County of Missoula
Small MS4 Stormwater Management Program

Prepared for MPDES General Permit No. MTR040011

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INTRODUCTION

Executive Summary:

It is a critical interest of the County to manage its stormwater. The Missoula Valley aquifer is the only source of drinking water for all of Missoula's residents. Because we all need and value clean water, we must protect our aquifer from contamination. Oftentimes, a lack of BMPs at auto shops, gas stations, etc. results in chemical releases into the environment and stormwater systems. Stormwater systems can then collect and deliver pollutants to the nearest stream, wetland, or groundwater. From its impacts on public health and safety, groundwater and surface water quality, wildlife habitat, and future development, the effectiveness and efficiency of storm water management is crucial. Consequently, the Federal government amended the Clean Water Act (CWA) in 1987 to regulate the management of storm water runoff from municipalities and specific industrial classifications. Recent state and federal regulations ("Phase II") promulgated in response to those amendments require that designated various municipalities and counties to obtain coverage under a Statewide General Permit by March of 2003. Though the County of Missoula is unable to enforce and implement certain aspects of a Storm Water Management Program (SWMP) due to Montana State Law, this document was prepared to exhibit fulfillment to requirements of that permit.

The purpose of this SWMP is to describe efforts proposed by the county to control discharge of pollutants to state waters in the storm water system that runs into the waters of the Missoula Urbanized Area. The SWMP includes descriptions of storm water management activities that will be undertaken during the fifth cycle of the statewide general permit, which extends through 2027. The program has been built around a suite of programmatic elements that the County has already implemented, is in the process of development for implementation, or plans to develop in order to meet new or revised requirements set forth in the latest General Permit. Together, these programmatic elements address the six minimum control measures required under the Statewide General Permit:

- Public Education/Outreach - The County must continue to educate the public on stormwater in its permitted jurisdiction, to develop or adapt, distribute, and evaluate educational materials and outreach activities to key target audiences in the MS4 that raise awareness about the impacts of stormwater discharges on waterbodies, educate audiences about the behaviors and activities that have the potential to pollute stormwater discharges, and motivate action to change behaviors to reduce pollutants in stormwater runoff.

- Public Involvement/Participation – The County must continue to provide opportunities to involve key target audiences in the development and implementation of the SWMP that complies with state and local public notice requirements.

- Illicit Discharge Detection and Elimination – The County must continue to adopt and enforce ordinances or take equivalent measures to prohibit illicit discharges into the storm sewer system. The County must also implement a program to detect illicit discharges and eliminate their presence.

- Construction Site Storm Water Runoff Control – The County must continue to develop a program to control the discharge of pollutants from erosion and sediment for construction activity on sites greater than one acre in size within its permittee jurisdiction.

- Post-Construction Storm Water Management in New Development and Redevelopment – The County must continue to require long-term post-construction best management practices (BMPs) that protect water quality and control runoff flow to be incorporated into development and significant redevelopment projects.

- Pollution Prevention/Good Housekeeping for Municipal/County Operations – The County must continue to examine its activities and develop programs to prevent or reduce the discharge of pollutants from these activities. The County must also educate staff on pollution prevention practices.

The program is designed to reduce the discharge of pollutants from the county's Municipal Separate Storm Sewer System (MS4) to the maximum extent practicable (MEP) and to protect water quality. According to the EPA's 2016 303(d) list, water bodies that the County discharges to, which are impaired, include the Clark Fork River, Bitterroot River, Grant Creek, and Rattlesnake Creek. In addition, the areas within the county storm water jurisdiction can be characterized as primarily residential, with some commercial, and very little industrial. Based on these factors, the pollutants of concern / causes of impairment targeted by the County's Stormwater Management Program will include:

- Nitrogen, Nitrate
- Organic Enrichment (Sewage)
- Phosphorus
- Sedimentation/Siltation
- Metals (Copper, Lead, and Zinc)

The County has also identified additional potential contaminants and causes of impairment of concern, which are not required to be addressed by the Department of Environmental Quality. These identified contaminants and causes of impairment include:

- Arsenic
- Biological indicators (fecal coliform)
- Cadmium
- Chlorophyll A
- Chloride
- Excess Algal Growth
- Iron
- Litter and Trash
- Magnesium Chloride
- Oil, Hydrocarbons, including PAHs
- Pesticides
- Sodium Chloride
- Streambank Alteration
- Temperature

The Missoula area has a long history of addressing water quality issues. In 1988, the Missoula City-County Health Department applied for and obtained Sole Source Aquifer designation from the US EPA. This designation requires that all projects which obtain federal funding be reviewed by the EPA. In January 1993, the Missoula Board of County Commissioners and the Missoula City Council passed a resolution creating the Missoula Valley Water Quality District (MVWQD), providing for more direct control for the protection of water resources with the Missoula Valley. The MVWQD has since undertaken numerous projects to protect and improve water quality. These projects include removal of auto shop floor drains that discharge through subsurface injection, public education on issues pertaining to water quality, household hazardous waste collection, establishment of a permitting and inspection system for facilities that store regulated substances, maintaining an illicit discharge reporting system and 24-hr on-call hazmat team, BMP development for activities that can impact stormwater, and conducting valley-wide groundwater and surface water monitoring networks and research studies, and advocating for thorough clean-up and remediation on state and federal superfund sites. In August 1998, the Clark Fork River Voluntary Nutrient Reduction Program was finalized and put into place as an agreement among major parties in the Montana portion of the watershed to significantly reduce nutrient pollution along a 200-mile stretch of the Clark Fork River. The County of Missoula has chosen to build its stormwater program on this framework of successful, established programs that are already making significant strides to protect our water resources.

Montana Pollutant Discharge Elimination System

The State of Montana has established a permit system which is similar to the federal permit system, called the Montana Pollutant Discharge Elimination System (MPDES). This system is administered by the Montana Department of Environmental Quality (MDEQ). The Administrative Rules of Montana (ARM), section 17.30.1105 require that any entity discharging storm water from a point source must obtain coverage under an MPDES general permit. MPDES general permits cover discharges 1) associated with construction activity; 2) associated with industrial activity; 3) associated with mining, oil, and gas activity; 4) from small municipal separate storm sewer systems (small MS4s); 5) for which the department determines that storm water controls are needed based on waste load allocations that are part of Total Maximum Daily Loads (TMDLs) that address the pollutants of concern; and 6) that the department determines are contributing to a violation of a water quality standard or are significant contributors of pollutants to surface waters.

Montana Designated Small MS4s

The EPA established guidelines for designating small MS4s, which MDEQ used to create the list of Montana small MS4s named in the Administrative Rules of Montana (ARM) 17.30.1102(23) – the Urban Areas (as determined by the 2010 decennial census by the United States census bureau) of the City of Billings and Yellowstone County; the City of Missoula and Missoula County; and the City of Great Falls and Cascade County. In addition, MS4s located within the cities of Bozeman, Butte, Helena, and Kalispell were also named because their discharge “results in, or has the potential to result in, exceedances of water quality standards, including impairment of designated uses, or has other significant water quality impacts, including habitat and biological impacts”. Municipalities within the Missoula Urban area which own and operate separate storm sewer systems are the City of Missoula, Missoula County, Montana Department of Transportation – Missoula Office, and the University of Montana.

General Permit

The General Permit for Storm Water Discharge Associated with Small Municipal Separate Storm Sewer Systems (MS4) provides authorization to discharge storm water to waters of the United States under the Montana Pollutant Discharge Elimination System (MPDES). Complete Phase I and II requirements have been incorporated into the Administrative Rules of Montana (ARM), Title 17, Chapter 30, Subchapters 11, 12, and 13. The General Permit, under the authority of ARM, defines effluent limitations; establishes monitoring, recording, and reporting requirements; establishes requirements for a Storm Water Management Program; and sets standard permit conditions.

Since the fourth permit cycle, the MS4 permittees in the Missoula Urban Area are no longer filing as co-permittees. The overlap of infrastructure and drainage among many of the permittees poses a challenge for targeted outreach, education, and for addressing monitoring with BMPs in some cases. For example, MDT may have outfalls within the Missoula County MS4 and City of Missoula drainage infrastructure may drain to a Missoula County outfall. However, some practices are still shared between the City and County as the Water Quality District and the City-County Health department are responsible for much of the enforcement action taken across the various MS4 jurisdictions. An inter-local agreement has been drafted and signed between the County Commissioners of Missoula County and the Director of City-County Health department surrounding the role the Water Quality district will take in some aspects of the SWMP.

Missoula City-County Health Code, Regulation 1 (which is a County wide regulation) and the Water Quality Ordinance (which is a City Ordinance, but effective within five miles of the City limits because it is deemed a Health Ordinance pursuant to §7-4-4306, and the extraterritorial application of the ordinance has been agreed to in a Resolution of Concurrence by the Missoula Board of County Commissioners) demonstrate that the County is regulating illicit discharges.

The permit area of Missoula has been defined by the MDEQ as the Urban Area delineated following the most recent decennial census, and responsibility has been divided among the permittees within the Urban Area as follows:

1) The Montana Department of Transportation – parcels owned by the department and the numerous state traffic routes within the Urban Area.
2) The University of Montana - parcels owned by the University within the Urban Areas.
3) The City of Missoula – areas within the City Limits and Urban Area which are not owned by either the Department of Transportation of the University of Montana, excluding state traffic routes.
4) Missoula County – areas outside the City Limits, but within the Urban Area which are not owned by either the Department of Transportation of the University of Montana, excluding state traffic routes.

An inter-local agreement has been formed in the past amongst these four entities in order to maintain an effective joint effort in meeting compliance with the Minimum Control Measures set in the General Permit. With limitations by the County to enforce many ordinances needed to meet compliance, coordination has been necessary to ensure regulatory mechanisms are in place to effectively implement the SWMP required by the MS4 permit. As the Missoula MS4 permitee's are no longer applying as co-permittees, this SWMP entails the Best Management Practices (BMPs) carried out by the County within its designated jurisdiction with the assistance of City-County Health personnel from the Water Quality District.

Storm Water Management Program Requirements

As required by the General Permit for Storm Water Discharge Associated with Small Municipal Separate Storm Sewer System (MS4), permittees must develop a SWMP designed to reduce the discharge of pollutants from the permitted Small MS4 to the maximum extent practicable (MEP) to protect water quality, and to satisfy the appropriate water quality requirements of the Montana Water Quality Act. The SWMP must include management practices, control techniques, systems, designs, good standard engineering practices, and such other provisions necessary for the control of such pollutants. Each Minimum Control Measure (MCM) has requirements to identify how the success of the Best Management Practice (BMP) will be evaluated, including how the measurable goals for each of the BMPs were selected. In addition to these requirements, permittees are required to maintain documentation describing how and why each of the BMPs and measurable goals for the SWMP was selected. These items have been addressed in the Minimum Control Measure sections of this document.

The SWMP must include a section describing how the SWMP will control discharges of pollutants of concern (POC) and ensure storm water discharges will not cause or contribute to instream exceedances of water quality standards. The Montana Department of Environmental Quality's 2016 303(d) list is being used as the basis for the list of Pollutants of Concern (POC) and the specifics of addressing these can be found on pages 7 – 12.

Finally, each Minimum Control Measure has requirements to identify the responsible party for overall management and implementation of the programs and Best Management Practices. A Storm Water Program Staff Organizational Chart with responsibilities assigned for each BMP has been included in this section on page 13. Since some agencies involved in the storm water program are funded by both City and County taxes, these agencies have been shown on the chart to illustrate the relationship. Responsibilities are also noted in the Minimum Control Measure sections. This program documents the efforts of the County of Missoula to meet the requirements of the MTDEQ Storm Water General Permit.

Pollutants of Concern

Water Body	Pollutant	Probable Source(s)	Associated Uses	TMDL	BMPs
Clark Fork River, Blackfoot River to Rattlesnake Creek MT76M001_030	Arsenic	Mill Tailings	Drinking Water	Yes	3.3
	Cadmium	Mill Tailings	Aquatic Life	Yes	3.3
	Copper	Mill Tailings	Aquatic Life	Yes	3.3
	Eutrophication	Industrial Point Source Discharge, Dam or Impoundment	Aquatic Life	Yes	3.3
	Iron	Mill Tailings	Aquatic Life	Yes	3.3
	Lead	Mill Tailings	Aquatic Life, Drinking Water	Yes	3.3
	Zinc	Mill Tailings	Aquatic Life	Yes	3.3

Outfalls into MT76M001_030:

- dischpt_5 Outfall: Clark Fork River: I-90 east bound @ Clark Fork River
- dischpt_12 Outfall: Clark Fork River: I-90 west bound @ Clark Fork River
- dischpt_2 Outfall: Other: Hwy 200 @ Greil Loop. Swale discharges to Mittower Gulch. Private.
- dischpt_7 Outfall: Other: Hwy 200 @ Greil Loop. Swale discharges to Mittower Gulch. Private.
- dischpt_474 Outfall: Clark Fork River: CMP terminating near Clark Fork River. Likely infiltrates prior to reaching river.
- dischpt_21 Outfall: Clark Fork River: 24 inch concrete pipe terminating to riverbank. Obscured by dense vegetation.
- dischpt_13 Outfall: Clark Fork River: Deer Creek Rd @ Clark Fork River. Culvert needs maintenance.
- dischpt_486 Outfall: Clark Fork River: Roadside swale and culvert discharges to Clark Fork.
- dischpt_4 Outfall: Clark Fork River: I-90 WB @ Juniper Dr/Clark Fork River

Monitoring schedule: Dry Weather Screening of dischpt_13 Outfall, August-September.

Water Body	Pollutant	Probable Source(s)	Associated Uses	TMDL	BMPs
Clark Fork River, Rattlesnake Creek to Fish Creek MT76M001_020	Chlorophyll-a	Industrial Point Source Discharge,Municipal Point Source Discharges	Aquatic Life,Primary Contact Recreation	Yes	TBD
	Copper	Mill Tailings	Aquatic Life	Yes	TBD
	Iron	Mill Tailings	Aquatic Life	Yes	TBD
	Lead	Mill Tailings	Aquatic Life	Yes	TBD
	Nitrogen, Total	Industrial Point Source Discharge, Municipal Point Source Discharges	Aquatic Life, Primary Contact Recreation	Yes	TBD

	Organic Enrichment	Municipal Point Source Discharges,Industrial Point Source Discharge	Aquatic Life	Yes	TBD
	Phosphorus, Total	Industrial Point Source Discharge, Municipal Point Source Discharges	Aquatic Life, Primary Contact Recreation	Yes	TBD
Outfalls into MT76M001_020: None identified. Monitoring Schedule N/A					

Water Body	**Pollutant**	**Probable Source(s)**	**Associated Uses**	**TMDL**	**BMPs**
Blackfoot River, Belmont Cr to the mouth (Clark Fork River) MT76F001_033	Not Assessed	Not Assessed	Insufficient Information	N/A	TBD

Outfalls into MT76F001_033:

- dischpt_9 Outfall: Blackfoot River: 24" CPP discharges to Blackfoot River – Kettlehouse Amplitheater
- dischpt_507 Outfall: Blackfoot River: SW drainage discharges to Blackfoot River
- dischpt_24 Outfall: Blackfoot River: Hwy 200 @ Blackfoot River.
- dischpt_23 Outfall: Blackfoot River: I-90 WB
- dischpt_6 Outfall: Blackfoot River: I-90 WB/EB
- dischpt_1 Outfall: Blackfoot River: I-90 EB

Monitoring Schedule: N/A

Water Body	Pollutant	Probable Source(s)	Associated Uses	TMDL	BMPs
Bitterroot River, Eightmile to the mouth (Clark Fork River) MT76H001_030	Alteration in stream-side or littoral vegetative covers	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO),Rangeland Grazing	Aquatic Life	N/A	3.3
	Lead	Source Unknown	Aquatic Life	Yes	3.3
	Temperature	Wet Weather Discharges (Non-Point Source),Agriculture	Aquatic Life	Yes	3.3

Outfalls into MT76H001_030:

- dischpt_462 Outfall Bitterroot River Outfall from a water feature detention at Missoula Country Club
- dischpt_11 Outfall Bitterroot River Ravenwood drainage discharging to the Bitterroot River South of Briggs St Neighborhood
- dischpt_466 Outfall Bitterroot River Storm water discharges to Bitterroot River. Large concrete outflow control structure. Outfall inputs largely from city infrastructure, managed by City of Missoula MS4.
- dischpt_16 Outfall Bitterroot River Outfall into Bitterroot River from Hwy 93 storm Inlets (MDT outfall)
- dischpt_460 Outfall Bitterroot River Storm water terminates to Bitterroot River. Property of Linda Vista golf course property

- Monitoring Schedule: Dry Weather Screening of dischpt_11 in Ravenwood Drainage @ round-a-bout, August-September.

Water Body	Pollutant	Probable Source(s)	Associated Uses	TMDL	BMPs
Grant Creek, headwaters to the mouth (Clark Fork River) MT76M002_130	Algae	Crop Production (Irrigated),Site Clearance (Land Development or Redevelopment)	Primary Contact Recreation	N/A	TBD
	Alteration in stream-side or littoral vegetative covers	Site Clearance (Land Development or Redevelopment),Crop Production (Irrigated)	Aquatic Life	N/A	TBD
	Flow Regime Modification	Water Diversions,Site Clearance (Land Development or Redevelopment),Crop Production (Irrigated)	Aquatic Life	N/A	TBD
	Nitrate-Nitrite (Nitrite plus Nitrate as N)	Crop Production (Irrigated),Site Clearance (Land Development or Redevelopment)	Aquatic Life, Primary Contact Recreation	Yes	6.2
	Nitrogen, Total	Crop Production (Irrigated),Site Clearance (Land Development or Redevelopment)	Aquatic Life, Primary Contact Recreation	Yes	6.2
	Sedimentation-Siltation	Site Clearance (Land Development or Redevelopment),Streambank Modifications-destabilization	Aquatic Life	Yes	6.2
	Temperature	Water Diversions, Loss of Riparian Habitat	Aquatic Life	Yes	TBD

Outfalls into MT76M002_130:

- dischpt_914: Outfall: Grant Cr: Bench Rd Bridge
- dischpt_915: Outfall:Grant Cr: Old Grant Cr Rd
- dischpt_511: Outfall: Grant Cr: Snowbowl Rd Bridge

Monitoring Schedule: Snowbowl Rd Bridge_004A sampled as part of self-monitoring and TMDL sampling, Jan 1-June 30 and July 1-December 31st.

Information based on 2018 Water Quality Information from Montana Department of Environmental Quality Clean Water Act Information Center.

Contributing Sources of Impairment:

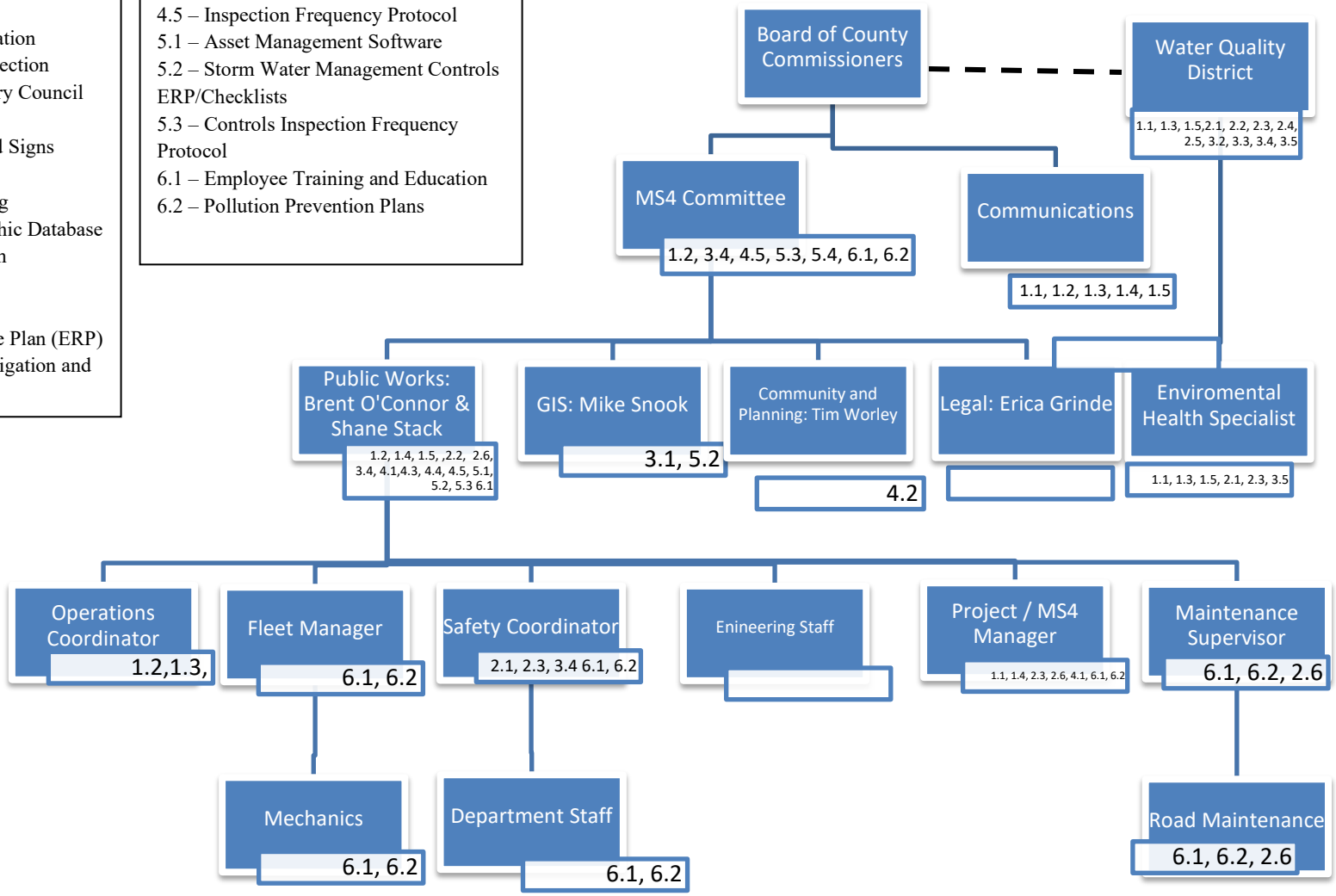
- Mill Tailings
- Industrial Point Source Discharge
- Municipal Point Source Discharge
- Rangeland Grazing
- Wet Weather Discharges
- Sediment Resuspension
- On-Site Treatment Systems
- Streambank Modifications/Destabilization
- Loss of Riparian Habitat
- Agriculture/Irrigated Crop Production
- Dam Construction/Upstream Impoundments
- Flow Alterations from Water Diversion
- Site Clearance/Land Development

Missoula County should consider these and/or other pollutant sources located within the MS4 boundary that may have an impact on receiving waters and include those as targets within the SWMP. Specific provisions should be implemented in order to reduce the impairment to these “high-quality” waters.

BMPs:

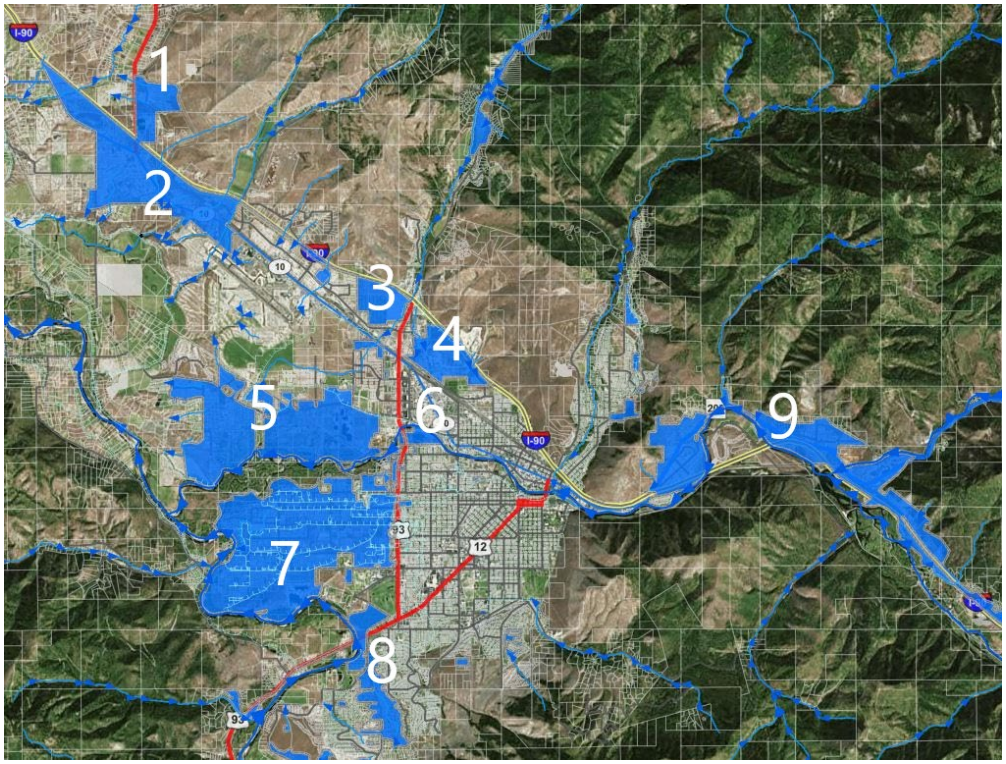
1.1 – Educational Pamphlets
1.2 – Web Page/Social Media
1.3 – PSA, TV/Printed Advertising
1.4 – Contractor Education
1.5 – Illicit Discharge Education
2.1 – Hazardous Waste Collection
2.2 – Water Quality Advisory Council
2.3 – Classroom Education
2.4 – Pet Waste Stations and Signs
2.5 – Charity Car Wash Kit
2.6 -- Storm Drain Stenciling
3.1 – Storm Sewer Geographic Database
3.2 – Regulatory Mechanism
3.3 – Illicit Discharge & Monitoring/Screening
3.4 – Enforcement Response Plan (ERP)
3.5 - Illicit Discharge Investigation and Corrective Plan

4.1 – Construction Site Plan
4.2 – Subdivision & Zoning Regulations
4.3 – Standard Drawings/Checklist
4.4 – Construction ERP
4.5 – Inspection Frequency Protocol
5.1 – Asset Management Software
5.2 – Storm Water Management Controls ERP/Checklists
5.3 – Controls Inspection Frequency Protocol
6.1 – Employee Training and Education
6.2 – Pollution Prevention Plans



Missoula County MS4 Boundaries and Zones

Zone	Zone Description	Land Use/User groups/Target Audiences
1	Wye/O'Keefe	Residential development, fueling station
2	Hwy 10/Industrial Park	Auto parts, trucking company, lumber yard, auto salvage, shooting club, agricultural land, Butler Cr, O'Keefe Cr, La Valle Cr
3	Grant Cr/Valley Floor	Gravel pit
4	Downtown/Northside	Phillips66 terminal, forest products
5	Mullan Rd	Gravel pit, residential development, Grant Cr
6	Reserve St. Bridge	Gravel pit/concrete casting, unauthorized camping, Clark Fork River
7	Target Range	Residential development, horse/dog park, irrigation ditches, Target Range School
8	Miller Cr	Residential development, golf courses, irrigation ditches
9	East Missoula/Bonner	Residential development, brewery, Bonner school, auto salvage, fueling stations, horse arena



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

Missoula County shall implement a stormwater public education program to develop or adapt, distribute, and evaluate educational materials and outreach activities to key target audiences in the MS4.

Many user groups perform activities and travel across the boundaries of Missoula's 4 different small MS4s. Just past the confluence of the Blackfoot and Clark Fork Rivers, as much as 80% of the valley's groundwater is recharged through the narrow Hellgate Canyon, and due to the composition of Missoula's coarse sand and gravel quaternary alluvium, moves relatively quickly (3-100 ft/day) to discharge at the south-south-west end of town at the confluence of the Clark Fork and Bitterroot Rivers. Accordingly, the activities that could negatively impact the aquifer in one MS4 could potentially lead to impacts across the valley, completely ignoring city and county property lines and MS4 boundaries. Similarly, educational efforts that convey the importance of preventing non-point source pollution within one user group or geographical area can lead to beneficial effects throughout the valley and downgradient recipients. Essentially, the entire geographic area overlaying the Sole Source Aquifer, from East Missoula and Lolo out to Frenchtown is a significant target audience. The broad goals of our educational efforts are to raise awareness about the impacts of stormwater discharges on water quality and educate citizens about the behaviors and activities that can pollute stormwater discharges. Importantly, we aim for those efforts that specifically address the key audiences and behaviors with the potential for meaningful impact within the permitted MS4 boundaries despite the limited size and structure of the various MS4 boundaries and zones. Ultimately, we want our efforts to lead to measurable behavioral change that reduces pollutants in stormwater runoff and improves water quality for all residents and users of the resource.

To identify target audiences within the MS4, land use patterns, business types, outfall density, historical patterns of illicit discharge, and development trends were considered. When looking at reported incidents of illicit discharge the public feedback/complaint system, we looked at types of pollutants complaints, frequency of those types of complaints, and then locations within the MS4 zones to see if patterns emerge (see MCM 3 section). Every complaint of an illicit discharge provides an educational opportunity for residents of the MS4 as to allowable non-stormwater discharges, safe contaminant storage, clean up processes, and vulnerability of the aquifer and surface waters to pollutants. Additionally, because of our business inspection program, construction permitting educational interactions, and presence of local schools and homeowner groups in the MS4, there are opportunities for active interventions aimed at preventing non-point source pollution.

- Target audiences include 1.) residents occupying the predominantly residential-growth portions of the MS4 (Zones 1, 7, 8 and 9), 2.) (focusing on auto repair, household haz waste disposal, and pet waste)contractors operating within the county, 3.) school children residing in the MS4, and the following business types and

activities that operate and occur in the MS4: Auto Maintenance, Carpet Cleaning, Fueling and Petroleum Storage, Livestock Housing (and pet waste), Pressure Washing, Road Maintenance – includes sweeping, deicing, concrete and asphalt work, Trade Contracting, Well Development.

BMP 1.1 <u>Educational Pamphlets, Publications, and Mailings</u>

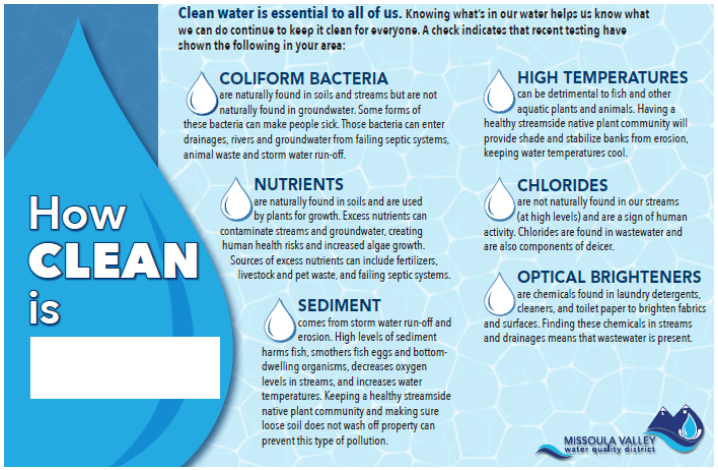
Description: The Missoula Valley Water Quality District prints and distributes information to residents of the MS4 for general education on stormwater pollution, household hazardous waste, illicit discharge, chemical storage, BMPs for activities know to contribute to stormwater pollution, and practices for homeowners near drainages and discharge points.

The District fields questions from the public about proper household hazardous waste disposal and has conducted an annual collection event for more than 10 years. A website with content managed by the District (zerobyfiftymissoula.com) provides information on non-toxic alternatives and year-round options for household hazardous waste disposal. These educational pieces are also provided as handouts to event participants as well as those who contact the District. Pamphlets are also distributed at the Water Quality District office. A permanent facility hazardous waste collection facility is being built to further support outreach and active participation by the public. The structure will serve as a crucial BMP in mitigating pollutants in to the MS4 and the distribution of educational material.

Missoula County also distributes educational materials targeting construction trades and residents of the MS4. An "Only Rain Down the Drain" poster (pictured below) is on the website and also available when permitting. Similarly, stormwater koozies are available for contractors and members of the public. In an effort to educate neighborhoods about their local water resources and storm water

impacts, a “How Clean is” postcard was developed in response to documented complaints in Zone 8 but applicable for other zones where surface waters have the potential for illicit discharge impacts. New handouts are developed as needed to address educational gaps identified within the MS4.

Rationale: Buying less-toxic alternatives and disposing of household toxics is a proactive way to prevent stormwater pollution. With access to educational information on household hazardous waste, connections between common residential activities and water quality, and a general understanding of the function of stormwater infrastructure, local citizens will be better informed to carry out their individual responsibilities in protecting our state waterways and drinking water.



Personnel: Missoula Valley Water Quality District - Environmental Health Specialist, Missoula County Communications

Tracking: Educational materials are tracked when used for targeted mailing or when distributed at outreach events (Home Shows, conferences, etc.)

BMP 1.2 <u>Web Page, Social Media</u>

Description: The County's website provides information about impacts of stormwater pollution and offers ways to decrease these impacts. The Missoula Valley Water Quality District, Missoula County and Missoula County Public Works maintain a Facebook presence. Timely information about stormwater projects, impacts and news are periodically posted on these venues. Records of these posts are maintained. In addition, the Water Quality District’s webpage includes links to current projects addressing stormwater as well as monitoring data and construction requirements are also found. The page also keeps residents informed on current state and federal superfund cleanup sites and the importance of riparian buffers to the water quality. Stormwater complaints can be filed through this website.

The Website includes:

- A Copy of the Current General Permit

- Access to Outreach Material
- Outreach event information (most recent and current)
- Stormwater Management Program documents and updates
- Annual Reports
- A mechanism for public input for the SWMP
- Information regarding how to identify sources of illicit sources
- Procedures on how to report an illicit discharge
- A summary of Missoula County's requirements for covered construction activity
- An explanation on how to submit construction project complaints

Rationale: This BMP was chosen because many obtain information via social media and web pages. It has the potential to reach thousands of people using a minimum amount of personnel time and money

Personnel: Missoula Valley Water Quality District, Missoula County Communications, Missoula County Public Works

Tracking: Between the two web pages and various links, the County plans to reach approximately 3,000 households annually. Additional Updates to the Webpage will also be listed, as the SWMP updates. Website counts will be tallied and submitted as part of the annual report.

BMP 1.3 <u>PSAs, TV and Printed Advertisement</u>

Description: TV, PSA, and printed advertising are used to inform citizens of the steps they can take to reduce stormwater pollution. Interviews resulting from PSAs as well as television advertising is primarily centered on Household Hazardous Waste Collection. There have also been interviews related to dog waste, solid waste in the floodplain, and BMPs for activities know to contribute to stormwater pollution. Periodically, PSAs are placed with local radio stations.

Rationale: By using a diverse selection of media, the District can reach diverse segments of the population.

Personnel: Missoula Valley Water Quality District – Environmental Health Specialists, Missoula County Communications

Tracking: Number of PSAs or ads placed/distributed will be recorded

BMP 1.4 <u>Contractor Education Program</u>

Description: The Public Works Department works closely with designers and excavation contractors in the community to develop rules and methods that work effectively and efficiently. This group as well as any member of the public can review the Public Works Manual for stormwater management guidelines. These guidelines and typical drawings in the manual should be considered in planning stages to reduce potential pollutants during construction activities. The County has also produced this manual to clarify when hillside standards or Commercial/Industrial standards apply. These requirements can be found in Section 9 of the Public Works Manual. When standards apply a grading and drainage plan shall be submitted for review and approval. For projects to be constructed on slopes of 5 to 9 percent a plan shall include, at minimum; a building footprint, finished floor elevations, setbacks, water and sewer facilities, sidewalk, curb and gutter location details, parking details, and a landscaping plan. For grades steeper than 9%, or for Commercial/Industrial developments, a plan shall include in addition to the 5 to 9 percent requirements a topographic map showing existing and proposed contours at a minimum two foot intervals completed by a professional engineer.

For projects that require a SWPPP permit, the County requires that these documents be submitted with the construction plans prior to any authorization of the construction work. These construction zones will be monitored by County staff for compliance with the SWPPP permit. The owner shall comply with all local authorities and state laws.

In addition to these items, the Public Works Manual has been assembled to be a useful resource for stormwater activities. The manual provides specific design guidelines for stormwater retention and detention practices for private development and subdivisions facilities. Excavating contractors can find our policies for work in the public rights-of-ways, as well as standard BMP drawings that should be used for construction activities. This resource can be found on the Missoula County Public Works website and should be serving as useful mechanism to minimize erosion and unwanted discharges that could potentially pollute our rivers, streams and, watersheds.

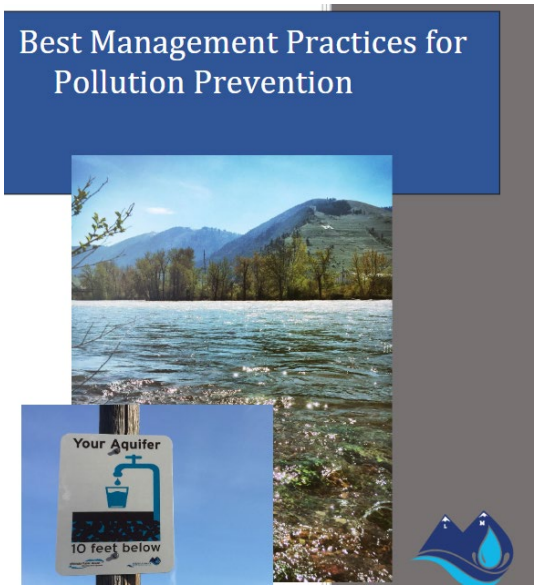
In June of 2017 Section 9, Titled "Storm Drainage, of the Public Works Manual was revised to increase clarity and ensure storm water controls and management practices on construction activity are properly executed within the Missoula County MS4. Revisions emphasize zoning compliance for grading and drainage plans as well as allow for the proper tacking of storm water controls installed on private properties in drainage plan designs. Further revisions occurred in November 2017, and comment period for the public has allowed ample opportunity for stakeholder input.

When target audiences such as contractors enter the Public Works office to obtain permits or enquire about other projects, staff provides "Only Rain Down the Drain" handouts as well as stormwater koozies that provide important reminders about proper use of storm drains.

Rationale: All of these methods have been used successfully by the County of Missoula to direct contractor efforts in the past. With the advent of the MS4 program, County staff has added to these mediums to clarify and update requirements related to stormwater pollution prevention.

Personnel: Public Works/MS4 Committee

Tracking: Updated educational information and any training sessions will be reported



BMP 1.5 <u>Illicit Discharge Education Programs</u>

Description: The Missoula Valley Water Quality District administers a permitting program for facilities that store regulated substances above certain threshold quantities listed in the Missoula Valley Water Quality Ordinance. Water

Quality District staff performs periodic inspections to ensure proper materials handling. When deficiencies are found, the inspector uses the opportunity to educate staff on proper procedures.

The District developed and provides Best Management Practices to address the most common pollutants and activities that generate these pollutants through direct mailings, social media, onsite complaint inspections, as well as public meetings. The specific activities targeted in the BMP Manual are:

- Auto Maintenance
- Carpet Cleaning
- Fueling and Petroleum Storage
- Livestock Housing (and pet waste)
- Pressure Washing
- Road Maintenance – includes sweeping, deicing, concrete and asphalt work
- Trade Contracting
- Well Development

In addition to these activities, area businesses and the general public are educated via the Water Quality District's educational pamphlets, utility stuffers, TV advertising, PSAs, and printed advertising. The County's and Water Quality District's web pages also serve as sources of education.

Rationale: The Water Quality District has been responding to illicit discharge complaints and inspections since the early 90's. Personal contact with business owners and managers has proven to be the most effective means of preventing illicit discharge in our community. Inspections are always followed-up with letters which outline specific points discussed during the inspection and provide a written record of recommendations or violations. Fortunately, many businesses already operate using the basic BMPs outlined in the manual, but instead of explaining how to properly dispose of waste after it has already happened, the BMPs are simply a way to pro-actively communicate it on the front end to prevent pollution.

Personnel: Missoula Valley Water Quality District – Environmental Health Specialists

Tracking: Inspections conducted, number of BMP manuals mailed directly to businesses

BMP 2.1 <u>Household Hazardous Waste Collection</u>

Description: The Missoula Valley Water Quality District collects and supports household hazardous waste and sees high levels of participation (approximately 1200 vehicles over a 2-day period when conducting annual events). Most unwanted hazardous and toxic materials are accepted from Missoula County residents, including; oil-based paints and stains, paint thinner, degreasers, gasoline, other flammable liquids, aerosol paints, fertilizer, pesticides, caustics, strong acids, and chlorinated solvents.

The Water Quality District is coordinating a permanent year-long effort with a local home-goods recycling non-profit to streamline messaging, add convenience, and provide more opportunities for a need that is typically met by Landfill operations or through product stewardship by manufacturers and retailers in other municipalities. The permanent hazardous waste structure will serve as a crucial BMP in mitigating pollutants into the MS4 and the distribution of educational material.

Rationale: This brings together individuals from across the community and allows residents to participate in proper disposal of dangerous substances. They receive educational materials and get one-on-one conversation about hazardous materials with County staff. Providing education through this opportunity for proper disposal reduces the risk of future illicit discharge.

Personnel: Missoula Valley Water Quality District – Environmental Health Specialists / Public Works – Safety Coordinator/ Home Resources

Tracking: Document the days and events held, volumes collected and number of residents who participated

BMP 2.2 <u>Water Quality Advisory Council</u>

Description: An annual presentation to the Missoula County Water Quality Advisory Council and solicits comments. The Water Quality Advisory Council is comprised of 20 volunteers appointed by the Chair of the Missoula City-County Board of Health, representing technical advisors, large water users, conservation groups, and interested citizens.

Meetings are held once a month and are advertised and open to the public. This provides a venue for the public participate and be involved in water quality issues throughout the MS4 regarding illicit discharge, subdivision development, riparian work, stormwater management issues, clean up site work, surface water monitoring, and groundwater studies.

MS4 Committee personnel attend the Water Quality Advisory Council and present current development of the Storm Water Management Programs, along with the current implementation of BMPs. The Water Quality Advisory Council is interested in assisting the county in refining monitoring plans, education and outreach strategies, and other measures that protect the waterways which pass through the Missoula Urbanized area.

Rationale: A qualified, engaged advisory council is an asset for our community. The council weighs in on a variety of issues that affect water quality. Members of the community are invited to attend and to bring up issues of their own concern. The meetings are held on the 2nd Tuesday of every month.

Personnel: Missoula Valley Water Quality District – Environmental Health Specialists / MS4 Committee

Tracking: Annual presentation will be documented as well as additional interactions with the council over the MS4.

BMP 2.3 <u>Classroom Education</u>

Description: There are elementary and middle schools that lie within the MS4 and these students are an important target audience for water protection. The Target Range neighborhood is known for it's shallow groundwater as this is where most of Missoula's groundwater recharges the Bitterroot river. The Enviroscape non-point pollution model is demonstrated along with discussions about how to prevent contamination of our surface and groundwater while going about our daily lives including caring for lawns, gardening, fixing and washing vehicles, pet and livestock care, and recreating.

Rationale: Good stormwater protection practices on land, such as appropriate deicing, pet and livestock waste management, auto maintenance and fertilizer/herbicide/pesticide use is especially important in the Targe Range School District area (Zone 7 on MS4 Boundary map).

Personnel: Missoula Valley Water Quality District – Environmental Health Specialists / MS4 Committee

Tracking: Presentation dates and number of participants will be documented

BMP 2.4 Pet Waste Bag Distribution and Sign Stations

Description: Because the quality of water in our local rivers is so important, the county MS4 is fortunate that there are very few outfalls that terminate directly to our surfacewaters. Bacteria aren't a part of routine monitoring at outfalls but nutrients such as nitrogen and phosphorous are. These nutrients serve as indicators of fertilizer, manure/feces, and other nutrient sources. To emphasize the need to reduce nutrient sources of non-point pollution, the county distributes pet waste bags and stickers to the public at Animal Control, Health Department, and Public Works offices, tabling events, and at school visits.

The "Bag it and Trash it" pet waste signs have been placed at county parks within the MS4. These signs are placed at locations frequented by dog owners (Big Sky Park, Bonner Trail, Double R. Acres Park, and the East Missoula Lions Park, and others as shown on MS4 Dashboard).

Rationale: Bacteria and nutrients can enter stormwater as a result of poor the management of pet waste and then eventually find it's way to local rivers. One reason nutrients are measured instead of bacteria is because bacterial levels don't provide specific source attribution information, especially during a one-time run-off event. The source of the bacteria can be any warm-blooded animal (dogs, humans, geese, cattle). For these reasons, the focus of dog waste education has been less on monitoring for specific sources of bacteria and more on education the public about the importance of cleaning up after their pets.

Personnel: Missoula Valley Water Quality District – Environmental Health Specialists, MS4 Committee, Missoula County Parks & Trails, Missoula Animal Control

Tracking: Numbers and location of signs are documented

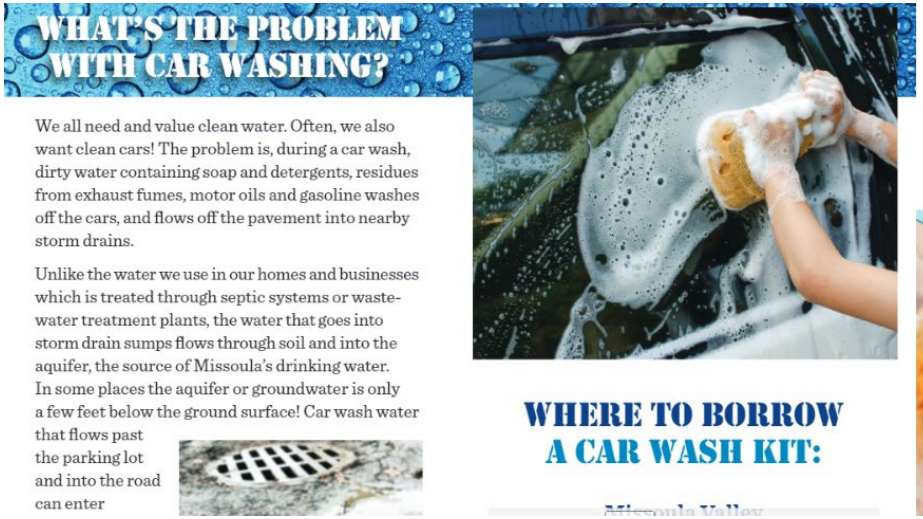
BMP 2.5 <u>Charity Car Wash Kit</u>

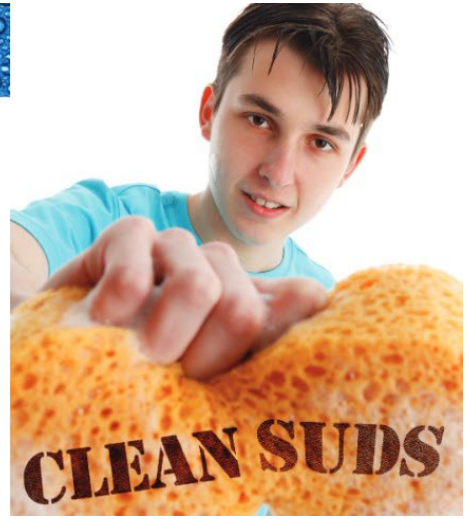
Description: A "Clean Suds Car Wash Kit" containing signage, hoses, a sump-pump, storm drain barriers, etc. is available for non-profits to use to safely collect and dispose of car wash rinse water.

Rationale: Charity car washes are listed as one of the county's allowable non-stormwater discharges as we don't see significant numbers of events or frequency in locations known to have outfalls to surface water or where dry wells drain to shallow groundwater. However, providing education and materials to reduce this contribution to non-point pollution in the county MS4 continues to improve and protect our water resources.

Personnel: Missoula Valley Water Quality District

Tracking: The number of times the kit is rented is documented





BMP 2.6 <u>Storm Drain Stenciling Program with Public Education and Involvement</u>

Description: Periodically, storm drains have been stenciled or re-stenciled to remind residents never to dispose of waste through storm drains. Past events have taken place at the University of Montana, downtown Missoula and in Lolo. This work has been done by university students, Eagle scouts and community members. County personnel will continue to seek volunteers for this project, or this BMP will be replaced with a similar BMP.

All newly installed storm drains grates on sumps and catch-basins include the phrase "Dump no Waste, Drains to Waterways" on the outer steel of the grate. With future installations of storm drains bearing this phrase, further citizen awareness of the effect storm water flow has on waterways will increase.

Rationale: Stenciling is a passive, low-cost educational tool that is fun and engaging for those who volunteer and really targets those who might intentionally dump directly into a storm drain.

Personnel: Missoula County Public Works

Tracking: Record dates and locations where stenciling occurred, as well as the number of volunteers who have participated

Minimum Measure	Required BMP	BMP #
1. MCMs 1 and 2: Public Education, Outreach, Involvement, and Participation • Implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps the public can take to reduce pollutants in storm water runoff. Implement a public involvement/participation program to involve key target audiences in the development and implementation of the SWMP that complies with state and local public notice requirements.		
a. Develop and continue to utilize the permittee's storm water website for public involvement.	i. Annually review and update a storm water website that, at a minimum, includes the following: • A copy of, or link to, this General Permit • A copy of the Notice of Intent application form submitted to DEQ including all supplemental information • Access to outreach strategy information and materials • Applicable outreach event information • Most current version of the SWMP and any supporting documents • At a minimum, five years of most recent annual reports submitted to DEQ • A mechanism for providing public input for the SWMP including contact information and directions for comments, questions, and complaints • Information regarding how to identify and report illicit discharges • Permittee requirements for construction activities and how to submit related complaints • The Notice of Intent application form and supplemental application information, the updated General Permit and a minimum of five years of annual reports must be posted on the website within 90 days of the effective dates of this General Permit. ii. Provide a minimum of one opportunity annually for the public to provide comments on the SWMP. Document all relevant input, responses, and SWMP modifications made as a result.	1.2
b. Determine key target audiences most appropriate for storm water education and outreach.	i. Based on the permittee's local knowledge of storm water pollutant generating activity within their MS4, document which business types and/or residential behaviors from the list below are common sources of pollutants, illicit discharges, spills, and/or dumping within the permitted MS4 boundaries. Select a minimum of four applicable key target audiences to address pollutant generating behavior through storm water education and outreach. **Residential Behaviors:** • Car Washing/Care • General Common Education • Hazardous Waste Disposal	3.1, 3.3

	• Home Chemical Care • Lawn & Garden Care • Pet Waste **Business Types**: • Carpet Cleaning/Restoration Companies • Construction Industry • Gas Stations • Industrial Facilities & Operations • Landscapers • Mobile Cleaning/ Pressure Washing • Post Construction Facility Owners • Restaurant or Food Trucks Note: DEQ may approve or require additional key target audiences. ii. Review key target audiences annually and identify the pollutants associated with each.	
c. Identify and develop outreach formats, distribution channels, and messages for each key target audience and associated storm water polluting behavior. Include approaches for involving the public in SWMP development and implementation.	i. For each key target audience, select a minimum of one outreach strategy listed below. At least two outreach strategies must be active. **Passive Outreach Strategies:** • Advertisements • Brochures/ Fliers • Business Specific Emails • Community Artwork/ Murals • Educational Signage • Informative Articles or Stories • Social Media • Sponsorship of Community Events • Targeted Door Hangers • Utility Bill Inserts • Vehicle Wraps **Active Outreach Strategies:** • Cleanup Days/ Events • Community Meetings/ Presentation • Community Storm Water Surveys • Form a Citizen Storm Water Advisory Panel	1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6

	• Host AmeriCorps Member • Industry Specific Training • Participation in Community Events • Pet Waste Stations • Public Tours • Public Workshops • Rain Garden Adoption/ Building Program • Storm Drain Adoption Program • Student Outreach/ Class Work • Water Quality Monitoring with Citizen Volunteers Note: DEQ may approve or require additional outreach strategies. ii. Each year, the permittee must implement at least four activities. The activities can be the same or different from year to year. For each key target audience, identify the outreach strategies and planned timeframe for implementation for the upcoming year and include this information in the annual report.	
d. Distribute and/or perform outreach to target audiences and track performance/ public involvement.	i. Implement the identified outreach strategies (from Part II.A.1.c.i., above) for each key target audience. ii. For each key target audience and their associated outreach strategy, document participation and feedback using one or more of the performance tracking methods listed below: **Performance Tracking Methods:** • Community Surveys • Illicit Discharge Events • Percent of Population Reached • Performance Audits • Total Distribution • Total Event Participants • Total Weight Collected • Website Analytics Note: DEQ may approve or require additional performance tracking methods. iii. Maintain records on selected key target audiences, outreach strategies, and performance tracking methods. Use the resulting information and/or measurements to direct education and outreach resources most effectively and document modifications in the SWMP.	1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6

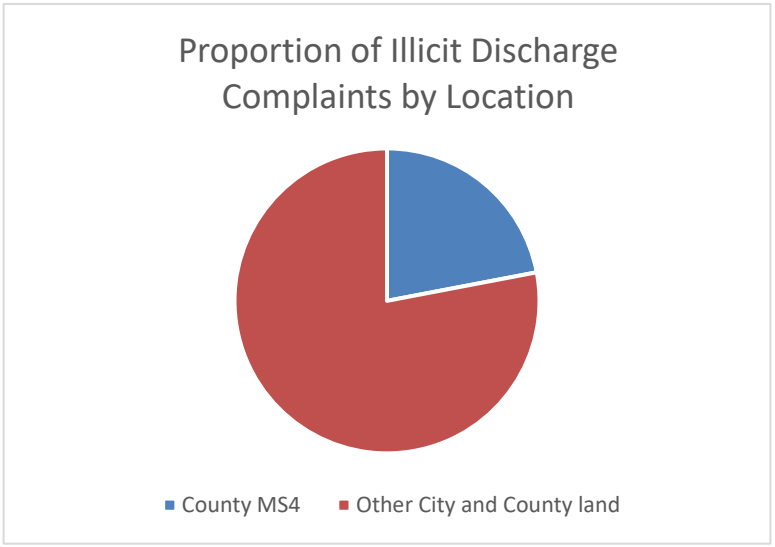
MCM 3: Illicit Discharge Detection and Elimination

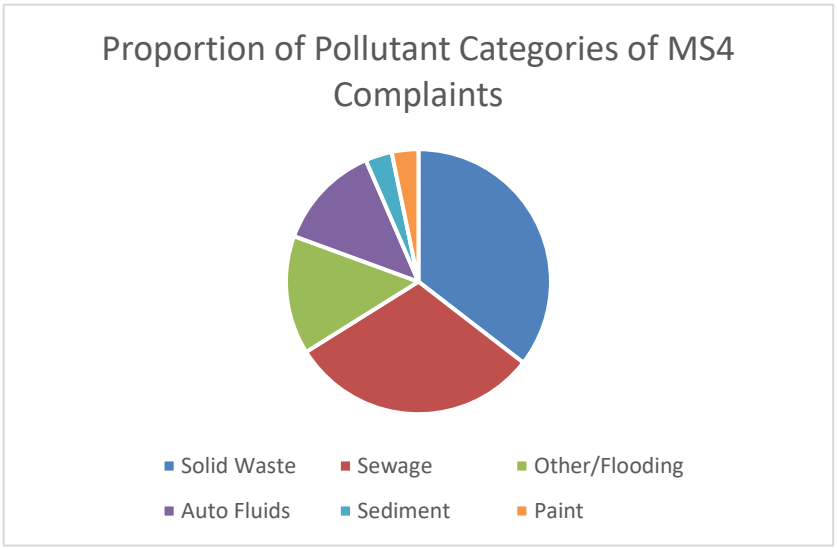
Missoula County shall develop, implement and enforce a program to detect and eliminate illicit discharge (as defined in ARM 17.30.1102(7) in the permitted Small MS4.

In the past 20+ years the Missoula Valley Water Quality District has observed, tracked, and identified the most common pollutant categories and responded to complaints. The most common pollutants involved in illicit discharges in Missoula are auto fluids (antifreeze, motor oils, fuels), deicer, detergent, concrete washout, cooking grease, paint and other trade contracting waste (drywall mud, etc.), pesticides/herbicides, sediment, sewage/manure, and solid waste/trash. Based on these trends and activities known to generate these wastes, the MVWQD developed and provides Best Management Practices to address these pollutants through education (direct mailings, social media, onsite complaint inspections, public meetings) and enforcement activities. The specific activities targeted in the BMP Manual relevant to the county MS4 are:

- Auto Maintenance
- Carpet Cleaning
- Fueling and Petroleum Storage
- Livestock Housing (and pet waste)
- Pressure Washing
- Road Maintenance – includes sweeping, deicing, concrete and asphalt work
- Trade Contracting
- Well Development

This list serves as identified significant non-stormwater contributions to contamination of stormwater within the county MS4 and have the potential to contaminate soils, groundwater and surface water. Because our complaint program encompasses the city and county boundaries, we can analyze how the types and frequency of complaints of illicit discharge differ geographically. Of the total number of annual complaints, only 22% come from within the county MS4 (data compiled from 2019-2021). Throughout the Missoula valley, the predominant categories include petroleum-related auto fluids (oil, fuel), sediment (drag-off from construction sites), paint, solid waste, and pesticide/herbicides.





This is largely the same trend observed in Missoula County. With two major exceptions. The sediment/drag-off complaints that are typically associated with failed construction site BMPs are observed more frequently where development occurs. This MS4 is seeing some residential development but not as much as other areas in Missoula and this has not been a significant pollutant category. The other pollutant category that has had a spike in occurrence is solid waste, almost exclusively in Zone 6 of the county MS4. This area is comprised of land largely owned by the state of Montana. The solid waste complaints in this area have been associated with the unhoused population. Flooding, rising groundwater, and water diversion due to impermeable soils and development are not truly examples of illicit discharge nor are they always controllable through public infrastructure. These categories are tracked as "Other/Flooding" complaints and exist throughout the Missoula area but particularly in Zones 1 and 8. Addressing these issues has been accomplished by partnering with neighboring MS4's, subdivision review and planning, and continued local research into depth to groundwater, soil permeability, climate change, influence of adjacent permeable surface, future planned impermeable surfaces, etc. Therefore, the primary categories of what the MS4 can address as illicit discharges and use for target audience development are auto fluids/petroleum, solid waste, sewage, sediment, paint. While complaint analysis does not show the same pollutant patterns related to road maintenance and trade contracting in the MS4 as elsewhere in the valley, we continue to target these businesses since the nature of the work involves traveling throughout the various MS4 boundaries.

As described in Section 13.27.200 and 13.26.030 of the Missoula Municipal Code (13.26.030 is applicable within the county MS4), discharges from the following activities shall not be considered a source of pollutants to the MS4 and to state waters when properly managed and shall not be considered illicit discharges unless determined by the County to be significant contributors of pollutants to the MS4, based on quantity of flow, concentration of pollutants, proximity to a watercourse, or condition of a receiving water: Irrigation water; irrigation ditch return flows; landscape irrigation; permitted diverted stream flows; rising groundwater; rising natural floodwaters; uncontaminated groundwater infiltration to separate storm sewers; uncontaminated pumped groundwater; discharges from potable water sources; foundation drains; air-conditioning condensation; springs; water from crawl space or basement pumps; footing drains; lawn watering, residential car washing; residential dechlorinated swimming pool and hot tub discharges; residential street washing; charity or other non-commercial car washes, flows from riparian habitats and wetlands; uncontaminated water from irrigation system meter pits; flows from emergency firefighting activities; fire hydrant flushing; water line flushing; and residential gardening or landscaping activities, municipally owned dechlorinated swimming pool discharges, municipal water tank draining, and water from street washing (including sidewalks and medians) that is conducted by City staff or under contract with the City (and drains into the county MS4).

BMP 3.1 <u>Storm Sewer System Geographic Database</u>

Description: The geographic database of storm system components allows the creation of maps in order to better visualize possible sources of contamination or detail the area of a water body that an accidental spill may affect. Its use aids in the functioning of our comprehensive Illicit Discharge Detection and Elimination (IDDE) program. A map of storm drainage piping, sumps, inlets, outfalls, open channels, subsurface conduits, dry wells, along with the names and locations of receiving waters has been placed on the county's website in order to educate citizens about the effects of illegal dumping by illustrating the direct connection between inlets and outfalls located at rivers and streams. High Priority areas/outfalls of the County’s MS4 are documented in the geographic database.

Updating of the map with pertinent information regarding the maintenance and effectiveness of stormwater infrastructure will occur on an on-going basis as information continues to be gathered and new infrastructure is installed. On-site updating of infrastructure through ESRI Collector has been developed, along with the ability to upload images to infrastructure points.

Rationale: The Map's accuracy will ensure the effectiveness of other BMPs in the SWMP; Illicit Discharge Detection and Elimination and Enforcement Response Plans. The map will be subject to frequent renewal through review and update as practices and activities are carried out in the MS4, ensuring BMPs are effectively carried out.

Personnel: GIS / Public Works

Tracking: Updates to the map will be recorded and documented

BMP 3.2 Regulatory Mechanism

Description: In 2000, the Missoula City Council and the Board of County Commissioners amended the Missoula Aquifer Protection Code, originally adopted in 1993, which is intended to protect the public health, safety, and general welfare of those who depend upon the Missoula Valley Aquifer and surface waters in the Missoula Valley for drinking water, recreation, and other beneficial uses. The provisions of the ordinance were deemed to be a health ordinance and as such are to be applied to an area within five miles outside of the city limits, covering most of Missoula County's MS4.

The ordinance establishes prohibitions and/or restrictions on regulated substances and activities which have the potential of causing surface or groundwater contamination. Facilities that store Regulated Substances above the specific quantities are required to obtain a permit from the Water Quality District. This requires facilities to report chemical quantities and steps taken to reduce the likelihood of spills to the District every two years. Regulated Substances are those found in 40 CFR Part 261; regulated substances listed in Superfund Amendments and Reauthorization Act (SARA) Title III; any petroleum product; any hazardous waste; deicers; or any other substances that may threaten contamination of surface water or the Missoula Valley Aquifer, excluding substances used for personal household use. Further, it is unlawful for any person to:

- "Discharge anything that does not meet the definition of stormwater or an Allowable Non-Stormwater Discharge to a municipal separate storm sewer system"
- "Cause contamination or to place, cause to be placed, or allow remaining in place any substance in a location where it is likely to cause contamination"

These prohibitions extend to allowing stormwater to flow directly to dry wells or other storm drains in areas of fueling stations where fueling of vehicles or product delivery occurs. The BMP Manual (see attached) also specifically requires stormwater controls for the most common illicit discharges observed for businesses and activities.

The Missoula Valley Water Quality Code also gives Water Quality District staff the authority to perform inspections and enforce the provisions of the ordinance. A Notice of Violation may be written, after which corrective action must be taken within five working days, unless the alleged violator requests an administrative review. Any person who violates any of the provisions of the ordinance is guilty of a misdemeanor and can be fined up to five hundred dollars and/or imprisoned in the county jail for up to sixty days.

This ordinance was chosen because it has been successfully used for years by the Water Quality District to protect Missoula's groundwater and surface water quality. Water quality complaints are registered with the District and staff follows up on each complaint that is received. In addition, the District maintains a 24/7 call scheduled to respond to spills within the MS4. The staff is reached through 911. Additional information on how to report an incident is found on the Missoula County Stormwater Webpage.

In addition to the Missoula Valley Water Quality Ordinance, the Missoula City-County Health Code regulates illicit wastewater discharges listed in Federal regulations. Regulation 1 (A)(3) states "a person may not discharge wastewater onto the surface of the ground except for a permitted system designed for surface application and licensed septic tank pumpers discharging septic wastes onto disposal sites approved by the Department." Missoula City-County Health Department's definition of wastewater is quite broad and includes "liquid waste which may include chemicals, household, commercial or industrial wastes, human excreta, animal and vegetable matter in suspension or solution, discharged from a dwelling, building, establishment, vehicle, or container. Gray water and non-liquid carried toilet waste are considered wastewater. Non-contact cooling water is not wastewater."

The Montana Water Quality Act, Missoula City-County Health Code, and Uniform Plumbing Code all prohibit on-site sewage disposal systems that flow into the storm drainage system. The majority of Missoula's stormwater is managed by stormwater injection wells, rather than piped systems. In nearly every location that there is storm sewer in Missoula, there is also sanitary sewer.

Rationale: Use of existing enforcement provisions allows the County to efficiently respond to illicit discharge issues without duplicating efforts.

Personnel: Missoula Valley Water Quality District, Missoula City-County Health Department

Tracking: The success of this BMP is measured by the percentage of complaints to which the District responds and resolves. This measurable goal is response to 100% of complaints and full compliance with each violation notice that is issued.

BMP 3.3 <u>Illicit Discharge Monitoring/Screening</u>

Description: Missoula County's Illicit Discharge Monitoring Program includes a dry weather screening program; a citizen reporting hotline, where citizens may report suspected illegal dumping; and hazardous spill response.

Dry-weather screening will be conducted July – September when surface water levels and rainfall rates are low. During each 5-year permit cycle, all rivers and streams within the MS4 (outside City of Missoula limits) will be walked and outfall inventories verified or edited during dry weather. Dry weather flows will be screened for total and fecal coliforms. High-priority outfalls will be dry-weather monitored annually, visually screened and tested for total and fecal coliforms at minimum and any other suspected contaminant(s) as needed.

When determining high priority areas, the committeeconsidered, at a minimum, the following: industrial areas, previous areas with illicit discharges, known illegal dumping areas, the oldest portion of MS4 storm sewer infrastructure, any areas with onsite sewage disposal systems, and areas that discharge to an impaired waterbody.The MS4 Committee has identified three high-priority outfalls corresponding to areas within the MS4 characterized by dense residential development, low-permeability soils/and drainage concerns, existence of on-site wastewater systems or where future growth leads us to believe additional monitoring will assist in identifying and mitigating the stormwater drainage impacts into the area's associated water bodies. Outfalls that impacted these areas where then selected to monitor dry-weather impacts on these areas. The following outfalls are the outfalls the Missoula County Stormwater Management Committee views as high-priority outfalls:

Zone 1: Dischpt_34 – Wye area. Also discharge point used for routine storm event monitoring (Wye_002A)
Zone 8: Dischpt_11 in Ravenwood Drainage @ round-a-bout
Zone 9: Dischpt_13 Deer Cr road @ the Clark Fork River

Self-Monitoring will be conducted semi-annually, where sampling will be conducted between the dates of January 1st-June 30th and July 1st-December 30th during a storm event with a measurable amount of discharge. Monitoring results will be submitted to the DEQ with each annual report with an evaluation including:

- Comparisons between monitoring locations
- Determination for trends and outliers in monitoring results compared to the calculated long-term median, and results outside pH range of 6.0-9.0 standard units
- A schedule and rationale for BMPs planned to improve water quality of storm water discharges based on Monitoring results

Monitoring Records shall include:

- Date, exact place, and time of sampling
- Estimated duration (in hours) of storm event sampled
- Total rainfall measurements or estimates (in inches) of the storm event which generated sample runoff
- Name(s) of individuals which performed the sampling or measurements
- Analytical laboratory test result data:
    - Date(s) analyses were performed
    - Time analyses were initiated
    - The initials or name(s) of individual(s) who performed the analyses
    - Reference and written procedures for analytical techniques or methods used
    - The results of such analyses, including benchsheets, instrument readouts, computer disks or tapes, etc. used to determine these results

As described in the attached revised monitoring plan, the current monitoring sites include **Hwy10_001A** (a conveyance that assesses industrial and commercial use), **Wye_002A** (representing a residential area near a major waterbody),

Snowbowl Rd Bridge_004A (serves as both TMDL and self-monitoring sampling site), and **Marshall Cr_003A** (represents an upstream site outside the MS4).

Rationale: Verifying outfalls will enable the county to maintain an accurate map to allow efficient inspections of outfalls. Field observations of flow conditions during dry weather discharge provide insight into what is causing the discharge (color, turbidity, temperature, pH, odor, surrounding land-use). Groundwater spring locations are well-known and the most-likely source of a dry-weather discharge in our community. A simple and relatively cheap screening tool to further screen discharges is a fecal coliform test. These tests can be conducted locally and provide a quick turnaround of results (24 hrs.). This will determine whether or not there is a stream of wastewater contributing to the dry-weather discharge.

Personnel: Missoula Valley Water Quality District, Public Works Staff

Tracking: Monitoring data will be reported in each annual report, as well as assessments of priority outfalls and pollutants of concern that may enter the MS4's waterways. If applicable, data will be recorded and documented coinciding with the Enforcement Response Plan.

BMP 3.4 <u>Enforcement Response Plan</u>

Description: The MS4 Committee, with the personnel responsible, will develop and follow an Enforcement Response Plan to the extent allowable under State rules and procedures for the County. The County will review the plan annually and make any necessary changes.

Rationale: A specific standard operating procedure for enforcement of illicit discharge complaints allows for sound documentation, consistency and fairness with regulations, and provides staff and the public clear expectations for enforcement.

Personnel: MS4 Committee, Missoula Valley Water Quality District, Environmental Health Specialists

Tracking: Changes submitted with each Annual Report

BMP 3.5 Illicit Discharge Investigation and Corrective Plan

Description: Missoula County developed and follows an Illicit Discharge Investigation and Corrective Plan. Potential stormwater pollution can be reported to 406-258-4980 24 hours a day. Office hours are 8:00 AM to 5:00 PM Monday through Friday and messages can be left after hours. The messages are checked daily. Calls can be made anonymously. The hotline number can be found on the County's webpage, Missoula Valley Water Quality District's webpage, and Missoula Valley Water Quality District's education publications. Illicit discharges may also be reported through 911.

Briefly, when a report of an illicit discharge is received, the relevant information regarding location, type of pollutant, volume of release, and responsible party information is obtained. The investigation seeks to confirm or deny the complaint, identify the extent of contamination, and to identify and communicate with the responsible party to seek voluntary compliance. Once the source is identified, the process of removing the discharge will begin using the procedures outlined in Title 13.26 - Missoula Valley Water Quality Code. All actions taken during the process will be documented in the asset management software.

Illicit connections identified within the County's portion of the MS4 will be addressed by either the Missoula City-County Health Code or the Missoula Valley Water Quality Code. Missoula County Public Works Staff will periodically conduct outfall inspections. Further, the Health Department will field illicit discharge complaints and route them to the appropriate staff. All illicit discharges will be investigated within 3 working days. The goal is to respond within 1 business day.

Rationale: By following these investigative guidelines the County can properly address illicit discharges

Personnel: Missoula Valley Water Quality District, Environmental Health Specialist

Tracking: Incidents of Investigation will be documented in each annual report

Minimum Measure	Required BMP	BMP #
MCM 3: Illicit Discharge Detection and Elimination • Develop, implement, and enforce a program to detect and eliminate illicit discharges into the small MS4. • Develop and annually update a storm sewer system map showing the location of all outfalls and the names/locations of all receiving waters. • Through ordinance or other regulatory mechanism to the extent allowable under state or local law, effectively prohibit non-storm water discharges into the MS4 and implement appropriate enforcement procedures and actions. • Develop and implement a plan to detect and address non-storm water discharges, including illegal dumping, to the MS4. Inform employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.		
a. Identify categories of non-storm water discharges or flows that are significant contributors of pollutants to the MS4.	i. Determine which potential non-storm water discharges or flows to the Small MS4, including but not limited to a consideration of those listed below, are significant contributors of pollutants. **Non-Storm Water Discharges or Flows:** • Water Line Flushing • Landscape Irrigation • Diverted Stream Flows • Rising Ground water • Uncontaminated Ground water Infiltration • Uncontaminated Pumped Ground water • Discharges from Potable Water Sources • Foundation Drains • Air Conditioning Condensation • Irrigation Water • Springs • Water from Crawl Space Pumps • Footing Drains • Lawn Watering • Individual Residential Car Washing • Flows from Riparian Habitats and Wetlands • Dechlorinated Swimming Pool Discharges • Street Wash Water Note: Discharges or flows from firefighting activities are excluded from the effective prohibition against non-storm water and only need to be addressed where they are identified as significant sources of pollutants to surface waters.	3.1, 3.3

	ii. In the SWMP, document and update annually: • A list of potential non-storm water discharges the permittee has identified as significant contributors of pollutants (i.e., illicit discharges). Include the pollutants associated with each illicit discharge, and any local controls or conditions placed on these discharges. • A list of potential non-storm water discharges the permittee has determined as non-significant contributors of pollutants (i.e., occasional incidental discharges) and will not be addressed as illicit discharges, based on the information available to the permittee. Include the pollutants associated with each type of discharge and any local controls or conditions placed on these discharges.	
b. Inventory storm water sewer infrastructure to track illicit discharges, contain spills, and determine high priority areas.	i. Annually review and update a map of the MS4's storm drainage system to accommodate the provisions of a comprehensive Illicit Discharge Detection and Elimination (IDDE) program and SWMP including, but not limited to, the following: • Outfall locations • Inlets • Open channels • Subsurface conduits/pipes • Dry wells (discharges to ground water directly) • Manholes • Other similar discrete conveyances • Surface waters that receive discharges from outfalls ii. Using inspection and screening results, storm sewer maps, and other appropriate data, list, label, or highlight determined high priority outfalls. When determining high priority outfalls, permittees must consider, at a minimum, the following: • Industrial areas • Areas with previous illicit discharges • Known illegal dumping areas • Oldest portions of storm sewer infrastructure • Areas with onsite sewage disposal systems • Areas discharging to an impaired water body The permittee must identify a minimum number of high priority outfalls not equaling zero, based on the knowledge of potential illicit discharges in their MS4. High priority outfalls	3.1, 3.3

	shall be reviewed and updated annually. iii. Update the map annually and make available for review by the Department upon request.	
c. Develop/update an Illicit Discharge Investigation and Corrective Action Plan to consistently and effectively investigate suspected illicit discharges and connections and track subsequent compliance actions.	i. Maintain and annually update an Illicit Discharge Investigation and Corrective Action Plan. The plan should describe the processes that will be used to locate the source of an illicit discharge and refer to the permittee's Enforcement Response Plan (in Part II.A.2.d.i, below) for execution of appropriate enforcement actions. At a minimum, this plan shall include processes to: • Investigate a suspected illicit discharge within seven calendar days. Document circumstances that prevent this timeframe. • Prioritize illicit discharges suspected of being sanitary sewage and/or significantly contaminated for investigation first. • Confirmed illicit discharges must be eliminated within a timeframe of six months from the date of discovery. Where applicable, document circumstances that prevent this timeframe. • Notify Montana DEQ and appropriate agencies of illicit discharges believed to be an immediate threat to human health or the environment. • Document that a good faith effort was made to find the source of the illicit discharge and document each phase of the investigation in a case file. • Resolve and document the conclusion of all investigations. The outfall where any illicit discharge is detected shall continue to be considered high priority and should be investigated as required in this permit. If further investigation and corrective action results show the incident was isolated, with no indication of habitual illicit discharge, the outfall may be removed from the high priority list during annual review, as required in section II.A.2.b.ii., above. ii. Implement the Illicit Discharge Investigation and Corrective Action Plan. When an illicit discharge is identified, the permittee must cease, or require the cessation of, the discharge within a timeframe of six months. After the illicit discharge has been eliminated, the permittee must also minimize surface contamination by removing, or requiring the removal of, surface residue or other types of pollutant sources. iii. Maintain documentation which describes investigations conducted and corrective actions taken per the Illicit Discharge Investigation and Corrective Action Plan. Submit a summary with each annual report.	3.2, 3.5
d. Through ordinance or other regulatory mechanism to the	i. Maintain, update, and implement a formal Enforcement Response Plan (ERP) for illicit discharges. At a minimum, the ERP must describe or identify the following:	3.2, 3.4

extent allowable under state or local law, effectively prohibit discharge of non-storm water into the regulated storm sewer system and implement appropriate enforcement procedures and actions.	• Legal authority (through ordinance, formal policies, or memoranda of understanding) to eliminate and abate illicit discharges • Staff with enforcement authority • Enforcement actions available • An enforcement escalation process • A schedule utilized to quickly and consistently eliminate the source of the discharge, abate any damages, and reduce the chance of reoccurrence. To the extent allowable under local and state law, the ERP must include informal, formal, and judicial responses, such as the following: **Informal:** • Telephone Notification • Verbal/Written Notice • Meetings **Formal:** • Administrative Order • Compliance Schedule • Order to Show Cause • Monetary Penalty (administrative) • Suspended Service • Notice of Violation (NOV) **Judicial:** • Injunctive Relief • Consent Decree • Civil Penalties • Criminal Penalties ii. Permittees with legal authority must adopt an ordinance or other regulatory mechanism to prohibit illicit discharges, which shall include a provision prohibiting any occasional incidental non-storm water discharge event. Review the ordinance or regulatory mechanism once per permit cycle and update as needed. Permittees without legal authority to enact an ordinance or other regulatory mechanism to prohibit illicit discharges must develop and implement written policies and procedures to exert authority (to the extent allowable) over MS4 users, such as employees, the traveling public, contractors, etc… Review these written policies and procedures once per permit cycle and update as needed.	

	iii. Solicit assistance from neighboring MS4s, as necessary, to detect and eliminate illicit discharges that may originate within the neighboring MS4 and formalize in cooperative agreements (i.e. memoranda of understanding). Agreements shall specify investigation and enforcement responsibilities and shall be described in each permittee's ERP and Illicit Discharge Investigation and Corrective Action Plan. Formalize cooperative agreements with all neighboring MS4s, as necessary, to implement the IDDE program.	
e. Inspect all outfalls during dry weather to detect illicit discharges and connections into the MS4.	i. Inspect and screen **all** the permittee's outfalls during dry weather using the outfall field screening protocol developed by the *Center for Watershed Protection,* or an equivalent process. Using the protocol, if illicit discharge potential is determined, the permittee shall use the procedures identified above for tracing and removing an illicit discharge. **This process shall be completed by the end of the permit cycle.** ii. Inspect and screen identified **high priority** outfalls (from II.A.2.b.ii, above) during dry weather **a minimum of once per year** and submit a summary of screening results with each annual report.	3.1, 3.3.

MCM 4: Construction Site Stormwater Management

Missoula County shall evaluate, improve if necessary, implement, and enforce a program to reduce pollutants in stormwater runoff to the permitted MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of stormwater discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. If the Department waives its permitting requirements for storm discharges associated with construction activity that disturbs less than five acres of total land area in accordance with ARM 17.30.1105(5), the Small MS4 permittee is not required to develop, implement, and/or enforce a program to reduce pollutant discharges from such sites.

BMP 4.1 Construction Site Plan

Description: Missoula County requires that site plans are submitted for all construction projects, but legally can only require grading and drainage plans for zoned areas, or land proposed to be subdivided. Although the area is small a careful review of properties inside the entire MS4 boundary shall be conducted for compliance with Missoula County Zoning Regulations. Properties found to be exempt from these regulations will not be subject to the review process. With this sole exception, the following is a list of criteria that should be followed when determining at a minimum if a grading plan is required:

1. Residential projects on slopes between 5% and 9% (may be submitted by the owner or their contractor).
2. Residential projects on slopes greater than 10% (requires professionally engineered plans).
3. All commercial or industrial projects (require professionally engineered plans regardless of grade).
4. All preliminary and approved subdivision (as required by Missoula County Subdivision Regulations).
5. All excavation projects in the public right-of-way that disturbs one acre or more (RES NO. 2010-033).

Rationale: Contractors are accustomed to acquiring Grading, Drainage, and Erosion Control Permits. By adding another similar permit to this chapter, contractors can easily assimilate this into their routines. Another convenience of this permit is that it uses the State SWPPP Permit, so contractors don't need to fill out multiple applications.

Personnel: Public Works -Engineering

Annual Reports: Updates to the Construction site regulations will be reported. Cases of non-compliance or public scrutiny will also be reported.

BMP 4.2 Subdivision/Zoning Regulations

Description: The Missoula County Subdivision and zoning Regulations (MCSR) contains development provisions that address storm water impact mitigation. The MCSR require preservation and enhancement of topsoil, trees, and natural vegetation the maximum extent possible (Sections 3.1 and 3.7). Subdivisions with average lot sizes under one acre are required to install full curb and gutter in the Missoula urban areas. All subdivision roads are reviewed for proper storm drainage in conjunction with Section 9 of the Public Works manual (Sections 3.4 and 3.7). In conjunction with the Public Works Manual, subdivisions are required to detain/retain the 100 year, 24 hour design storm, and subdivisions within 500 feet of storm drainage systems are required to connect to those systems (Section 3.7). Storm water easements may be required to maintain facilities, and regular maintenance of such facilities is memorialized through a maintenance agreement (Section 3.7). Erosion control is required in accordance with Public Works Manual Section 17, "Seeding and Management," and ongoing maintenance of these areas can be required (Section 3.7).

MCSR grading, drainage, and erosion control requirements are reinforced by conditions of subdivision approval. Drainage design, including detention/retention facilities, swales, etc. are reviewed for final construction by Public Works, or bonded for prior to the filing of a final subdivision plat.

Offsite runoff impacts are required to be mitigated per MCSR standards (Section 3.1). Subdivisions are required to prevent storm water runoff from subdivision lots and roads, and lawn watering from draining into agricultural water user facilities or onto agricultural land.

MCSR standards require riparian resource management plans (Section 3.2). These are intended to protect water quality. Riparian areas are required to be protected, typically with a buffer of varying width (Section 3.2). Road construction is tightly regulated adjacent to riparian areas to address issues of sedimentation. Side casting and erosion control must be addressed, and riparian areas can only be crossed/accessed by roads in such a way as to minimize impacts. At the conceptual level, riparian vegetation is prohibited from damage or removal prior to the submittal of a subdivision application (Section 1.7).

Secondary to water quality preservation and enhancement are updated restrictions to development in flood hazard areas (Section 3.1). Impacts to flood hazard areas are required to be minimized. Lots in major subdivisions cannot be platted in flood hazard areas, and road construction is prohibited in these areas.

Zoning was updated in 2022 and limits development in and around wetlands, riparian areas, and water bodies.

Rationale: Missoula County has adopted certain subdivision regulations in an attempt mitigate the damage that can be caused by poorly managed storm water. The regulations require review and approval of all plans for grading, drainage and erosion control from the point a preliminary plat is submitted for governing body review to the point the plat is recorded with the County. Standards include mitigation of natural landscape impacts in order to be proactive about issues related to runoff and water quality.

Personnel: Public Works -Engineering / Community and Planning Services

Annual Reports: Updates to the regulations will be reported. Cases of non-compliance or public scrutiny will also be reported.

BMP 4.3 <u>Standard Drawings/Checklist</u>

Description: In March of 2010 the Missoula County Board of County Commissioners passed Resolution NO. 2010-33. The Resolution commonly known as the Public Works Manual illustrates seven standard drawings for pre-and post-construction activities. These drawings can be found in Appendix A of the Public Works Manual and can be used for either public or private construction projects, or developments.

Checklists have also been adopted by the Public Works Department for construction projects that either change the original building envelope, or have plans for new construction. This checklist requires that intake personnel review the submitted information for specific criteria i.e., site plan, approach/address, and acceptable building plan sheets. Once the criteria are met the information will be routed to Community and Panning Services for their review and determination as to who shall review the plans for additional requirements. If the project is in the MS4 area and is zoned Public Works-Engineering reviews the projects for hillside grading and drainage standards, or for Commercial/Industrial stormwater requirements. All projects that are subject to the hillside standards or Commercial/Industrial development requirements will be required to meet the criteria listed in Section 9 of the Public Works Manual. In addition, if the construction site disturbs one acre or more the County will require that the owner provides a copy of their SWPPP and authorization letter from the Montana Department of Environmental Quality.

In June of 2017 Section 9, Titled “Storm Drainage, of the Public Works Manual was revised to increase clarity and ensure storm water controls and management practices on construction activity are properly executed within the Missoula County MS4. Revisions emphasize zoning compliance for grading and drainage plans as well as allow for the proper

tacking of storm water controls installed on private properties in drainage plan designs. Further revisions occurred in November 2017, and comment periods through the public have allowed for ample opportunity for stakeholder input.

Rationale: The adoption of the Public Works Manual and development of the checklists assist developers and Missoula County staff in addressing illicit discharge at County construction projects and at construction projects that are under Missoula County zoning regulations.

Personnel: Community and Planning Services/ Public Works -Engineering

Annual Reports: Updates to the Checklist will be reported

BMP 4.4 <u>Construction Enforcement Response Plan</u>

Description: Missoula County does not have legal authority to enforce stormwater violations as it relates to construction activities on private properties. The County does regulate projects that commence in the public rights-of-ways as well as all Missoula County approved subdivisions. Regulations for construction activities subjected to approval by the County can be found in Section 2 and 11 in the Public Works Manual, and in Chapter 3 of the County Subdivision Regulations.

Under the above-mentioned authorities, the Public Works Department tracks all relative construction related projects, to include subdivision activities within the MS4 boundary. Projects disturbing one or more acres are required to provide copies of their SWPPP, and authorization letter from MDEQ. These documents will give the County the ability to conduct periodic inspections from the public rights-of-ways and note any deficiencies. If deficiencies are observed written notices will be sent to the responsible parties listing the complaint. Once the complaint is received the notices shall give the responder an allotted time to make the correction, or protest the complaint. If corrective action has not been met by the allotted time Missoula County will consult with MDEQ for possible enforcement action.

Rationale: To assist MDEQ with additional oversight for construction sites with authorized SWPPP permits.

Personnel: Public Works -Engineering

Annual Reports: Access to Public Works Department’s tracking is available and will be provided to MDEQ if desired.

BMP 4.5 <u>Inspection Frequency Protocol</u>

Description: Missoula County does not have legal authority to mandate inspection on private development which creates inspection frequency challenging. The County will conduct periodic and complaint driven inspections for construction sites that have been permitted and can be found within the MS4 boundary. These inspections are generally conducted monthly, or after rain events producing .5 inches of precipitation in a 24-hour period. Missoula County construction projects disturbing 1 acre or more are subject to the same permitting requirements that are mandated by MDEQ. Once granted authorization the typical inspection frequency is bi-weekly, or is in accordance authorized SWPPP permit.

Rationale: By the county inspecting permitted construction sites within the MS4 boundary and working with the contractors, together we can help reduce potential pollutants from leaving the construction sites.

Personnel: MS4 Committee / Public Works -Engineering

Annual Reports: The finalized protocol procedure and implementation will be documented in the first annual report, and subsequent updates will be reported

Minimum Measure	Required BMP	BMP #
MCM 4: Construction Site Storm Water Management • Develop, implement, and enforce a program to reduce pollutants in any storm water runoff to the MS4 from construction activities that result in a land disturbance of greater than or equal to one acre, including activities that are part of a larger common plan of development or sale that would disturb one acre or more. • Develop and implement, at a minimum, the following: o An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under state and local law; o Requirements for site operators to implement appropriate erosion and sediment control BMPs, and to control waste; o Procedures for site plan reviews that incorporate consideration of potential water quality impacts; o Procedures for receipt and consideration of information submitted by the public; and o Procedures for site inspection and enforcement control measures.		
a. Require that all regulated construction projects within the Small MS4 submit a construction storm water management plan (site plan) prior to construction. The plan shall be consistent with state and local requirements and incorporate consideration of potential water quality impacts including storm water pollution prevention through appropriate erosion, sediment, and waste control BMPs. A storm	i. **Traditional MS4s:** Update and implement a construction storm water management plan review checklist that documents, at a minimum, the requirements described in the Technology-Based Effluent Limitations of the most current MPDES Storm Water Construction GP for all regulated construction projects. The checklist shall be used to ensure consistent review of submitted plans and to determine and document compliance with state and local requirements. **Non-traditional MS4s:** Update and implement a construction storm water management plan review checklist that documents, at a minimum, the requirements described in the Technology-Based Effluent Limitations of the most current MPDES Storm Water Construction GP for all permittee-owned/operated project site plans. The permittee may modify the plan review checklist based on the maximum extent of contractual agreements with documentation. The checklist shall be used to ensure consistent review of submitted plans and to determine and document compliance with state and local requirements.	4.1, 4.3, 4.4, 4.5

water pollution prevention plan (SWPPP) developed pursuant to the MPDES General Permit, MTR100000 for Storm Water Discharges Associated with Construction Activity (MPDES Storm Water Construction GP), may substitute for this site plan.		
b. Ensure that all construction storm water management controls are installed, operated, and maintained to function as designed.	i. **Traditional MS4s:** Update and implement a site inspection form or checklist to complete consistent and thorough regulated project inspections for all regulated construction projects. The checklist shall include, at a minimum, the requirements described in the Technology-Based Effluent Limitations of the most current MPDES Storm Water Construction GP. **Non-traditional MS4s:** Update and implement a site inspection form or checklist to complete consistent and thorough regulated project inspections for all permittee-owned/operated project sites. The checklist shall include, at a minimum, the requirements described in the Technology-Based Effluent Limitations of the most current MPDES Storm Water Construction GP. The permittee may modify the plan review checklist based on the maximum extent of contractual agreements with documentation. ii. Maintain a regulated project inventory to include, at minimum, the following: • If the project is covered under the most current MPDES Storm Water Construction GP and if so, the associated authorization number • The location, size, and topography of the site • The proximity of the site to waterbodies for each project iii. Utilize a protocol to determine the priority and minimum routine inspection frequency of construction storm water management controls. Priority is to be determined using, at a minimum, the following criteria: • Project size • Proximity to a water body • Steepness of the project site slopes	4.3, 4.5

	• Discharge to waterbodies impaired for pollutants expected from construction projects • Past record of non-compliance by the operator of the construction site The protocol shall establish the following minimum routine inspection frequency for all determined high priority projects: • Once at commencement of construction after BMPs have been implemented • Once within 48 hours after each rain event of 0.25 inches or greater • Once within 48 hours after each occurrence of runoff from snowmelt due to thawing conditions that cause visible surface erosion at the site • Once at the conclusion of the project prior to finalization (i.e. release of bond, issuance of certificate of occupancy, etc.) In addition, the protocol shall include recidivism reduction and corrective measures at non-compliant sites, such as processes for: • Additional on-site visits; • Increased inspection frequency; • Written notice of violations; • Stop work orders; and • Advancement to enforcement via the ERP process, as discussed below in II.A.3.c.iii.	
	iv. The permittee must annually identify and inspect a minimum number of projects not equaling zero. Conduct and document inspections using the inspection form and determined routine inspection frequency protocol. If a routine inspection identifies non-compliance, or a failure to implement appropriate control measures that cannot be corrected at the time of initial inspection, the permittee must verify and confirm issues have been corrected within 14 days of documentation of non-compliance. If the illicit discharge has not ceased after 14 days, or control measures are still inadequate, the permittee must advance the non-compliant site through the established ERP process (II.A.3.c.iii).	
c. Through ordinance or other regulatory mechanism to the extent allowable under state and local law, effectively require controls of construction-related pollutants (such as sediment and erosion)	i. **Traditional MS4s:** Adopt and implement an ordinance or other mechanism to require construction storm water controls on private and permittee-owned regulated projects. At a minimum, the regulatory mechanism must: • Require the construction storm water management minimum standards (described as Technology-Based Effluent Limitations in the most current MPDES Storm Water Construction GP) to be implemented on all regulated construction projects. • Provide the permittee the authority to inspect privately-owned construction storm water management controls. ii. **Non-traditional MS4s:** At a minimum, adopt and implement formal policies or other	4.1, 4.2, 4.4

on regulated construction projects and implement appropriate enforcement procedures/actions.		mechanisms to the extent allowable (such as contractual requirements applicable to contractors performing construction work) on permittee-owned/operated projects. The permittee must consider and document private development projects regardless of legal authority. At a minimum, the regulatory mechanism must require the construction storm water management minimum standards (described as Non-Numeric Technology-Based Effluent Limits in the most current MPDES Storm Water Construction GP) to be implemented on all regulated construction projects.	
	iii.	The Enforcement Response Plan (ERP) developed in II.A.2.d.i. shall be implemented and maintained to ensure compliance with construction storm water management regulatory mechanisms on regulated projects including private property. The ERP must include informal, formal, and judicial responses (as listed in II.A.2.d.i.). Additionally, the ERP shall include sanctions and enforcement mechanisms to achieve compliance and must describe or identify, at a minimum, the following: • How the permittee will eliminate and abate illegal construction discharges • Staff with enforcement authority • Enforcement actions available • Enforcement escalation processes including a schedule to quickly and consistently eliminate the source of the discharge • How the permittee will facilitate abatement of the damages and reduce the chance of reoccurrence In addition, the ERP must also include non-monetary construction project-specific penalties such as stop work orders, bonding requirements, and/or permit denials for non-compliance. Review the written ERP once per permit cycle and document updates in the SWMP, as needed.	

MCM 5: Post-Construction Site Stormwater Management

Missoula County shall evaluate, improve if necessary, implement, and enforce a program to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the permitted Small MS4. This program must ensure that controls are in place that would prevent or minimize water quality impacts.

BMP 5.1 Asset Management Software

Description: In conjunction with the storm sewer system geographic database, the long-term operation and maintenance of stormwater BMPs will be ensured using the County's asset management software. BMPs are entered into the systems upon receipt of as-built drawings. BMPs located on public property or within public rights-of-way are added to a regular County maintenance schedule. An inventory of all newly constructed permittee owner and privately-owned post construction (permanent) BMPs is maintained.

An inventory of all existing permittee-owned and *high priority* privately owned permanent BMPs is maintained. Rationale: It is important to the health of the MS4 that structural BMPs are catalogued and monitored in order to ensure that the are fulfilling their intended purpose in preventing illicit discharge from entering the small MS4s waterways

Personnel: Water Quality District/ Public Works/ MS4 Committee

Annual Reports: The Inventory includes the provisions required of it through the general permit

BMP 5.2 Post-Construction Stormwater Management Controls Enforcement Response Plan/Checklists

Description: An Enforcement Response Plan will be updated and followed to the extent allowable under State rules and procedures for the County. Checklists will be updated for the review and inspection of post-construction site stormwater management.

Rationale: Missoula County has limited authority to conduct inspections on private properties under the current regulatory framework of the State. In order to meet this requirement, the MS4 Committee will need to establish contact with personnel from the MTDEQ to establish a method to meet compliance with this section of the General Permit

Personnel: MS4 Committee / Public Works –Engineering Staff

Annual Reports: In maintenance of the ERP, meetings and adjustments to the plan will be documented.

BMP 5.3 <u>Inspection Frequency Protocol/Documentation</u>

Description: Missoula County is very limited by state law in its ability for post construction inspection frequencies on private property. To this point, it is illegal for County staff to trespass on private property to inspect stormwater facilities. However, any project that requires an engineered design on private property requires that the completed improvements be certified by the design engineer. Further, Missoula County monitors its own projects typically monthly, or after a significant rain event. If any deficiencies are located, then crews are scheduled to make the corrective action.

For Stormwater infrastructure located on Missoula County property or Public Right of Way, protocol for maintenance and inspection of infrastructure will be developed. Most inspection/maintenance is based on need and prevalence of public input regarding the stormwater control.

A list of

Rationale: Inspection of Missoula County projects ensures timely correction of any deficiencies thereby reducing illicit discharge.

Personnel: MS4 Committee / Public Works -Engineering

Annual Reports: Any updates to the protocol will be reported.

Minimum Measure	Required BMP	BMP #
MCM 5: Post-Construction Site Storm Water Management • Develop, implement, and enforce a program to address storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale. Ensure that controls are in place to prevent or minimize water quality impacts. • Develop and implement strategies that include a combination of structural and non-structural BMPs appropriate for the community. • Develop and implement an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under state or local law. • Ensure adequate long-term operation and maintenance of post-construction BMPs.		
a. Require that all regulated development projects submit a site plan consistent with state and local post-construction requirements, which incorporates consideration of potential water quality impacts including appropriate post-construction storm water management controls.	i. **Traditional MS4s:** Update and implement a plan review checklist to ensure consistent review of submitted plans and to determine and document compliance with state and local post-construction requirements. **Non-traditional MS4s:** Update and implement a plan review checklist to ensure consistent review of plans for permittee-owned/operated projects and to determine and document compliance with state and local post-construction requirements. The permittee may modify the plan review checklist based on the maximum extent of contractual agreements with documentation. ii. Require that all regulated projects implement post-construction storm water management controls that are designed to infiltrate, evapotranspire, and/or capture for reuse the post-construction runoff generated from the first 0.5 inches of rainfall from a 24-hour storm preceded by 48 hours of no measurable precipitation (runoff reduction requirement). For projects that cannot meet 100% of the runoff reduction requirement, the remainder of the runoff from the first 0.5 inches of rainfall must be either: • Treated onsite using post-construction storm water management controls expected to remove 80 percent total suspended solids (TSS); • Managed offsite within the same sub-watershed using post-construction storm water management controls that are designed to infiltrate, evapotranspire, and/or capture for reuse; or • Treated offsite within the same sub-watershed using post-construction storm water management controls expected to remove 80 percent total	5.1, 5.2,

	suspended solids (TSS)
	Permittees allowing offsite treatment shall do the following:
	• Develop and apply criteria for determining the circumstances under which offsite treatment may be allowed. The criteria must be based on multiple factors, including but not limited to technical or logistic infeasibility, such as:
	  • Lack of available space
	  • High ground water
	  • Ground water contamination
	  • Poorly infiltrating soils
	  • Shallow bedrock
	  • Prohibitive costs
	  • A land use that is inconsistent with capture and reuse or infiltration of storm water
	Determinations may not be based solely on the difficulty and/or cost of implementation. The permittee must develop a formal review and approval process for determining projects eligible for offsite treatment. The offsite treatment option is to be used only after available onsite options have been evaluated and documented through the permittee's developed formal review and approval process.
	• Maintain an inventory of regulated projects which utilize offsite treatment for post-construction storm water runoff. The inventory must include the following information for each approved project:
	  • Geographic location of the project
	  • Location of offsite treatment
	  • Documentation of the rationale for approval of offsite treatment	

b. Ensure that all post-construction storm water management controls are installed, operated, and maintained to function as designed.	i. **Traditional MS4s:** Update and implement an inspection form or checklist to ensure consistent and thorough inspections of post-construction storm water management controls. **Non-traditional MS4s:** Update and implement an inspection form or checklist to ensure consistent and thorough inspections of post-construction storm water management controls. The permittee may modify the inspection form or checklist based on the maximum extent of contractual agreements with documentation. ii. Maintain an inventory (including at a minimum, a description and location) of all	4.3, 5.1, 5.2, 5.3,

	new permittee-owned and private post-construction storm water management controls installed since the effective date of this permit. iii. **Traditional MS4s:** Maintain an inventory (including at minimum, a description and location) of all **existing** permittee-owned and private high priority post-construction storm water management controls installed prior to the effective date of this permit. **Non-traditional MS4s:** Maintain an inventory (including a description and location) of all **existing** permittee-owned post-construction storm water management controls. iv. Utilize a protocol to determine the priority and minimum routine inspection frequency of post-construction storm water management controls. Priority must be determined based on potential water quality impacts using specific criteria, which at a minimum shall include: • Operation and maintenance needs of the practices • Proximity to water body • Drainage area treated • Land use type • Location within an impaired waterbody watershed The permittee must annually identify a minimum number of projects for inspection not equaling zero. v. Inspect all **permittee-owned** high priority post-construction storm water management controls annually and document findings and resulting compliance actions. vi. **Traditional MS4s:** Develop a program to either conduct inspections of private high priority post-construction storm water management controls, or to require self-inspection and reporting by owners. Inspect or have inspected all high priority privately-owned post-construction storm water management controls annually. Document findings and resulting compliance actions.	
c. To the extent allowable under state or local law, effectively require, through ordinance, or other regulatory	**Traditional MS4s:** Adopt and implement an ordinance or other regulatory mechanism to require post-construction storm water management controls on regulated projects that, at a minimum, include the performance standard described in Part II.A.4.a.ii, above. Review the ordinance or regulatory mechanism once per permit cycle and update as needed.	5.3, 4.4

mechanism, post-construction storm water management controls on regulated projects and implement appropriate enforcement procedures and actions.		**Non-traditional MS4s:** At a minimum, adopt and implement formal policies or other mechanisms to the extent allowable (such as contractual requirements applicable to contractors performing construction work) requiring post-construction storm water controls on permittee-owned/operated projects. The permittee must consider and document private development projects regardless of legal authority. Review these written policies and procedures once per permit cycle and update as needed.	
	iv.	The ERP developed in II.A.2.d.i. shall be implemented and maintained to ensure compliance with installation, operation, and maintenance requirements for post-construction storm water management controls on regulated projects including private property. The ERP must include informal, formal, and judicial responses (as listed in II.A.2.d.i.). Additionally, at a minimum, the ERP must describe or identify the following: • Legal authority to require inspection and maintenance of post-construction storm water management controls • Staff with enforcement authority • Enforcement actions available • An enforcement escalation processes • A schedule to be utilized to quickly and consistently enforce compliance with post-construction requirements.	

d. Incorporate recommendations and requirements into plans, policies, and ordinances which allow and support the utilization of LID (low impact development) concepts and green infrastructure on public and private property.	i. Assess and document existing ordinances, policies, programs, and studies to identify whether the following LID concepts (both structural and non-structural BMPs) have been implemented to promote protection of storm water runoff quality associated with new and redevelopment projects: • Directing growth to identified areas • Protecting sensitive areas such as wetlands and riparian areas • Maintaining and/or increasing open space • Providing buffers along sensitive water bodies • Minimizing impervious surfaces • Minimizing disturbance of soils and vegetation ii. By the end of the third year of the permit cycle, develop and submit a plan outlining any needed modifications to relevant codes, ordinances, policies, and programs to implement LID/green infrastructure concepts. The plan shall include, but is not limited to, the preventative actions identified above that have not yet been implemented and proposed timelines for any needed code, ordinance, policy or programmatic updates. If modifications to codes, ordinances, policies, or programs are not needed, submit a plan/overview of any work scheduled or completed to implement LID/green infrastructure concepts, such as those listed above.	4.2

MCM 6: Pollution Prevention / Good Housekeeping for Permittee Operations

Missoula County shall maintain and implement an operation and maintenance program which includes a training component, and has the ultimate goal of preventing or reducing pollutant runoff from Missoula County operations.

BMP 6.1 <u>County Employee Training and Education Program</u>

Description: Training and education of employees in Missoula County is accomplished on a department-by-department or division-by-division basis with input from the County's stormwater management coordinator and team. Each department/division creates its own training program which includes standard operating procedures that incorporate stormwater BMPs for activities common to the individual department/division and goals of the County's overall stormwater management program. Input is gathered from both managers and field personnel within each department/division to determine the most appropriate and effective BMPs for each activity and/or pollutant. Once a year, key personnel receive training geared toward their respective maintenance responsibilities. These trainings discuss the importance of proper handling, storage, and disposal of potential contaminants. Employees are educated about various forms of illicit discharge and asked to look for them during the course of their work days. Other topics include construction site storm water runoff control. This training is designed to show users the proper use of selected BMPS, installation practices, and new technologies to prevent unwanted erosion conditions.

Employees responsible for reviewing construction projects shall have adequate training to interrupt plans, read specifications, and check for compliance with State Law and local regulations (if applicable). At a minimum, the responsible employee(s) shall have a valid Stormwater Pollution Prevention Plan Administrator Certificate. This certificate provides the skills and knowledge necessary to complete any tasks associated with storm water plan review.

Other associated activities with this BMP are periodic inspections of county owned facilities. The two county owned facilities within the MS4 are the County Public Works Department and the Missoula County Municipal Golf Course (Larchmont). These inspections are conducted by staff to assess stormwater BMPs onsite. Additionally, both facilities are permitted by the Water Quality District due to the quantities of regulated substances onsite. When these permit inspections occur, the inspector will look for proper materials handling, and other potentially unwanted pollutants leaving the site. If any deficiencies are found the inspector will use this opportunity to educate Public Works or golf course staff on proper procedures and can possibly issue correction notices.

Rationale: Each department knows of its procedures that may affect stormwater quality. The MS4 Committee is familiar with requirements of the MS4 permit and of goals of the County's program.

Personnel: MS4 Committee/ Missoula Valley Water Quality District/ Public Works Department

Annual Reports: Dates and attendance of training

BMP 6.2 <u>Pollution Prevention Plans/ Standard Operating Procedures</u>

Description: Pollution Prevention Plans for County divisions are created on a division-by-division basis. Each division creates its own plan based on activities and commonly handled pollutants. Input is gathered from both managers and field personnel within a department or division to determine the most appropriate and effective BMPs for each activity and/or pollutant. Pollution Prevention Plans are reviewed periodically to ensure they are up to date and contain the most effective BMPs. This BMP shall focus its applicability to County Employees that carry out services with potential harms to stormwater runoff, such as but not limited to; hazardous material storage/management, spill response and prevention, waste handling and disposal, vehicle fueling/washing/maintenance/storage, landscaping, equipment maintenance, roadway and bridge maintenance, roadway sweeping, sump/drywell maintenance and cleaning, road salt application, overwater activities, and Storm Drain System cleaning. An inventory of permittee owned and operated facilities and activities that have the potential to contribute to the MS4 will be developed and maintained.

Rationale: Creation and implementation of Pollution Prevention Plans is an attempt to increase awareness and decrease discharge of pollutants by Missoula County employees involved in activities that could result in illicit discharge.

Personnel: MS4 Committee

Annual Reports: Significant updates to prevention plans and incorporations of Departmental activity will be shown in Annual reports. The Development of Standard Operating Procedures (SOP's) will coincide with the required schedule expressed in the General Permit.

Minimum Measure	Required BMP	BMP #
MCM 6: Pollution Prevention and Good Housekeeping Develop and implement an operation and maintenance program that includes a training component and has the goal of preventing or reducing pollutant runoff from municipal operations. The program must include employee training to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance.		
a. Implement an operation and maintenance program to prevent or reduce pollutant runoff from permittee-owned/operated facilities and field activities.	i. Maintain a written inventory of permittee-owned/ operated facilities and activities that have the potential to contribute contaminants to the MS4. The inventory should include, at a minimum, the following: **Facilities:** • Maintenance and storage yards • Waste handling and disposal areas • Vehicle fleet or maintenance shops with outdoor storage areas • Salt/sand storage locations • Snow or dredge material disposal areas operated by the permittee **Activities:** • Park and open space maintenance • Parking lot maintenance • Building maintenance • Road maintenance/deicing • Storm water system maintenance including catch basin cleaning Organize facilities/activities into labeled categories and list the possible contaminants from each. List the local department(s) and position(s) responsible for pollution prevention of each facility/activity. Update the inventory annually. ii. For each category established, maintain written standard operating procedures (SOPs) aimed at preventing or reducing pollutant contributions from municipal operations. Each SOP must contain, at a minimum, the following: • Identified storm water pollution controls (structural and non-structural controls, and operation improvements) installed, implemented, and/or maintained to minimize the discharge of contaminants.	6.1, 6.2, 3.1

	• Inspection procedures for facilities and their structural storm water controls, which at a minimum must include:
	  ○ An annual visual inspection of each applicable facility.
	  ○ A verification that the written facility procedures, documentation, and site map are current.
	  ○ Visual observation of locations and areas where storm water from facilities is discharged off-site, to state waters, or to a storm sewer system that drains to state waters.
	  ○ Visual observation of facility conditions, including pollutant sources and control measures, to identify control measures that are inadequate or needing maintenance. All inadequate control measures shall be modified or replaced as soon as possible, but no later than six months from visual inspection. If a control measure cannot be modified or replaced within the six-month timeframe due to infeasibility (such as financial burden or time commitment of capital improvement projects), the permittee will provide a written explanation and a schedule for improvement with the following year's annual report. Document facility inspections and communication with relevant department personnel regarding inadequate control measures.
	Evaluate/update each SOP at least once over the term of this permit and submit any updates to SOPs with the annual report.
	iii. Maintain a map that identifies the locations of facilities and activities identified. Update the map annually.
	iv. Conduct storm water pollution prevention training in compliance with section II.B. (below) for all permittee staff directly involved with implementing SOPs. Retain records of completed trainings and attendance.	

Training

The permittee is required to conduct and/or coordinate, at a minimum, the following trainings and document applicable personnel participation. All new hires that fall into the categories below (section II.B.1-4) with potential to impact storm water pollutant contributions must receive the equivalent amount of the following training within 90 days of their hire date.

1. Storm Water Management Team

1st Year of Permit Term: Conduct comprehensive training for all members of the storm water management team to educate them about permit updates and implementation responsibilities for the upcoming permit term.

2. Construction Site Personnel

At a minimum of once during the permit term, conduct Construction Site Storm Water Pollution Prevention Plan (SWPPP) training for personnel, including inspectors and plan reviewers, responsible for the implementation of the Construction Site Storm Water Management Minimum Measure (MCM 4). Training shall include, at a minimum, inspection protocol and implementation of the MS4's ERP.

3. Post-Construction Site Personnel

At a minimum of once during the permit term, conduct plan review and stormwater facility inspection training for all personnel responsible for the implementation of the Post-Construction Site Storm Water Management Minimum Measure (MCM 5). Inspector training shall include, at a minimum, inspection protocol and implementation of the MS4's ERP.

4. Field and Facility Personnel

1st and 4th years of Permit Term: Conduct field and facility training for MS4 personnel responsible for completing work activities with storm water pollution potential. This shall include any staff or field crews subject to oversight through SOPs as part of the Pollution Prevention and Good Housekeeping Minimum Measure (MCM 6). The training must provide, at a minimum, education regarding the following:

- An overview of this permit and the requirements contained herein.
- Potential storm water impacts.
- The detection and elimination of illicit discharges.
- BMPs necessary to minimize discharges of pollutants during permittee activities or the operation of permittee-owned facilities.
- Any SOP updates completed as a result of the required work under MCM 6.