

FINAL

Storm Water Management Plan

Montana Department of
Transportation

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Section 1 Introduction

This Statewide Storm Water Management Program (SWMP) was developed by the Montana Department of Transportation (MDT) to satisfy the applicable requirements of the Montana Pollutant Discharge Elimination System (MPDES) General Permit for Storm Water Discharge Associated with Small Municipal Separate Storm Sewer System (Small MS4). This SWMP describes the procedures and practices MDT will use to protect water quality by minimizing the discharge of potential pollutants from storm water systems that are associated with MDT facilities and permitting activities to the “maximum extent practicable” within each Small MS4. Compliance can be achieved by addressing the six minimum control measures described in the general permit. The six minimum control measures that must be incorporated into this SWMP are:

1. Public Education and Outreach on Storm Water Impacts;
2. Public Involvement/Participation;
3. Illicit Discharge Detection and Elimination (IDDE);
4. Construction Site Storm Water Runoff Control;
5. Post-Construction Storm Water Management in New Development and Redevelopment; and
6. Pollution Prevention/Good Housekeeping for Municipal Operations.

As part of this SWMP, MDT identified individuals/positions responsible for the implementation of the Best Management Practices (BMPs), and rationale for the implementation of the BMPs and measurable goals for each BMP. The measurable goals will be used to evaluate the effectiveness of each control measure, as well as to evaluate the SWMP as a whole. MDT will maintain documentation with respect to the development of each measure presented in this document.

1.1 Background of Regulatory Requirements

In December 2009, the Montana Department of Environmental Quality (MDEQ) renewed the Small MS4 General Permit. The permit is required for urban areas within the State of Montana with storm water conveyance systems that serve populations of at least 10,000 people. Cities, counties, universities, military bases, and MDT are some of the entities required to obtain permit coverage. MDT has obtained permit coverage under the Small MS4 General Permit in the seven Montana cities with a population greater than 10,000: Billings, Bozeman, Butte, Helena, Great Falls, Kalispell, and Missoula. MDT worked with governmental entities and reached inter-local agreements in six of the designated Small MS4s to submit joint applications as co-permittees under the Small MS4 General Permit. MDT is a sole permittee in the Helena MS4 Area. In Billings, MDT holds two permits, one with the City of Billings and the other with Yellowstone County.

As a condition of the Small MS4 permit, MDT is required to develop and implement a SWMP. This MDT SWMP is an update to the November 2007 SWMP and is intended to incorporate the modifications from the 2010 General Permit. MDT has chosen to develop a statewide SWMP for uniformity throughout the State of Montana. Where applicable the SWMP will be tailored to the specific Small MS4.

1.2 SWMP Challenges and Goals

MDT's responsibilities under the Small MS4 permit are somewhat unique and differ from the traditional Small MS4 permittees in several ways. First, MDT designs, builds, and maintains storm water systems along long stretches of highway in addition to streets and roads within urban areas. Second, MDT manages storm water at maintenance facilities within the Small MS4. Third, MDT grants permits for outside entities that apply for encroachment onto MDT right of way. Fourth, as stated in Part IV.A.1 of the Small MS4 permit, MDT is not required to perform sampling, testing, and reporting of storm water discharges to meet compliance. As a result, compliance with sections IV.A – IV.G is not covered within MDT's SWMP.

Additional transportation-specific challenges that MDT strives to manage include:

- Long linear transportation systems cross numerous waterways, watersheds, wetlands, and jurisdictions;
- MDT conveyance systems capture runoff from offsite sources that carry pollutants not associated with MDT activities;
- MDT systems often serve transient populations;
- MDT does not have the legal authority to tax or generate funding from fee associated programs to fund efforts to comply with Small MS4 permit requirements and develop the MS4 program.
- MDT does not have legal authority to institute ordinances and fines;
- MDT does not have authority to enforce ordinances and fines; and
- MDT must balance the need to be respectful of the unique requirements and community considerations of each MS4 area while maintaining consistent statewide practices and processes in design, construction, maintenance, and permitting.

An integrated approach is needed to address these challenges and develop an effective Statewide SWMP. Several goals of this Statewide SWMP are listed below:

- Create consistency across MDT which will promote a more effective program;
- Create statewide consistency across MDT which will discourage real or perceived non-uniformity of contract administration with MDT Contractors;
- Create statewide consistency across MDT which will discourage real or perceived non-uniformity of MDT encroachment permitting actions for outside entities;
- Assign a Statewide MS4 Coordinator responsible for ensuring compliance of all General Permit requirements;
- Eliminate redundancy of efforts in tracking similar information, but maintain flexibility to work with co-permittees;
- Simplify the process of program updating, reviewing, documenting, and reporting; and
- Provide a consistent program that will help simplify future permit compliance.

Section 2 MDT Background Information

2.1 Small MS4 Permits and Facilities

As mentioned in the previous section, MDT is a permittee or co-permittee in seven major Montana urban areas. Within these urban areas, MDT operates numerous facilities, including, but not limited to: road systems, maintenance shops, sand/salt storage areas, vehicle refueling stations, etc. MDT-owned facilities and corresponding Small MS4 Permit authorization number are listed in Table 2-1. Tables A-1 through A-79 are located in the appendix A. These tables identify the receiving waters of MDT facilities. Maps showing MS4 boundaries and receiving waters are included in the appendices.

Table 2 -1. Small MS4 Permit Authorization Number, Urban Area, Co-Permittee and MDT Facility Name.

SmallMS4 Permit Authorization Number	Urban Area	Co-Permittee ¹	MDT Facility Name or Type
MTR040001	Billings	City of Billings	MDT District Office ³ , MDT Billings Airport Maintenance Facility
MTR040002	Bozeman	City of Bozeman, Montana State University	Maintenance Shop and Yard ³ , Snow Disposal Site Bozeman Rest Area ²
MTR040004	Great Falls	City of Great Falls, Cascade County	MDT District Office ³ , 57 th Street Site
MTR040005	Kalispell	City of Missoula, Missoula County	MDT District Office ³
MTR040006	Butte	City of Butte, Silver Bow County	MDT District Office ³ ,
MTR040007	Missoula	City of Missoula, Missoula County, and University of Montana	MDT District Office ³ , Tamarak/East Missoula, MDT's Oil Set Up ³ Desmet ²
MTR040009	Helena	None	Headquarters "Campus" ³ <ul style="list-style-type: none">• Headquarters Offices and Parking Lots³• Maintenance Shop and Yard³• Equipment Shop³• Core Drill and Communications Office³• Motor Pool³ Aeronautics Division York Wye Pit Storage ²
MTR040010	Billings	Yellowstone County	Yellowstone County MDT Sand Storage

Note:

1-The co-permittees listed in the table are as of December 2013.

2-The noted facilities are not included in the 2012 and 2013 SWPPPs. MDT will prepare SWPPPs for these additional locations during this permit cycle.

3- The noted facilities are also covered under Spill Prevention, Control, and Countermeasure (SPCC) Plans.

2.2 Co-permittees

MDT currently has interlocal agreements with its co-permittees. The agreements formalize the commitment to work together cooperatively and delineate responsibilities regarding permit fees. MDT

has chosen to complete separate annual reports from the co-permittees. Copies of the interlocal agreements are available on the MDT intranet, and available upon request.

2.3 Funding Resources

MDT does not have the legal authority to tax or generate funding from fee associated programs. This limitation creates a unique challenge for MDT's MS4 program that other governmental entities do not face. The state and federal funding MDT receives is targeted for improving efficiency and safety of transportation facilities. MDT is able to allocate a portion of this funding for MS4 program implementation; however, MDT must evaluate the overall MS4 program to achieve compliance in the most cost effective manner possible. MDT prioritizes which capital improvements to pursue based on a state-wide assessment of risk, overall environmental benefits, and available funding.

2.4 MDT Personnel Structure

MDT, under the leadership of the Director, is organized into eight divisions headed by division administrators and five financial districts headed by district administrators. The division administrators and district administrators operate under the Director and Deputy Director. Environmental Services Bureau (ESB) is in the Planning Division of MDT. The ESB is tasked with managing the MS4 program which includes the Bureau Chief for ESB being the Signatory and main contact person. The chain of command flows from the Division Administrator to the Bureau Chief to the Environmental Engineering Supervisor then to the Statewide MS4 Coordinator. The MS4 Coordinator provides directional oversight on the MS4 program to the Project Development Engineers (PDEs), Field Services Engineer (FSE), District Environmental Engineering Specialists (DEES), and other MDT staff as needed.

The PDEs cover the pre-construction and development aspects associated with MDT projects within respective Small MS4s. In regard to MDT-sponsored projects, PDEs evaluate design plans for incorporation of low impact development (LID) practices and/or appropriate permanent erosion and sediment control (PESC) measures in Small MS4s. PDEs consider potential social, economic, and environmental impacts associated with MDT projects to optimize project designs and demonstrate compliance with the Montana and National Environmental Policy Acts (MEPA and NEPA). For purposes of MEPA compliance, PDEs also review encroachment permit applications from outside entities during the systems impact process. In both cases, the MEPA and NEPA analysis includes evaluation of potential water quality impacts that supports Small MS4 permit compliance. Although MDT cannot force design criteria on the outside entities, we can condition the issuance of the encroachment permit with a suggestion to consider appropriate LID practices. Additionally, the permit issuance can be accompanied by a reminder that the permittee must adhere to applicable state and local ordinances, including those associated with the Small MS4. PDEs work with the Design team, Maintenance staff, and Systems Impact staff to provide guidance on MS4 issues.

The DEES work with construction and maintenance staff to provide guidance on the MS4 requirements. The Field Services Engineer (FSE) oversees the work of the DEES, including assisting the Statewide MS4 Coordinator in organizing MS4-related work efforts and gathering information from the DEES related to the MS4 program.

Refer to the organization chart in Appendix B for additional information regarding flow of responsibility in the MS4 program. The PDEs and DEES are assigned a specific district which dictates which Small MS4 they will be involved with. Contact information is provided in Table 2-2.

Table 2 -2. Small MS4 Contacts.

Small MS4	MDT District	Project Development Engineers	District Environmental Engineering Specialists
All MDT Small MS4s	n/a	Statewide PDE / MS4 Coordinator Doug Lieb 406-444-0825	n/a
Missoula, Kalispell	1	Missoula Susan Kilcrease 406-523-5842	Dan Ham 406-751-2024
Butte, Bozeman	2	Butte Barry Brosten 406-444-0804	Shawn Bryant 406-494-9612
Great Falls, Helena	3	Great Falls Eric Thunstrom 406-444-7648	Tim Holley 406-454-5896
Billings, Yellowstone County	5	Billings Tom Gocksch 406-444-9412	Ray Studebaker 406-657-0273

Notes:

- 1- Listed individuals are the current PDEs and DEES.
- 2- Contact information can also be found on the MDT website.

2.5 MS4 Coordinator Responsibilities

Due to the size and the complexity of MDT's statewide Small MS4 Program, in 2013 MDT has allotted a portion of the Statewide Project Development Engineer's time to acting as a Statewide MS4 Coordinator. The Statewide MS4 Coordinator is responsible for MS4 program development and oversight of MS4 program implementation to ensure statewide compliance with Small MS4 Permit requirements.

The MS4 Coordinator will be responsible for developing and updating MDT's SWMP and ensuring consistent tracking of data to demonstrate compliance with the SWMP. The MS4 Coordinator will work to provide a functioning and fiscally responsible MS4 program encompassing areas of MDT including MDT permitting actions, pre-construction design, construction oversight, and post-construction (maintenance) activities.

2.6 Reviewing and Updating of Statewide SWMP

The MS4 Coordinator will review the statewide SWMP on an annual basis in conjunction with preparation of the annual reports required under Part IV.I of the Small MS4 Permit. If during this review, MDT deems it necessary to accurately reflect changes and/or improvements in MDT's Small MS4 program, the statewide SWMP will be updated.

The statewide SWMP will also be updated if MDEQ requires changes to address the following conditions:

- Address impacts on receiving water quality caused, or contributed to, by discharges from the Small MS4;
- Include more stringent requirements necessary to comply with new federal statutory or regulatory requirements; or
- Include such other conditions deemed necessary by MDEQ to comply with the goals and requirements of the Montana Water Quality Act.

Changes that are requested by MDEQ must be made in writing, set forth the time schedule for MDT to develop the changes, and offer MDT the opportunity to propose alternative program changes to meet

the objective of the requested modification. Changes required by MDEQ will be made in accordance with ARM 17.30.1365, ARM 17.1365, ARM 17.30.1361, or as appropriate ARM 17.30.1362.

2.7 Reporting and Record Keeping

A hard copy of the SWMP will be maintained in the ESB. An electronic copy will be posted on the MDT internet and intranet for access by the public and MDT employees. Tracking of measureable goals will be conducted using the spreadsheet developed by the Statewide MS4 Coordinator. The DEES and PDEs will be responsible for providing SWMP-related specific data to the Statewide MS4 Coordinator for entry into the spreadsheet on an on-going basis. The official copies of MS4 compliance documents, including annual reports, will be stored in the ESB.

MDT will complete an annual report form for each calendar year within the Small MS4 permit term. Each of MDT's co-permittees will be responsible for submitting their own annual report for the respective Small MS4. If MDT makes updates, changes, or improvements to the Statewide SWMP during the prior calendar year, an attachment to the annual report will be included to identify them.

2.8 Total Maximum Daily Load (TMDL) Compliance

The Federal Clean Water Act requires that MDEQ establishes "Total Maximum Daily Loads" (TMDL) for rivers, streams, lakes, and marine waters that do not meet water quality standards. A TMDL is a calculation of the maximum amount of a pollutant that a water body can receive and still meet water quality standards. After the TMDL has been calculated for a given water body, MDEQ determines how much each source must reduce its discharges of the pollutant in order to bring the water body into compliance with the water quality standards. The Clean Water Act requires that TMDL requirements must be included in the National Pollutant Discharge Elimination System (NPDES) permits for discharges into the affected water bodies.

A list of the receiving water and their corresponding impairments under the Montana 303(d) list are tabulated in tables included in Appendix A for each of the Small MS4s. The receiving waters TMDL information is for the water bodies to which MDT facilities ultimately discharge. In addition, the table includes the receiving water classification, the probable causes and sources of impairments and the TMDL status. Additional information on TMDL and a description of surface water classification as well as designated beneficial uses can be found at <http://www.cwaic.mt.gov>. Available TMDL information is continuously updated by MDEQ. However, for purposes of SWMP management, MDT will evaluate available TMDL information on an annual basis during the annual SWMP update process.

2.9 Construction Activities

During active construction, MDT's Contractor has "operational control" of the site. As a result, the Contractor is the entity that holds the Construction General Permit (CGP) during active construction. The Contractor evaluates their proposed construction means, methods, and schedule and decides the best BMPs for application at the site to maintain compliance with the CGP conditions and other applicable laws. The Contractor conducts periodic site inspections in accordance with the CGP permit conditions. MDT construction personnel inspect the BMPs for compliance with MDT specifications and FHWA requirements related to storm water management.

2.10 Maintenance Facilities

Most MDT maintenance facilities located within urban settings (Helena, Butte, Bozeman, Billings, Great Falls and Kalispell) are covered under the Small MS4 Permit. These facilities are listed in Table 2-1.

To demonstrate compliance with Part II.B.6 of the Small MS4 permit, MDT has developed and implemented a Storm Water Pollution Prevention Plan (SWPPPs) for maintenance facilities located within the MS4 areas. The SWPPPs include appropriate BMPs, storm water BMP monitoring, employee training and site inspections.

MDT created an individual SWPPP for each facility located within a Small MS4. Although most facilities perform similar functions, each facility is unique depending on its location and daily occurring activities; therefore, each SWPPP was tailored to address the potential pollutant sources and respective pollutants identified at each site. In addition MDT has implemented a SWPPP training program for facility personnel to teach them to identify and address potential storm water concerns at their respective facility. The training has taken place at each facility in a Small MS4. Additional training is provided to facility personnel in the Spill Prevention, Control and Countermeasure Plan that was created for each specific facility. This training details the equipment, manpower, procedures and steps to prevent, control, and provide adequate countermeasures during a petroleum spill.

When development and redevelopment activities occur at MDT facilities within a Small MS4, the project plans are reviewed by MDT ESB staff during the design phase of the project. The respective District PDE reviews the proposed work for purposes of MEPA compliance and ensures incorporation of LID practices and PESC measures when practicable.

2.11 Storm Water Guidance Documents

MDT maintains several storm water maintenance documents for MDT personnel which are also available to the public. Most of these documents are available on MDT's website (<http://www.mdt.mt.gov/publications/manuals.shtml>). The documents are updated and maintained by MDT personnel to follow federal and state statutory requirements. Short descriptions of some of these documents are listed below. In addition, MDT employees refer to the *MDEQ Storm Water Management during Construction Field Guide for Best Management Practices*, which MDT helped sponsor the development of.

Erosion and Sediment Control Best Management Practices Manual and the Permanent Erosion and Sediment Control Design Guidelines provide an overview of erosion and sediment controls and guidance on the selection and implementation of appropriate BMPs. This document is primarily used by the design staff and PDEs during the design phases of projects.

Maintenance Facility Storm Water Pollution Prevention Plans (SWPPPs) are site-specific plans that establish procedures for minimizing the potential for pollutants to be discharged into waterways by emphasizing the use of BMPs. The plans present site characteristics, potential pollutant sources and respective pollutants, potential risks, and pollution prevention measures.

MDT Environmental Manual (Chapter 46 – Municipal Separate Storm Sewer Systems (MS4) Permits) provides an overview of the requirements of the MPDES General Permit for Small MS4s.

Spill Prevention, Control and Countermeasure Plan (SPCC Plan) details the equipment, manpower, procedures and steps to prevent, control, and provide adequate countermeasures during a petroleum spill.

Supplemental Specification SECTION 107.11– Environmental Protection. This MDT specification provides information regarding the prevention of discharging pollutants into the environment.

Supplemental Specification SECTION 208 – Water Pollution Control and Aquatic Resource Preservation. This MDT specification provides guidance to prevent or minimize pollution and control sediment transport and soil erosion into water ways and aquatic resources.

Section 3 Minimum Control Measures

As a permittee of the Small MS4 General Permit, MDT has incorporated into its SWMP the six minimum control measures outlined in the Small MS4 permit. MDT intends for these control measures to result in reductions of pollutants discharged into receiving waters of the State of Montana. The following sections describe each control measure, respective proposed Best Management Practices (BMPs), and Measurable goals.

3.1 Best Management Practices (BMPs)

Best Management Practices (BMPs) are designed to reduce and control the discharge of pollutants from MDT facilities and regulated construction projects to the maximum extent practicable into state water bodies. The term BMP refers to operational activities and/or physical controls that are applied to storm water and other runoff to minimize the discharge of pollutants. BMPs can be structural and non-structural controls that have a direct effect on the release, transport or discharge of pollutants. Structural BMPs include actual engineered structures like settling basins, bioretention swales, and oil/water separators. Non-structural controls are BMPs that do not involve structures, or engineered solutions. Examples of non-structural controls include education, maintenance practices, and site planning. These BMPs are pollution preventive practices designed to prevent or minimize pollutants before they reach the storm water runoff and/or reduce the volume of storm water requiring treatment.

3.2 Measurable Goals

Measurable goals are required for each minimum control measure to gauge permit compliance and program effectiveness. These goals, as well as the BMPs, depend on the needs and characteristics of the facility and the purpose of the facility within the Small MS4 Area. The goals allow MDT to assess the effectiveness of the individual BMP. They quantify the progress of the program implementation and the performance of the BMPs. MDT will track the actions taken to fulfill the requirements of each control measure by establishing a baseline and reporting the progress of each action as it relates to each individual BMP. Measurable goals include an activity or BMP to be completed, a schedule or date of completion, and a quantifiable target to measure if the BMP is performing as expected.

3.3 Minimum Control Measures

MDT's Statewide SWMP lists BMPs for each minimum control measure. These BMPs are consistent throughout MDT permitted Small MS4s. However, a BMP implementation may be targeted as appropriate, to a specific MS4.

3.3.1 Minimum Control Measure 1 Public Education and Outreach on Storm Water Impacts

As required by Part II.B.1, MDT will implement and maintain a program for Public Education and Outreach on Storm Water Impacts and maintain documentation with respect to the development of the program. This minimum control measure will include the following information:

- i. MDT plans to inform individuals and households about the steps they can take to reduce storm water pollution through printed media, the MDT website, MDT's social media sites, and public events.

- ii. To inform individuals and groups about how to become involved in the SWMP, MDT posts information regarding public events and programs on the MDT website. For example, the Adopt-A-Highway Program link (http://www.mdt.mt.gov/pubinvolve/hwy_adoption.shtml) includes information and contacts related to the program.
- iii. MDT has a wide target audience. MDT's audience includes travelers that use the transportation system(s), entities (residences and businesses) along MDT routes, MDT maintenance personnel working in MDT facilities and on MDT routes, and MDT construction personnel working on MDT routes, and Contractors working on MDT routes. Travelers and entities along the MDT routes within the Small MS4s were selected because they could have an impact on pollutants discharged in the highway system like litter, and vehicle fluid leaks. Construction personnel were selected because construction projects could potentially contribute sediment to water ways if erosion is not controlled on construction sites. Maintenance activities could contribute pollutants such as oils and salt/sediment from washing vehicles. Residences and business owners adjacent to MDT routes were chosen since storm water from their lots may flow onto MDT Right of Way.
- iv. Pollutant sources that are targeted in this control measure include littering from individuals, vehicle fluid leaks (MDT and non-MDT), salt and sediment from sanding operations, and sediment from MDT construction projects.
- v. Outreach strategies include printed media distributed during public events and available at the district offices, internet and intranet website postings, postings on social media sites and internal training. The number of individuals to be reached will depend on the attendance of public events, the number of individuals searching information on the website, the number of individuals subscribing to MDT's social media sites, and the number of training sessions offered during the permit period. Based on the number of Facebook subscribers, we can currently expect to reach approximately 1,600 people with outreach efforts.
- vi. The MS4 Coordinator will be responsible for the overall Public Education and Outreach Program; while the DEES will be responsible for executing the public involvement activities within each MS4 area and the individual BMPs.
- vii. The success of this minimum control measure will be evaluated by looking at each BMP individually. The measurable goals were selected depending on the BMP and are described in the sections below.

3.3.1.1 BMP-PEO-01 Printed Media

Description and Rationale

Printed media targeted to travelers with brief descriptions of the challenges associated with storm water pollution (i.e. improper garbage disposal, chemical releases, and sediment) and simple solutions can be effective in encouraging the public to change their behaviors. Brochures and pamphlets are versatile and can be tailored towards travelers that use the transportation system(s).

MDT will continue to generate brochures and pamphlets specifically related to storm water and will, as appropriate, include storm water related information in brochures and publications produced by MDT

for other purposes (e.g., Newline Magazine). The printed media will be displayed in district offices as well as distributed at public events and meetings within each MS4 permit area. In addition, the printed media will be handed out to department personnel, to public agency personnel, and other interested parties throughout the state.

Although it is subjective to evaluate and analyze the effectiveness of printed media, MDT's MS4 Coordinator and the district DEES will continue to evaluate, improve, develop and distribute educational information addressing storm water pollution prevention.

Measurable Goals

MDT will track, in a spreadsheet, the printed media types that were generated, the number of brochures, pamphlets, and other printed media distributed as well as the dates and locations where the printed media was handed out. At the end of the permit period, the MS4 Coordinator will compile the information recorded. MDT will distribute 5% more printed educational material than the prior year. A MS4 related article will post once a year in MDT's Rail, Transit & Planning Division newsletter the 'Newline'.

3.3.1.2 BMP-PEO-02

Web Sites and Social Media Sites

Description and Rationale

The MDT Internet website, MDT intranet website, and Facebook page provide information to staff and the public on a variety of issues including storm water, erosion and sediment control, water quality, and pollution prevention controls. Additionally, MDT created a Montana MS4 website to offer MS4 permittees an opportunity to share resources and information and to promote consistency in common messages. The statewide MS4 website is <http://montanaMS4.com> which includes links to other permitted communities.

The MDT storm water website address is <http://www.mdt.mt.gov/pubinvolve/stormwater/#>. The MDT Facebook page address is <https://www.facebook.com/montanadot>. MDT will maintain the Montana MS4 website(s). MDT will update the information periodically and incorporate information from other regulated MS4s, as requested by them. MDT will maintain its Storm water Information page in the main MDT website. MDT will update the information periodically.

In addition to external websites, MDT has an internal website to provide MDT-specific MS4 information to relevant staff. The information provided on the website will include the SWPPPs, SWMP, MS4 maps, links to the MontanaMS4 website, etc.

Measurable Goals

This BMP will be measured by several means. First, the amount of feedback received from the Montana MS4 website, which has a link to allow comments to be emailed to MDT. The MDT MS4 Coordinator will post at least four status updates related to storm water, water quality, and other MS4 issues on the MDT social media site (Facebook) each year. This BMP will be measured by the number of subscribers to the MDT site and by the "likes" and "comments" associated with the posts. This BMP will also be measured by the development of the MDT internal MS4 website during the year 2014.

3.3.1.3 BMP-PEO-03

Public Events

Description and Rationale

MDT will produce educational displays and/or presentations for public events, seminars, conventions, outdoor events, fairs, and schools to educate and involve the public in storm water pollution prevention

and the programs that are currently in place. Presentations by MDT staff and sponsoring of water quality-related conferences are also effective at reaching target audiences because they allow the audience to ask questions and receive immediate feedback. Presentations can be given in schools and universities, conferences, retirement communities, civic clubs, libraries, businesses, and association meetings. These venues are also an opportunity for MDT personnel to hear the public's concerns and address issues that might have been overlooked in the past.

Measurable Goals

MDT's Statewide MS4 Coordinator will participate in at least one public event each year to promote the Statewide MDT MS4 Program. In addition, the DEES will attend at least one public event each year to promote the storm water management program efforts in each MS4 area. Events may include storm water conferences, Storm Water Awareness Week, Montana State Fair, local Science Fairs, Earth Day, educational booths and presentations at schools and universities. MDT will track the number of events attended by MDT personnel, the date and location of events, and if possible, the number of event participants. The information will be compiled at the end of the permit period to determine its effectiveness for educating the public.

3.3.1.4 BMP-PEO-04 Guidance Manuals and Educational Materials

Description and Rationale

As discussed in Section 2.11, there are a variety of guidance manuals and educational materials accessible through the MDT website at the following link: (<http://www.mdt.mt.gov/publications/manuals.shtml>). These manuals provide guidance on designing permanent erosion and sediment control (PESC) measures, implementing low impact development (LID) practices, installing and maintaining storm water BMPs for construction activities, and managing storm water at MDT facilities. The objective of these guidance manuals is to provide consistent preventative measures to ensure that construction and maintenance activities are conducted in compliance with the law and in a manner that reduces the amount of pollutants discharged to surface water to the maximum extent practicable. These websites can be accessed by the public, contractors, and/or MDT personnel.

Measurable Goals

In 2014 a link will be added to the Montana MS4 website (<http://montanaMS4.com>) to take the user to MDT's guidance and educational manuals. The first measurable goal will be to perform an annual review by the MS4 Coordinator of the internal and external MDT websites to verify that the links to the reference materials are accurate and up to date.

The second measurable goal will be completed by the MS4 Coordinator. This measurable goal is to work with the MDT librarian once per year to review MDT's educational materials related to storm water. This review will consist of verifying that the materials available at the MDT library are accurate, adequate, and up to date. New materials will then be acquired as needed and allowed by budgetary constraints.

3.3.2 Minimum Control Measure 2 Public Participation/Involvement

MDT has an office dedicated to Public Involvement. This office, in conjunction with other MDT staff, works to increase public awareness of upcoming projects and to provide the public with opportunity to become involved in MDT's planning and design efforts. In accordance with the General Permit Part II.B.2, MDT will comply with federal, tribal, state and local public notice requirements to implement the public participation/involvement program. In addition, MDT will maintain documentation with respect to the

storm water public involvement/participation program. As required by the General Permit, Part II.B.2.b. The program will include the following information:

- i. MDT developed the draft SWMP. This SWMP was then released for public review and comment using MDT's public involvement guidelines which include public notices and posting of the draft SWMP on the MDT website. The public is able to comment on the draft in a variety of ways including submitting comments directly via the website. Other methods the public has to comment regarding the development and implementation of the SWMP are through the MDT website, Montana MS4 website, MDT social media site, or by contacting the MS4 Coordinator directly. Contact information is posted on the MDT website, MontanaMS4, and will be added to the social media site in late 2013 or early 2014 as updates to MDT websites are completed to coincide with State of Montana website format.
- ii. The main target audiences identified by MDT are travelers that use the transportation system(s) under MDT jurisdiction within the MS4 areas. Other audiences include entities adjacent to MDT roadways, residents alongside MDT roadways, and of course MDT employees. These audience members could potentially have a considerable impact on pollution prevention opportunities.
- iii. MDT's public involvement opportunities include public forums like; public notices, press releases, meeting and hearings, internal meetings related to storm water, and training sessions.
- iv. The MS4 Coordinator is responsible for the overall development and management of the MS4-related Public Participation/Involvement program. The DEES are responsible for the local implementation and monitoring of the individual BMPs associated with the public involvement/participation measurable goals. Design project managers and the MDT public involvement officer are responsible for soliciting input, including input related to storm water management, on MDT projects within MS4 areas.
- v. The measurable goals selected are based on MDT's current activities and opportunities to involve the public in the MS4 process like during; conventions, meetings, and hearings.

The program requirements will be achieved by implementing the BMPs described below.

3.3.2.1 BMP-PPI-01 Public Forums

Description and Rationale

Public notices, press releases, meetings, and hearings are used to disseminate information. The goal is to provide the public with opportunities to review documents, to solicit comments, and to obtain input on environmental, social and economic tradeoffs associated with the SWMP and other MDT plans or projects that may have storm water implications. These forums are also an opportunity for the public to get involved and voice concerns early in the process. MDT will continue to provide opportunities for the public to comment on storm water concerns at project meetings held in the different MS4 areas as well as public notice opportunities through the National Environmental Policy Act (NEPA) and Montana Environmental Policy Act (MEPA) process and the corridor study process.

Measurable Goals

Compliance with NEPA and MEPA is confirmed through audits. The results of these audits will be used to track this BMP throughout the permit period.

3.3.2.2 BMP-PPI-02

Clean-up and Volunteer Events

Description and Rationale

The improper disposal of materials, such as litter and trash, pet waste, yard waste, oils and greases, and household chemicals can be a considerable problem. In addition to the paid efforts of MDT Maintenance staff, MDT relies upon the assistance of volunteers and citizens to manage and rectify improperly disposed of materials.

Clean-up events offer the community an opportunity to participate in organized and formal activities to promote storm water awareness. Over the years, volunteers have collected hundreds of tons of garbage along highways. These activities enhance communities and roadsides, making them more attractive to residents and tourists. In addition, they reduce the amount of contaminants that are mobilized during storm events and transported into state waterways.

Currently, MDT participates in organizing public events within the different Small MS4s. Descriptions of some of the events are listed below.

Adopt-A-Highway. This statewide program is administered by MDT and consists of volunteers signing a contract. With the contract they agree to adopt a section of highway, typically two miles in length, for a two-year period and to conduct three annual clean-up events. Currently this program is not consistent statewide, nor is there a detailed tracking method in place. The program has recently been assigned to a new manager. MDT wishes to facilitate program improvements statewide. Program details such as contacts for different areas of the state can be found on Montana's Adopt-A-Highway Program webpage at the following web address: http://www.mdt.mt.gov/pubinvolve/hwy_adoption.shtml.

Measurable Goals

MDT will continue to offer the Adopt-a-Highway program. MDT's current goal for this BMP is to work with the Adopt-a-Highway program manager to assist in creating the ability for statewide consistent compliance tracking by the end of the 2015 permit cycle. The compliance tracking will be able to keep track of which sections of roadways by reference posts are adopted, who has adopted them, and how often trash pickup is occurring.

3.3.2.3 BMP-PPI-03

Feedback

Description and Rationale

By addressing feedback and incorporating comments into this SWMP, the program will reflect public concerns and needs as well as promote cooperation and buy-in. The public can provide feedback on MDT's website using the comment form found at the following link: (http://www.mdt.mt.gov/mdt/comment_form.shtml), emailing the MS4 Coordinator or other MDT staff, phone calls, and on MDT's social media sites. MDT follows the policy on making public announcements which includes notices in the newspaper for the SWMP document to be reviewed.

Measurable Goals

On MDT's social media sites, the MS4 Coordinator will make at least four announcements per year and ask questions in an attempt to raise awareness and public involvement in regard to Small MS4 topics. The goal is to engage the public and receive comments on these posts. Responses to those MS4-related posts will be evaluated for future improvements to MDT's MS4 program. In addition MDT will continue to solicit feedback through work group discussions, website comments, phone calls, written e-mails or letters, training evaluations, surveys, public comment periods, and personal interactions.

The MS4 Coordinator will use a spreadsheet to keep track of the amount, and type of feedback received. The MS4 Coordinator will evaluate the BMPs progress based on the amount and type of feedback received via available sources. The MS4 Coordinator will use the feedback received to create updates and revisions to the storm water program on an as needed basis to increase the amount of feedback and public interaction received.

3.3.3 Minimum Control Measure 3 Illicit Discharge Detection and Elimination (IDDE)

In accordance with the MS4 permit, MDT will develop and implement an IDDE program to detect and eliminate illicit discharges into the permitted Small MS4. It must be noted however, that MDT's legal authorities to eliminate IDDE are limited because the Montana Legislature did not intend for MDT to function as a regulatory body. In accordance with §60-1-102(2), MCA, the Legislature has designated MDT as custodian of Montana's federal-aid and state highways. Pursuant to §60-1-102(1), "the legislature intends: to place a high degree of trust in the hands of those officials whose duty it is, within the limits of available funds, to plan, develop, operate, maintain, and protect the highway facilities of this state for present as well as for future use." Consistent with these responsibilities and authorities, MDT plans, develops, operates and maintains Montana's highways, roadways, and associated transportation facilities, including associated pull-offs, parking areas, and rest areas for the use and benefit of the travelling public. The only authorities MDT identified to address non-storm water discharges are as follows:

- MCA 27-1-202. Right to compensatory damages;
- MCA 27-19-104. Contents of complaint – action for injunction by an association;
- MCA 61-10-154. Department of transportation to adopt motor carrier safety standards – enforcement –designation of peace officers – duties—violations; and
- ARM 18.3.104. Reasons for Debarment.

MDT does not have regulatory authority over non-MDT illicit or illegal discharges within the Small MS4s. As a result, MDT's SWMP will focus on those portions of the Small MS4s where it has authority.

The IDDE program will include procedures to address illicit discharges over which we have authority; to inform state employees, businesses and the general public about hazards associated with illegal discharges and improper waste disposal; and to maintain documentation with respect to the program.

Potential illicit or illegal discharges will be reported to the MS4 Coordinator and DEES who will investigate the source of the discharge in order to propose procedures to eliminate them. If suspected discharges are observed by MDT staff within MDT's Small MS4 jurisdiction, MDT staff will follow the guidelines set forth in Management Memo 03-01. That memo lays out step by step procedures for reporting violations or suspected violations. The procedure lines out the proper escalation procedure through supervisors, ESB, and the regulatory agencies. MDT's use of dry weather screening will continue to monitor for possible contributors of pollutants to state waters.

MDT's current list of non-storm water discharges that will not be addressed as illicit discharges for both residential and commercial aspects include the following: landscape watering and fertilizing, and the washing of vehicles. MDT has and will continue to provide educational material that discusses these non-storm water discharges.

- i. MDT has gathered known MS4-related outfall location coordinates. This information was gathered using hand held GPS devices during field surveys of MDT roadways and facilities within our permitted Small MS4s. The latitude and longitude data was then uploaded into ArcGIS 10.1 for creation of the storm sewer map. These maps show streets, census boundaries, and surface waters. The MS4 Coordinator will use information gathered by the DEES during construction project reviews and dry weather screenings to update the maps. Examples of items that would trigger a map update include added or deleted outfall locations, changes in census data, changes in urban boundaries, and amendments due to construction activities. These amended maps will be provided in the next annual report to MDEQ. In a continued effort of improvement, MDT will have the maps on the internet with access from the MontanaMS4.com webpage. Links will also be provided internally on the MDT intranet.
- ii. MDT does not have regulatory authority to prohibit illicit discharges in the Small MS4s. MDT will follow a procedure of contacting the responsible party, asking them to address the illicit discharge. If this procedure does not resolve the discharge, it will be reported to the appropriate regulatory agencies of City Government and/or MDEQ in accordance with MDT policy and applicable laws.
- iii. MDT does not have regulatory authority to create or enforce ordinances. MDT can only report to the appropriate regulatory agencies.
- iv. MDT DEES will perform dry weather screening throughout the Small MS4 General Permit cycle. MDT will screen 25% of its outfalls per year. This will result in 100% of outfalls being screened per Small MS4 permit cycle. The dry weather screening will be documented on MDT's dry weather screening form. The outfall data will then be entered in the outfall tracking spreadsheet to track the information found during the screening. If an illicit discharge is detected during this process MDT will attempt to locate the source by following the path up flow of the storm water conveyance system. MDT will report the illicit discharge, location, and possible source to the appropriate regulatory agency for enforcement actions.
- v. MDT has developed SWPPPs and SPCC plans for MDT's facilities located within the Small MS4s (minus several satellite sites for which SWPPPs will be developed in 2014). The appropriate employees have been trained in 2013 on implementation of both the SWPPP and SPCC for the respective MDT facility. The public will also be made aware of the hazards associated with illegal discharges and improper disposal of waste through MDT public education and involvement processes.
- vi. The Statewide MS4 Coordinator will oversee and provide guidance on the implementation of the IDDE minimum control measure. Each BMP that follows will specifically state who is responsible for each respective BMP.
- vii. The success of this minimum control measure will be evaluated by looking at each BMP individually. The measurable goals were selected depending on the BMP and are described in the sections below.

BMPs that are part of the IDDE program are described below. The BMPs described below will be implemented and monitored by the MS4 Coordinator and DEES as part of the Small MS4 Permit requirements for this minimum control measure.

3.3.3.1 BMP-IDDE-01 Storm Water System Mapping

Description and Rationale

MDT has undertaken a statewide effort to map storm water systems in accordance with Section 3.a.ii of the permit. This effort has led to currently known MDT outfalls having their GPS coordinates collected by hand using a hand held GPS device in the field. Outfall data collected during the field reviews included latitude and longitude, pictures, and a site description. This information will be used in filling out the dry weather screening form. This information has been entered into ArcGIS 10.1 to create an electronic map for each Small MS4 permit MDT holds. MDT is currently in the process of placing the maps online on both MDT external and internal websites. MDT's next step is to begin mapping both the inlets and the storm water systems connecting them. Existing data provided by the larger cities was used to assist in the development of site specific maps for the MDT maintenance facilities in the Small MS4s, and are included in the individual maintenance facility SWPPPs.

A better understanding of the storm water infrastructure and the locations of each outfall that discharges into state water bodies allows MDT staff to target our storm water program towards areas that have the highest risk of affecting water quality. In addition, inspections are performed at outfalls to identify potential sources of dry weather flows, and potential illicit discharges.

Measurable Goals

The statewide MS4 Coordinator will continue to update each Small MS4 storm water system map on an annual basis and will make the updated maps available in electronic format upon request. These Small MS4 maps will be available online in 2014. MDT will solicit information from cities and counties to ensure that the information is as accurate as possible. MDT will also share new project information with co-permittees upon request. Updates include areas of new development or infrastructure improvements, as well as those areas where new information becomes available during maintenance activities. In addition, MDT will revise the Small MS4 boundaries based on city limit changes and census information on a yearly basis if these two items have changed. This BMP's success will be based on the Small MS4 maps being updated with new information, and 25% of inlets being mapped in 2014. Over the permit cycle starting in 2015 MDT will collect and map our inlets, open channels, and subsurface conduits/pipes, dry wells, and other similar storm water conveyances.

3.3.3.2 BMP-IDDE-02 Dry Weather Screening

Description and Rationale

During dry weather field activities, illicit or illegal discharges can be identified at outfalls. Monitoring of outfalls within the MDT jurisdiction is included as part of the IDDE Program and as part of each maintenance facility SWPPP. Monitoring will include making visual observation of the discharge, the conveyance structure and additional observation that could benefit the program.

MDT maintenance employees will note illicit discharges (i.e., litter, debris, or substances that can contribute pollutants to surface water) that are observed during routine maintenance, roadway inspection or culvert inspections. These observations will then be reported to the DEES. The DEES will then work with MDT maintenance supervisors to coordinate correction or reporting to MDEQ.

The DEES efforts will be documented on a dry weather screening form. The MS4 Coordinator will maintain a tracking spreadsheet using data supplied by the DEES through the FSE to track the frequency of inspections, observations and actions taken related to illicit or illegal discharges. The DEES will report to the FSE or MS4 Coordinator illicit or illegal discharges within MDT's jurisdictional areas that MDT personnel, other agencies or the public report to the respective MDT district offices within a Small MS4. The FSE and/or MS4 Coordinator will evaluate reported information and determine proper course of action to take.

Measurable Goals

The DEES is responsible for performing the dry weather screening at each outfall once per permit cycle. The information they gather will be used to update both the dry weather screening form along with the tracking spreadsheet in 2014. The IDDE Program protocols will be made available on the MDT website. The number of illicit or illegal discharges reported to the MS4 Coordinator will be analyzed and compared to previous years. MDT will also track the date, the outfall location, the response action, and the outcome of the implementation of such actions. Success of this BMP will be to eliminate 100% of illicit or illegal discharges from MDT operations.

3.3.3.3 BMP-IDDE-03 Storm Water Ordinances (Authority over Illicit Discharges)

Description and Rationale

Storm water ordinances are established to define the requirements of an agency with respect to storm water controls and floodplain management. It is a tool used by authorities to manage impacts of development within the drainage system, including impacts on water quality. MDT will follow local ordinances, statutes, and regulations within the Small MS4s. Storm water ordinances and regulations goal is to prohibit illicit discharges into storm water systems, provide the authority to investigate suspected discharges, and define the enforcement mechanism to eliminate illicit or illegal discharges. MDT will notify the proper enforcement authority available in the select Small MS4 that has an existing storm water ordinance in place.

As previously stated in section 3.3.3 MDT is not a regulatory body with the authority to establish ordinances, MDT will review mechanisms that are currently in place, such as response procedures, right of way approach and encroachment permits, and other available methods for preventing, detecting, and eliminating non-storm water discharges to the Small MS4s. MDT has an *Escalation Plan* in place in Management Memo 03-01 that outlines how MDT employees are to address illicit discharges. Agreements with co-permittees and other local agencies will be updated at the end of each permit period to reflect changes to the regulatory mechanisms and clearly define MDT's responsibilities.

Measurable Goals

Because MDT does not have legal authority to establish ordinances, it will rely on other governmental bodies to add ordinances and regulation to the existing standards that help eliminate illicit or illegal discharges into state water bodies. For applications within the Small MS4, MDT will continue to list in right of way approach and encroachment permits that applicants are expected to follow local ordinances, which include the city MS4 ordinances. As part of this measurable goal, MDT will follow applicable ordinances, and report non-compliance to the appropriate authorities. MDT will evaluate the local agreements with co-permittees at the end of this permit cycle. In addition, MDT will continue to follow the *Escalation Plan* spelled out in Management memo 03-01 that will be made available in electronic format on the MDT website in the year 2014.

3.3.3.4 BMP-IDDE-04

Public education on IDDE.

Description and Rationale

MDT currently provides information on possible illicit and illegal discharges in our printed education material. MDT will continue to provide this information. MDT will provide information on IDDE on its internet website and on the MontanaMS4 website. In addition, contact information for each district is posted on the MDT websites providing concerned citizens and the general public the means to contact appropriate authorities and/or MDT personnel when they witness unusual conditions that can result in water quality deterioration. Posted IDDE information and the ability to acquire contact information for the appropriate MDT personnel provide an opportunity to engage the public in illicit discharge surveillance. The public becomes an asset in locating possible illicit and illegal discharges, as well as reporting intermittent and transitory discharges that are not observed during dry weather screening activities. With this information, MDT can look at possible solutions for locations MDT can control. For locations MDT does not have authority, the information will be provided to the respective City Government, and/or MDEQ to determine best course of action. Both of these processes will help to minimize illicit or illegal discharges into water bodies.

Measurable Goals

MDT will track, when possible, the number of calls, emails, or postings on MDT's social media sites. A reporting spreadsheet will be generated in 2014 by the MS4 Coordinator. Information provided during the reporting will be entered into the spreadsheet. The action taken by MDT resolve the problem will also be included in the spreadsheet. When available MDT will record how the information was acquired. MDT will use this information to evaluate the highest used method of reporting. Reporting methods not being used will be evaluated to determine if changes can be made to improve its effectiveness. The number of reports will determine if having a public reporting system is effective. The results will be presented in each Annual Report. As stated in BMP 3.3.1.2, the MS4 Coordinator will be posting status updates on MDT's social media (Facebook) page. One of these posts will be related to IDDE.

3.3.3.5 BMP-IDDE-05 IDDE

Training

Description and Rationale

IDDE training will consist of the following procedures to identify priority areas which may be likely to have illicit discharges; procedures for field assessments (i.e., visual inspections), procedures for characterizing the nature of the illicit discharge, procedures for tracking the discharges, and procedures for removing the source of illicit discharges. The DEES will provide district personnel with IDDE training specific to their job duties. Educational materials, presentations, and guidance documents are available on the MDT website (<http://www.mdt.mt.gov>), EPA website (<http://www.epa.gov>), and will be presented or distributed during training sessions provided. For additional information, personnel can contact the MS4 Coordinator or the appropriate DEES.

Measurable Goals

This training will be part of the IDDE Training Program and will be performed annually for key personnel. MDT will track the date, location and employees trained each year as part of the IDDE Training Program at each Small MS4. Success will be determined by ensuring up to date training material and employees requesting the training receive the training.

3.3.4 Minimum Control Measure 4 Construction Site Runoff Control

On MDT construction sites, MDT's contractors have "operational control" over the active construction sites. Consequently, MDT contractually requires its contractors to follow federal, tribal, state and local laws and regulations to control pollutants from leaving the construction sites.

MDT's contractors are the sole permittee on the Construction General Permit. As the sole-permittee, the Contractor is responsible for construction site runoff control including choices of temporary BMPs and permit compliance inspection intervals. Copies of the erosion control plans and compliance inspections are provided by the contractor to the MDT construction crew providing oversight.

MDT construction personnel perform periodic inspections of the construction site, including BMPs, as part of regular duties. These inspections are not for permit compliance but are to ensure that BMPs that are installed by the contractor are installed according to MDT specifications. If a possible deficiency is detected, the contractor is notified and asked to remedy. If potential permit non-compliances are noted, MDT's Reporting policy is followed.

The DEES, in conjunction with the Contractor and MDT construction and maintenance personnel, perform a final inspection of the construction site during the project closeout process. This inspection is to verify that BMPs are in place and functioning as stated in the Contractors SWPPP. If on the ground conditions and compliance records are acceptable, the SWPPP is then transferred to MDT or local entities to maintain until final stabilization and permit termination.

Guidance documents including; the *Permanent Erosion and Sediment Control Design Guidelines*, *Erosion and Sediment Control Best Management Practices Manual*, and *Storm Water Management during Construction Field Guide for Best Management Practices* are available to assist in these inspection processes. Both are available on the MDT website

(<http://www.mdt.mt.gov/publications/manuals.shtml>), or hardcopy. Applicable Specifications include *Environmental Protection* (Section 107.11) and *Water Pollution Control and Aquatic Resource Preservation* (Section 208). These specifications describe erosion and sediment control requirements; and procedures for the selection, installation and maintenance of erosion and sediment control BMPs. MDT personnel are trained to identify deficiencies in the installation and maintenance of erosion and sediment controls. The BMPs described below to be implemented and monitored by the MS4 Coordinator and DEES as part of the Small MS4 General Permit requirements for this control measure.

- i. MDT requires contractors working on MDT projects to secure appropriate permits prior to work beginning. One of the potential permits is the Construction General Permit which requires the creation of a SWPPP by the contractor. The contractor identifies how temporary erosion and sediment control is to be addressed at the construction site, within this SWPPP document. MDT requires contractors to follow federal, tribal, state and local laws.
- ii. If MDT becomes aware of a potential violation on a construction site, MDT's reporting policy is to be followed. If the potential violation is not resolved, MDT reports violations to the appropriate regulatory agency. Additionally, MDT has the authority, through the contract, to issue a stop work order and to withhold a percentage of the monthly payments until the violation is resolved. MDT contractors are required to be licensed and bonded in the State of Montana.

In the case of encroachment permits that are issued, if conditions set forth are not being followed MDT can revoke the encroachment permit.

- iii. MDT contractors are contractually required by MDT to comply with permits associated with the individual construction project.
- iv. During the initial stages of project design, the PDE reviews proposed projects to identify those projects that occur within regulated MS4 areas and highlights the need for incorporating Low Impact Development (LID) practices and PESC measures, as practicable, into the project design to minimize post-construction runoff. In addition, they review the plans and specifications to determine the potential water quality impacts that may exist and suggest potential solutions for these impacts to be addressed.
- v. The public has the option to submit information through MDT's social media sites, or phone calls to the local construction personnel. The comments are then addressed on a case by case basis to determine the most appropriate action. While performing the public education portion of the Small MS4 permit, the printed media, MDT website, and social media sites provide contact information specific to the area of concern.
- vi. MDT contractors perform compliance inspections for purposes of complying with the construction general permit (CGP). The inspection reports are provided to MDT for review.
- vii. Site-specific guidance on the construction site storm water control program is provided by the district specific DEES with oversight by the Field Services Engineer and the Engineering Section Supervisor. Procedures vary depending upon the phase of the operations (i.e., active construction, revegetation, post construction, long term operation and maintenance). The DEES work directly with construction and maintenance personnel to provide site-specific guidance. Each individual BMP in this minimum control measure states who is responsible for implementation.
- viii. The success of this minimum control measure will be evaluated by looking at each BMP individually. The measurable goals were selected depending on the BMP and are described in the sections below.
- ix. MDT has developed a web-based Certified SWPPP Administrator training for MDT Maintenance personnel who conduct Storm Water Pollution Prevention Plan (SWPPP) inspections. The web-based training is targeted toward oversight of permitted sites after construction activities and prior to final stabilization. The SWPPP Administrator training includes:
 - a. The design, installation, function, and location of common storm water controls and BMPs that may be found on the site, and how those BMPs are to be maintained and/or repaired;
 - b. The proper procedures to follow with respect to the permit's pollution prevention requirements, including inspections; and

- c. Frequency and methods to conduct inspections, record applicable findings, take corrective actions, and, where appropriate, report violations and/or potential non-compliances.

3.3.4.1 BMP-CSRC-01 Construction SWPPP

Description and Rationale

At construction sites that are required to obtain an MPDES General Permit for Storm Water Discharges associated with Construction Activity, the contractors must prepare a SWPPP. The SWPPP is intended to ensure that the construction contractor is implementing and monitoring BMPs to reduce the amount of sediment leaving the site. Procedures include, but are not limited to; sequencing construction activities, minimizing area of disturbance, strategic surface contouring, preserving natural vegetation (when possible), installing temporary seeding after final grading, and inspecting and maintaining BMPs on a regular basis and after a storm event.

Measurable Goals

MDT continues to place the special provision in project contracts that require contractors on construction sites equal to or larger than one acre of disturbance, or have potential to discharge into state waterways to adhere to the MPDES General Permit for Storm Water Discharges associated with Construction Activity. The measurable goal for the BMP is that project contracts have the MPDES Special Provision.

3.3.4.2 BMP-CSRC-02 MDT Environmental and Construction Oversight

Description and Rationale

MDT provides oversight for many aspects of each project during and after the construction activities. Environmental oversight will continue to be conducted by onsite personnel and by the district DEES. Environmental oversight includes inspection of BMPs to ensure they are installed according to applicable specifications and contract requirements are adhered to. If deficiencies are observed, the contractor will be notified and requested to return to contract compliance. The MDT project manager and construction manager will be made aware of the deficiencies and the time frame in which the deficiencies need to be corrected. Currently, construction oversight is tracked by field site management and the DEES.

Environmental and construction oversight allows MDT to monitor contractor's performance and helps ensure that federal, tribal, state, and local laws and regulations controlling pollution of the environment are followed. Documentation of potential deficiencies allows MDT to develop better ways to tailor inspections, based on contractors/subcontractors performance and project activities.

Measurable Goals

This BMP will be measured by the number of inspections conducted during the permit period. In addition, deficiencies will be tracked by project, as well as the actions taken to remedy the issues. The deficiencies and actions will be used as training tools to improve inspection procedures and to train DEES and inspection personnel for future MDT projects. MDT will track the size of project and compliance record of the contractors and subcontractors to evaluate if the environmental plans and specifications are meeting the requirements of the Construction General Permit and protecting the state's water quality. MDT staff will inspect 100% of projects within the Small MS4. The DEES attend, send a designee, or communicate directly with the project manager prior to 100% of the Pre-Construction conferences for construction projects within the Small MS4s.

3.3.4.3 BMP-CSRC-03

MDT Information Analysis

Description and Rationale

As mentioned throughout this document, information regarding construction BMPs in the SWMP will be evaluated to assess if the BMPs are functioning properly or if they need to be modified to improve their effectiveness. The MS4 Coordinator and selected DEES will analyze the data collected during construction activities and provide feedback to improve current BMP selection and inspection procedures. Other factors such as cost and ease of implementation will be taken into consideration during the analysis.

The meetings related to storm water issues attended by the MS4 Coordinator and the DEES, along with members of other agencies interested in discussing storm water issues will be tracked as part of this BMP. Issues addressed and the proposed solutions discussed in these meetings will be documented. The information will be shared with staff responsible for MDT construction activities and environmental compliance, with the expectation that the information will be used to improve awareness, and enhance current programs by revising existing procedures.

Measurable Goals

The MS4 Coordinator will attend five workgroup meetings per year. These meetings may be with co-permittees, other water quality groups, or MDT staff to discuss beneficial ways to improve storm water quality. The DEES will attend at least one MDT maintenance section meeting per year for each Small MS4.

3.3.4.4 BMP-CSRC-04

MDT Training

Description and Rationale

MDT is committed to provide trained staff responsible for the implementation, maintenance, and inspection of the storm water program. MDT personnel will be trained in the selection, implementation, inspection and maintenance of storm water BMPs.

Many of the guidance manuals and educational materials are accessible through the MDT website at the following link: (<http://www.mdt.mt.gov/publications/manuals.shtml>). These manuals provide guidance on designing temporary and permanent erosion and sediment control (PESC) measures, implementing low impact development (LID) practices, installing and maintaining storm water BMPs for construction activities, and managing storm water at MDT facilities. The objective of these guidance manuals is to provide consistent preventative measures to help ensure construction and maintenance activities are conducted in a manner that minimizes the amount of pollutants discharged to surface water.

Measurable Goals

The MS4 Coordinator will maintain a log with the dates of MDT training sessions, including the online SWPPP administrator certification. Names of attendees, their departments and their responsibilities will be included on the logs. Feedback provided during the training sessions will also be tracked to improve procedures and guidelines. Data for this log will be provided to the MS4 Coordinator through the DEES at each Small MS4.

The DEES will present during at least one EPM meeting per year. The presentation will be a discussion of current storm water issues and will provide an opportunity for storm water questions related to design and construction activities.

3.3.4.5 BMP-CSRC-05

Internal Project Administration

Description and Rationale

MDT will use contractual agreements to ensure that projects are constructed in a manner that complies with the Clean Water Act.

Measurable Goals

MDT will include the MS4 special provision in 100% of contracts taking place in a Small MS4.

In 100% of the contracts in a Small MS4, MDT will include standard and/or special provisions requiring appropriate storm water pollution prevention and acquisition of necessary permits prior to the commencement of construction activities.

The MS4 Coordinator will track projects let to contract each year in Small MS4s, and will ensure appropriate standard and special provisions are included in each of the contract documents.

3.3.5 Minimum Control Measure 5 Post-Construction Runoff in New Development and Redevelopment

As required by the Small MS4 Permit Section II.5.a, MDT will continue to improve, implement, and enforce the Post-Construction Program that addresses storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre and could potentially discharge into the permitted MS4 area. It should be noted that MDT has different processes in place for MDT-sponsored road construction projects, MDT facilities projects, and non-MDT projects that are reviewed by MDT under MDT's Systems Impacts Process. MDT's Post-Construction Runoff Control program for new development and redevelopment is described below.

○ **MDT Roadway Projects**

- **Pre-Construction:** During the initial stages of project design, the Environmental Project Development Engineer (PDE) reviews proposed projects to identify those projects that occur within regulated MS4 areas and highlights the need for incorporating Low Impact Development (LID) practices and PESC measures, as practicable, into the project design to minimize post-construction runoff.
- **Construction:** During construction, MDT's Contractor has "operational control" of the site. As a result, the Contractor is the entity that holds the Construction General Permit (CGP) during active construction. The Contractor evaluates their proposed construction means, methods, and schedule and decides the best BMPs for application at the site to maintain compliance with the CGP conditions and other applicable laws. The Contractor conducts periodic site inspections in accordance with the CGP permit conditions. MDT construction personnel also inspect the BMPs for compliance with MDT specifications and FHWA requirements related to storm water management.
- **Post-Construction:** Once physical work at a construction site is concluded, MDT reviews the site and the physical BMPs at the site for appropriateness. As necessary, MDT may direct the contractor to remove unnecessary temporary BMPs, replace temporary BMPs with permanent or long term

BMPs, provide additional temporary or permanent BMPs or perform BMP maintenance. Once the on-site conditions are acceptable and there are no unresolved violations for the site, responsibility for compliance with the Construction General Permit (CGP) for storm water discharge is generally transferred from the Contractor to MDT or the local entity. When the permit is transferred to MDT, MDT maintenance staff conducts routine inspections of the site and maintains the BMPs on the site until final stabilization is achieved. Inspections are documented on standardized inspection forms and retained with the SWPPP in accordance with the CGP requirements. Permanent erosion and sediment control measures (PESC), such as retention basins and other LID measures, will also be maintained into perpetuity by either MDT maintenance forces or by city or county forces, dependent upon the city and/or county agreements that are in place.

- **MDT Facilities:** Development and redevelopment activities at MDT facilities within the Small MS4s are reviewed by MDT Environmental Services Bureau staff and incorporate LID and PESC measures as appropriate. Maintenance project reviews are generally conducted through the Montana Environmental Policy Act (MEPA) compliance process. The District PDE reviews the proposed work and ensures incorporation of LID practices and PESC measures are used when practicable.
- **Non-MDT Projects Reviewed under MDT's Systems Impacts Process:** Some development and redevelopment activities by private parties and other non-MDT entities require MDT approval for encroachments (such as utility encroachments) or approach permits. MDT's granting of the approach and encroachments permits generally constitute a "state action". These state actions undergo a MEPA compliance evaluation. Through the MEPA compliance process, the PDE reviews the proposed work. For actions within a Small MS4, the PDE will note in the approval/comment memo, the need for the permittee to coordinate with the city and/or county MS4 for the incorporation of LID practices when practicable and to follow applicable federal, tribal, state and local laws. MDT does not have authority to institute ordinances, but MDT employees are required to follow federal, tribal, state and local laws which include but are not limited to storm water management requirements.

As required by Section II.5.b, MDT documents the decision process used for the development of the post-construction storm water program. Documentation is crucial to evaluate the effectiveness of the program by determining trends and potential issues regarding individual BMP types, constructability, effectiveness, and implementation.

- i. After the designers have an initial set of plans, they are sent out to several departments one of which is the Environmental Services Bureau (ESB). In the ESB the PDEs do a PESC/LID evaluation with each project associated with an MS4 area. This evaluation is documented and placed in the project files.
- ii. MDT has created SWPPPs for each of our facilities within a Small MS4. These SWPPPs are tailored to each specific community's structure. MDT has a PDE and DEES that are assigned to each district, which allows personnel to become acquainted with the specific community needs.

This familiarity with the community needs is used to integrate MDT's storm water facilities with each specific area.

- iii. Non-structural BMPs are part of the Post-Construction Program and include:
 - a. As part of the pre-construction activities, MDT requires that a Biological Assessment be performed for most sites. This assessment would include the identification of sensitive areas such as wetlands and riparian corridors.
 - b. MDT Standard Specifications Section 201 limits clearing and grubbing activities and promotes careful management of vegetation adjacent to water resources.
 - c. MDT designers, when practicable, will use undeveloped areas as open space to minimize impervious surfaces and allow for infiltration. Vegetated medians are an example of such practices.
 - d. Educational programs to minimize water quality impacts are currently available on the internet. Links can be found on the MDT website and at MontanaMS4.com.
 - e. During early stages of design, LID approaches are emphasized to minimize the quantity and improve the quality of runoff leaving the sites.
- iv. Structural BMPs incorporated into projects are chosen on a case by case basis during evaluations by the designers, hydraulic engineers, and PDEs.
- v. MDT does not have regulatory authority but requires that employees follow federal, tribal, state and local laws. Please refer to the Tort Law discussed at the beginning of BMP 3.3.3, which discusses the authority granted to MDT by the State of Montana.
- vi. The majority of MDT sites are either owned by MDT or addressed with a local agreement between MDT and the current owner(s). Operation and maintenance (O&M) responsibility for each MDT site within the MS4 is dependent on site specific factors. The responsibility falls to MDT, or the responsibility for O&M is clearly defined in the agreement between MDT and the current owner(s). Sites owned and maintained by MDT will be operated and maintained by MDT Maintenance Division personnel. MDT O&M procedures are included in the Maintenance Manual which is available at the following link:
(http://www.mdt.mt.gov/publications/manuals/maint_manual.shtml).
- vii. The responsibility for the post-construction O&M for the respective MDT site within the Small MS4 is assigned to the maintenance chief of the associated district. The DEES and MS4 Coordinator provide general guidance and clarification on meeting requirements set forth in the SWMP and Small MS4 permit.
- viii. BMPs related to "Post-Construction Runoff in New Development and Redevelopment Minimum Control Measures" will be evaluated as described in the "Measurable Goal Section" for each BMP. The goals were selected based on the highest potential to minimize risk of introducing contaminants to water bodies. In addition, the measurable goals were selected based on the ability to reasonably fulfill the commitments of this program with available manpower and funding.

Below are the BMPs that will be implemented for the Post-Construction Runoff Control measure during this permit period.

3.3.5.1 BMP-PCRC-01 *Plan Reviews*

Description

MDT uses the AASHTO Model Drainage Manual and the MDT PESC Design Guidelines as the main guidance documents for design of storm water structures pertaining to MDT development and redevelopment projects. These documents can be found at the following links respectively:

<http://www.mdt.mt.gov/publications/docs/manuals/hyd/ch7.pdf>;

<http://www.mdt.mt.gov/research/projects/env/erosion.shtml>.

MDT Road Design and District personnel are responsible for overall plan development. However, MDT also incorporates input from many Department areas by conducting a variety of preconstruction plan reviews. Plan reviews conducted by the PDEs, Biologists, Botanist, Road Designers, and Hydraulic Engineers will be used to incorporate appropriate PESC and LID measures and identify areas for preservation of natural areas. Plan reviews conducted by Construction personnel will evaluate constructability of each measure. Plan reviews conducted by maintenance personnel will identify ongoing O&M concerns.

The reviewers will verify that applicable federal, tribal, state and local laws and regulations are followed as required by the Small MS4 Program.

Measurable Goals

The measurable goal for this BMP will be for PDEs to review 100% of the plans within the Small MS4s. When applicable the PDEs will recommend to the design team incorporation of PESC/LID structures.

3.3.5.2 BMP-PCRC-02 *Construction and Post-Construction Site Inspections*

Description

Inspections are necessary to help ensure structural BMPs are built according to design, and functioning as intended. During the design phase MDT follows ensures that the MDT projects that are classified as development or redevelopment incorporate LID to the extent practicable. Necessary LID practices and PESC measures are incorporated into the project plans and contract documents. MDT construction personnel inspect the features as they are being constructed to ensure that they are constructed according to the contract documents including the plans and specifications.

Measurable Goals

MDT construction personnel will inspect structural (permanent) BMPs on 100% of projects in a Small MS4. Contractors will not be paid for the work unless it is built according to design or approved change order.

Before MDT assumes responsibility for a storm water permit from the Contractor, MDT personnel including the DEES, maintenance personnel, and construction personnel, complete a final project closeout inspection to ensure project BMPs (temporary and permanent) are correctly installed and functioning properly. After the project closeout is complete, the BMP maintenance becomes MDT's responsibility. MDT maintenance personnel perform maintenance on the temporary and permanent BMPs as needed. Items that could be improved during the construction phase will be passed on to construction for consideration in future projects.

3.3.5.3 BMP-PCRC-03

Operation and Maintenance of BMPs

Description

MDT has provisions in place for the operation, inspection, and maintenance of permanent BMPs, including designating the responsible party for the each activity. During the construction phase of MDT projects, the contractor is responsible for compliance with the storm water permit. On MDT right of way, facilities, and post construction sites MDT Maintenance personnel are responsible for the O&M of storm water BMPs, except if an agreement is in place that makes other entities responsible for the O&M activities.

Measurable Goals

Records of the current MDT Operation and Maintenance Program will be reviewed and evaluated to ensure that the O&M of BMPs is being conducted in an effective manner. The evaluation of the Program will be tailored to each MS4 area. Facilities managed by other entities (i.e., county or city) will be their sole responsibility.

3.3.5.4 BMP-PCRC-04

Reviewers and Inspectors Training

Description

MDT has minimum hiring requirements for positions that involve the design, review, and inspection of storm water control measures. MDT provides staff with educational opportunities tailored to the different aspects of storm water control. In addition, MDT provides a number of guidance documents and manuals which are available in hard copy and/or electronic formats. Staff is encouraged to reference these guidance documents and manuals for assistance in performing everyday duties, and as self-refresher training. MDT DEES provide environmental related training and assistance to MDT maintenance and construction personnel to ensure they are qualified to conduct inspections.

Measurable Goals

MDT will continue to provide training to its employees on environmental compliance and storm water BMPs. Continued educational programs and specialized training will continue to be made available for individuals involved in the plan review process and for inspection personnel. The MDT-provided training and education programs attended by MDT personnel will be tracked as part of this BMP.

Pertinent staff members will attend at least one relevant training session per permit period to develop and expand their skills pertaining to storm water pollution prevention techniques. This training will be available as an online self-review of the PESC guidelines. MDT conducts periodic training on and updates of the PESC Manual as necessary.

3.3.5.5 BMP-PCRC-05

Low Impact Development Approach

Description

Low Impact Development (LID) is a storm water management and land development (or re-development) strategy that works with nature to manage storm water as close to its source as possible. LID emphasizes conservation, and the use of existing natural site features integrated with distributed, small scale storm water controls. This approach more closely mimics the natural hydrologic patterns in residential, commercial, and industrial settings by promoting infiltration, evapotranspiration, and reuse of storm water runoff. LID is primarily a source reduction approach. Hydrology and natural site features that influence water movement are considered during the site layout. Native soils and landscaping are strategically distributed throughout the site to slow, store, and infiltrate runoff.

Retrofitting existing facilities to incorporate LID techniques can be challenging and cost-prohibitive. MDT will attempt to incorporate LID techniques where practicable at its facilities within the MS4 areas when upgrades to the facilities are implemented and new development or redevelopment takes place.

Measurable Goals

For road construction projects in MS4 areas, MDT will evaluate 100% of designs for the potential of incorporating LID techniques. When the requirements are triggered, i.e., a new development or redevelopment project with disturbance greater than or equal to one acre, LID opportunities will be explored. PDEs will be the lead on this effort and will provide data to the MS4 Coordinator for tracking.

For “state actions” at MDT facilities within Small MS4 areas, MDT will evaluate 100% of designs for appropriateness of incorporating LID techniques. Each proposed project will be reviewed for triggering the requirements for incorporating LID, as practicable. When the requirements are triggered, i.e., a new development or redevelopment project with disturbance greater than or equal to one acre, LID opportunities will be explored. PDEs will be the lead on this effort and will provide data to the MS4 Coordinator for tracking.

For encroachment and approach permit applications within Small MS4 areas, MDT will evaluate 100% of applications for appropriateness of incorporating LID techniques. Appropriate MS4-related information will be included in the permit issuance correspondence. PDEs will be the lead on this effort and will provide data to the MS4 Coordinator for tracking.

3.3.5.6 BMP-PCRC-06 *Ordinances and Storm Water Design Criteria*

Description

As discussed in Section 3.3.3 of this document, MDT does not have the authority to write ordinances or requirements for storm water design criteria on non-MDT proposed projects. MDT can and does enforce MDT standards on MDT projects. MDT follows applicable federal, tribal, state and local laws and regulations within the Small MS4s.

Measurable Goals

MDT will continue to follow federal, tribal, state and local laws and regulation and design standards. MDT will maintain and follow its design criteria for PESC and LID measures or seek formalized design exceptions for 100% of our projects within Small MS4s.

3.3.5.7 BMP-PCRC-07 *Vegetation Management Program*

Description

MDT has secured federal funding to institute the annual Vegetation Management Program. The purpose of the funding is for repairing and re-seeding MDT project sites that warrant additional work to stabilize disturbed areas on closed projects. This activity will help promote the closure of the SWPPP plan and/or provide for other planting and landscaping activities to improve water quality or weed management. The funding is used to develop and issue purchase order contracts to conduct the reclamation work.

Measurable Goals

This BMP will be measured by comparing projects within the Small MS4s with open SWPPP permits. A determination will be made if improvement to the control of storm water run-off, and infiltration can be improved with further re-vegetation. The open permit projects and the projects that are closed will be tracked as well as the projects where funding was allocated within the Small MS4s.

3.3.6 Minimum Control Measure 6 Pollution Prevention/Good Housekeeping

The operational needs of MDT within a Small MS4s vary greatly, so a “one size fits all” approach is not appropriate for the Pollution Prevention/Good Housekeeping measure for each of the MDT sites. As such, MDT developed Storm Water Pollution Prevention Plans (SWPPPs) for facilities within each individual Small MS4. These SWPPPs address the potential pollutants at each facility to prevent contamination of state waters.

- i. Most MDTs facilities inside a Small MS4, including district offices and satellite offices, have a site-specific SWPPP. The SWPPPs have been tailored to each specific facility’s unique function and day-to-day activities. Table 2-1, found in chapter 2 lists Small MS4 permit numbers, location, and facilities within each Small MS4.
- ii. MDT provided training to pertinent employees on understanding what the SWPPP is and their individual roles for compliance with the SWPPP. Additional training will be provided as necessary.
- iii. Section II.B.6.iii of the Small MS4 permit lists the areas that must be specifically addressed in the program. The sub-bullets (a), (b), and (c) are addressed within the body of the SWPPPs. An individual copy of each SWPPP is located at ESB. Sub-bullet (d) does not apply to MDT because; MDT does not perform flood management projects. MDT will perform emergency projects to repair damage to the road system by floods. These emergency projects go through the same process as normal construction projects.
- iv. The Statewide MS4 Coordinator will provide the overall guidance for the Pollution Prevention/Good Housekeeping minimum control measure. The individual who is directly responsible for carrying out each individual BMP will be named in that BMP.
- v. The success of this minimum control measure will be evaluated by looking at each BMP, listed below, individually. The measurable goals were selected depending on the BMP and are described in the sections below.

3.3.6.1 BMP-PPGH-01 Training

Description and Rationale

The main purpose of internal storm water pollution prevention training is to educate staff regarding storm water characteristics, water quality issues, and individual responsibilities regarding the implementation of the Statewide SWMP, the Storm Water Pollution Prevention Plans (SWPPP), and the Spill Prevention, Control, and Countermeasure (SPCC) Plans. In addition, training includes descriptions of the activities and practices conducted by MDT staff that are or could be sources of storm water pollution and non-storm water discharges, the proper implementation of BMPs, and how to use the guidelines and manuals published by MDT

MDT has developed site-specific SWPPP training for MDT facilities within the Small MS4s and an online SWPPP administrator training program which will assist with good housekeeping practices. (Contractors are responsible for good housekeeping on MDT projects during active construction.). As it is deemed necessary additional training will be provided.

Measurable Goals

This BMP will be measured by ensuring that 100% of the DEES and MDT Maintenance staff performing SWPPP inspections in Small MS4s are in compliance with the CGP and will have Certified SWPPP

Administrator training/certification. Records will be kept of personnel who have taken the SWPPP Administrator training and passed the test to become a MDT Certified SWPPP Administrator.

This BMP will be measured by ensuring that 100% of the Maintenance staff performing site-specific facility SWPPP inspections in Small MS4s has site specific SWPPP training. Records will be kept of personnel who have received training on the site-specific SWPPP Administrator and inspection procedures.

The DEES will provide a presentation regarding storm water issues during at least one EPM meeting per year. The presentation will be a discussion of current storm water issues and an opportunity for questions regarding storm water issues related to design and construction activities.

The DEES will provide a presentation during at least one MDT maintenance section man meeting per year. The presentation will include a discussion of current storm water control issues and an opportunity for questions regarding storm water control related to maintenance activities and facilities.

Environmental Services Bureau personnel, generally the Engineering Section Supervisor or the Field Services Engineer, will attend at least one quarterly DCE meeting per year and provide information related to MDT's overall storm water management program, including MS4 issues.

Environmental Services Bureau personnel, generally the Engineering Section Supervisor or the Field Services Engineer, will attend at least one quarterly Maintenance Chiefs meeting per year and provide information related to MDT's overall storm water management program, including MS4 issues.

As shown in Table 2-1, found in chapter 2, several MDT facilities in MS4 areas fall under the Spill Prevention, Control, and Countermeasure (SPCC) Rule and have SPCC Plans. SPCC training, which includes information related to the MS4 Program, will be offered annually or according to SPCC requirements.

As shown in Table 2-1 found in chapter 2, MDT is working to develop site-specific Storm Water Pollution Prevention Plans (SWPPP) for MDT facilities within MS4 areas that currently do not have SWPPPs.. Training is offered on each site specific SWPPP upon completion of the plan. Additional training will be offered when the plan is amended or on an as needed basis, as necessary. Dates, name, and responsibility of staff members, as well as topics discussed, will be tracked on a spreadsheet as part of this measurable goal.

3.3.6.2 BMP-PPGH-02 Periodic SWPPP and SPCC Plan Inspections

Description and Rationale

As mentioned in Section 1 of this document, MDT owns several facilities throughout the state including maintenance yards, storage yards, mechanical shops, fueling stations, parking areas, and office buildings that are located within the Small MS4s. Activities performed at these facilities could potentially introduce contaminants into state waterways and cause water quality to deteriorate. MDT has either prepared or is in process of preparing SPCC Plans and SWPPPs for MDT facilities within the Small MS4s. As part of these plans, MDT evaluated the materials used at each facility and determined the potential risk to surface water. Periodic site inspections are required at each facility on a monthly or quarterly basis. These inspections give the operators the opportunity to inspect the sites, focusing on storm water and pollution prevention instead of on daily activities. Inspection forms are used to identify potential opportunities for improvements and small procedural changes that could positively impact potential storm water contamination. MDT will continue to conduct monthly inspections and document

observations and deficiencies related to storm water BMPs as well as activities conducted at each site that could potentially impact storm water quality.

Measurable Goals

The DEES and MS4 Coordinator will analyze the SWPPP inspection forms on a yearly basis to evaluate opportunities to improve and deal with identified deficiencies. In some cases, funds will have to be secured to improve the current infrastructure and might require several years before the BMP can be fully implemented.

3.3.6.3 BMP-PPGH-03 Road and Parking Area Sweeping

Description and Rationale

Parking areas, public streets, and roadways make up a substantial percentage of the urban infrastructure and require regular maintenance to keep them in good condition. Particulate matter or “street dirt” tends to accumulate along the street curbs between storm events. Sources of pollutants include run-on, atmospheric deposition, vehicle emissions, leaking vehicle fluids, breakup of the roadway surface, litter, leaves and other organic material, and sanding. This results in the accumulation of storm water pollutants such as sediment, nutrients, metals, hydrocarbons, bacteria, pesticides, trash, and other toxic chemicals. In many communities, these pollutants remain on public streets and roadways until they are washed into the storm drain system during a storm event. The use of street sweeping in the Small MS4s can remove some of these pollutants, preventing them from being transported into the storm drain system. The ability of street sweepers to remove common storm water pollutants varies depending on sweeper technology, operation and frequency, street conditions, as well as the chemical and physical characteristics of the pollutants.

MDT currently implements a Street Sweeping Program that not only encompasses the streets and roadways but also includes the maintenance yards and parking areas within its facilities. The street sweeping frequency depends on need and travel volumes. Sweepers also respond to certain types of spills that require clean-up work.

Measurable Goals

MDT’s goal for the street sweeping program is to sweep 100% of the facilities and MDT maintained roads that are within our permitted Small MS4s a minimum of one time per year.

3.3.6.4 BMP-PPGH-04 Road and Parking Area Maintenance

Description and Rationale

MDT’s regular repair and maintenance activities can generate storm water pollutants, including metals, chlorides, hydrocarbons, nutrients, sediment and trash. There are three primary street repair and maintenance activities that can influence storm water quality:

1. Routine road and bridge maintenance: Activities like re-chipping, grinding, pothole repair, pavement striping, asphalt re-paving, saw cutting could potentially introduce pollutants like sediment, chloride, cyanide, and phosphorus into storm water.
2. Winter operations: Sanding and application of deicing materials can introduce; fine sand particles, salt, sand, and magnesium chloride to runoff.
3. Right-of-way maintenance: Herbicide and pesticide application combined with grass cuttings could potentially transport nutrients, herbicides, and pesticides into storm water runoff.

MDT follows its Roadway/Roadside Maintenance Program to maintain roadways/roadsides for safety, to protect the environment, and to maintain a pleasing aesthetics in a functional matter. A copy of the

manual can be found at the following link:

(<http://www.mdt.mt.gov/publications/docs/manuals/mmanual/chapt5c.pdf>). In addition, MDT provides guidance in the MDT Maintenance Environmental Best Management Practices –Section E which can be found at the following link:

(<http://www.mdt.mt.gov/publications/docs/manuals/mmanual/sectione.pdf>). Daily maintenance activities are tracked in the Maintenance Management System (MMS). A detailed description of the system can be found at the following link:

(<http://www.mdt.mt.gov/publications/docs/manuals/mmanual/chapt2c.pdf>).

Measurable Goals

MDT will evaluate current practices used during maintenance and operational activities to determine if modifications to these practices are warranted to minimize storm water pollutants reaching water ways. The evaluation of BMPs and procedures as well as suggestions will be documented to determine the best course of action to implement improvements as the measurable goal for this BMP. Cost, ease of implementation, and risk and benefit analysis will be taken into account to make recommendations to MDT management.

3.3.6.5 BMP-PPGH-05 Winter Maintenance Program

Description and Rationale

MDT has an extensive maintenance program in place that is subdivided into several chapters. The MDT Statewide Winter Maintenance Program (Chapter 9) defines the operational procedures for items such as levels of services, priorities, snow removal activities, snow pole installation and removal, abrasives applied for traction, and road closures. As part of the program, sanding abrasives or anti-skid materials are used to control snow and ice. The materials used are required to meet MDT specifications, and to be stored as required by the manufacturer. Snow removal stockpile locations exclude environmental sensitive areas that are identified in the winter management and operational plans. The Winter Management Program also describes BMPs and procedures. A copy of the program can be found at the following link: (<http://www.mdt.mt.gov/publications/docs/manuals/mmanual/chapt9c.pdf>).

MDT will continue to evaluate the Winter Maintenance Program. The material specifications will also be evaluated to determine if proper procedures which include calibration of equipment, and proper mixing ratios are in place to reduce the amount of de-icing material used. MDT will look at the feasibility of transitioning to more environmental friendly deicing chemicals. Snow storage locations are and will continue to be chosen with respect to environmental sensitivity of local areas to reduce discharge into water ways while allowing for infiltration. Regular equipment maintenance, including disposal of equipment wash water properly, is a high priority. The wash bay, while helpful, is an expensive project to construct. Small changes to these activities will have positive impacts in reducing potential contaminants that could be transported into state waterways.

Measurable Goals

MDT will evaluate the current procedures described in the Winter Maintenance Program and if necessary revise the existing manuals to reduce the potential of pollutants being discharged into the environment and consequently into waterways. The evaluation will be performed during the permit period, and revisions to the manuals will be posted on the MDT intranet. In addition please see section 3.3.6.7 BMP on vehicle washing that describes MDT's current progress on constructing vehicle wash bays, which correlate with achieving the winter maintenance BMP.

3.3.6.6 BMP-PPGH-06 Recycling Activities

Description and Rationale

MDT has several recycling programs in place at the maintenance facilities within the Small MS4s. Used oils are collected, and used to heat the shops during the winter months. Used motor oils are considered a hazardous waste because they contain heavy metals from engines. Motor oils are toxic to humans, wild life, and plants, and should be recycled when possible. This program has been successful and will continue to be implemented. In addition, unusable and scrap metals are collected at the different facilities in bins. The metal is then recycled by local companies such as Pacific Steel.

Measurable Goals

MDT will continue to recycle and burn the used oil to heat select MDT facilities. MDT will also continue to recycle scrap and unused metal through the recycling companies throughout the permit period. MDT has created SWPPPs that provide guidelines to help make the storage of the recycled materials storm water runoff safe. MDT will be inspecting the facilities on a monthly basis to ensure the recycled materials are being stored in a manner that protects storm water runoff.

3.3.6.7 BMP-PPGH-07 Vehicle Washing

Description and Rationale

MDT has its own fleet of vehicles which range from car pool sedans to snow plows and water trucks. As part of the regular maintenance, the vehicles are washed. When possible, smaller vehicles are washed at commercial car wash facilities that are equipped to handle wash water. Those vehicles that are too large, such as, snow plows and other maintenance equipment are washed at the maintenance facilities. Large vehicle washing is mainly conducted to remove corrosive particles and reduce maintenance due to rust. Most of the existing wash bays are no longer suitable for the size of the new vehicles; therefore, they have been abandoned. A designated area has been assigned to wash large vehicles. Currently, MDT is evaluating the vehicle wash areas and procedures to minimize discharge of pollutants into surface water. Due to the cost associated with improvements, funds will have to be allocated before new wash bays can be properly designed and installed. In the meantime, MDT will make procedural changes that can reduce pollutant discharge to storm water, such as sweeping particles after each shift and diverting wash water into grass areas.

Measurable Goals

MDT will evaluate each maintenance facility for short term improvements (.e.g., sweeping area at the end of the shift) and long term improvement (i.e. a new wash bay). The short term improvements will be implemented as soon as possible, while the long term improvements will require additional planning and funding. In 2013 MDT completed one long term goal of constructing an updated wash bay at the Missoula MDT maintenance facility capable of appropriately disposing of wash water. MDT currently has funding available to hire a consultant in 2014 to design new wash bays for MDT Maintenance facilities in Butte, Great Falls, Billings, and Bozeman. MDT currently plans to construct the new wash bays in Butte in State fiscal year 2014 and in Great Falls and Bozeman in State fiscal year 2015. Additional short term and long term improvements may be implemented and will be tracked for each facility as a measure of this goal during the permit period.

3.3.6.8 BMP-PPGH-08 Hazardous Waste Handling

Description and Rationale

MDT stores and uses hazardous materials as part of its maintenance activities. Failure to properly store these materials can result in the discharge of contaminants into local waterways. MDT has a hazardous

waste program in place that limits the amount and type of hazardous materials on site, how and where they are stored, and who has access to them. This program has resulted in MDT stopping the use of leaded paint, switching to citrus based solvents, and recycling of these solvents. Through the limiting of the use of hazardous materials MDT has achieved the status of conditionally exempt at MDT facilities including those with in permitted Small MS4s. This program will continue to be implemented and if necessary updated to meet new regulations and needs. Spill Prevention Control and Countermeasure (SPCC) Plans were prepared for each facility within the MS4 areas. As part of the SPCC Plan, MDT will complete a monthly inspection checklist for each location with an SPCC Plan. Copies of the SPCC plans are available at each facility, and at the MDT Environmental Service Bureau in Helena.

Measurable Goals

MDT will continue to ensure that its staff is following the proper procedures when handling and storing hazardous materials, and are well informed of the type and potential dangers associated with each chemical. Material Safety Data Sheets (MSDSs) are available at each facility within the MS4 areas and staff complies with the requirements of the SPCC Plans including monthly site inspections. MDT will evaluate the plans as revised by federal and state regulations. Staff will complete monthly inspection forms. The MS4 Coordinator working with the Hazmat Supervisor, DEES, and FSE will determine if items in the inspection process need to be amended based on data provided in inspection forms. The measurable goal for this BMP will be to maintain MDT's status of conditionally exempt.

3.3.6.9 BMP-PPGH-09 Material Management

Description and Rationale

MDT facilities stockpile and store materials, such as oils and deicing materials, in a manner to reduce the likelihood of accidental spills or release of hazardous materials into the storm water system. Practices include but are not limited to:

1. Maintenance of equipment to minimize leaking fluids;
2. Maintaining an organized and clean work space;
3. Education of employees on correct handling of materials;
4. Proper storage of materials in proper containers;
5. Minimizing the amount of materials used;
6. Placing containers in secondary containments;
7. Proper collection and disposal of waste;
8. Recycling when possible;
9. Restricting access to selected employees to storage areas; and
10. Proper labeling of containers.

These practices are measures that could help prevent contaminants from entering the storm water system and consequently pollute surface water.

Measurable Goals

MDT will review existing storage procedures to ensure that they are current and effective. Revisions will be posted and employees will be made aware of the changes. This BMP will be measured by the number of spills that are reported within a permit period as required by the SWPPP and SPCC Plans. The main goal is to eliminate spills and have zero reported spills during the permit period. If a spill is reported within a permit period, corrective actions will be taken to remedy the spill and preventive measures will be put into place to prevent the spills from reoccurring.

3.3.6.10 BMP-PPGH-10 *Storm Drain System Cleaning and Maintenance*

Description and Rationale

In order to maintain the existing capacity and improve water quality, MDT conducts routine system inspections, cleaning, and maintenance to ensure maximum capacity and removal of pollutants such as sediment, trash, and debris. These inspections include maintenance facilities, yards, and storm water infrastructure within the MDT right of way.

Measurable Goals

MDT will continue the current maintenance program and track the number of inspections, cleanings, and repairs conducted at each maintenance facility as well as continue maintenance conducted on MDT's right of way within the MS4 areas. MDT tracks hours and supplies in the Management System for each MS4 area. MDT will clean and provide maintenance to storm water structures as necessary. The need is determined from the inspections taking place as a regular part of the maintenance department employees' job duties. Other forms of notification can be from the public, city or county employees.

3.3.6.11 BMP-PPGH-11 *Develop SWPPPs and Updates to SWPPPs*

Description and Rationale

MDT prepared SWPPPs for most MDT facilities within the MS4 areas (Bozeman, Billings, Kalispell, Butte, Great Falls, Missoula and Helena). Each facility was evaluated for its potential pollutant sources, activities that could contribute to pollution of storm water, and risk associated with the potential pollutants and associated activities. At each facility, staff responsible for daily operational activities that could contribute contaminants to storm water, received training on the SWPPP in 2013. The training included descriptions of potential sources and storm water outfalls, activities that could potentially contaminate storm water, and identification of BMP improvements, as well as preventive and good housekeeping measures that could minimize storm water pollution. The training was instrumental in developing a better understanding of storm water contamination and each person's responsibilities. In addition, as part of the SWPPP, maintenance personnel are required to conduct monthly inspections. These inspections give the staff the opportunity to evaluate potential improvements to its operations with respect to storm water management.

Measurable Goals

MDT will continue to evaluate and update the SWPPPs as conditions change regarding design, construction, operation, or maintenance at the different facilities. The changes will be recorded in the Amendment Record Log included in each SWPPP. In addition, MDT will continue to train its staff to better understand the implications of contaminating storm water and procedures to reduce the potential of contamination. In 2014 MDT will create SWPPPs, implement, and begin monthly inspections for the following locations: MDT Rest Area, Bozeman, Desmet, Missoula, and Aeronautics Division (York Wye), Helena. In addition, MDT staff will complete the monthly SWPPP inspection forms at the currently existing SWPPP locations. SWPPP inspections will be reviewed and analyzed by the MS4 Coordinator annually for the annual report. The forms, addendums, and training will be the measurable goal for this BMP.

Section 4 References

Montana Department of Environmental Quality. (2010). *General Permit For Storm Water Discharge Associated with Small Municipal Separate Storm Sewer System (MS4)*. Helena: Montana Department of Environmental Quality.

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Montana Department of Transportation (MDT). (2004). *Erosion and Sediment Control Best Management Practices Manual*. Helena: MDT.

Montana Department of Transportation (MDT). (2008). *Management Memo: Reporting Environmental Violations*. Helena: MDT.

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Montana Department of Transportation (MDT). (2010). *Permanent Erosion and Sediment Control Design Guidelines*. Helena: MDT.

Appendix A TMDL Information

Table A-1. Billings MS4 Area TMDL Information.

Receiving Water (Waterbody ID)	Water Classification by State of Montana	Probable Causes for Impairments	Probable Sources for Impairments	TMDL
Yellowstone River (MT43F001_010)	B-3	Arsenic	Natural Sources	Not Completed
		Benthic-Macroinvertebrate Bioassessments	Agriculture Municipal Point Source Discharges	Not Completed
		Dissolved Oxygen Saturation	Agriculture Municipal Point Source Discharges	Not Completed
		Excess Algal Growth	Agriculture Municipal Point Source Discharges	Not Completed
		Nutrient/Eutrophication Biological Indicators	Agriculture Municipal Point Source Discharges	Not Completed
		Oil and Grease	Pipeline Breaks	Not Completed
		Periphyton (Aufwuchs) Indicator Bioassessment	Agriculture Municipal Point Source Discharges	Not Completed
		Solids (Suspended/Bedload)	Agriculture Municipal Point Source Discharges	Not Completed
Yellowstone River (MT43F001_11)	B-2	Cause Unknown	Channelization Crop Production (Crop Land or Dry Land) Municipal Point Source Discharges Streambank Modifications/destabilization	Not Completed
		Chlorophyll-a	Crop Production (Crop Land or Dry Land) Municipal Point Source Discharges	Not Completed
		Nitrate/Nitrite (Nitrite + Nitrate as N)	Crop Production (Crop Land or Dry Land) Municipal Point Source Discharges	Not Completed
		Oil and Grease	Channelization Streambank Modifications/destabilization	Not Completed
		Other anthropogenic substrate alterations	Channelization Streambank Modifications/destabilization	Not Completed
		Physical Substrate Habitat Alternations		

Table A-1. Billings MS4 Area TMDL Information.

Receiving Water (Waterbody ID)	Water Classification by State of Montana	Probable Causes for Impairments	Probable Sources for Impairments	TMDL
Alkali Creek				Not Listed under 303(d)
Canyon Creek (MT43F002_021)	B-1	Other Flow Regime Alterations	Flow Alterations from Water Diversions	Not Completed
Billings Bench Water Association Canal				Not Listed under 303(d)
Yegen Drain				Not Listed under 303(d)
City/County Drain				Not Listed under 303(d)
Shiloh Drain				Not Listed under 303(d)
Grey Eagle Ditch				Not Listed under 303(d)
Suburban Ditch				Not Listed under 303(d)
Holling Drain				Not Listed under 303(d)

Table A-2. Bozeman MS4 Area TMDL Information.

Receiving Water (Waterbody ID)	Water Classification by State of Montana	Probable Causes for Impairments	Probable Sources for Impairments	TMDL
Bozeman (Sourdough) Creek (MT41H003_040)	B-1	Alteration in Stream-side or Littoral Vegetative Covers	Channelization Grazing in Riparian or Shoreline Zones Irrigated Crop Production Loss of Riparian Habitat	Not Completed
		Chlorophyll-a	Grazing in Riparian or Shoreline Zones Septage Disposal Yard Maintenance	Not Completed
		Escherichia coli	Septage Disposal	Not Completed
		Nitrogen (total)	Grazing in Riparian or Shoreline Zones Septage Disposal Yard Maintenance	Not Completed
		Phosphorus (total)	Grazing in Riparian or Shoreline Zones Irrigation Crop Production	Not Completed
		Sedimentation/Sil tation	Grazing in Riparian or Shoreline Zones Yard Maintenance	Not Completed

Table A-2. Bozeman MS4 Area TMDL Information.

Receiving Water (Waterbody ID)	Water Classification by State of Montana	Probable Causes for Impairments	Probable Sources for Impairments	TMDL
East Gallatin River (MT41H003_010)	B-1	Nitrogen (total)	Grazing in Riparian or Shoreline Zones Municipal (Urbanized High Density Area) Residential Districts Yard Maintenance	Not Completed
		Phosphorus (total)	Grazing in Riparian or Shoreline Zones Municipal (Urbanized High Density Area) Residential Districts Yard Maintenance	Not Completed
Baxter Creek				Not Listed under 303(d)

Table A-3. Great Falls MS4 Area TMDL Information.

Receiving Water (Waterbody ID)	Water Classification by State of Montana	Probable Causes for Impairments	Probable Sources for Impairments	TMDL
Missouri River (MT41Q00_011)	B-2	Chromium (total)	Contaminated Sediments Industrial Point Source Discharge Industrial/Commercial Site Stormwater Discharge (Permitted)	Not Completed
		Mercury	Contaminated Sediments Industrial Point Source Discharge Industrial/Commercial Site Stormwater Discharge (Permitted)	Not Completed
		Physical substrate habitat alterations	Dam Construction (other than upstream flood control projects) Industrial Point Source Discharge Industrial/Commercial Site Stormwater Discharge (Permitted) Irrigation Crop Production	Not Completed
		Polychlorinated biphenyls	Contaminated Sediments Industrial Point Source Discharge Industrial/Commercial Site Stormwater Discharge (Permitted)	Not Completed

Table A-3. Great Falls MS4 Area TMDL Information.

Receiving Water (Waterbody ID)	Water Classification by State of Montana	Probable Causes for Impairments	Probable Sources for Impairments	TMDL
		Sedimentation/Siltation	Contaminated Sediments Industrial/Commercial Site Stormwater Discharge (Permitted)	Not Completed
		Selenium	Contaminated Sediments Industrial Point Source Discharge Industrial/Commercial Site Stormwater Discharge (Permitted)	Not Completed
		Solids (Suspended/Bedload)	Contaminated Sediments Industrial Point Source Discharge Industrial/Commercial Site Stormwater Discharge (Permitted)	Not Completed
		Turbidity	Contaminated Sediments Dam Construction (other than upstream flood control projects) Industrial Point Source Discharge Industrial/Commercial Site Stormwater Discharge (Permitted) Irrigation Crop Production	Not Completed
Missouri River (MT41Q001_022)	B-1	Sedimentation/Siltation	Agriculture Dam Construction (other than upstream flood control projects) Highway/Road/Bridge Runoff (non-construction Related) Impacts from Hydrostructures Flow Regulation/modifications Natural Sources Streambank Modifications/destabilization	Not Completed
Sun River (MT41K001_020)	B-3	Nitrogen (Total)	Agriculture Irrigated Crop Production Rangeland Grazing	Completed
		Other Flow Regime Alterations	Irrigated Crop Production	Not Completed
		Phosphorus (Total)	Agriculture Irrigated Crop Production Rangeland Grazing	Completed
		Sedimentation/Siltation	Channelization Irrigated Crop Production Rangeland Grazing	Completed

Table A-3. Great Falls MS4 Area TMDL Information.

Receiving Water (Waterbody ID)	Water Classification by State of Montana	Probable Causes for Impairments	Probable Sources for Impairments	TMDL
		Total Suspended Solids (TSS)	Channelization Irrigated Crop Production Rangeland Grazing	Completed
Sand Coulee Creek (MT41K002_040)	B-1	Lead	Impacts from Abandoned Mine Lands (Inactive) Subsurface (Hardrock) Mining	Not Completed
		Salinity	Agriculture	Not Completed
		Zinc	Impacts from Abandoned Mine Lands (Inactive) Subsurface (Hardrock) Mining	Not Completed

Table A-4. Kalispell MS4 Area TMDL Information.

Receiving Water (Waterbody ID)	Water Classification by State of Montana	Probable Causes for Impairments	Probable Sources for Impairments	TMDL
Stillwater River (MT76P001_10)	B-2	Alterations in Stream-side or Littoral Vegetative Covers	Loss of Riparian Habitat Site Clearance (Land Development or Redevelopment) Source Unknown	Not Completed
		Lead	Source Unknown	Not Completed
		Nitrates	Source Unknown	Not Completed
		Phosphorus (total)	Source Unknown	Not Completed
		Sedimentation/Siltation	Loss of Riparian Habitat Site Clearance (Land Development or Redevelopment) Source Unknown	Not Completed
Ashley Creek (MT76O002_030)	C-2	Alterations in Stream-side or Littoral Vegetative Covers	Irrigation Crop Production	Not Completed
		Chlorophyll-a	Irrigation Crop Production Municipal Point Source Discharge Upstream Source	Not Completed
		Excess Algal Growth	Irrigation Crop Production Municipal Point Source Discharge Upstream Source	Not Completed
		Nitrate/Nitrite (Nitrite/Nitrate as N)	Irrigation Crop Production Municipal Point Source	Not Completed

Table A-4. Kalispell MS4 Area TMDL Information.

Receiving Water (Waterbody ID)	Water Classification by State of Montana	Probable Causes for Impairments	Probable Sources for Impairments	TMDL
			Discharge Upstream Source	
		Nitrogen (total)	Irrigation Crop Production Municipal Point Source Discharge Upstream Source	Not Completed
		Oxygen, Dissolved	Discharge from Municipal Separate Storm Sewer System (MS4) Municipal Point Source Discharges	Not Completed
		Phosphorus (total)	Irrigation Crop Production Municipal Point Source Discharge Upstream Source	Not Completed
		Temperature, water	Discharge from Municipal Separate Storm Sewer System (MS4) Municipal Point Source Discharges	Not Completed
East Spring Creek (MT76P003_062)	B-1	NA	NA	All uses assessed and fully supported
Bowser-Spring				Not Listed under 303(d)

Table A-5. Butte MS4 Area TMDL Information.

Receiving Water (Waterbody ID)	Water Classification by State of Montana	Probable Causes for Impairments	Probable Sources for Impairments	TMDL
Blacktail Creek				Not Listed under 303(d)
Silver Bow Creek (MT76G003_020)	I	Aluminum	Impacts from Abandoned Mine Lands (inactive)	Not Completed
		Arsenic	Impacts from Abandoned Mine Lands (inactive)	Not Completed
		Copper	Impacts from Abandoned Mine Lands (inactive)	Not Completed
		Iron	Impacts from Abandoned Mine Lands (inactive)	Not Completed
		Lead	Impacts from Abandoned Mine Lands (inactive)	Not Completed
		Manganese	Impacts from Abandoned Mine Lands (inactive)	Not Completed
		Nitrates	Site Clearance (Land Development or Redevelopment)	Not Completed
		Physical Substrate	Loss of Riparian Habitat	Not

Table A-5. Butte MS4 Area TMDL Information.

Receiving Water (Waterbody ID)	Water Classification by State of Montana	Probable Causes for Impairments	Probable Sources for Impairments	TMDL
		Habitat Alterations	Site Clearance (Land Development or Redevelopment)	Completed
		Sedimentation/siltation	Loss of Riparian Habitat Site Clearance (Land Development or Redevelopment)	Not Completed
		Silver	Impacts from Abandoned Mine Lands (inactive)	Not Completed
		Zinc	Impacts from Abandoned Mine Lands (inactive)	Not Completed
Basin Creek				Not Listed under 303(d)
Sand Creek				Not Listed under 303(d)
Grove Gulch Creek				Not Listed under 303(d)

Table A-6. Missoula MS4 Area TMDL Information.

Receiving Water (Waterbody ID)	Water Classification by State of Montana	Probable Causes for Impairments	Probable Sources for Impairments	TMDL
Clark Fork River (MT76E001_010)	B-1	Alteration of Stream-side or Littoral Vegetative cover	Agriculture Channelization	Not Completed
		Arsenic	Mill Tailing Mine Tailings	Not Completed
		Cadmium	Mill Tailing Mine Tailings	Not Completed
		Chlorophyll-a	Agriculture Municipal Point Source Discharges	Not Completed
		Copper	Mill Tailing Mine Tailings	Not Completed
		Iron	Mill Tailing Mine Tailings	Not Completed
		Lead	Mill Tailing Mine Tailings	Not Completed
		Nitrogen (total)	Agriculture Municipal Point Source Discharges	Completed
		Phosphorus (total)	Agriculture Municipal Point Source Discharges	Completed
		Zinc	Mill Tailing Mine Tailings	Not Completed

Table A-6. Missoula MS4 Area TMDL Information.

Receiving Water (Waterbody ID)	Water Classification by State of Montana	Probable Causes for Impairments	Probable Sources for Impairments	TMDL
Bitterroot River (MT76H001_030)	B-1	Alteration in Stream-side or Littoral Vegetative Cover	Rangeland Grazing Wet Weather Discharges (Point Source and Combination of Stormwater, SSO, or CSO)	Not Completed
		Copper	Sediment Resuspension (Contaminated Sediment)	Not Completed
		Lead	Sediment Resuspension (Contaminated Sediment)	Not Completed
		Nitrogen, Nitrate	On-site Treatment Systems (Septic Systems and Similar Decentralization Systems) Rangeland Grazing Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)	Not Completed
		Sedimentation/siltation	Sediment Resuspension (Contaminated Sediment) Streambank Modification/destabilization Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)	Not Completed
		Temperature, water	Agriculture Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)	Not Completed
Pattee Creek				Not Listed under 303(d)
Rattlesnake Creek (MT76M002_120)	A-Closed	Other Flow Regime Alterations	Dam Construction (Other than Upstream Flood Control Projects) Flow Alteration from Water Diversions	Not Completed
Grant Creek (MT76M002_130)	B-1	Alteration in Stream-side or Littoral Vegetative Cover	Irrigated Crop Production Site Clearance (Land Development or Redevelopment)	Not Completed
		Excess Algal Growth	Irrigated Crop Production Site Clearance (Land Development or Redevelopment)	Not Completed
		Low Flow Alterations	Flow Alterations form Water Diversions Irrigated Crop Production Site Clearance (Land Development or Redevelopment)	Not Completed

Table A-6. Missoula MS4 Area TMDL Information.

Receiving Water (Waterbody ID)	Water Classification by State of Montana	Probable Causes for Impairments	Probable Sources for Impairments	TMDL
		Nitrate/Nitrite (Nitrite+Nitrate as N)	Irrigated Crop Production Site Clearance (Land Development or Redevelopment)	Not Completed
		Sedimentation/siltation	Site Clearance (Land Development or Redevelopment) Streambank Modifications/destabilization	Not Completed
		Temperature, water	Flow Alterations form Water Diversions Loss of Riparian Habitat	Not Completed
Blackfoot River	B-1	Ammonia (Unionized)	Contaminated Sediments, Grazing in Riparian or Shoreline Zones, Silviculture Activities	Not Completed
Butler Creek				Not Listed under 303(d)

Table A-7. Helena MS4 Area TMDL Information.

Receiving Water (Waterbody ID)	Water Classification by State of Montana	Probable Causes for Impairments	Probable Sources for Impairments	TMDL
Tenmile Creek (MT411006_143)	B-1	Alteration in Stream-side or Littoral Vegetative Covers	Channelization Habitat Modification –other than Hydromodification Highways, Roads, Bridges, Infrastructure (New Construction) Site Clearance (Land Development or Redevelopment)	Not Completed
		Arsenic	Acid Mine Drainage Impacts from Abandoned Mine Lands (Inactive)	Completed
		Cadmium	Acid Mine Drainage Impacts from Abandoned Mine Lands (Inactive)	Completed
		Copper	Acid Mine Drainage Impacts from Abandoned Mine Lands (Inactive)	Completed
		Lead	Acid Mine Drainage Impacts from Abandoned Mine Lands (Inactive)	Completed
		Low Flow Alterations	Impacts from Hydrostructure Flow Regulation/modification Irrigated Crop Production	Not Completed

Table A-7. Helena MS4 Area TMDL Information.

Receiving Water (Waterbody ID)	Water Classification by State of Montana	Probable Causes for Impairments	Probable Sources for Impairments	TMDL
		Mercury	Acid Mine Drainage Impacts from Abandoned Mine Lands (Inactive)	Not Completed
		Nitrogen (total)	NA	Completed
		Nutrient/Eutrophication Biological Indicators	Irrigated Crop Production	Completed
		Sedimentation/Siltation	Habitat Modification –other than Hydromodification Highways, Roads, Bridges, Infrastructure (New Construction) Irrigated Crop Production Site Clearance (Land Development or Redevelopment)	Completed
		Zinc	Acid Mine Drainage Impacts from Abandoned Mine Lands (Inactive)	Completed
Prickly Pear Creek (MT411006_030)	I	Alteration in Stream- side or Littoral Vegetative Covers	Grazing in Riparian or Shoreline Zones Habitat Modifications- other than Hydromodifications Impacts from Abandoned Mine Lands (Inactive)	Not Completed
		Ammonia (Un-ionized)	Grazing in Riparian or Shoreline Zones Irrigated Crop Production On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Not Completed
		Arsenic	Acid Mine Drainage Contaminated Sediments Impacts from Abandoned Mine Lands (Inactive)	Completed
		Cadmium	Acid Mine Drainage Contaminated Sediments Impacts from Abandoned Mine Lands (Inactive)	Completed
		Copper	Acid Mine Drainage Contaminated Sediments Impacts from Abandoned Mine Lands (Inactive)	Completed
		Lead	Acid Mine Drainage Contaminated Sediments Impacts from Abandoned Mine Lands (Inactive)	Completed

Table A-7. Helena MS4 Area TMDL Information.

Receiving Water (Waterbody ID)	Water Classification by State of Montana	Probable Causes for Impairments	Probable Sources for Impairments	TMDL
		Low Flow Alteration	Irrigated Crop Production	Not Completed
		Nitrogen (total)	NA	Completed
		Phosphorus (total)	NA	Completed
		Physical Substrate Habitat Alterations	Contaminated Sediments Grazing in Riparian or Shoreline Zones Habitat Modification –other than Hydromodification Impacts from Abandoned Mine Lands (Inactive) Industrial Point Source Discharge	Not Completed
		Sedimentation/Siltation	Contaminated Sediments Grazing in Riparian or Shoreline Zones Habitat Modification –other than Hydromodification Industrial Point Source Discharge Irrigated Crop Production	Completed
		Temperature, water	Grazing in Riparian or Shoreline Zones Habitat Modification – other than Hydromodification Industrial Point Source Discharge Irrigated Crop Production	Not Completed
		Zinc	Acid Mine Drainage Contaminated Sediments Impacts from Abandoned Mine Lands (Inactive)	Completed
Prickly Pear Creek (MT41I006_040)	B-1	Alteration in Stream- side Littoral Vegetative Covers	Channelization Highways, Roads, Bridges, Infrastructure (New Construction)	Not Completed
		Aluminum	Acid Mine Drainage Contaminated Sediment Impacts from Abandoned Mine Lands (Inactive)	Not Completed
		Antimony	Acid Mine Drainage Contaminated Sediment Impacts from Abandoned Mine Lands (Inactive)	Not Completed
		Arsenic	Acid Mine Drainage Contaminated Sediment Impacts from Abandoned Mine Lands (Inactive)	Completed

Table A-7. Helena MS4 Area TMDL Information.

Receiving Water (Waterbody ID)	Water Classification by State of Montana	Probable Causes for Impairments	Probable Sources for Impairments	TMDL
		Cadmium	Acid Mine Drainage Contaminated Sediment Impacts from Abandoned Mine Lands (Inactive)	Completed
		Copper	Acid Mine Drainage Contaminated Sediment Impacts from Abandoned Mine Lands (Inactive)	Completed
		Lead	Acid Mine Drainage Contaminated Sediment Impacts from Abandoned Mine Lands (Inactive)	Completed
		Physical Substrate Habitat Alterations	Channelization Highways, Roads, Bridges, Infrastructure (New Construction) Industrial Point Source Discharge	Not Completed
		Sedimentation/Siltation	Channelization Highways, Roads, Bridges, Infrastructure (New Construction) Industrial Point Source Discharge	Completed
		Temperature, water	NA	Completed
		Zinc	Acid Mine Drainage Contaminated Sediments Impacts from Abandoned Mine Lands (Inactive)	Completed

Appendix B MDT Organizational Chart

