5.3 Bioretention Area





APPENDICES

- Glossary
- Additional Hydrology Information
- Evaluating Soil Infiltration Rates
- Soil Amendments
- Standard Forms
- Inspection & Maintenance Checklists

APPENDICES

- Glossary
- Additional Hydrology Information
- Evaluating Soil Infiltration Rates
- Soil Amendments
- Standard Forms
- Inspection & Maintenance Checklists

Inspection Requirements

- Inspection checklist(s)
- BMP Inventory
  - All **new** permittee-owned & private
  - All **existing high priority** permittee owned & private
- Inspection frequency determination protocol
- Conduct inspections
  - Annual inspections of high priority BMPs
  - Document findings
  - Document compliance actions

Example Inspection Forms

- Generic Inspection Form
- Site Visit Inspection Log
- BMP Specific Inspection Forms
  - Infiltration basin
  - Bioretention
  - Permeable pavers
  - Dispersion
  - Biofiltration swale
  - Extended detention basin
  - Wet detention basin

Inspection Guidance

- Pre-field investigation
  - As-builts
  - O&M manual
  - Previous inspection records
- Identify & obtain equipment
  - Field maps
  - Standard inspection form
  - Recommended maintenance table
  - Camera
  - PPE
  - Measuring tape
  - Manhole cover pick tool
  - Log book
- Consider site access requirements

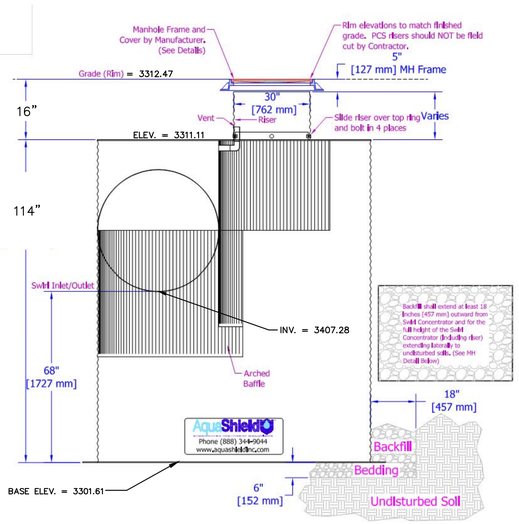
Inspection Guidance

Inspection Guidance

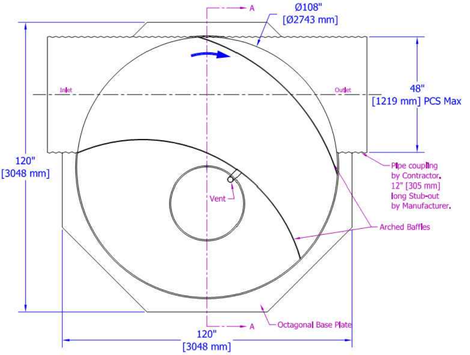
- Site inspection
  - Consider time since last runoff event
  - Take photos
  - Fill out inspection form
  - Note deficiencies and maintenance requirements
- Documentation
  - Organized recordkeeping procedures
- Follow-up if necessary
  - Compliance requirements (implement ERP)

SITE VISIT

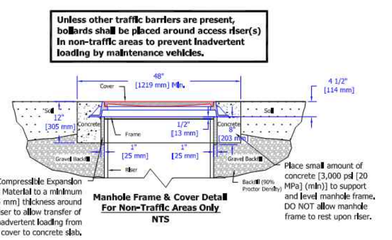
- Trails West Subdivision
- Pond and Hydrodynamic Separator



Section A-A



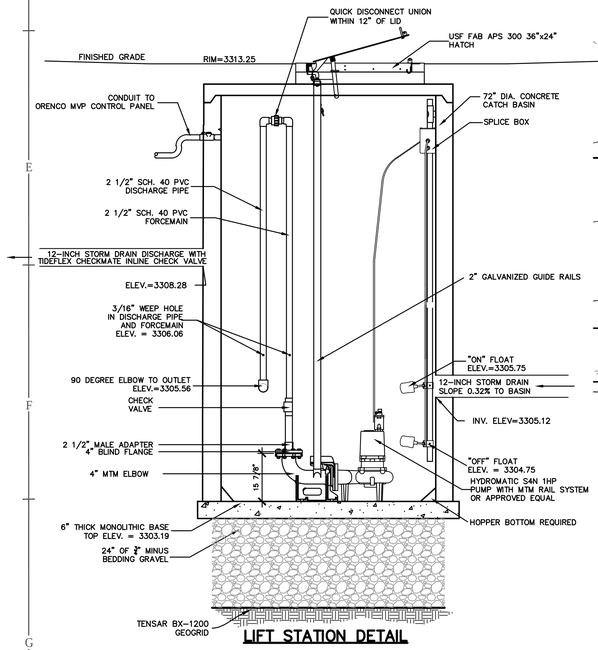
Plan View



Manhole Frame & Cover Detail
For Non-Traffic Areas Only
NTS

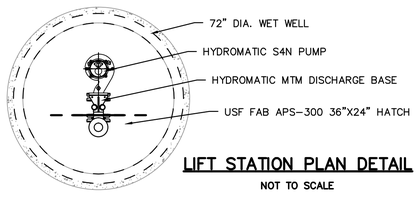
AQUA-SWIRL AS-9 HYDRODYNAMIC SEPARATOR

NOT TO SCALE



LIFT STATION DETAIL

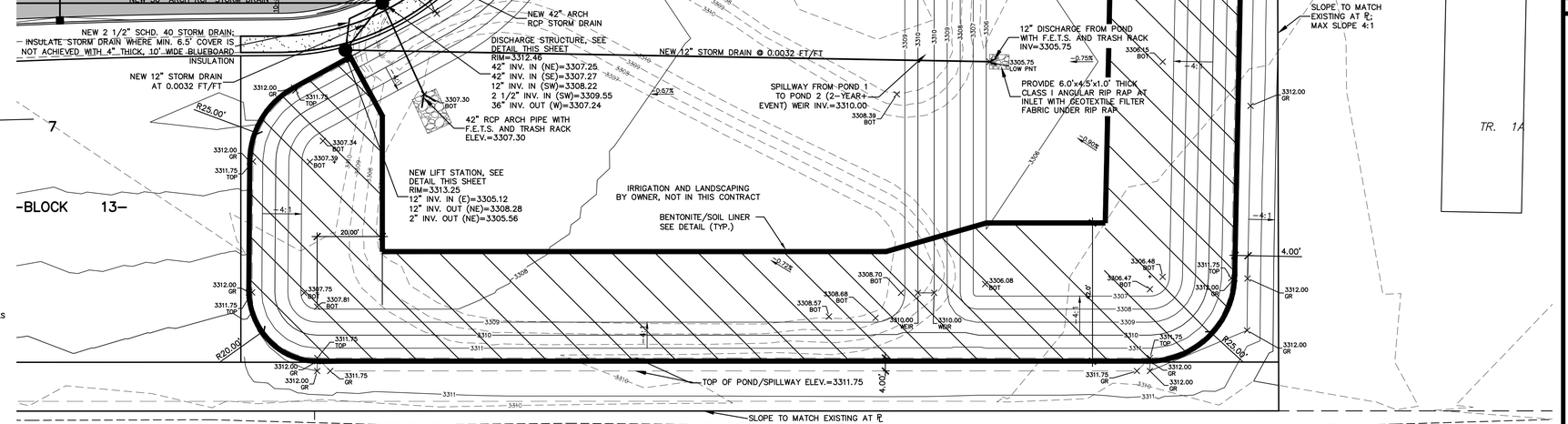
NOT TO SCALE

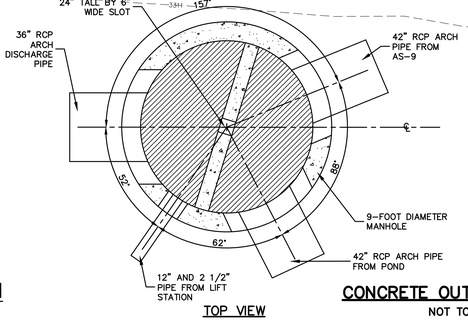


LIFT STATION PLAN DETAIL

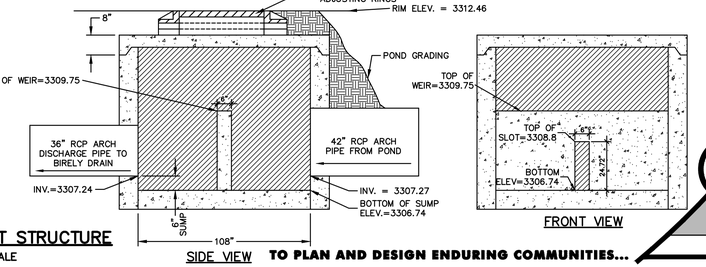
NOT TO SCALE

ISSUED FOR CONSTRUCTION





TOP VIEW



SIDE VIEW

FRONT VIEW

CONCRETE OUTLET STRUCTURE

NOT TO SCALE

SANDERSON STEWART
www.sandersonstewart.com
GARY T OWEN 15578PE 5/13/16 LICENSED PROFESSIONAL ENGINEER

DATE: 04/15/2016
FILE: 05051_15_GRADING_PROD.DWG
PROJECT NO: 05051.15
CAD: CMK
QUALITY ASSURANCE: DDR 04/13/16

REVISIONS

DATE	DESCRIPTION
04/19/16	CITY REVIEW
6/16/16	ISSUED FOR CONSTRUCTION

PRIVATE CONTRACT NO. 712
TO PROVIDE WATER, SANITARY SEWER, STORM DRAIN AND STREET IMPROVEMENTS FOR TRAILS WEST SUBDIVISION, 3RD FILING
BILLINGS, MONTANA
STORMWATER DETENTION POND PLAN

C14.0

TO PLAN AND DESIGN ENDURING COMMUNITIES...

Appendix K. 2018 Monitoring Results

ANALYTICAL SUMMARY REPORT

July 02, 2018

Yellowstone County Public Works
PO Box 35024
Billings, MT 59107-5024

Work Order: B18061594

Project Name: MS4

Energy Laboratories Inc Billings MT received the following 2 samples for Yellowstone County Public Works on 6/18/2018 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B18061594-001	Johnson Lane Catch Basin	06/17/18 17:30	06/18/18	Aqueous	Metals by ICP/ICPMS, Total Chemical Oxygen Demand Oil & Grease, Gravimetric Nitrogen, Nitrate + Nitrite Nitrogen, Total Kjeldahl Nitrogen, Total (TKN+NO3+NO2) pH Metals Digestion by E200.2 Preparation for COD testing HACH 8000 E365.1 Digestion, Total P TKN preparation E351.2 Preparation for TSS A2540 D Phosphorus, Total Solids, Total Suspended Turbidity
B18061594-002	Meier Lane V-ditch	06/17/18 17:30	06/18/18	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

CLIENT: Yellowstone County Public Works
Project: MS4
Work Order: B18061594

Report Date: 07/02/18

CASE NARRATIVE

Tests associated with analyst identified as ELI-G were subcontracted to Energy Laboratories, 400 W Boxelder Rd, Gillette, WY, EPA Number WY00006.

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Yellowstone County Public Works
Project: MS4
Lab ID: B18061594-001
Client Sample ID: Johnson Lane Catch Basin

Report Date: 07/02/18
Collection Date: 06/17/18 17:30
DateReceived: 06/18/18
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.4	s.u.	H	0.1		A4500-H B	06/19/18 11:36 / ens
pH Measurement Temp	15	°C				A4500-H B	06/19/18 11:36 / ens
Turbidity	224	NTU	H	0.1		A2130 B	06/20/18 09:30 / pjw
Solids, Total Suspended TSS @ 105 C	422	mg/L	D	20		A2540 D	06/19/18 10:31 / bre
AGGREGATE ORGANICS							
Oxygen Demand, Chemical (COD)	226	mg/L	D	10		E410.4	06/20/18 13:42 / ks
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.42	mg/L		0.01		E353.2	06/19/18 11:49 / taw
Nitrogen, Kjeldahl, Total as N	5.6	mg/L		0.5		E351.2	06/19/18 15:18 / ks
Nitrogen, Total	6.0	mg/L		0.5		Calculation	06/19/18 17:06 / ks
Phosphorus, Total as P	0.95	mg/L	D	0.01		E365.1	06/19/18 15:09 / mjm
METALS, TOTAL							
Copper	0.033	mg/L		0.002		E200.8	06/29/18 12:22 / car
Lead	0.0153	mg/L		0.0003		E200.8	06/29/18 12:22 / car
Zinc	0.376	mg/L		0.008		E200.8	06/29/18 12:22 / car
ORGANIC CHARACTERISTICS							
Oil & Grease (HEM)	2	mg/L		1		E1664A	06/25/18 08:22 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Yellowstone County Public Works
Project: MS4
Lab ID: B18061594-002
Client Sample ID: Meier Lane V-ditch

Report Date: 07/02/18
Collection Date: 06/17/18 17:30
DateReceived: 06/18/18
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
pH	7.7	s.u.	H	0.1		A4500-H B	06/19/18 11:39 / ens
pH Measurement Temp	16	°C				A4500-H B	06/19/18 11:39 / ens
Turbidity	415	NTU	H	0.1		A2130 B	06/20/18 09:31 / pjw
Solids, Total Suspended TSS @ 105 C	460	mg/L	D	20		A2540 D	06/19/18 10:31 / bre
AGGREGATE ORGANICS							
Oxygen Demand, Chemical (COD)	60	mg/L	D	10		E410.4	06/20/18 13:42 / ks
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	6.85	mg/L	D	0.02		E353.2	06/19/18 12:33 / taw
Nitrogen, Kjeldahl, Total as N	1.8	mg/L		0.5		E351.2	06/19/18 15:21 / ks
Nitrogen, Total	8.6	mg/L		0.5		Calculation	06/19/18 17:06 / ks
Phosphorus, Total as P	0.432	mg/L		0.005		E365.1	06/19/18 14:25 / mjm
METALS, TOTAL							
Copper	0.019	mg/L		0.002		E200.8	06/29/18 12:26 / car
Lead	0.0100	mg/L		0.0003		E200.8	06/29/18 12:26 / car
Zinc	0.298	mg/L		0.008		E200.8	06/29/18 12:26 / car
ORGANIC CHARACTERISTICS							
Oil & Grease (HEM)	ND	mg/L		1		E1664A	06/25/18 08:23 / eli-g

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
D - RL increased due to sample matrix.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.
H - Analysis performed past recommended holding time.

QA/QC Summary Report

Prepared by Gillette, WY Branch

Client: Yellowstone County Public Works
Report Date: 06/25/18
Project: MS4
Work Order: B18061594

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **E1664A**									Batch: 180625A
Lab ID: **MBLK1806250806**	Method Blank				Run: BAL-ACCU-124_180625A				06/25/18 08:22
Oil & Grease (HEM)	ND	mg/L	0.8						
Lab ID: **LCS1806250806**	Laboratory Control Sample				Run: BAL-ACCU-124_180625A				06/25/18 08:22
Oil & Grease (HEM)	37	mg/L	5.0	93	78	114			
Lab ID: **LCSD1806250806**	Laboratory Control Sample Duplicate				Run: BAL-ACCU-124_180625A				06/25/18 08:22
Oil & Grease (HEM)	36	mg/L	5.0	91	78	114	1.4	18	
Lab ID: **G18060448-004EMS**	Sample Matrix Spike				Run: BAL-ACCU-124_180625A				06/25/18 08:28
Oil & Grease (HEM)	32	mg/L	5.0	79	78	114			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Yellowstone County Public Works
Report Date: 07/02/18
Project: MS4
Work Order: B18061594

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **A2130 B**									Batch: 180620A-TURB-W	
Lab ID: **MBLK (DI H2O)**	Method Blank					Run: HACH2100N_180620A			06/20/18 09:02	
Turbidity		ND	NTU	0.08						
Lab ID: **Turb - 20 NTU**	Laboratory Control Sample					Run: HACH2100N_180620A			06/20/18 09:02	
Turbidity		20.2	NTU	0.10	101	90	110			
Lab ID: **Turb - 1.0 NTU**	Laboratory Control Sample					Run: HACH2100N_180620A			06/20/18 09:03	
Turbidity		1.09	NTU	0.10	109	90	110			
Lab ID: **B18061728-001ADUP**	Sample Duplicate					Run: HACH2100N_180620A			06/20/18 09:14	
Turbidity		0.110	NTU	0.10				1.8	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Yellowstone County Public Works
Report Date: 07/02/18
Project: MS4
Work Order: B18061594

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **A2540 D**										Batch: 122589
Lab ID: **MB-122589**		Method Blank				Run: BAL #SD-15_180619A				06/19/18 10:31
Solids, Total Suspended TSS @ 105 C		ND	mg/L	0.7						
Lab ID: **LCS-2_122589**		Laboratory Control Sample				Run: BAL #SD-15_180619A				06/19/18 10:31
Solids, Total Suspended TSS @ 105 C		102	mg/L	10	102	80	120			
Lab ID: **B18061595-001ADUP**		Sample Duplicate				Run: BAL #SD-15_180619A				06/19/18 10:31
Solids, Total Suspended TSS @ 105 C		15.0	mg/L	10						
Lab ID: **B18061654-001ADUP**		Sample Duplicate				Run: BAL #SD-15_180619A				06/19/18 10:31
Solids, Total Suspended TSS @ 105 C		20.0	mg/L	10				18	5	R

- Since the difference between the analytical result for the sample and its duplicate is less than the reporting limit, the RPD variance is not considered significant.

Qualifiers:

RL - Analyte reporting limit.
ND - Not detected at the reporting limit.
R - RPD exceeds advisory limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Yellowstone County Public Works
Report Date: 07/02/18
Project: MS4
Work Order: B18061594

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: A4500-H B									Analytical Run: PHSC _101-B_180619A	
Lab ID: pH 8	2	Initial Calibration Verification Standard							06/19/18 08:34	
pH		8.00	s.u.	0.10	100	98	102			
pH Measurement Temp		20.0	°C			0	0			
Method: A4500-H B									Batch: R302296	
Lab ID: B18061631-001ADUP	2	Sample Duplicate				Run: PHSC _101-B_180619A			06/19/18 11:49	
pH		7.84	s.u.	0.10				0.3	3	
pH Measurement Temp		17.8	°C							

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Yellowstone County Public Works **Report Date:** 07/02/18

Project: MS4 **Work Order:** B18061594

Analyte		Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	**E200.8**									Analytical Run: ICPMS206-B_180627A	
Lab ID:	**QCS**	3	Initial Calibration Verification Standard							06/29/18 07:39	
Copper			0.0537	mg/L	0.010	107	90	110			
Lead			0.0512	mg/L	0.010	102	90	110			
Zinc			0.0523	mg/L	0.010	105	90	110			
Method:	**E200.8**									Batch: 122566	
Lab ID:	**MB-122566**	3	Method Blank				Run: ICPMS206-B_180627A			06/28/18 20:04	
Copper			ND	mg/L	0.0008						
Lead			ND	mg/L	0.00008						
Zinc			ND	mg/L	0.006						
Lab ID:	**LCS-122566**	3	Laboratory Control Sample				Run: ICPMS206-B_180627A			06/28/18 20:09	
Copper			0.496	mg/L	0.0010	99	85	115			
Lead			0.510	mg/L	0.0010	102	85	115			
Zinc			0.505	mg/L	0.0055	101	85	115			
Lab ID:	**B18061633-001BMS3**	3	Sample Matrix Spike				Run: ICPMS206-B_180627A			06/29/18 12:40	
Copper			0.481	mg/L	0.0050	96	70	130			
Lead			0.481	mg/L	0.0010	96	70	130			
Zinc			0.491	mg/L	0.010	98	70	130			
Lab ID:	**B18061633-001BMSD**	3	Sample Matrix Spike Duplicate				Run: ICPMS206-B_180627A			06/29/18 12:58	
Copper			0.494	mg/L	0.0050	99	70	130	2.6	20	
Lead			0.498	mg/L	0.0010	100	70	130	3.4	20	
Zinc			0.503	mg/L	0.010	101	70	130	2.4	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Yellowstone County Public Works
Report Date: 07/02/18
Project: MS4
Work Order: B18061594

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E351.2									Analytical Run: FIA204-B_180619A	
Lab ID: ICV	Initial Calibration Verification Standard								06/19/18 14:42	
Nitrogen, Kjeldahl, Total as N		9.76	mg/L	0.50	98	90	110			
Method: E351.2									Batch: 122577	
Lab ID: MB-122577	Method Blank					Run: FIA204-B_180619A			06/19/18 15:14	
Nitrogen, Kjeldahl, Total as N		ND	mg/L	0.1						
Lab ID: LCS-122577	Laboratory Control Sample					Run: FIA204-B_180619A			06/19/18 15:15	
Nitrogen, Kjeldahl, Total as N		10.2	mg/L	0.50	102	90	110			
Lab ID: B18061594-001CMS	Sample Matrix Spike					Run: FIA204-B_180619A			06/19/18 15:19	
Nitrogen, Kjeldahl, Total as N		15.6	mg/L	0.50	100	90	110			
Lab ID: B18061594-001CMSD	Sample Matrix Spike Duplicate					Run: FIA204-B_180619A			06/19/18 15:20	
Nitrogen, Kjeldahl, Total as N		15.0	mg/L	0.50	94	90	110	3.9	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Yellowstone County Public Works
Report Date: 07/02/18
Project: MS4
Work Order: B18061594

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2									Analytical Run: FIA203-B_180619A	
Lab ID: ICV	Initial Calibration Verification Standard								06/19/18 10:50	
Nitrogen, Nitrate+Nitrite as N		0.580	mg/L	0.010	103	90	110			
Method: E353.2									Batch: R302331	
Lab ID: MBLK	Method Blank					Run: FIA203-B_180619A			06/19/18 10:51	
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.007						
Lab ID: LFB	Laboratory Fortified Blank					Run: FIA203-B_180619A			06/19/18 10:52	
Nitrogen, Nitrate+Nitrite as N		0.975	mg/L	0.010	97	90	110			
Lab ID: B18061581-001BMS	Sample Matrix Spike					Run: FIA203-B_180619A			06/19/18 11:47	
Nitrogen, Nitrate+Nitrite as N		0.986	mg/L	0.010	99	90	110			
Lab ID: B18061581-001BMSD	Sample Matrix Spike Duplicate					Run: FIA203-B_180619A			06/19/18 11:48	
Nitrogen, Nitrate+Nitrite as N		1.02	mg/L	0.010	102	90	110	3.1	10	
Lab ID: B18061633-015CMS	Sample Matrix Spike					Run: FIA203-B_180619A			06/19/18 12:20	
Nitrogen, Nitrate+Nitrite as N		1.01	mg/L	0.010	101	90	110			
Lab ID: B18061633-015CMSD	Sample Matrix Spike Duplicate					Run: FIA203-B_180619A			06/19/18 12:21	
Nitrogen, Nitrate+Nitrite as N		1.01	mg/L	0.010	101	90	110	0.4	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Yellowstone County Public Works
Report Date: 07/02/18
Project: MS4
Work Order: B18061594

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E365.1									Analytical Run: FIA202-B_180619B	
Lab ID: ICV	Initial Calibration Verification Standard								06/19/18 14:00	
Phosphorus, Total as P		0.509	mg/L	0.0050	102	90	110			
Method: E365.1									Batch: 122578	
Lab ID: MB-122578	Method Blank					Run: FIA202-B_180619B			06/19/18 14:03	
Phosphorus, Total as P		ND	mg/L	0.004						
Lab ID: LCS-122578	Laboratory Control Sample					Run: FIA202-B_180619B			06/19/18 14:04	
Phosphorus, Total as P		0.196	mg/L	0.0050	98	90	110			
Lab ID: B18061579-001BMS	Sample Matrix Spike					Run: FIA202-B_180619B			06/19/18 14:21	
Phosphorus, Total as P		1.45	mg/L	0.010	95	90	110			
Lab ID: B18061579-001BMSD	Sample Matrix Spike Duplicate					Run: FIA202-B_180619B			06/19/18 14:22	
Phosphorus, Total as P		1.44	mg/L	0.010	93	90	110	0.7	10	
Lab ID: B18061606-001BMS	Sample Matrix Spike					Run: FIA202-B_180619B			06/19/18 14:27	
Phosphorus, Total as P		0.957	mg/L	0.0050	100	90	110			
Lab ID: B18061606-001BMSD	Sample Matrix Spike Duplicate					Run: FIA202-B_180619B			06/19/18 14:28	
Phosphorus, Total as P		0.964	mg/L	0.0050	103	90	110	0.7	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Yellowstone County Public Works
Report Date: 07/02/18
Project: MS4
Work Order: B18061594

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E410.4										Batch: 122630
Lab ID: MB-122630	Method Blank					Run: SPEC3_180620C				06/20/18 13:42
Oxygen Demand, Chemical (COD)		ND	mg/L	3						
Lab ID: LCS-122630	Laboratory Control Sample					Run: SPEC3_180620C				06/20/18 13:42
Oxygen Demand, Chemical (COD)		26.1	mg/L	5.0	107	90	110			
Lab ID: B18061682-001BMS	Sample Matrix Spike					Run: SPEC3_180620C				06/20/18 13:42
Oxygen Demand, Chemical (COD)		92.8	mg/L	5.0	95	90	110			
Lab ID: B18061682-001BMSD	Sample Matrix Spike Duplicate					Run: SPEC3_180620C				06/20/18 13:42
Oxygen Demand, Chemical (COD)		94.1	mg/L	5.0	100	90	110	1.4	10	
Lab ID: B18061682-001BMSD	Sample Matrix Spike Duplicate					Run: SPEC3_180620C				06/20/18 13:42
Oxygen Demand, Chemical (COD)		93.4	mg/L	5.0	98	90	110	1.2	10	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

Work Order Receipt Checklist

Yellowstone County Public Works

B18061594

Login completed by: Tabitha Edwards
Date Received: 6/18/2018
Reviewed by: BL2000\raschim
Received by: snk
Reviewed Date: 6/19/2018
Carrier name: Hand Del

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	15.0°C No Ice		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Contact and Corrective Action Comments:

None

ENERGY LABORATORIES
Trust our People. Trust our Data.

Chain of Custody & Analytical Request Record

www.energylab.com

Account Information *(Billing information)*

Company/Name	Yellowstone County
Contact	Mike Black
Phone	208-0553
Mailing Address	PO Box 35024
City, State, Zip	~~Yellowstone County~~ Billings MT 59107
Email	mblack@co.yellowstone.mt.gov
Receive Invoice ☐Hard Copy ☐Email	Receive Report ☐Hard Copy ☐Email
Purchase Order / Quote / Bottle Order	

Report Information *(if different than Account Information)*

Company/Name	
Contact	
Phone	
Mailing Address	
City, State, Zip	
Email	
Receive Report ☐Hard Copy ☐Email	

Special Report/Formats:
☐ LEVEL IV ☐ NELAC ☐ EDD/EDT *(contact laboratory)* ☐ Other_____

Comments

collection date was 6-17-18, bottles say both 6-15 to set up & 6-17-18 to collect

Project Information

Project Name, PWSID, Permit, etc.	MS4
Sampler Name	MBlack
Sampler Phone	208-0553
Sample Origin State	MT
EPA/State Compliance	☐ Yes ☐ No

MINING CLIENTS, please indicate sample type.
*If ore has been processed or refined, call before sending.
☐ Byproduct 11 (e)2 material ☐ Unprocessed ore (NOT ground or refined)*

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Other
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

	Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	Analysis Requested: Oil & Grease	See Attached	RUSH TAT	ELI LAB ID (Laboratory Use Only)
1	Johnson Lane Catch basin	6-17	5:10pm	4	Water	X	X		B18061594-001
2	Meier " V-ditch	"		4	Water	X	X		002
3		"							
4		"							
5									
6									
7									
8									
9									
10									

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Mike Black	6-18-18 7AM	Mike Black			
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature
					6-18-18 0900	Sarah Moore

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals Y N C B	Intact Y N	Receipt Temp °C	Temp Blank Y N	On Ice Y N	Payment Type CC Cash Check_____	Amount $	Receipt Number *(cash/check only)*

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

Sample Location	3rd & 9th	Nutter & Shamrock	7th Ave. N & N 18th	Gabel Rd & Hogans Sl
DATE	21-Apr-17	21-Apr-17	17-May-17	17-May-17
LOG NO.	170671	170672	170872	170873
pH (s.u.)	8.1	8	8.98	8.18
Turb. NTU	316	95.2	766	166
COPPER (mg/l)	0.033	0.011	0.011	0.017
TSS (mg/l)	183	122	3110	190
COD (mg/l)	226	121	337	127
LEAD (mg/l)	0.096	0.016	0.009	0.007
ZINC (mg/l)	0.2356	0.0706	0.0952	0.209
*TKN-N (mg/l)	3.78	3.37	19.3	2.12
*T-PO4-P (mg/l)	0.823	0.588	6.84	0.393
NO3-NO2 (mg/l)	0.679	[illegible]	0.027	[illegible]
TOTAL NITROGEN (mg/l) Calculation	4.459	3.68	19.327	[illegible]

Public Works
Water Quality Laboratory

City of Billings Water Quality Laboratory

2251 Belknap Ave.
P.O. Box 30958
(406) 657-8346

725 Hwy 87 E
P.O. Box 30958
(406) 657-8358

Analysis Request and Chain of Custody Form

☐ DIST. & COLLECTION ☐ STORMWATER ☐ PRETREATMENT ☐ WASTEWATER

SAMPLER(S): (Please print) Boris Krizek

PROJECT NAME: MS-4

CONTACT: PHONE:

Lab No.	Sample Identification	Date Collected	Time Collected	Preservation	TSS COD	T-P, TKN,	Cu, Pb, Zn	pH, TEMP				COMMENTS:
180675	NUTTER/SHAMROCK	4/23	8:56 AM		X	X	X	X				T. 8.1 @ 10.4°C
180676	3rd AVE N : N 9th St.	4/23	9:00		X	X	X	X				8.7 @ 10.3°C
180677	7th AVE N : N 18th ST.	4/23	9:06		X	X	X	X				8.09 @ 10.3°C

WTP	Relinquished By:	Date/Time:	Received By:	Date/Time:
	Relinquished By:	Date/Time:	Received By:	Date/Time:
WWTP	Relinquished By:	Date/Time:	Received By:	Date/Time:
	Relinquished By:	Date/Time:	Received By:	Date/Time:

CITY OF BILLINGS
PUBLIC WORKS DEPARTMENT
WATER QUALITY DIVISION
WASTEWATER TREATMENT PLANT LABORATORY

ANALYTICAL REPORT

Lab ID.	**WTP 180675**	**WTP 180676**	**WTP 180677**
Sample Description:	Nutter/Shamrock	3rd Ave N & N 9th St	7th Ave N & N 18th St
Date Sampled:	4/23/2018	4/23/2018	4/23/2018
Time Sampled:	8:56 AM	9:00 AM	9:06 AM

	TEST RESULTS			**METHOD**
pH	7.87	8.71	8.09	SM 4500-H+B
Temperature °C	10.4	9.7	10.3	
COD mg/L	282	138	168	HACH 8000
TSS mg/L	1077	305	232	SM 2540 D-1997
Total Phosphorus-P mg/L	1.06	0.463	0.631	EPA 365.4
TKN mg/L	4.44	1.78	3.91	EPA 351.2
NO_3+NO_2-N mg/L	0.323	0.224	0.347	EPA 353.2
Total Nitrogen mg/L	4.763	2.004	4.257	Calculation
Total Lead mg/L	0.009	0.022	0.012	EPA 200.9
Total Copper mg/L	0.020	0.035	0.017	EPA 200.9
Total Zinc mg/L	0.162	0.234	0.126	SM3111B

Report Reviewed By: *J. Haupt*
Report sent: 5/31/2018

Chain of Custody and Analytical Request Record

ENERGY LABORATORIES

PLEASE PRINT (Provide as much information as possible.)

Page _____ of _____

Company Name: City of Billings

Project Name, PWS, Permit, Etc.: MS4 Stormwater

Sample Origin State:

EPA/State Compliance: Yes ☐ No ☐

Report Mail Address (Required):

Contact Name: Boris Krizek Phone/Fax: 247-8517 Cell:

Sampler: (Please Print)

❑ No Hard Copy Email:

Invoice Contact & Phone:

Purchase Order:

Quote/Bottle Order:

Invoice Address (Required):

❑ No Hard Copy Email:

Special Report/Formats:

☐ DW ☐ EDD/EDT (Electronic Data)
☐ POTW/WWTP **Format:**
☒ State: MS4 ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

ANALYSIS REQUESTED

Number of Containers
Sample Type: A W S V B O DW
Air Water Soils/Solids
Vegetation Bioassay Other
DW - Drinking Water

SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	OIL & GREASE	SEE ATTACHED
1 NUTTER / SHAMROCK	4/23	8:56 AM	Storm water		
2 3rd AVE N & N 9th Street	4/23	9:00	"		
3 7th AVE N & N 18th Street	4/23	9:06	"		
4					
5					
6					
7					
8					
9					
10					

Standard Turnaround (TAT)

RUSH

Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments:

Shipped by:

Cooler ID(s):

Receipt Temp _____ °C

On Ice: Y N

Custody Seal On Bottle Y N On Cooler Y N

Intact Y N

Signature Match Y N

LABORATORY USE ONLY

Custody Record MUST be Signed

Relinquished by (print): Boris Krizek Date/Time: 4/23/18 11:47 Signature:

Relinquished by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Received by (print): Date/Time: Signature:

Received by Laboratory: Date/Time: Signature:

Sample Disposal: Return to Client: _____ Lab Disposal: _____

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.
This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.
Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

ANALYTICAL SUMMARY REPORT

April 28, 2018

Billings City of
2251 Belknap Ave
Billings, MT 59101-5706

Work Order: B18041815

Project Name: MS4 Stormwater

Energy Laboratories Inc Billings MT received the following 3 samples for Billings City of on 4/23/2018 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B18041815-001	Nutter/Shamrock	04/23/18 8:56	04/23/18	Aqueous	Oil & Grease, Gravimetric
B18041815-002	3rd Ave N and N 9th Street	04/23/18 9:00	04/23/18	Aqueous	Same As Above
B18041815-003	7th Ave N and N 18th Street	04/23/18 9:06	04/23/18	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By:

Technical Data Reviewer

Digitally signed by
Jillian B. Miller
Date: 2018.04.28 15:11:34 -06:00

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Billings City of
Project: MS4 Stormwater
Lab ID: B18041815-002
Client Sample ID: 3rd Ave N and N 9th Street

Report Date: 04/28/18
Collection Date: 04/23/18 09:00
DateReceived: 04/23/18
Matrix: Aqueous

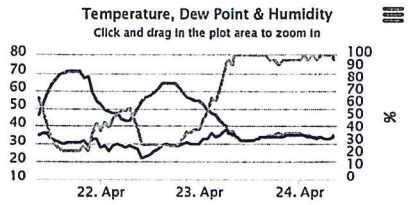
Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
ORGANIC CHARACTERISTICS							
Oil & Grease (HEM)	2	mg/L		1		E1664A	04/27/18 09:10 / eli-g

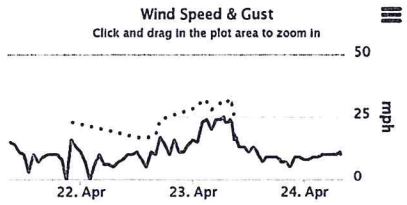
Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

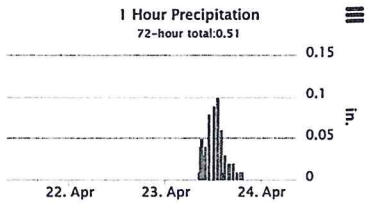
NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Weather Conditions For:
Billings, Billings Logan International Airport, MT. KBIL (NWS/FAA - BYZ)
Elev: 3648 ft.; Lat/Lon: 45.80694/-108.54222
Current Time: Apr 24 8:21 am MDT
Get Yearly Precip Total (non QA/QC'd data)
Get Water Year Precip Total (non QA/QC'd data)







Date (MDT)	Temp (F)	Dew Point (F)	Relative Humidity (%)	Wind Chill (F)	Wind Direction	Wind Speed (MPH)	Visibility (miles)	Weather	Clouds	Station Pressure (inches)	Sea Level Pressure (mb)	Altimeter Setting (inches)	1 Hour Precip (inches)	3 Hour Precip (inches)	6 Hour Precip (inches)	24 Hour Precip (inches)	Snow Depth (inches)	Snowfall 3 Hour (inches)	Snowfall 6 Hour (inches)	Snowfall 24 Hour (inches)
24 Apr 7:53 am	35	34	96	27	SSW	10	10.00		FEW002,FEW110	26.70	1036.2	30.52								
24 Apr 7:43 am	34	34	100	26	SSW	11	10.00		FEW002,FEW110	26.70		30.52								
24 Apr 6:53 am	33	33	100	25	SW	10	10.00	Fog	FEW090,SCT220	26.70	1035.9	30.51								
24 Apr 5:53 am	33	33	100	25	SW	10	10.00	Fog	BKN220	26.68	1035.5	30.49				0.51				
24 Apr 4:53 am	34	34	100	26	SW	10	10.00		BKN200	26.67	1035.1	30.48								
24 Apr 3:53 am	34	33	96	26	SW	10	10.00		BKN160	26.67	1035.1	30.48								
24 Apr 2:53 am	34	34	100	27	SW	9	10.00		BKN150	26.67	1035.2	30.48								
24 Apr 1:53 am	35	34	96	28	SW	9	10.00		SCT110	26.68	1035.4	30.49								
24 Apr 12:53 am	35	35	100		SSW	8	10.00		FEW100,BKN150	26.67	1035.3	30.48								
23 Apr 11:53 pm	36	35	96		SW	8	10.00		FEW050,OVC100	26.67	1035.3	30.48			0.01					
23 Apr 10:53 pm	36	35	96	29	SW	9	10.00		FEW050,OVC085	26.66	1034.9	30.47	T							
23 Apr 9:53 pm	36	35	96	29	WSW	9	10.00	Lt Snow	BKN044,OVC075	26.66	1035.0	30.47	T							
23 Apr 8:53 pm	36	35	96		SW	5	10.00		OVC075	26.65	1034.2	30.46		0.01						
23 Apr 7:53 pm	35	34	96		W	7	10.00		OVC050	26.63	1033.4	30.44								
23 Apr 6:53 pm	36	34	92		NW	7	10.00		OVC049	26.63	1033.1	30.44	0.01							
23 Apr 6:40 pm	36	34	93		NNW	8	10.00	Lt Rain	FEW015,BKN041,OVC050	26.63		30.44	0.01							
23 Apr 5:53 pm	35	34	96	28	NNW	9	10.00	Lt Rain	FEW006,BKN029,OVC035	26.62	1032.6	30.42	0.01		0.24		1.00			
23 Apr 4:53 pm	35	34	96	28	NW	9	9.00	Lt Rain	FEW009,BKN027,OVC034	26.62	1032.2	30.42	0.02							
23 Apr 3:53 pm	34	34	100	27	NW	9	8.00	Lt Rain, Lt Snow	FEW009,BKN022,OVC029	26.61	1031.8	30.41	0.02							
23 Apr 3:41 pm	34	34	100	27	NW	9	8.00	Lt Rain, Lt Snow	SCT007,BKN024,OVC029	26.61		30.41	0.02							
23 Apr 2:53 pm	34	34	100		NW	7	6.00	Lt Rain, Lt Snow, Mist	FEW004,BKN007,OVC016	26.60	1031.3	30.40	0.03	0.19						
23 Apr 2:21 pm	34	34	100	27	NNW	9	3.00	Lt Snow, Mist	SCT003,BKN009,OVC016	26.59		30.39	0.01							
23 Apr 2:14 pm	33	33	100	25	NNW	9	3.00	Lt Snow, Mist	BKN003,OVC013	26.58		30.38	0.01							
23 Apr 1:58 pm	33	33	100	25	NNW	10	1.50	Lt Snow, Mist	BKN003,OVC012	26.58		30.38	T							
23 Apr 1:53 pm	33	33	100	25	NNW	10	1.00	Lt Snow, Mist	BKN003,OVC012	26.58	1030.5	30.38	0.06							
23 Apr 1:46 pm	33	33	100	24	NNW	11	1.00	Lt Snow, Mist	BKN003,OVC007	26.58		30.38	0.06							
23 Apr 12:53 pm	32	32	100	22	N	13	0.25	Mod Snow, Fog	OVC002	26.56	1029.3	30.35	0.10							
23 Apr 11:53 am	32	32	100	23	N	11	0.25	Hvy Snow, Fog	OVC002	26.53	1028.3	30.32	0.09		0.26		2.00			
23 Apr 10:53 am	32	32	100	22	N	13	0.25	Mod Snow, Fog	OVC003	26.50	1027.2	30.29	0.08							
23 Apr 10:00 am	32	32	100	22	NNE	13	0.25	Mod Snow, Fog	OVC002	26.49		30.27	0.01							

51 to Hi Temp

32 Lo Temp

23 Apr 9:53 am	32	32	100	22	NNE	13	0.50	Mod Snow, Fog	OVC002	26.48	1026.0	30.26	0.04		
23 Apr 9:33 am	33	33	100	23	NNE	15	0.75	Lt Snow, Mist	BKN003,OVC008	26.48		30.26	0.03		
23 Apr 9:29 am	33	33	100	23	NNE	15	0.75	Thunder, Lt Snow, Mist	BKN003,OVC008	26.48		30.26	0.02		
23 Apr 9:22 am	33	33	100	23	NNE	16	1.25	Thunder, Lt Rain, Lt Snow	BKN003,OVC008	26.48		30.26	0.01		
23 Apr 9:18 am	34	34	100	23	NNE	17	2.00	Thunder, Lt Rain, Lt Snow	BKN003,OVC008	26.47		30.25	0.01		
23 Apr 9:07 am	34	34	100	24	NNE	16G25	4.00	Lt Rain, Lt Snow, Mist	BKN003,OVC011	26.48		30.26	T		
23 Apr 8:53 am	34	34	100	23	NNE	18	5.00	Lt Rain, Lt Snow, Mist	SCT003,BKN010,OVC023	26.47	1025.5	30.25	0.05	0.05	
23 Apr 8:49 am	34	34	100	24	NNE	16G25	5.00	Lt Rain, Lt Snow, Mist	SCT003,BKN011,OVC023	26.47		30.25	0.04		
23 Apr 8:13 am	36	36	100	24	NNE	23G30	3.00	Lt Rain, Lt Ice Pellets, Mist	SCT005,OVC011	26.46		30.24	0.01		
23 Apr 7:53 am	37	35	92	26	N	24G29	10.00	Lt Rain	FEW006,BKN013,OVC021	26.45	1024.2	30.23	T		
23 Apr 7:35 am	37	36	93	26	N	23G31	10.00	Lt Rain	FEW006,BKN015,OVC028	26.44		30.22	T		
23 Apr 6:53 am	37	36	96	26	N	23G32	10.00	Lt Rain	SCT010,BKN021,OVC048	26.42	1022.7	30.20	T		
23 Apr 6:27 am	40	38	93	29	N	25	10.00	Lt Rain	SCT012,BKN024,OVC045	26.41		30.18	T		
23 Apr 5:53 am	41	37	86		N	24	10.00	Lt Rain	OVC046	26.39	1020.8	30.16	T		T
23 Apr 4:53 am	43	35	73		N	24	10.00		BKN050,OVC070	26.37	1020.1	30.14			
23 Apr 3:53 am	46	34	63		NNE	20G28	10.00		BKN055,OVC070	26.35	1019.0	30.11			
23 Apr 2:53 am	47	36	65		NE	24G31	10.00		SCT038,BKN090,OVC110	26.33	1018.1	30.09	T	T	
23 Apr 1:53 am	49	33	54		NNE	23G32	10.00	Lt Rain	OVC048	26.34	1018.6	30.10	T		
23 Apr 12:53 am	52	33	48		N	15G29	10.00	Lt Rain	OVC070	26.34	1018.2	30.10	T		
22 Apr 11:53 pm	54	30	40		NNE	16	10.00		OVC080	26.31	1017.3	30.07			
22 Apr 10:53 pm	54	30	40		NNE	14	10.00		OVC080	26.31	1017.6	30.07			
22 Apr 9:53 pm	55	30	38		NNE	11	10.00		SCT080,BKN100	26.31	1017.4	30.07			
22 Apr 8:53 pm	56	31	38		NE	11	10.00		FEW060,SCT110,BKN250	26.28	1016.8	30.04			
22 Apr 7:53 pm	59	30	33		NE	16	10.00		BKN120,BKN250	26.28	1016.3	30.03			
22 Apr 6:53 pm	62	29	28		ENE	10	10.00		FEW100,FEW250	26.28	1016.4	30.03			
22 Apr 5:53 pm	64	29	27		NE	14	10.00		FEW100,FEW250	26.28	1016.3	30.03			
22 Apr 4:53 pm	64	29	27		ENE	17G24	10.00		FEW100,FEW250	26.28	1016.6	30.04			
22 Apr 3:53 pm	64	30	28		ENE	10G18	10.00		FEW080,FEW250	26.29	1016.3	30.05			
22 Apr 2:53 pm	64	29	27		ENE	11G17	10.00		FEW080,FEW250	26.30	1016.9	30.06			
22 Apr 1:53 pm	61	27	27			5	10.00		FEW080,FEW240	26.31	1017.5	30.07			
22 Apr 12:53 pm	59	26	28		ENE	8	10.00		FEW080,FEW240	26.34	1018.5	30.10			
22 Apr 11:53 am	57	24	28		E	11G17	10.00		FEW100,FEW240	26.35	1019.2	30.12			
22 Apr 10:53 am	56	23	28		ESE	10	10.00		FEW100,FEW240	26.37	1019.8	30.14			
22 Apr 9:53 am	54	22	28		E	10	10.00		FEW100	26.38	1020.0	30.15			
22 Apr 8:53 am	50	27	41		ENE	8	10.00		FEW100	26.39	1020.1	30.16			
22 Apr 7:53 am	46	28	49		NE	7	10.00		FEW100	26.41	1020.9	30.18			
22 Apr 6:53 am	43	29	57		NNE	5	10.00		FEW100	26.41	1021.0	30.18			
22 Apr 5:53 am	43	28	55		E	6	10.00		FEW100	26.40	1020.7	30.17			
22 Apr 4:53 am	44	29	55		ENE	6	10.00		FEW100	26.40	1020.4	30.17			
22 Apr 3:53 am	47	30	52		ESE	10	10.00		BKN100	26.40	1020.5	30.17			
22 Apr 2:53 am	47	29	49		E	6	10.00		SCT110	26.40	1020.2	30.17			
22 Apr 1:53 am	48	26	42		N	CALM	10.00		FEW110	26.38	1019.7	30.15			
22 Apr 12:53 am	49	29	46		N	7	10.00		FEW100	26.35	1018.7	30.12			
21 Apr 11:53 pm	52	28	39		NNE	11	10.00		FEW100	26.31	1017.0	30.07			
21 Apr 10:53 pm	54	33	45		NNE	13	10.00		CLR	26.28	1016.2	30.04			
21 Apr 9:53 pm	59	33	37		N	16G23	10.00		CLR	26.25	1014.7	30.00			
21 Apr 8:53 pm	68	29	23		N	CALM	10.00		FEW120	26.21	1013.0	29.95			
21 Apr 7:53 pm	67	32	27		WSW	8	10.00		FEW200	26.19	1012.6	29.93			
21 Apr 6:53 pm	71	31	23		SSW	10	10.00		FEW220	26.18	1012.0	29.92			
21 Apr 5:53 pm	71	31	23		SSW	10	10.00		FEW220	26.18	1012.1	29.92			
21 Apr 4:53 pm	71	31	23		SW	10	10.00		FEW100,BKN230	26.19	1012.1	29.93			
21 Apr 3:53 pm	71	31	23		W	9	10.00		FEW090,BKN250	26.20	1012.6	29.94			
21 Apr 2:53 pm	70	30	23		SSW	7	10.00		FEW080,SCT250	26.21	1013.2	29.96			
21 Apr 1:53 pm	69	31	24		W	10	10.00		FEW065,FEW200	26.23	1013.6	29.98			
21 Apr 12:53 pm	66	32	28			3	10.00		FEW080,FEW200	26.25	1014.6	30.00			
21 Apr 11:53 am	63	33	33		SW	10	10.00		FEW070,FEW200	26.28	1015.8	30.03			
21 Apr 10:53 am	58	36	44		SW	11	10.00		FEW200	26.29	1016.6	30.05			
21 Apr 9:53 am	52	36	54		WSW	14	10.00		FEW200	26.30	1017.2	30.06			
21 Apr 8:53 am	46	35	65		SW	15	10.00		FEW200	26.30	1017.7	30.06			

Attach the Small MS4 Storm Water Management Program (SWMP) per requirements of Part II in the 2017 Small MS4 General Permit. The SWMP is a comprehensive document inclusive of six minimum control measures: Public Education and Outreach, Public Involvement and Participation, Illicit Discharge Detection & Elimination, Construction Site Storm Water Management, Post-Construction Site Storm Water Management in New Development and Redevelopment, and Pollution Prevention/Good Housekeeping for Permittee Operations.

Identify the person(s)/position title(s) responsible for developing, implementing, enforcing, and/or coordinating the SWMP or portions of the six minimum control measures. These person(s)/position title(s) may change with development of a storm water management team within 60 days of permit issuance.

Parts of the SWMP include staggered development and implementation, and the SWMP submitted will detail MS4 progress towards the 2017 General Permit specified timeframes.

Requested above SWMP:	◉ Attached	○ Not Attached

Per Monitoring, Recording, and Reporting Requirements in Part IV (A)(3), the permittee must perform storm water monitoring semi-annually and the results will be submitted to the Department semi-annually. Identify the permittee's monitoring location option:

Identify the permittee's Monitoring Location Option:	⊗ **Option 1 (Part IV (A)(3)(a))**		○ **Option 2 (Part IV (A)(3)(b))**	
	Location	Latitude/Longitude	Location	Latitude/Longitude
	001A	45.795 -108.484	001	
	001B	45.813 -108.413	002	
	002A	45.795 -108.445	003	
	002B	45.798 -108.443	004	

Per Special Requirements in Part III (B), the permittee must inform the Department of its preferred Monitoring Option for Water Quality Controls for Storm Water Discharges to Impaired Waterbodies with Approved TMDL Wasteload Allocations (WLAs).

Identify the permittee's TMDL-Related Monitoring Option:	⊗ Option 1 (Part III (B)(1))	○ Option 2 (Part III (B)(2))

Storm Water Discharge Monitoring

■ I, MTR04 0010, certify that all point source discharges of storm water have been tested or evaluated for the presence of non-storm water discharges (other than potential non-storm water discharges for MS4s listed in ARM 17.30.1111(6)(c)(iii)) that are not covered by a MPDES permit.

Answer this question upon certification: Has storm water sampling and analytical testing been performed (in addition to any required 2015 General Permit benchmark monitoring) to determine and/or evaluate the presence of non-storm water discharges from the Small MS4?