DEQ Montana Department of Environmental Quality
Water Protection Bureau
Montana Pollutant Discharge Elimination System

Agency Use
Permit No.: MTR04
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Check No.
Rec'd By

FORM **MS4-AR**

Annual Report Form
Storm Water Discharges Associated with MS4s
MTR040000

This annual report form is to be completed by each permittee authorized under the General Permit for Storm Water Discharges Associated with Small Municipal Separate Storm Water Sewer Systems (MS4s). The completed form must be electronically submitted to DEQ by March 1st of each year starting March 1st, 2023.

Reporting Year: ☐ 2023 ■ 2024 ☐ 2025 ☐ 2026 *(reporting period is for the preceding calendar year, Jan 1st- Dec 31st)*

MS4 Information

Permit Number	M T R 0 4 0011
Small MS4 Name	Missoula County
Contact Person, *(name, title)*	Shane Stack
Mailing Address	6089 Training Drive
City, State, and Zip Code	Missoula MT, 59808
Phone Number, Email Address	4062584753

Authorized as a Co-permittee? ☐ Yes: _____ ■ No

(If, yes provide Co-permittee MS4 name in the blank provided. Each co-permittee must submit a separate complete annual report form.)

Is the MS4 sharing responsibility? If yes, attach written acceptance and explanation of shared obligation(s). ☐ Yes ■ No

Attach an organizational chart identifying the primary SWMP coordinator, positions responsible for implementing requirements of the permit, and contact information for each individual. ■ Attached ☐ Not Attached

Minimum Control Measure 1 & 2

Link to storm water website: http://missoula.co/ms4

List of four key target audiences:	Associated Pollutants:	Outreach strategy:
MC Residents in zones 1,7,8and9	Auto Fluids, household Hazardous waste	Pet waste Disposal events
Trade Contractors	Sediment control from construction projects	SWPPP info on brochure
School Children	All the above over their lifetime	Classroom Education
Local Businesses listed in MCM1	Household hazardous waste	Household Hazardous Waste events

Attach documentation of participation and/or feedback of key target audiences. ■ Attached ☐ Not Attached

Minimum Control Measure 3 *(attach the following in the order listed)*

List of potential non-storm water discharges identified as significant contributors of pollutants (i.e. illicit discharges), associated pollutants, and any local controls or conditions placed on these discharges. ☒ Attached ☐ Not Attached

Have there been updates to the MS4's storm sewer maps? ☒ Yes ☐ No, the map(s) were last updated: _____

If yes, submit the maps using one of the following options:

- ☐ Electronic GIS shapefiles emailed to DEQMPDESDataManagement@mt.gov
- ☒ Attached Hard copy
- ☐ Link to online maps: _____

Summary of investigations and corrective actions taken over the past year per the Illicit Discharge and Corrective Action Plan. ☒ Attached ☐ Not Attached

Number of outfalls inspected during dry weather: 12 of 57 *(total number of outfalls)*

Number of high priority outfalls inspected: 3 of 3 *(total number of high priority outfalls)*

Attach a summary of any resulting actions taken from screening results. ☐ Attached ☒ Not Applicable

Year 2023 only, unless updates were made:

A copy or link to the adopted ordinance, policy, procedure, and/ or regulatory mechanism prohibiting illicit discharges. ☐ Attached or ☒ Link https://bit.ly/wqdregs

Minimum Control Measure 4 *(attach the following in the order listed)*

List of construction sites/projects inspected over the last year and any resulting actions. ☒ Attached ☐ Not Attached

Year 2023 only, unless updates were made:

A copy of the construction storm water management plan review checklist. ☒ Attached ☐ Not Attached

A copy of the construction site inspection form or checklist. ☒ Attached ☐ Not Attached

A copy or link to the adopted ordinance, policy, procedure, and/or regulatory mechanism requiring construction storm water controls. ☐ Attached or ☒ Link https://bit.ly/wqdregs

Minimum Control Measure 5 *(attach the following in the order listed)*

Inventory of regulated projects using offsite treatment for post-construction runoff. ☒ Attached ☐ Not Applicable

Number of high priority post-construction storm water management controls inspected: 2

Attach a summary of any resulting actions taken from inspections. ☐ Attached ☒ Not Applicable

Year 2023 only, unless updates were made:

A copy of the post-construction storm water management plan review checklist. ☒ Attached ☐ Not Attached

A copy of the post-construction site inspection form or checklist. ☒ Attached ☐ Not Attached

A copy or link to the adopted ordinance, policy, procedure, and/or regulatory mechanism requiring post-construction storm water controls. ☐ Attached or ☒ Link https://bit.ly/wqdregs

Year 2025 only: Submit a plan to modify relevant codes, ordinances, policies, and/or programs to implement LID/green infrastructure concepts. ☐ Attached ☐ Not Attached

Minimum Control Measure 6 *(attach the following in the order listed)*

Number of SOPs evaluated: 6 of 6 *(total number of SOPs for permittee facilities/activities)*

Summary of SOP updates made in the last year. ☒ Attached ☐ Not Applicable

Records of completed trainings in conformance with section II.B. of the General Permit. ☒ Attached ☐ Not Attached

Year 2023 only, unless updates were made:

Inventory of permittee facilities/activities with potential to contribute contaminants. ☒ Attached ☐ Not Attached

Summary of inspection procedures for facilities and their structural storm water controls. ☐ Attached ☒ Not Attached

Storm Water Management Plan (SWMP)

In the last year, were any public comments received on the SWMP? ☐ Yes ☒ No

If yes, attach a summary of comments received. ☐ Attached ☒ Not Applicable

In the last year, have additional SWMP updates been made other than those listed above? ☐ Yes ☒ No

If yes, attach a summary including the date and description of updates and rationale for decision making.
☐ Attached ☒ Not Applicable

Monitoring and Reporting *(attach the following in the order listed)*

☒ I verify all outfall monitoring has been performed and recorded in conformance with section II.C. and II.D. of the General Permit. *(If not able to dependably obtain two samples a year at each monitoring location, attach a summary of rationale. Contact DEQ regarding requests for a change in monitoring locations.)*

Attach a summary of implemented BMPs used to target and reduce discharges to impaired waterbodies and a schedule for the following year's BMP implementation. ☒ Attached ☐ Not Applicable

Year 2023 only, unless updates were made: Attach an inventory of outfalls discharging to impaired waterbodies including associated pollutants. ☒ Attached ☐ Not Applicable

MS4s with an approved TMDL:

Year 2023 only: Submit a TMDL-related sampling plan for DEQ review. ☐ Attached ☒ Not Applicable

Years 2024, 2025, and 2026: In the last year, were any public comments received on the sampling plan? ☐ Yes ☒ No

If yes, attach a summary of comments received and any resulting actions/modifications. ☐ Attached ☒ Not Applicable

Certification*

All Permittees Must Complete the Following Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. [75-5-633, MCA].

Name (Type or Print)	
Shane Stack	
Title (Type or Print)	Phone Number
Chief Public Works Officer	406.258.4818
Signature	Date Signed
	3/4/2025

* This Annual Report Form must be completed, signed, and certified as follows:

- For a corporation, by a principal officer of at least the level of vice president;
- For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
- For a municipality, state, federal, or other public facility, by either a principal executive officer or ranking elected official.

Missoula County MS4
Stormwater Sampling and Analysis Plan

Prepared by the

Missoula Valley Water Quality District

For compliance with
Montana Department of Environmental Quality
General Permit for Stormwater Discharges Associated with Small Municipal Separate Storm Sewer Systems (MS4s)
MPDES Permit No. MTR040011

December 2022

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1.0 INTRODUCTION

Missoula county is permitted by MTDEQ to manage stormwater through the small municipal separate storm sewer system (MTR04011). In accordance with requirements outlined in the General Permit MTR04000, Missoula County developed a self-monitoring and TMDL monitoring plan for the fourth permit cycle of 2017-2021. This updated sampling plan describes location, timing, analytes, and methods in compliance with sections II. C. 1 (Storm Even Monitoring) II.C.2 (Impaired Waterbody Monitoring), II.D (Recording Requirements) and II. A MCM 3.e.ii (Dry-weather Monitoring of High-Priority Outfalls) of the latest (fifth cycle) of the General Permit (2022-2027).

1.1 Purpose

A primary goal of the County's monitoring efforts are to understand the MS4's pollutant contributions to non-impaired and impaired surface waters, and to use that data to direct and inform the subsequent BMPs and interventions. One challenge to achieving not only this monitoring goal, but also that of targeted outreach and education, is the overlap of infrastructure and conveyances throughout the Missoula Valley. For example, the City of Missoula may have storm water infrastructure that drains to county outfalls or MDT infrastructure and vice versa. This landscape frequently changes as areas in the county are annexed by the City as well. There are multiple challenges related to monitoring impaired waterbodies within the County MS4 as described below.

1.2 Outfall Selection Background

During the last General Permit (MTR 040000, 2017-2021) cycle, the county proposed using Monitoring Option 2 for Self-Monitoring as described in section IV (A)3(b). This option required at least 4 locations that include at least one commercial, one residential, and one upstream location outside the MS4 boundary to evaluate water quality entering the MS4. The county chose "Monitoring Option 2" under section III(B) for TMDL monitoring. Outfalls that met these criteria were selected based on land use (residential, commercial/industrial), proximity to waterbodies, proximity to impaired waterbodies, availability of MS4 infrastructure, impermeable areas, influences by other adjacent MS4s, and other potential non-point source pollutant contributions. The following changes were made to the monitoring locations during the 2017-2021 permit cycle:

1.2.1 Self-Monitoring

Dev Park-001A was used in 2018 as the industrial/commercial sampling location. However, that area was annexed by the City of Missoula in December of 2018. Therefore, the county proposed to change that monitoring location to Hwy10_001A in 2019 to represent an outfall influenced by industrial and commercial use.

1.2.2 TMDL-related Monitoring

In order to comply with the self-monitoring requirements and TMDL monitoring requirements listed in sections IV.(A)3(b) and III(B) "Monitoring Option 2" respectively for year 2 of the last General Permit, the County proposed to add instream monitoring on the Clark Fork at two locations: one along the upstream portion of the MS4 (but below confluence with Blackfoot River and still within the MS4 boundary) and one at the lower reach of the Clark Fork section of the MS4 prior to entering City of Missoula Limits. The Clark For River (MT76M001_030 Blackfoot to Rattlesnake) is impaired for As, Cd, Cu, Fe, Pb, Zn and eutrophication. Mill tailings, industrial discharge and the presence of the former Milltown dam serve as sources of this impairment.

After the Spring sampling in 2019 the County chose to discontinue monitoring this section of the Clark Fork River for MS4 contributions to TMDL WLA for the following reasons: The site selection is limited and instream sites were chosen simply because no discharge points exist along this stretch of impaired river. Additionally, the Special Conditions of Part III required monitoring and controlling pollutants of concern to make progress toward meeting the TMDLs of the impaired waterbody. We question the utility of continued monitoring at this site since the probable sources of impairment are mill tailings. There may be no stormwater BMPs that would overcome the potential contributions of the former Clark Fork River/Milltown Reservoir Superfund Site.

The county MS4 faces several challenges for choosing an impaired water body to monitor. The permit requires the MS4 to identify how it will control the pollutants of concern listed in Appendix A (TMDLs with WLAs assigned to MS4s approved by the department). However, the Missoula County MS4 is not in that list. Using the City of Missoula MS4 as a proxy results in the options of the Clark Fork River (MT76M001_030), Clark Fork River (MT76M01_020), the Bitterroot River, and Grant Creek. The Clark Fork River (MT76M001_030) is confounded by the explanation above regarding the influence of mine tailings. Along the other section of the Clark Fork (MT76M01_020) there are no County outfalls to test. Additionally, most of this section of impaired river (~4 miles) is located within the City of Missoula MS4 which complicates identification and treatment of pollutant sources.

The Bitterroot has an approved impairment WLA for Pb and has outfalls within the county MS4 but they are not publicly accessible.

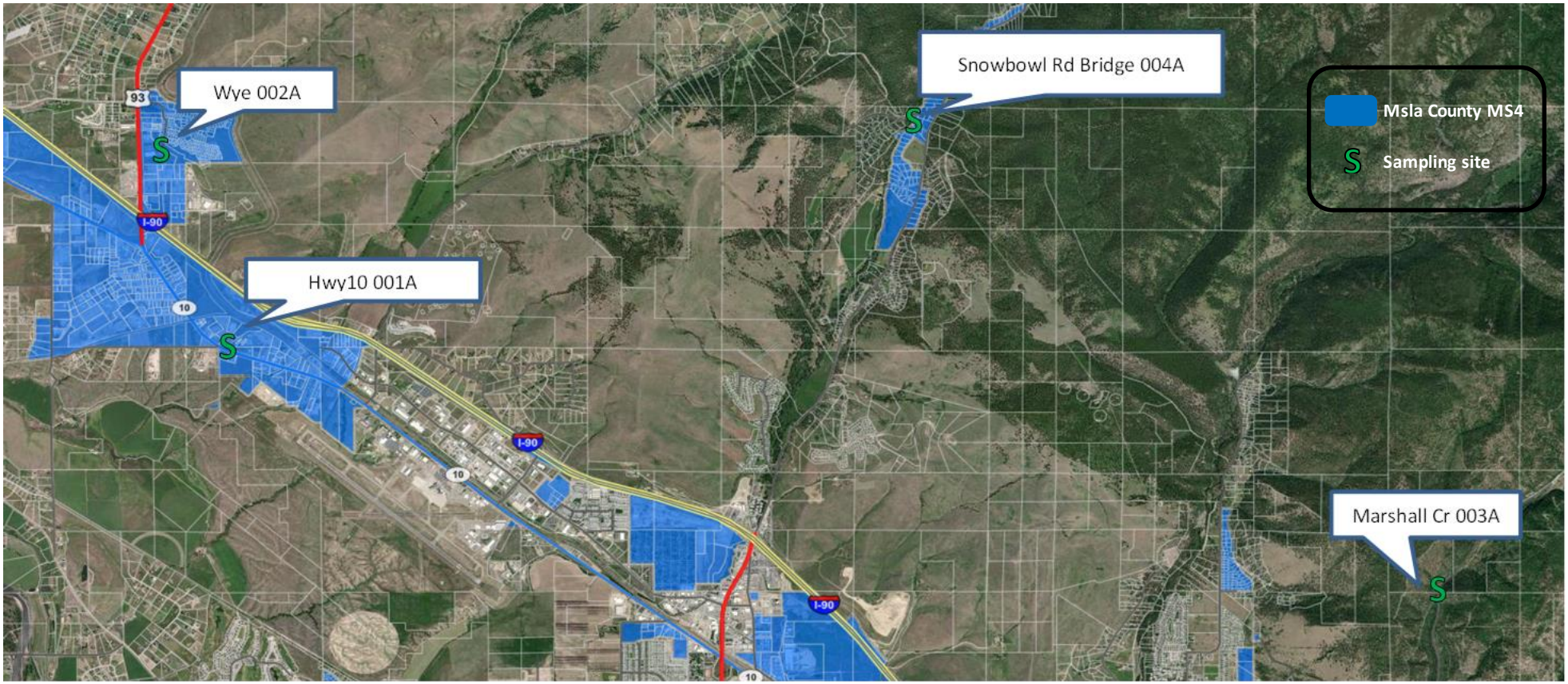
Grant Cr was selected as the impaired waterbody to monitor for the MS4. This waterbody is impaired for temperature, nutrients, and sediment (http://deq.mt.gov/Portals/112/Water/WQPB/CWAIC/TMDL/COL-TMDL-01a.pdf). In 2019 the county abandoned a set of instream monitoring locations on Grant Creek which bracketed residential portions of the MS4 because neither sets of samples showed a significant water quality impact. In 2020 a replacement outfall was located (run-off from a bridge over Grant Cr.) that better represents impacts to this waterbody (Snowbowl Rd Bridge_004A).

1.2.3 Dry-Weather Monitoring

Under Section II.A.2.b.ii, high priority areas were selected by considering, 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: Wye_002A sample site – also used for routine storm event monitoring
Zone 8: Dischpt_11 in Ravenwood Drainage @ round-a-bout
Zone 9: Dischpt_13 Deer Cr road @ the Clark Fork River

Figure 1. Missoula County MS4 Storm Event Monitoring Sites



2.0 ROLE OF THE MVWQD IN MISSOULA COUNTY MS4 MONITORING

The Missoula Valley Water Quality District (MVWQD) was established in 1994 and is charged with protecting the drinking water, groundwater and surface water quality of the Missoula Valley. The District is a local water quality protection district authorized by §7-13-4504 MCA, administered by the Missoula City-County Health Department, and governed by a 8-member board of city and county elected officials and engaged, knowledgeable local community members. Missoula County has contracted with the Missoula Valley Water Quality District to collect and ship samples to Energy Laboratory in Billings, MT to monitor for all parameters included in Table 1 (Section II.C.1) in addition to any pollutants of concern for outfalls that discharge to an impaired waterway as required for TMDL-Related Monitoring.

3.0 SAMPLING DESIGN

3.1 Locations

3.1.1 Storm Event and Impaired Waterbody Monitoring

An overview map of Missoula County's MS4 Storm Event and Impaired Waterbody monitoring site is depicted in Figure 1 (sampling sites are also geospatially referenced on the county MS4 webmap). Sampling site **Hwy10_001A** represents the MS4 industrial/commercial site for Storm Event Monitoring. Hwy10_001A resides in Zone 2, an area characterized by industrial and commercial land use with various potential non-point source pollution contributors including trucking/freight companies, construction yards, and impervious surfaces. The sampling site serves to characterize stormwater as if flows from north to south to a vegetated swale underneath Highway 10. This storm swale has the potential to hold accumulated sediment and contaminants for long periods and resuspending and transporting these contaminants during large storm events. This outfall has been continually monitored since 2019.

Hwy10_001A -- Industrial/commercial site

Site **Wye_002A** is located within Zone 1 and serves as the county's residential area sampling site. This is a conveyance that drains a residential subdivision (Williams Addition) and this area is characterized by onsite wastewater systems and increased development. The monitoring point will be where the box culvert daylights just east of the National Guard Armory. Flow is not able to be measured at this site as the flowmeter probe cannot fit past the trash grate.

Wye_002A -- Residential site

The third sampling site represents the upstream site outside the boundaries of the county MS4. This site (**Marshall Cr_003A**) was chosen along a stretch of public land along Marshall Creek (below intersection of USFS Rd 2122, approximately 1.2 miles from Highway 200). This waterbody enters the MS4 downstream of the former Milltown Superfund site and drains National Forest land consisting of gravel/dirt roads and some residential development. No TMDLs have been established for this waterbody and long-term tracking of potential pollutant contribution to the MS4 will be valuable.

Section II.C.2 of the General Permit requires the MS4 permitee to supplement Storm Event Monitoring with monitoring that evaluates MS4 loading to impaired waterbodies. The county MS4 faces several challenges for choosing an impaired water body, including but not limited to, a limited number of outfalls, jurisdictional influences of pollutants from other MS4s, mining impacts, and lack of public access.

Marshall Cr_003A – Upstream/outside MS4 site

Grant Cr was selected as the impaired waterbody to monitor for the MS4. Listed impairments for Grant Cr include sediment, nutrients (nitrogen) and temperature (http://deq.mt.gov/Portals/112/Water/WQPB/CWAIC/TMDL/COL-TMDL-01a.pdf). In the lower reaches of the watershed Grant Cr has been significantly altered and channelized, while the upper sections (those in the county MS4) are relatively unaltered. Appendix A lists a WLA for total nitrogen (TN) and sediment on Grant Creek (MT76M002_130 (0.0 lbs/day and 7.8 tons/yr respectively)). In 2019 we abandoned a set of instream monitoring locations on Grant Creek which bracketed residential portions of the MS4 because neither sets of samples showed a significant water quality impact. However, an outfall was located that may better represent impacts to this waterbody. A sampling site outfall at the junction of Snowbowl Rd with Grant Creek exists at the SW corner of the Snowbowl Rd bridge. This site is approximately 0.1 mile from where the road transitions from asphalt to gravel/dirt. Sediment from the hillside and road-accumulated sand from winter maintenance may access the creek through this outfall. We added this outfall (designated **Snowbowl Rd Bridge_004A**) to meet the requirements of Section II. C. 2 of the permit.

Snowbowl Rd Bridge_004A – Storm Event and Impaired Waterbody site

Of all the monitoring sites, the Snowbowl Rd Bridge_004A site is the most challenging to assess. This site is approximately 0.1 mile from where the road transitions from asphalt to gravel/dirt. This outfall is in a heavily wooded area that protects the roadway from accumulation of precipitation and does not flow consistently even when significant precipitation is received. When precipitation is sufficient however, sediment from the hillside and road-accumulated sand from winter maintenance may access the creek as water drips off of the bridge.

The General Permit allows for a strategy to track and evaluate effectiveness of BMPs on the impaired waterbody. Road sanding, road building, nutrient loading from fertilizer or septic system discharge, and other post-construction and illicit discharges could contribute to this WLA. The sampling data and field observations collected to date indicate that contaminant exceedances are related to spring conditions. The sediment and organic matter collection that occurs along the bridge following snow melt suggests that post-winter season maintenance of roads will be the most appropriate for addressing the contributions to the impaired waterbody from the MS4. The county has instituted BMPs (specifics included in SWMP and as part of MCM 6 Pollution Prevention and Good Housekeeping) to address the contributions of the MS4 to this waterbody.

3.1.2 Dry-Weather Monitoring of High Priority Outfalls

Dry-weather screening is conducted within three sites identified by the county as high-priority sites: Zone 1 -The Wye area (@Wye_002A), Zone 9 - East Missoula/Deer Creek (@ Dischpt_13), and Zone 8 - the Ravenwood Drainage (@ the Round-a-bout, Dischpt_11). These Zones are depicted below and all sites are mapped on the county MS4 webmap.

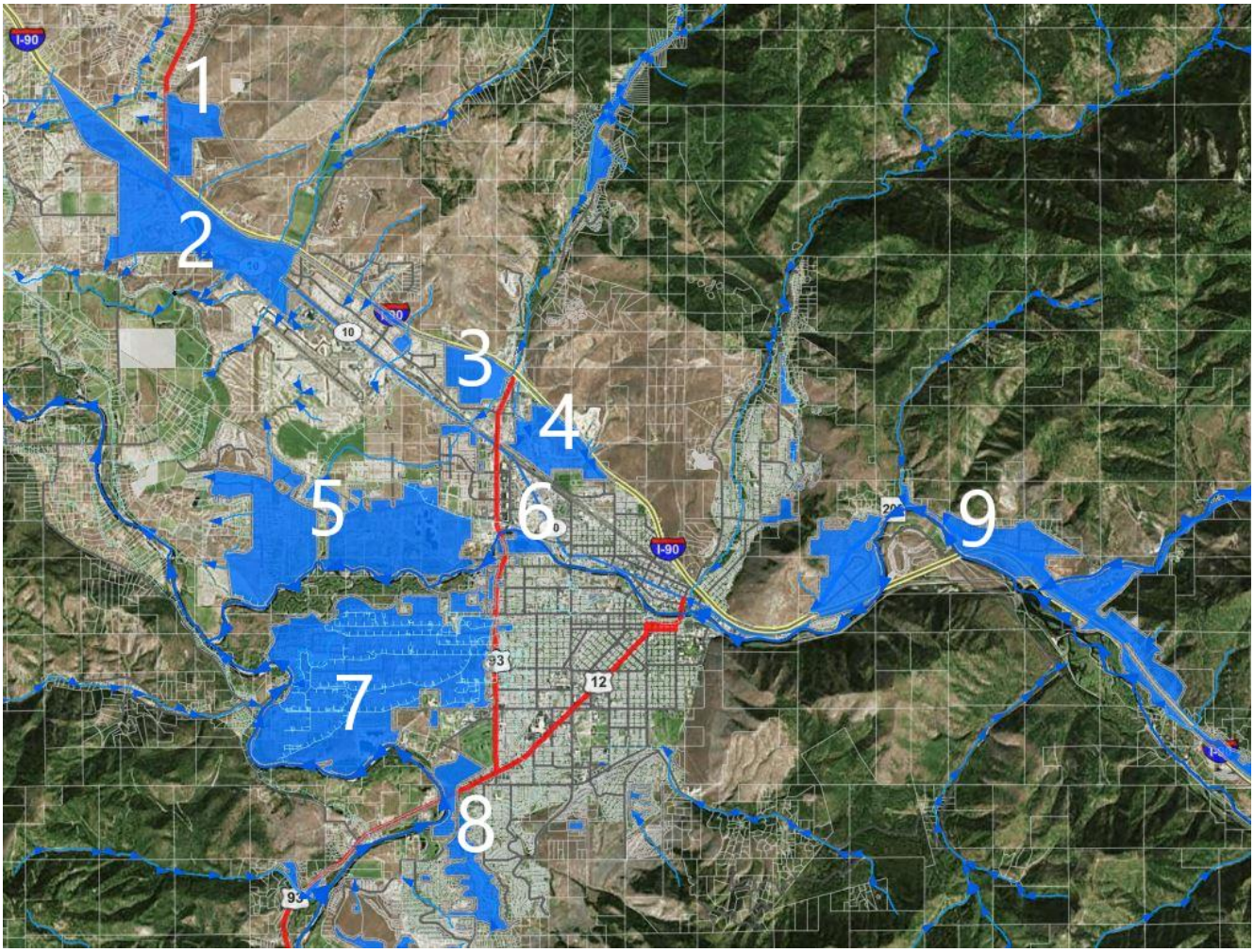


Figure 2. Missoula County MS4 Boundaries and Land Use Zones.


Zone 1 - Wye_002A


Zone 9 - Deer Cr


Zone 8 - Round-a-bout

3.2 Schedule

3.2.1 Storm Event and Impaired Waterbody Monitoring

Missoula County collects samples twice a year at four sites across the County MS4 to comply with DEQ requirements for both storm event monitoring and impaired waterway monitoring (sections II C.1 and C.2 of General Permit). Sampling for each site is attempted once in the first six month period of the calendar year (Jan 1st -June 30th) and again in the second six month period (July 1st-December 31st). Sampling occurs during a storm event with measurable discharge. If a sample cannot be collected during a six-month period at a given location, a substitute sample is collected during the next period with at least a 48 hour period of no precipitation separating the regular and substitute samples.

3.2.1 Dry-Weather Monitoring of High Priority Outfalls

Dry-weather screening is conducted July – September when groundwater levels, surface water levels and rainfall rates are low.

3.3 Monitoring Parameters

Missoula county monitors for all parameters included in Table 1 in addition to any pollutants of concern for outfalls that discharge to an impaired waterway as required for Impaired Waterbody Monitoring. Because the pollutants for our selected impaired waterway (Grant Cr) are captured by the list of analytes in Table 1, these analytes represent the monitoring parameters for all 4 sampling sites.

Analyte	Median Concentration (mg/L)	Method	Sample Type	Sample Container	Preservative	Holding Time
Physical Properties						
Total Suspended Solids (TSS)	125	A2540 D	Grab	1L Plastic	None	7 days
Aggregate Organics						
Oxygen Demand, Chemical (COD)	80	E410.4	Grab	500 mL Plastic	H2SO4	28 days
Nutrients						
Nitrogen, Total (TKN+NO3+NO2)	2.0	E353.2, E351.2	Grab	500 mL Plastic	H2SO4	28 days
Phosphorous, Total as P	0.41	E365.1	Grab	500 mL Plastic	H2SO4	28 days
Metals, Total Recoverable						
Copper	0.04	E200.7	Grab	250 mL Plastic	HNO3	6 months
Zinc	0.165	E200.7	Grab	250 mL Plastic	HNO3	6 months
Lead	0.21	E200.7	Grab	250 mL Plastic	HNO3	6 months
Organic Characteristics						
Oil & Grease	10.0	E1664A	Grab	(2) 1L Glass	H2SO4	28 days
Instantaneous Parameters						
pH	6-9	N/A	Grab	N/A	None	15 min
Estimated flow	N/A	N/A	N/A	N/A	None	N/A

Table 1. Storm Event and Impaired Waterbody Monitoring Parameters (adapted from General Permit MT040000 Section II. C). Methods, sample sizes, preservatives, and holding times provided by Energy Laboratories, Inc.

Analyte	Median Concentration	Method	Sample Type	Sample Container	Preservative	Holding Time
Total Coliforms	N/A	EPA 9223	Grab	100 mL sterile plastic	None	48 hrs
E.coli	N/A	EPA 9223	Grab	100 mL sterile plastic	None	48 hrs

Table 2. Dry-Weather High Priority Monitoring Parameters (Missoula County SWMP, BMP 3.3).
Dry weather flows will be screened for total coliforms and *E.coli* (Presence/Absence and MPN). 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.

3.4 Monitoring Records

3.4.1 Storm Event and Impaired Waterbody Monitoring

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 from NOAA NOWData
- Name(s) of individuals which performed the sampling or measurements
- Instantaneous field parameters (temperature, pH , conductivity, and estimated flow if possible)
- 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 bench sheets, instrument readouts, computer disks, etc. used to determine these results

Monitoring results will be submitted to the DEQ with each annual report with an evaluation including:

- Summary of results from monitoring locations and investigation into potential pollutant source(s)
- Calculation of percent change from previous sampling sessions
- 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 and source attribution

3.4.2 Dry-Weather Monitoring of High Priority Outfalls

Monitoring Records shall include:

- Date, exact place, and time of sampling
- Name(s) of individuals which performed the sampling or measurements
- Temperature, pH, conductivity, odors, water clarity, and, when possible, flow
- 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 bench sheets, instrument readouts, computer disks etc. used to determine these results

Monitoring results will be submitted to the DEQ with each annual report with an evaluation including:

- Summary of results from monitoring locations
- Summary of investigation into potential pollutant source(s)
- Determination for trends and outliers in monitoring results compared to the calculated long-term median
- A rationale for BMPs planned to improve water quality of storm water discharges based on monitoring results and source attribution

3.5 Sample Collection Methods

3.5.1 Storm Event and Impaired Waterbody Monitoring

Sample bottles for storm event sampling are ordered from Energy Laboratories, Inc in Billings. Energy Labs provides a sealed cooler containing bottle sample sets, preservative, chain-of-custody form, chain-of-custody seal, and temperature blank.

When a storm event producing enough precipitation to collect samples, staff will visit each sampling site with the sampling cooler referenced above and record the following observations in a field notebook using ink pen or marker: date, time, water quality parameters (temperature, pH, conductivity, flow) and applicable notes on weather, precipitation, odor, and clarity.

Each sample bottle is labeled with the sample ID, date and time. The bottle and lid are triple-rinsed in situ and a grab sample is taken. The TSS sample is collected first in a single 1L HDPE bottle in order to ensure sample-related disturbances do not contribute to extra suspended sediment. After all samples have been taken and preservatives added (if applicable), sample bottles are placed into a cooler and prepped for shipment.

3.5.2 Dry-Weather Monitoring of High-Priority Outfalls

Sample bottles for total coliforms and *E.coli* are ordered from Microtech and Quanti-Trays and Colisure media from IDEXX. All sample bottles, trays, and media arrive sterile. Bottles contain sodium thiosulphate to react with any chlorine in drinking water samples. QC is conducted for bottles, trays and media prior to use (described below in 4.0 QA/QC).

Upon arrival at sampling location, photos are taken to document flow, clarity, etc. Each sample bottle is labeled with the sample ID, date and time. The bottle and lid are triple-rinsed in situ and a grab sample is taken. After all samples have been taken sample bottles are placed into a cooler and returned to the MCCHD Water Lab for analysis.

3.6 Sample Handling and Laboratory Methods

3.6.1 Storm Event and Impaired Waterbody Monitoring

Following sample collection, samples are shipped to the laboratory on ice. Samples that are not immediately shipped are stored at 4°C. A Chain of Custody (COC) and temperature blank are included with all shipments. The Energy Laboratories, Inc COC is included in Appendix A. Methods for each analyte are

listed in Table 1. Following analysis, Energy Laboratories sends a .pdf lab report with values for each parameter at each sample location. A copy of the lab report is stored in the folder for the current year in Stormwater/Monitoring/Lab Reports. The data for each sample date is also transcribed into the "Database" tab in MS4 – Master Datasheet.xlsx in Sharepoint.

3.6.2 Dry-Weather Monitoring of High-Priority Outfalls

Following sample collection and transport to MCCHD Water Lab, sampling information is recorded in the bench log (sample ID, staff name, date and time sample was taken, analysis type, results). Results are recorded in the bench sheet and in the Monitoring folder in Sharepoint in Master Spreadsheet.xlsx. Analysis for total coliforms and *E.coli* follows EPA 9223. Lab procedure is listed below:

Total Coliform and *E.coli* SOP - Colisure

1. Allow samples to equilibrate to room temperature prior to processing

2. Record sample details (sample ID, date, etc.) in the bench log.

3. Label each bottle lid with sample #.

4. Wash hands and put on appropriate PPE (lab coat, gloves). Spray down gloved hands and benchtop with 70% ethanol. Allow surfaces to air dry.

5. Ensure all samples contain at least 100 mL. Samples under 100 mL, frozen, hot, spilled, dropped/contaminated by staff, or those that do not produce a yellow color when Colisure is added (green or black could indicate iron or manganese and hydrogen sulphide), should be invalidated/rejected.

6. For samples containing > 100mL, shake sample vigorously and remove excess sample volume using a sterile pipette or by carefully decanting into a sterile container.
7. Process samples according to Colisure instructions. Only open one bottle/process one sample at a time.

8. Open each sample bottle aseptically, avoiding touching bottle lip or inside of lid with fingers Add one packet to each sample. Ensure fingers do not touch the open end of the packet and the packet does not come into contact with the lip of bottle.

9. After Colisure has been added to all samples, shake all samples vigorously at least 25 times until substrate is dissolved, place in wire racks, and place samples into 35°C incubator.

10. For Quanti-Tray analysis, follow the Colisure procedure above but add 5 drops Anti-Foam to the sample after adding Colisure. Aseptically pour 100 mL sample into Quanti-Tray, place into rubber transporter (do not 'smooth out' the back of the Quanti-tray), and seal using Quanti-Tray sealer. Number the back of the tray with the sample # and place face down in the incubator.

Note: If you notice media on the rubber roller or inside the sealer unit, either too much media was in the quanti-tray or the quanti-tray was fed incorrectly. Clean spills but do not spray the unit until it has cooled completely, otherwise it may damage the sealer.

11. Wipe down the bench top with 70% ethanol and allow to air dry.

12. After at least 24hrs, but no more than 48hrs, remove samples from the incubator (the lab practice is to allow samples to incubate for 40 hrs, i.e. one day's analysis are read the morning of the third day, e.g. samples started Monday evening are read on Wednesday morning.

13. Record results in the bench log.

a. **Positive results**: a red or magenta color is positive for total coliforms. Enter a + for TC on bench log. Look at the sample under the UV lamp, if it exhibits fluorescence, the sample is positive for E.Coli. Enter a "+" for EC on the form and log. Use IDEXX table to determine MPN for TC and EC if using Quanti-Tray.

b. **Negative results**: any sample that is yellow, gold, orange, or pink after the maximum incubation time is negative for total coliforms. Data is entered as "–" on bench logs.

4.0 QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

4.1 QA/QC Overview

To inform water quality studies, data needs to accurately represent conditions in the watershed. Projects require proper sample collection, handling, processing, and data quality assessment to produce high quality, credible data that can be used to answer scientific questions or guide resource management decisions.

Quality Assurance (QA) is the overall management plan of a sampling program and laboratory operation. It ensures the monitoring process is adequate for the project to meet its objectives with a stated level of confidence, from specifying which methods will be used to collect data to how the data will be managed and analyzed. QA activities include developing a sampling and analysis plan, training, and developing and following standard operating procedures. Quality control (QC) includes technical actions within given SOPs that are taken to ensure quality data.

4.2 Training and Qualifications

The supervisor of the laboratory should have a bachelor's degree in microbiology, biology, or equivalent. Supervisors who have a degree in a subject other than microbiology should have had at least one college-level microbiology laboratory course in which environmental microbiology was covered. In addition, supervisor should have a minimum of two weeks training at a Federal agency, State agency, or academic institution in microbiological analysis of drinking water or, 80 hours of on-the-job training in water microbiology at a certified laboratory, or other training acceptable to the State or EPA. The laboratory supervisor has the responsibility to ensure that all laboratory personnel have demonstrated their ability to satisfactorily perform the analyses to which they are assigned and that all data reported by the laboratory meet the required quality assurance and regulatory criteria. (taken from EPA Manual for the Certification of Laboratories Analyzing Drinking Water, 5th Ed.). Staff performing both Storm Event monitoring and Dry-Weather monitoring will receive field and laboratory training on SOPs and be supervised in both sample

collection and analysis by the supervisor. Staff will not operate alone until demonstrating proficiency as determined by the supervisor.

4.3 Quality Control Lab Practices

Record keeping
All safety information, lab organization and responsibilities (manager handbook), QC protocols, lab SOP's, audits, certifications, etc. are in a binder labeled "Quality Assurance Plan. The laboratory manager is responsible for ensuring that the required QA/QC is completed every year. QA/QC duties are required on a daily, monthly, quarterly, annual, semi-annual, or an "as needed" basis.

The completion of QA/QC duties must be recorded. Dry-erase signs on the refrigerator allow for quick assessment of current QC duties. A binder exists for each QC time-period and all are color-coded and match the dry-erase signs. The records contained in these binders are retained by the lab for no less than 5 years.

As outlined in section 3.4 Monitoring Records, staff records of dry-weather total coliform and *E.coli* results are maintained in the Bench Log and in a digital database. Field parameters are maintained in a field notebook. All Storm Event monitoring results received by Energy Laboratories, Inc. are saved in digital files and field parameters maintained in field notebooks.

4.3.1 QC Processes for Bacterial Analysis by MCCHD Lab – Dry-Weather Sampling

Anti-foam
Date container upon receipt and when QC performed. Test sterility by adding 2 drops of antifoam to sterile bottle of 100 mL Tryptic Soy broth. Incubate for 24-48 hrs in the 35oC incubator. Record in appropriate binder and discard if any growth detected.

Autoclave Log
With each use record date, contents, sterilization time, sterilization temperature, total time for each cycle, analyst's initials.

Autoclave Spore Test
On quarterly basis use Bacillus stearothermophilus ampoules or spore strips according to manufacturer's instructions. Mark and sterilize one for at least a 15 minute cycle, a second ampoule is not autoclaved and serves as the control. Incubate both in the 55oC incubator and check for color change indicating growth or no growth in the autoclaved ampoule (48hrs or otherwise according to manuf. instructions). Take photo of results and record in appropriate log.

Autoclave Timing
On quarterly basis, check automatic timers with stopwatch quarterly, a 12-15 minute run should be complete within 45 minutes. According to state inspector, the cycle agreement should be within seconds not minutes.

Colisure Reagent
Each box dated upon receipt, and when QC on lot performed. Assess dehydrated media packet for autofluorescence. Once rehydrated, check samples for autofluorescence again. Run positive and negative controls with each lot using stock cultures. Inoculate each 100 mL water sample following manufacturer's instructions, add Colisure or other defined media, and incubate 24-48hrs in 35oC incubator. For a blank, add one packet of media to 100 mL sterile rinse water, incubate 24-48hrs. The blank water sample should be total coliform negative (TC-), E.Coli negative (EC-) and non-fluorescent. Run a total coliform negative (TC-/EC-) sample (*S.epidermidis*), TC+/EC- sample (*E.aerogenes*), and TC+/EC+ sample (*E.Coli*). Record in appropriate binder. If any incorrect results, discard lot and contact manufacturer. Discard on or before expiration date.

Incubator
Daily. VWR gravity incubator is maintained as method requires, 35°C +/- 0.5°C. Thermometers must have 0.2°C increments for incubator and at least 0.5°C for hot water bath. Therms should be placed on top and bottom shelves of incubator and temps recorded for days in use at least twice per day with readings at least four hours apart. Record date, time, temp, and initials.

Quanti-trays
Date boxes upon receipt, and when QC on lot performed. Test for autofluorescence on each lot. Notify manufacturer if any autofluorescence. To test sterility place 100 mL Tryptic Soy broth in one randomly selected Quanti-tray container per lot. Incubate 24-48 hrs in the 35oC incubator. Record date, initials, lot, and growth or no growth in appropriate binder. Record growth or no-growth; if growth, notify manufacturer and sterilize entire batch in autoclave if possible.

Quanti-Tray Leak Test
Quarterly. Turn on Quanti-Tray/2000 heat sealer and wait until green light comes on. Bromothymol blue dye is traditionally used as a pH indicator but here is simply being used to test the functionality of the Quanti-tray sealer. Make a solution of dye in 100 mL water and add to a Quanti-tray. Run tray through sealer. If dye is observed outside wells, clean sealer, repeat sealer dye test, and obtain another sealer if leaking persists. Record in appropriate binder.

Quanti-tray Sealer - Cleaning
Quarterly. When 100 mL is used and the tray placed into the transporter correctly, spills should not occur. If you notice media on the rubber roller or inside the sealer unit, either too much media was in the quanti-tray or the quanti-tray was fed incorrectly. Clean spills but do not spray the unit until it has cooled completely, otherwise it may damage the sealer. Clean by unplugging unit and removing back panel. Clean according to manufacturer instructions at least semi-annually or more frequently based on the sealer usage and leak test results.

Thermometers
Calibrate annually against reference NIST thermometer. Label thermometer with calibration factor, date, and initials. Record serial #'s of thermometers, temps of each, correction factor, date, and initials. Discard if not within 1°C. Check reference thermometer calibration every five years.

Tryptose Broth
Date upon receipt and when QC test performed. For sterility, incubate one sterile sample bottle per lot and per batch and record (growth or no growth) in media prep log. Record all of the following for media prep: Date, initials, type of media, amount of medium used, volume, lot number, pH (including calibration and

slope of meter), sterility, and sterilization time and temp. Liquid broth with tight-fitting lids can be stored for 3 months (1-30°C)

Water Sample Containers
Date boxes upon receipt, and when QC on lot performed. Test for auto-fluorescence on each lot. Notify manufacturer if any autofluorescence detected. To test sterility place 25 mL Tryptic Soy broth in one randomly selected bottle per lot. Incubate 24-48 hrs in the 35oC incubator. Record date, initials, lot, and growth or no-growth in appropriate binder. If growth is observed, notify manufacturer and sterilize entire batch in autoclave if possible.

4.4 Data Quality Indicators

This section describes how the sampling plan aims to achieve data quality for each data quality indicator (representativeness, comparability, completeness, sensitivity, precision and accuracy).

Sampling at each outfall (storm event monitoring) and high-priority site (dry-weather) will be conducted twice each calendar year and at least once each dry-weather season as described in section 3.2. We follow the sampling design detailed in this SAP standard method for bacterial testing. To investigate potential sources of bacterial contamination in dry-weather sampling events, samples will be collected downgradient to upgradient in the same day for each sampling session. Depending upon the results, we may augment sampling with new analytes to investigate different questions, however, we will continue to collect *in situ* water quality parameters to provide important information on comparability.

Field duplicates will be collected during dry-weather sampling to determine field and laboratory precision. Field duplicates consist of two sets of sample containers filled with the same water from the same sampling site. All duplicate samples will be collected at the same location. Field duplicate samples will be collected, handled and stored in the same way as other samples.

Field duplicates will be used to evaluate data precision by calculating their relative percent difference:

$$\text{Relative Percent Different (RPD)} = ((D1 - D2) / ((D1 + D2)/2)) \times 100$$

where:
D1 = routine sample result value
D2 = duplicate sample result value

Precision for field QC samples will be assessed by ensuring that relative percent difference (RPD) between duplicates is less than 25%. If the RPD of field duplicates is greater than 25%, all data results from the duplicate pair's parent sample that are less than 5 times the concentration in the duplicate sample will be flagged with a "J" in our bench log.

Field blanks consist of laboratory-grade deionized (DI) water, transported to the field, and poured into a prepared sample container. Blanks are prepared in the field at the same time as the routine samples, and will be preserved, handled and analyzed in the same way as the routine samples. Field blank samples are used to determine the integrity of staff handling techniques, and the accuracy of the laboratory methods. One field blank will be prepared during each sampling event.

If a blank sample returns a result greater than the threshold, all data for that parameter from that batch of samples will be qualified with a "B" flag.

All samples will be checked to verify that they were processed within their specified holding times. Sample results whose holding time was exceeded prior to being processed will be qualified with an “H” flag.

5.0 REFERENCES

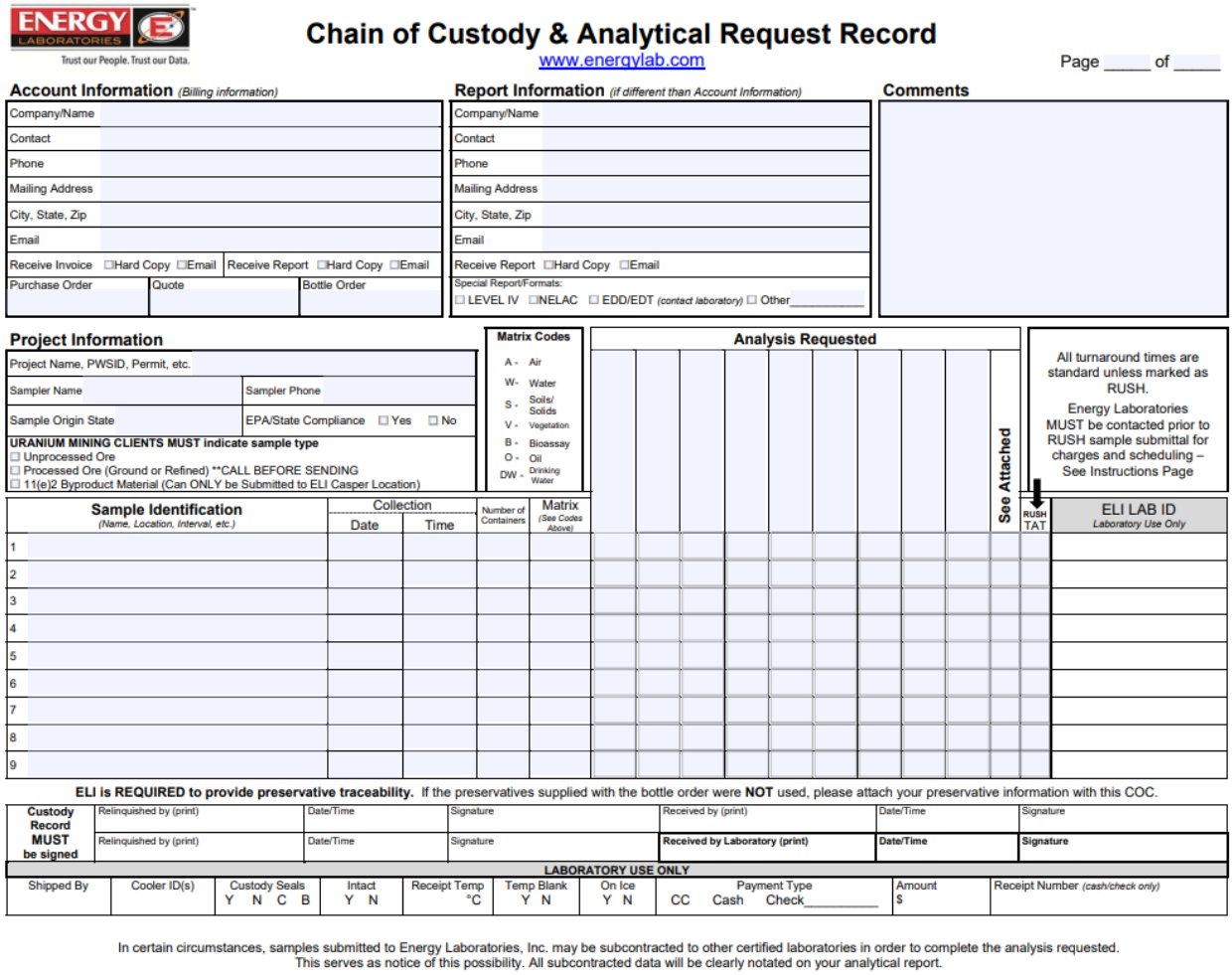
General Permit for Storm Water Discharges Associated with Small Municipal Separate Storm Sewer Systems (MS4s). Montana Dept. of Environmental Quality (MTR040000)

Missoula County Storm Water Management Plan (SWMP), 2022.

Montana DEQ. 2014. Final Central Clark Fork Basin Tributaries TMDLs and Water Quality Improvement Plan. Helena, MT: Montana Dept. of Environmental Quality

APPENDIX A

Energy Laboratories, Inc. Chain of Custody:



ENERGY LABORATORIES
Trust our People. Trust our Data.

Chain of Custody & Analytical Request Record

www.energylab.com

Page _____ of _____

Account Information *(Billing information)*

Company/Name	
Contact	
Phone	
Mailing Address	
City, State, Zip	
Email	
Receive Invoice ☐Hard Copy ☐Email	Receive Report ☐Hard Copy ☐Email
Purchase Order	Quote / Bottle Order

Report Information *(if different than Account Information)*

Company/Name
Contact
Phone
Mailing Address
City, State, Zip
Email
Receive Report ☐Hard Copy ☐Email
Special Report/Formats: ☐ LEVEL IV ☐NELAC ☐ EDD/EDT *(contact laboratory)* ☐ Other_____

Comments

Project Information

Project Name, PWSID, Permit, etc.	
Sampler Name	Sampler Phone
Sample Origin State	EPA/State Compliance ☐ Yes ☐ No

URANIUM MINING CLIENTS MUST indicate sample type
☐ Unprocessed Ore
☐ Processed Ore (Ground or Refined) **CALL BEFORE SENDING
☐ 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

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

Analysis Requested

See Attached

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

	Sample Identification *(Name, Location, Interval, etc.)*	Collection Date	Collection Time	Number of Containers	Matrix *(See Codes Above)*	RUSH TAT	ELI LAB ID *Laboratory Use Only*
1							
2							
3							
4							
5							
6							
7							
8							
9							

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were **NOT** used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Relinquished by (print)	Date/Time	Signature	**Received by Laboratory (print)**	**Date/Time**	**Signature**

LABORATORY USE ONLY

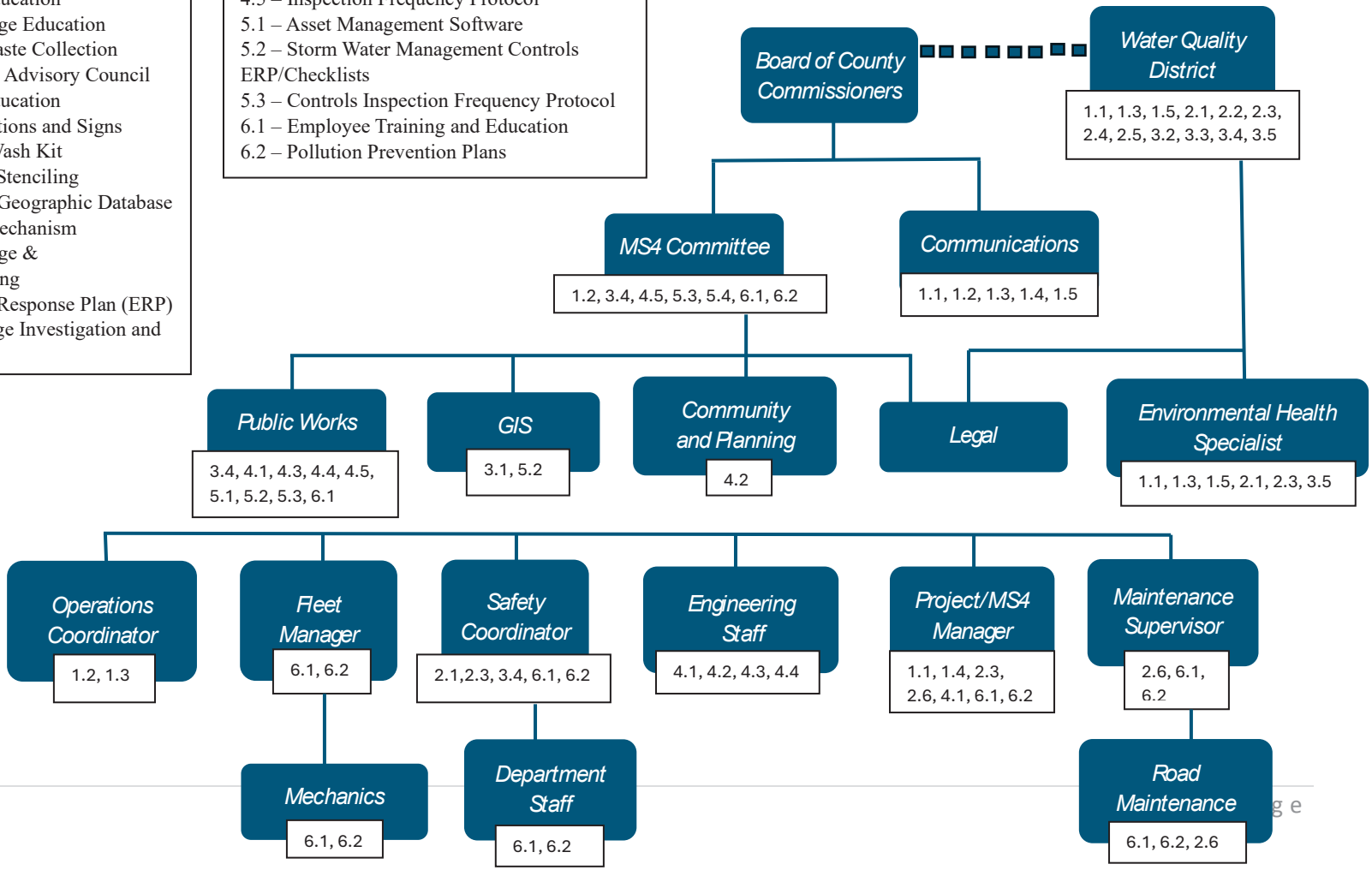
Shipped By	Cooler ID(s)	Custody Seals Y N C B	Intact Y N	Receipt Temp °C	Temp Blank Y N	On Ice Y N	Payment Type CC Cash Check_____	Amount $	Receipt Number *(cash/check only)*

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

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



County of Missoula
Small MS4 Stormwater Management Program

Prepared for MPDES General Permit No. MTR040011

Prepared By:
Missoula County MS4 Committee
199 West Pine Street
Missoula, Montana 59802

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:

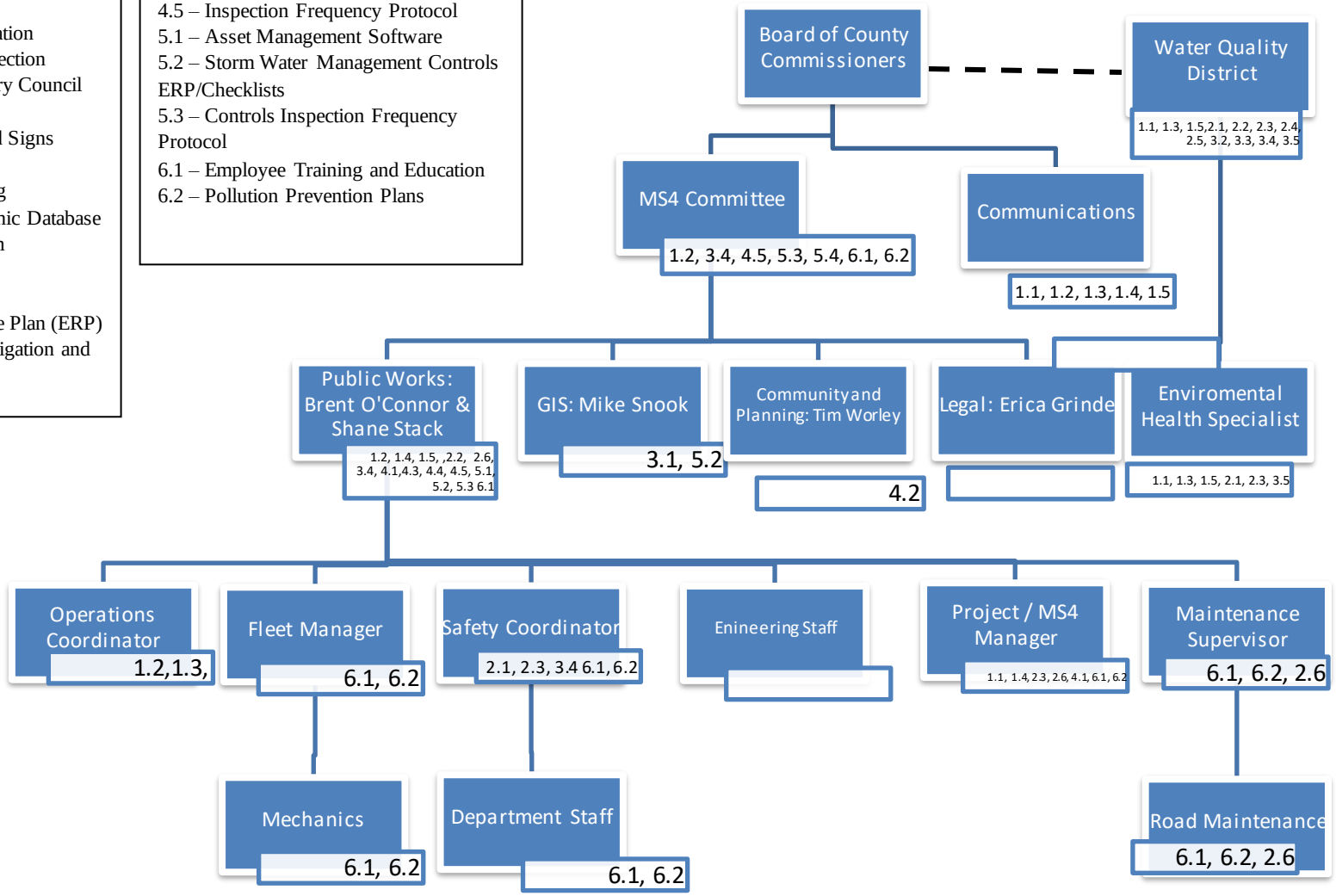
- Mill Tailings
- Industrial Point Source Discharge
- Municipal Point Source Discharge
- Rangeland Grazing
- Wet Weather Discharges
- Sediment Resuspension
- On-Site Treatment Systems
- Streambank Modifications/Destabilization
- Loss of Riparian Habitat
- Agriculture/Irrigated Crop Production
- Dam Construction/Upstream 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:

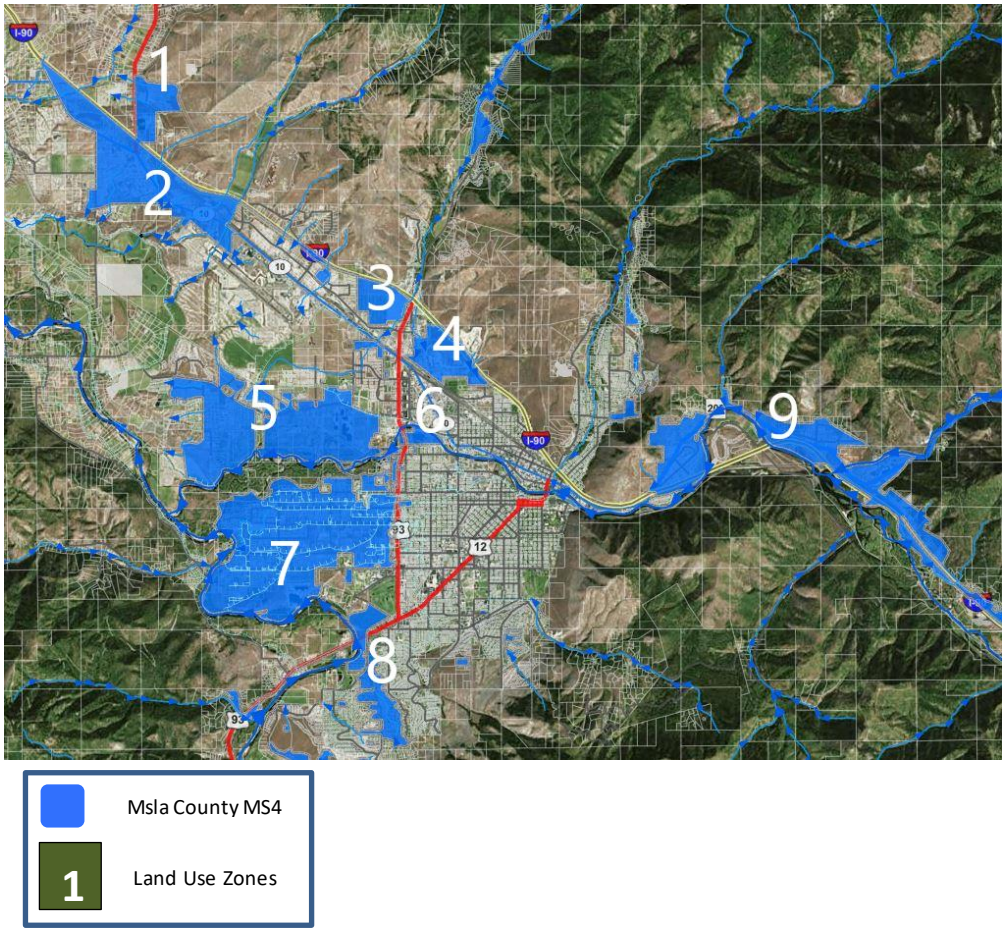
1.1 – Educational Pamphlets
1.2 – Web Page/Social Media
1.3 – PSA, TV/Printed Advertising
1.4 – Contractor Education
1.5 – Illicit Discharge Education
2.1 – Hazardous Waste Collection
2.2 – Water Quality Advisory Council
2.3 – Classroom Education
2.4 – Pet Waste Stations and Signs
2.5 – Charity Car Wash 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.

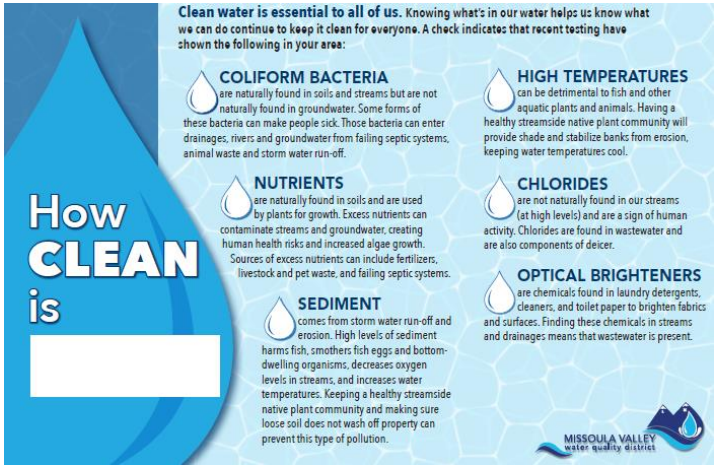
BMP 1.1 <u>Educational Pamphlets, Publications, and Mailings</u>

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.

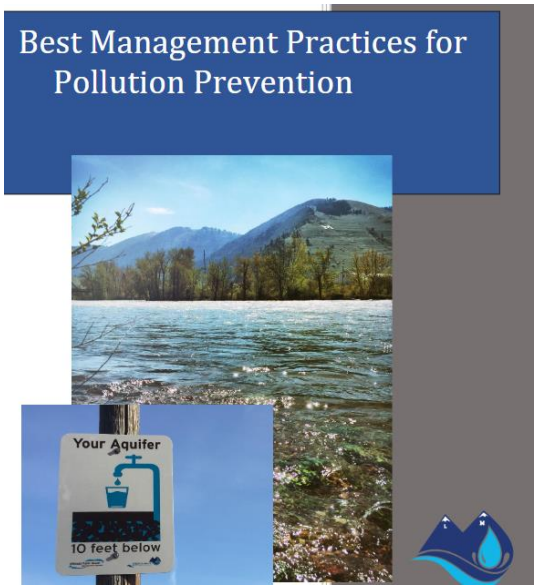
Personnel: Public Works/MS4 Committee

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 Classroom Education

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	i. Annually review and update a storm water website that, at a minimum, includes the following:	1.2

continue to utilize the permittee's storm water website for public involvement.	• 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.	
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 • Home Chemical Care • Lawn & Garden Care • Pet Waste **Business Types**: • Carpet Cleaning/Restoration Companies • Construction Industry • Gas Stations • Industrial Facilities & Operations • Landscapers	3.1, 3.3

	• 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 • 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	1.1, 1.2, 1.3, 1.4, 1.5, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6

	• 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

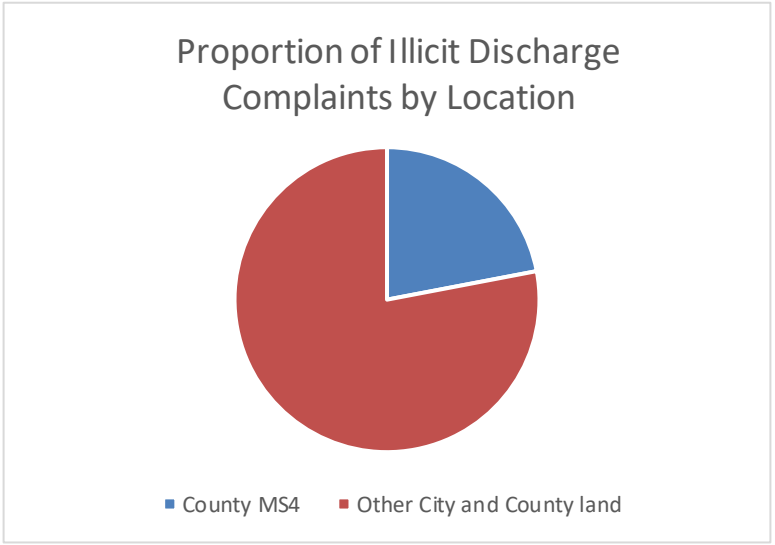
Missoula County shall develop, implement and enforce a program to detect and eliminate illicit discharge (as defined in ARM 17.30.1102(7) in the permitted Small MS4.

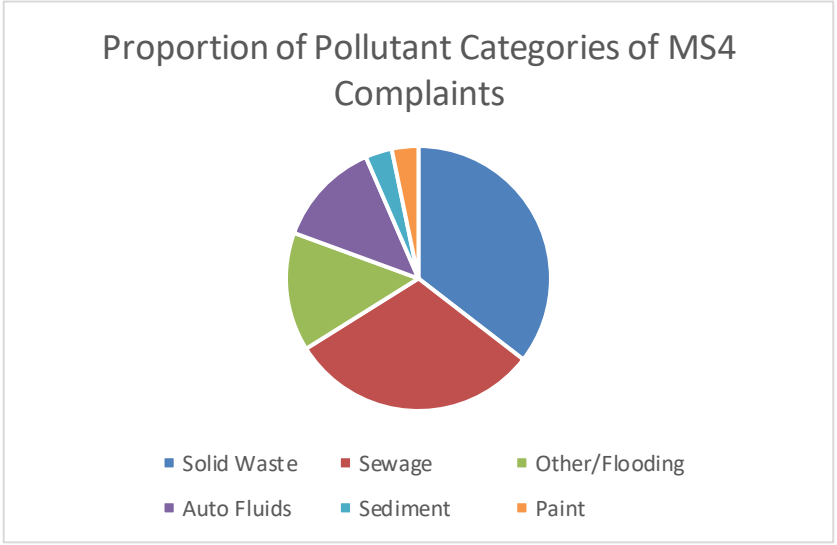
In the past 20+ years the Missoula Valley Water Quality District has observed, tracked, and identified the most common pollutant categories and responded to complaints. The most common pollutants involved in illicit discharges in Missoula are auto fluids (antifreeze, motor oils, fuels), deicer, detergent, 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 Storm Sewer System Geographic Database

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), **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>

Wye_002A – Residential sample

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 <u>Illicit Discharge Investigation and Corrective Plan</u>

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	3.1, 3.3

	• 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. 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	3.1, 3.3

	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 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 extent allowable under state or local law, effectively	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: • Legal authority (through ordinance, formal policies, or memoranda of understanding) to eliminate and abate illicit discharges • Staff with enforcement authority • Enforcement actions available	3.2, 3.4

prohibit discharge of non-storm water into the regulated storm sewer system and implement appropriate enforcement procedures and actions.	• 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 Construction Enforcement Response Plan

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 Inspection Frequency Protocol

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:
  - 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;
  - Requirements for site operators to implement appropriate erosion and sediment control BMPs, and to control waste;
  - Procedures for site plan reviews that incorporate consideration of potential water quality impacts;
  - Procedures for receipt and consideration of information submitted by the public; and
  - 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 water pollution prevention plan (SWPPP) developed pursuant to the MPDES	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

	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 • 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	4.3, 4.5

	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) on regulated construction projects and implement appropriate enforcement procedures/actions.	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 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	4.1, 4.2, 4.4

		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 suspended solids (TSS) Permittees allowing offsite treatment shall do the following:	5.1, 5.2,

	• 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 **new** permittee-owned and private post-construction storm water management controls installed since the effective date of this permit.	4.3, 5.1, 5.2, 5.3,

	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 mechanism, post-construction storm water management controls on regulated projects and		**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. **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-	5.3, 4.4

implement appropriate enforcement procedures and actions.	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. • Inspection procedures for facilities and their structural storm water controls, which at a minimum must include: o An annual visual inspection of each applicable facility.	6.1, 6.2, 3.1

	○ 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.

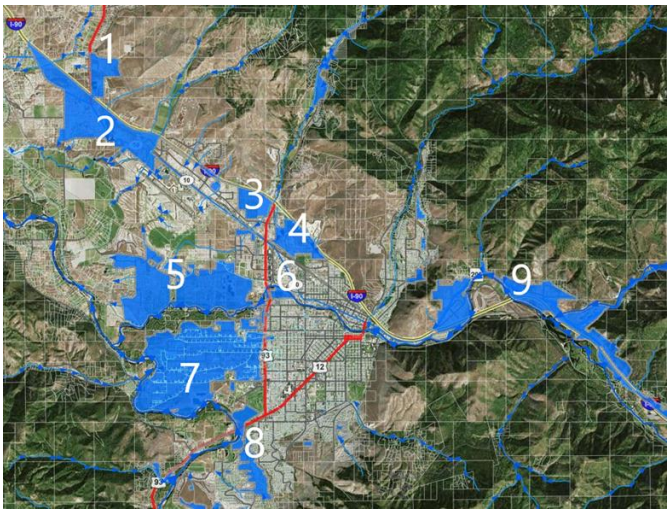
4. Field and Facility Personnel

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.

MCM1 & 2 - Public Education and Outreach

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 group or geographical area can lead to beneficial effects throughout the valley and downgradient. 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.

Target Audience

1) School children residing in the MS4
2) Missoula County general public

2024 Education and Outreach Activities

- Elena conducted a demonstration for students at Big Sky High School, utilizing the Groundwater Simulator to illustrate how point-source pollution can affect an entire aquifer.
- The Home Resource Hazardous Waste Facility operated for two days this year, collecting a range of flammable, corrosive, and toxic substances that pose a potential threat to our aquifer.
- Missoula Public Health participated in the Wellness Fair, engaging with the community to raise awareness about living in an area with a sole-source aquifer and educating them on the types of activities that could jeopardize our drinking water supply

2024

Missoula County Voice - Stormwater Management

This is the county's public comment and engagement platform. It includes a dedicated page for MS4 related questions, comments and concerns, as well as related documents. Staff in Water Quality and Public Works receive direct notification when a constituent asks a question through this page. In 2024, 47 people visited the MS4 page. This is a 260% increase in traffic, with most users directed to the page from a search engine like Google.

Due to changes in Meta (the company that owns Facebook and Instagram, individual post analytics are not as accessible.

The following messages are evergreen posts on the Missoula County social media platforms (@missoulacountymt on Instagram and @Missoula.County on Facebook), which means staff rotate through posting them on a monthly basis. These posts are public service announcements aimed at spreading awareness and educating residents on stormwater.

1. How deicer and sand are used to reduce runoff during winter months
2. Importance of shoveling snow quickly to reduce the use of salt or chemicals
3. Importance of picking up pet waste and disposing it properly
4. Importance of reducing fertilizers and pesticides when possible during spring rains and snowmelt mean increased runoff
5. How washing your car at a licensed establishment helps prevent run off
6. How to dispose of like construction material, RV/camper waste or automotive fluids – don't pour them down the drain
7. Promoting the Household Chemical Waste disposal facility at HomeResource
8. Difference between a storm drain and a sewer

Missoula County social platforms experienced large growth in 2024, ensuring that stormwater messages are reaching more residents than previously. The Missoula County Facebook page has more than 5,900 followers and saw a 135% increase in reach from 2023 to 2024. The Missoula County Instagram page has more than 5,000 followers and saw a 200% increase in reach from 2023 to 2024.

BEST MANAGEMENT PRACTICES

· **Public Education** - The County must continue to educate the public on storm water 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 storm water discharges on waterbodies, educate audiences about the behaviors and activities that have the potential to pollute storm water discharges, and motivate action to change behaviors to reduce pollutants in storm water runoff.

· **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.

STORMWATER POLLUTION PREVENTION PLAN CHECKLIST

- ☐ ARE YOU IN THE MS4?
- ☐ ARE YOU DISTURBING ONE ACRE OR MORE?
  - ☐ YES ☐ NO
  - ☐ IF YES, DEVELOP A SWPPP PLAN AND FILL OUT THE REQUIRED DEQ DOCUMENTS.
- ☐ SUBMIT SWPPP DOCUMENTS TO DEQ FOR AUTHORIZATION.
- ☐ PROVIDE NOI (AUTHORIZATION LETTER) AND SWPPP TO MISSOULA COUNTY PUBLIC WORKS FOR ACKNOWLEDGEMENT.
- ☐ MAKE SURE TO FOLLOW THE CONDITIONS OF THE DEQ PERMIT AND UPDATE IT ACCORDINGLY.
- ☐ CONTACT MISSOULA COUNTY AT WHICH TIME THE PERMIT IS CLOSED OUT WITH DEQ.

MONTANA MISSOULA COUNTY PUBLIC WORKS DEPT.

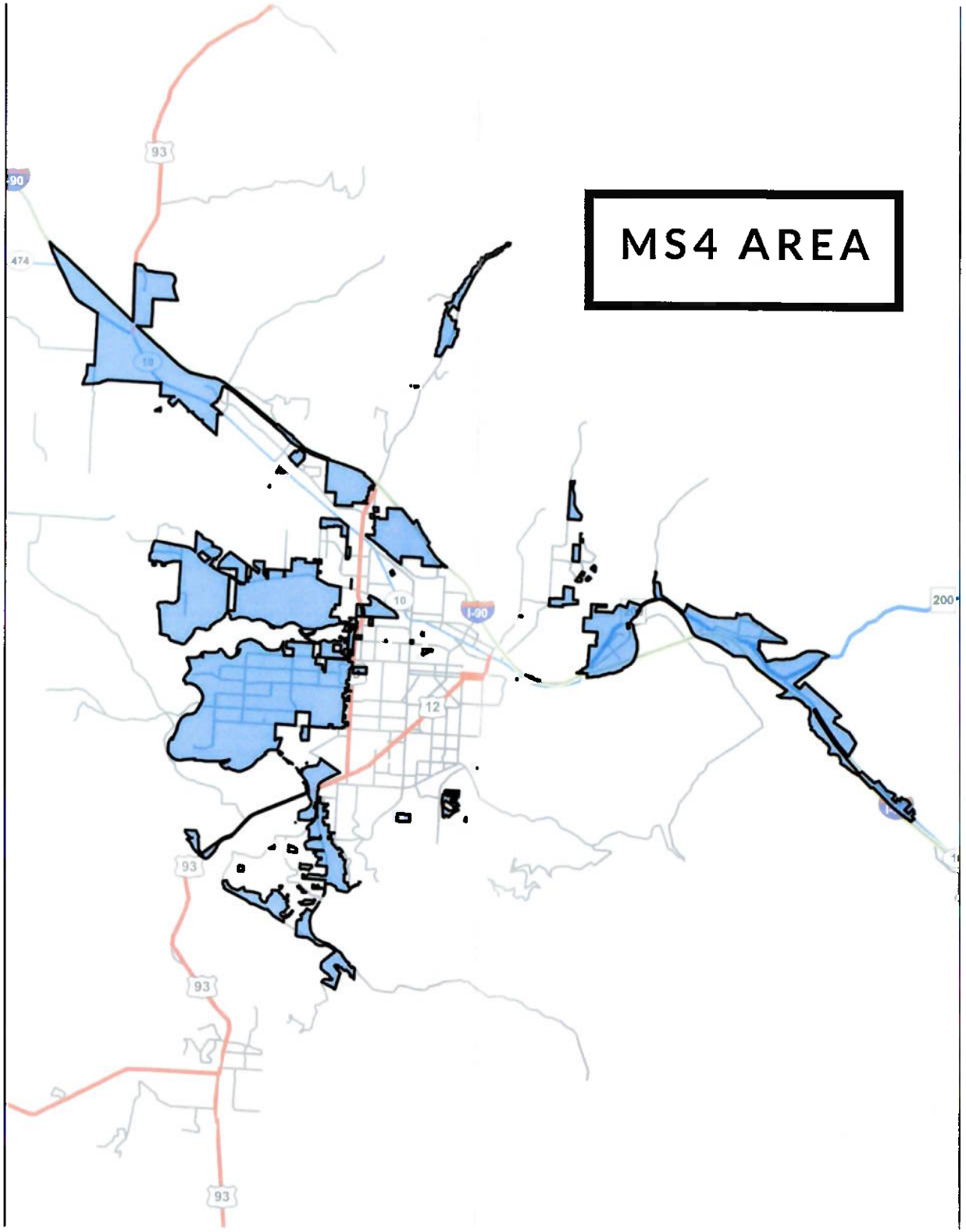
6089 Training Dr., Missoula, MT 59808
PH: 406.258.4753
FAX: 406.258.4864
mcpw@missoulacounty.us
www.missoulacounty.us/publicworks

MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)

Missoula COUNTY

WHAT IS THE MS4?

Missoula County is an active participant of the storm water general permit requirement, formally known as the MS4 General Permit. MS4, meaning Municipal Separate Storm Sewer System, and the permit are administered by the Environmental Protection Agency (EPA). In 2005, the EPA delegated the Montana Department of Environmental Quality (MDEQ) to implement these permits in urbanized areas of Montana with populations of 10,000 or more as determined by the US Census. The permit requires the county to implement and enforce a storm water management program to reduce pollutants from entering waterways and help protect water quality as it is outlined in the Montana Water Quality Act. In doing so, the county has partnered with the Missoula Water Quality District to assist with implementing the program and its six minimum control measures. Please call 406.258.4753 or visit https://www.missoulacounty.us/government/health/health-department/home-environment/missoula-valley-water-quality-district for more information.



Summary Report

01 January 2024 - 31 December 2024

Missoula County Voice

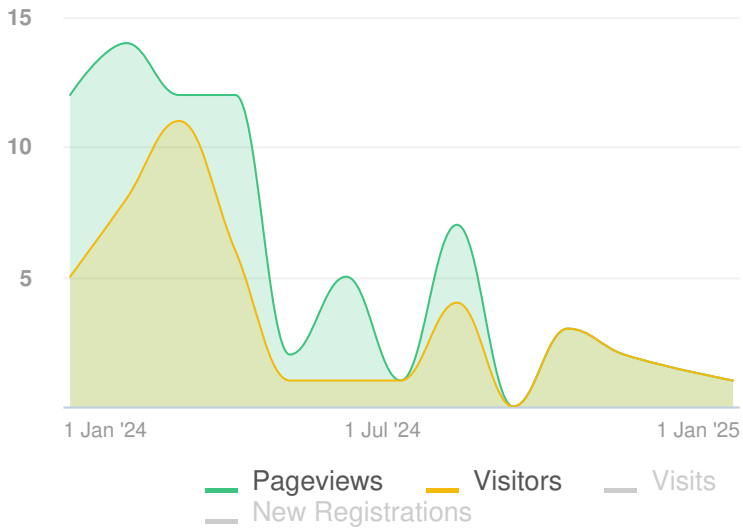
PROJECTS SELECTED: 1

Stormwater Management

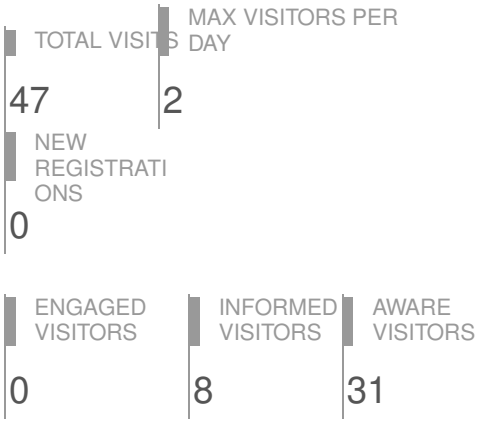
FULL LIST AT THE END OF THE REPORT

GRANICUS

Visitors Summary



Highlights



PARTICIPANT SUMMARY

ENGAGED
INFORMED
AWARE

0 ENGAGED PARTICIPANTS

	Registered	Unverified	Anonymous
Contributed on Forums	0	0	0
Participated in Surveys	0	0	0
Contributed to Newsfeeds	0	0	0
Participated in Quick Polls	0	0	0
Posted on Guestbooks	0	0	0
Contributed to Stories	0	0	0
Asked Questions	0	0	0
Placed Pins on Places	0	0	0
Contributed to Ideas	0	0	0

** A single engaged participant can perform multiple actions*

** Calculated as a percentage of total visits to the Project*

ENGAGED
INFORMED
AWARE

8 INFORMED PARTICIPANTS

	Participants
Viewed a video	0
Viewed a photo	0
Downloaded a document	6
Visited the Key Dates page	0
Visited an FAQ list Page	0
Visited Instagram Page	0
Visited Multiple Project Pages	4
Contributed to a tool (engaged)	0

** A single informed participant can perform multiple actions*

	(%)
Stormwater Management	8 (25.8%)

** Calculated as a percentage of total visits to the Project*

ENGAGED
INFORMED
AWARE

31 AWARE PARTICIPANTS

	Participants
Visited at least one Page	31

** Aware user could have also performed an Informed or Engaged Action*

Stormwater Management	31

** Total list of unique visitors to the project*

ENGAGEMENT TOOLS SUMMARY

0	0	0	0	1	0	1	0	0
FORUM TOPICS	SURVEYS	NEWS FEEDS	QUICK POLLS	GUESTBOOKS	STORIES	Q&A'S	PLACES	

GUEST BOOKS SUMMARY

1	Guest Books
0	Contributors
0	Entries

TOP 3 GUEST BOOKS BASED ON CONTRIBUTORS

0
Contributors to

Stormwater Management

Q & A SUMMARY

1	Q&As
0	Contributors
0	Questions

TOP 3 Q & A BASED ON CONTRIBUTORS

0
Contributors to

Ask us any questions you have on the stormwater management!

INFORMATION WIDGET SUMMARY

9	0	0	0	0
DOCUMENTS	PHOTOS	VIDEOS	FAQS	KEY DATES

DOCUMENTS

9	Documents
6	Visitors
10	Downloads

TOP 3 DOCUMENTS BASED ON DOWNLOADS

5	3	2
Downloads	Downloads	Downloads
MS4 General Permit	2022-2027 MS4 Stormwater Management Plan	2019 MS4 Annual Report.pdf

TRAFFIC SOURCES OVERVIEW

REFERRER URL	Visits
www.google.com	32
www.missoulacounty.us	6

SELECTED PROJECTS - FULL LIST

PROJECT TITLE	AWARE	INFORMED	ENGAGED
Stormwater Management	31	8	0

2024

Missoula County Voice - Stormwater Management

This is the county's public comment and engagement platform. It includes a dedicated page for MS4 related questions, comments and concerns, as well as related documents. Staff in Water Quality and Public Works receive direct notification when a constituent asks a question through this page. In 2024, 47 people visited the MS4 page. This is a 260% increase in traffic, with most users directed to the page from a search engine like Google.

Due to changes in Meta (the company that owns Facebook and Instagram, individual post analytics are not as accessible.

The following messages are evergreen posts on the Missoula County social media platforms (@missoulacountymt on Instagram and @Missoula.County on Facebook), which means staff rotate through posting them on a monthly basis. These posts are public service announcements aimed at spreading awareness and educating residents on stormwater.

1. How deicer and sand are used to reduce runoff during winter months
2. Importance of shoveling snow quickly to reduce the use of salt or chemicals
3. Importance of picking up pet waste and disposing it properly
4. Importance of reducing fertilizers and pesticides when possible during spring rains and snowmelt mean increased runoff
5. How washing your car at a licensed establishment helps prevent run off
6. How to dispose of like construction material, RV/camper waste or automotive fluids – don't pour them down the drain
7. Promoting the Household Chemical Waste disposal facility at HomeResource
8. Difference between a storm drain and a sewer

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BMP 3.1 Storm Sewer System Geographic Database

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 3.3 Illicit Discharge Monitoring/Screening

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 committee considered, 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: Wye 002A sample site – also used for routine storm event monitoring
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

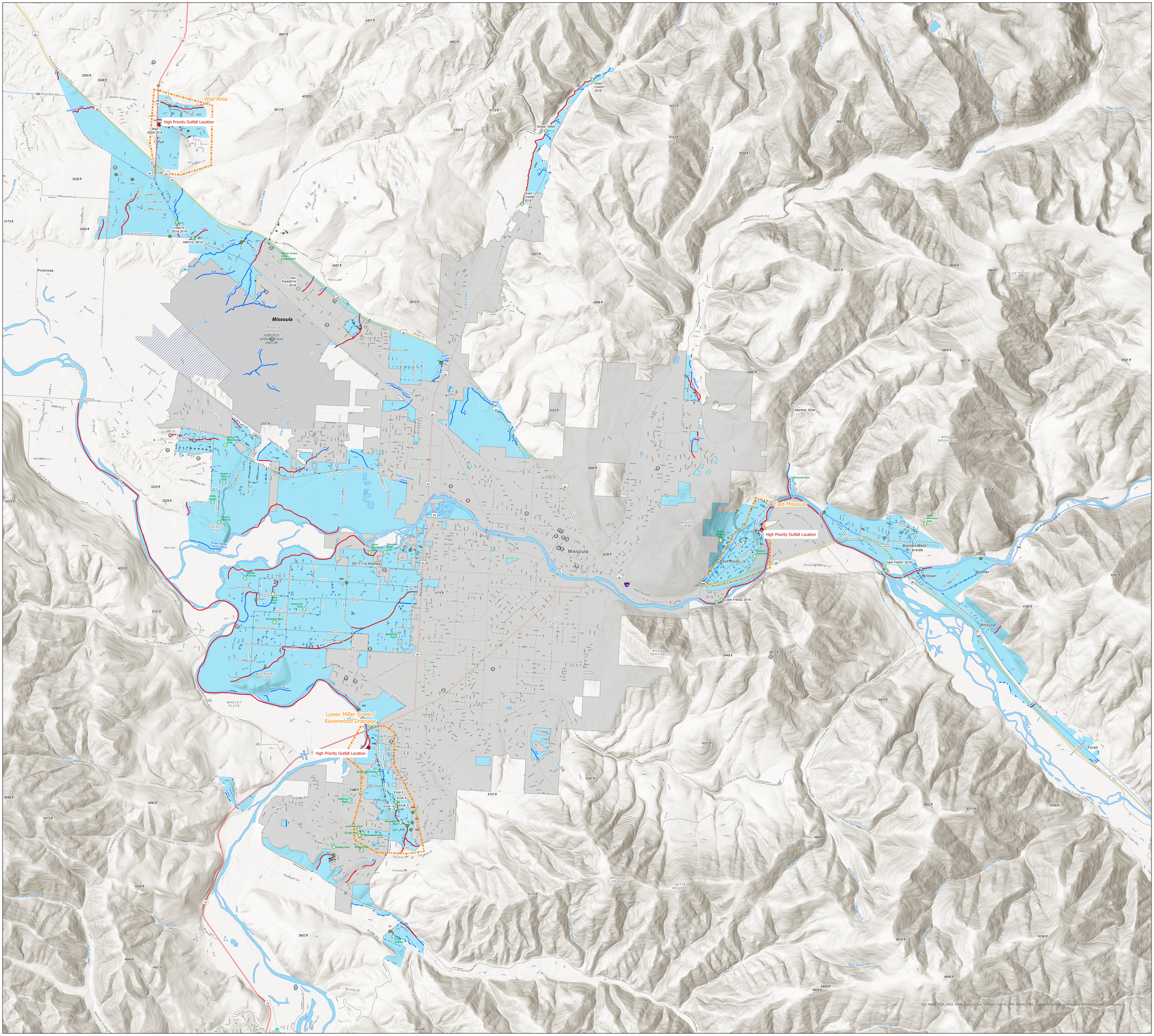
screen discharges is a fecal coliform test. These tests can be conducted locally and provide a quick turnaround of results (24 hrs.). This will determine whether or not there is a stream of wastewater contributing to the dry-weather discharge.

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.

MCM 3a.ii NON-STORMWATER DISCHARGES

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).



City Limits

Roads

Highways - Interstate

ROADCLASS

- Freeway
- US Route
- State Highway
- Route

Roads > 24k

- Freeway
- Highway

- Collector
- <all other values>
- Parks In MS4
- Facility Location Points

MS4 Facilities

- Storm Sampling Location

Storm Discharge Points - Type

- Outfall - High Priority
- Outfall
- Other / Jurisdictional
- Storm Dry Well

- Storm Inlets
- Storm Culverts
- Storm Gravity Mains
- Storm Open Channels
- Surveyed MS4 Waterways
- Storm Detention Area
- Lakes-Channels
- MS4 Waterways
- MS4 High Priority Areas
- Airport
- MS4

Date: 2/10/2025

Missoula County MS4
Municipal Separate
Storm Sewer System

MCM 3a.ii NON-STORMWATER DISCHARGES

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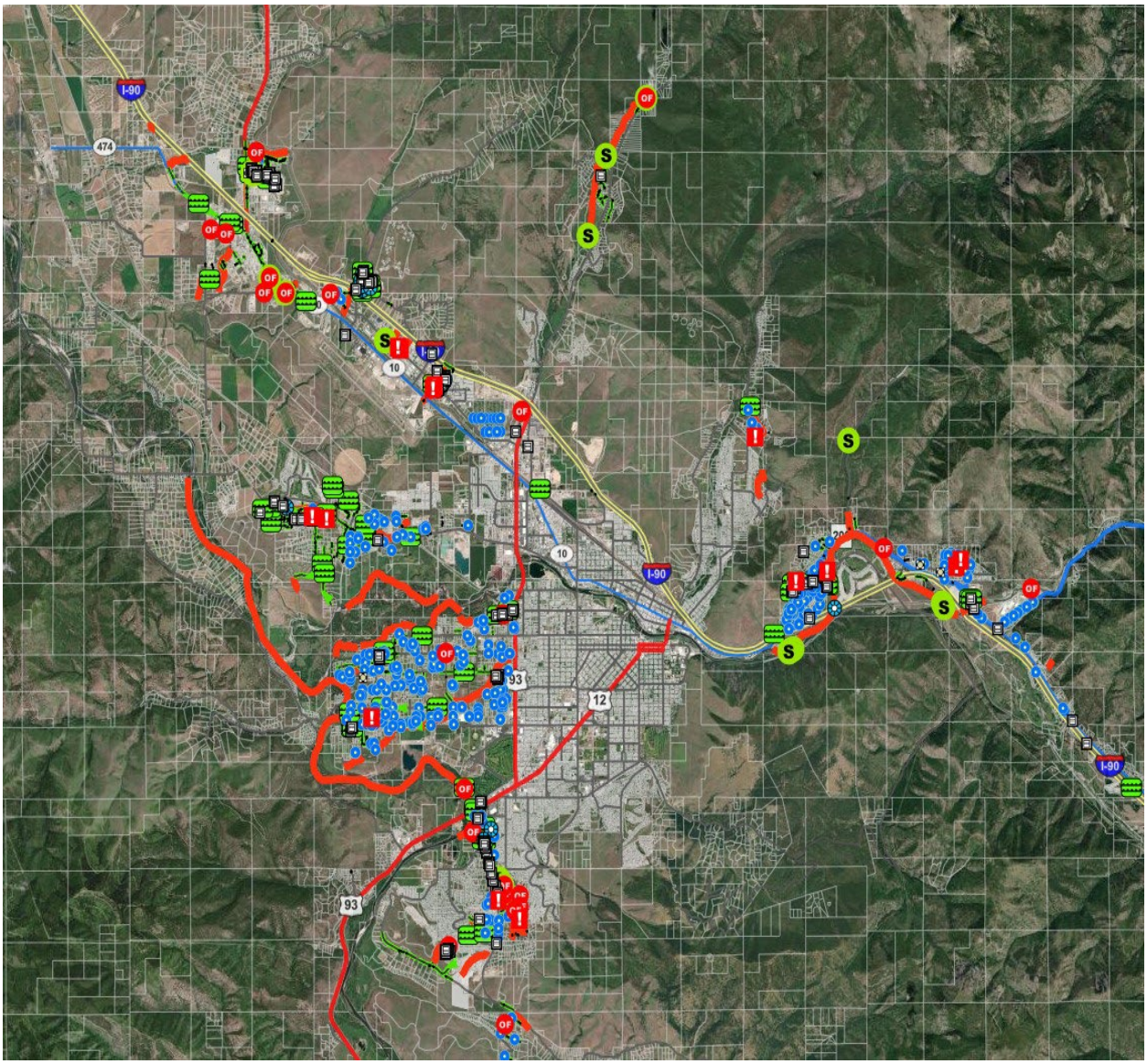
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MCM 3 Illicit Discharge Detection and Elimination, BMPs 3.2, 3.3, 3.4, 3.5

In 2024, the Missoula Valley Water Quality District received and responded to a combined total of 27 cases of illicit discharge within the city and county of Missoula. This includes emergency calls responded to by the Environmental Health Emergency Response Team. Staff followed the enforcement response plan and were able to respond the same day of the complaint in most cases. Because our complaint program encompasses the city and county boundaries, we analyze how the types and frequency of complaints of illicit discharge differ geographically. Of the 27 reports in 2024, 4 were within Missoula County, and 2 **were within Missoula County and within the boundaries of the Missoula County MS4.**

On average, 7% of the total Missoula community complaints occur within the county MS4 in 2024. In general, the county MS4 bounds are in areas of lower residential density with varying amounts of development activity. Changes in community resources and enforcement of trespassing on some county land is likely one contributing factor in the decrease from previous years reports. However, when comparing small sample sizes, a difference of a few complaints can appear to be more significant than they are and therefore any suspected trends must be interpreted with caution.

2024 IDDE	**Number of complaints**
Total	**27**
Missoula County	**4**
Within County MS4	**2**

As part of our Illicit Discharge and Elimination Corrective Action Plan and ERP, logged complaints are categorized into the following subtypes:

- Petroleum (gasoline, diesel, waste oil, etc.),
- Antifreeze
- Cooking grease
- Deicer
- Sediment
- Sewage/manure
- Paint (and trade contractor waste, e.g. drywall mud, etc.)
- Detergent
- Garbage
- Chemical (pesticides, herbicides, fertilizer, or other chemicals),
- Concrete washout
- Other

As outlined in the SWMP, the top 5 categories of illicit discharge addressed in the MS4 are used for target audience development and historically have been **petroleum**, **sediment**, **sewage/manure, paint**, and **solid waste**.

IDDE (Complaints and Emergency Call-outs) Locations and Response

Date	Location	MS4 Zone	Type	Response	Time (min)
1/15/2024	8077 Hwy 10 W	2	Petroleum, permitted facility	Performed a follow-up at the fueling facility and determined the cause of the fire on the diesel island	60
10/11/2024	8330 Zaugg Dr.	9	Petroleum, auto accident	Asphalt truck boiled over. Proper clean up occurred.	20

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 our aquifer and surface waters to pollutants. When our onsite assessment determines a violation has occurred, but we cannot confirm the responsible party or do not have evidence that the suspected responsible party caused the illicit discharge, we issue an "observed violation" letter. These letters describe the observations, applicable rule, ways to comply with the rule, and consequences of non-compliance. In these cases, compelling clean-up often involves working with the property owner as they are the ultimate responsible party. Even though any violation could technically result in an issuance of a Notice of Violation to the responsible party, we typically only issue these when violations are egregious, involve repeat violations and/or when voluntary clean-up does not occur and must be compelled.

Missoula City-County Health Department
Water Quality District
301 W Alder | Missoula MT 59802-4123
www.missoulacounty.us/wqac
Phone | 406.258.4890

Missoula Valley Water Quality District – Enforcement Response Plan

Purpose: The Missoula Valley Water Quality District (District) is charged with protection of surface water and groundwater resources within the Missoula Valley. One method of accomplishing this is through enforcement of Municipal Codes, County Ordinances and State Law.

Application: The District commits to investigating all illicit discharge complaints within 3 business days of receiving them. If possible, the investigation will take place within 24 hours of receipt. Complaints may be filed by calling the District at 258-4890, on the website for the City-County Health Department or by calling 911. After-hours response is available depending on the severity of the complaint.

Applicable Regulations: This section of Municipal Code (Water Quality Ordinance) is a Health Ordinance pursuant to §7-4-4306 MCA, and the extraterritorial application of the ordinance has been agreed to in a Resolution of Concurrence by the Missoula Board of County Commissioners. This covers the majority of the MS4 including unincorporated areas.

> Missoula Municipal Code
> Section 13.26.032 PROHIBITED ACTIVITY
>
> It is unlawful for any person to:

A. Cause contamination or to place, cause to be placed, or allow to remain in place any substance in a location where it is likely to cause contamination of soil, groundwater, or surface water.
B. Discharge anything that does not meet the definition of stormwater or an Allowable Non-Stormwater Discharge to a municipal separate storm sewer system.
C. Discharge stormwater from Tank Fueling Areas directly to storm drains (dry wells or inlets piped to outfalls).
D. Discharge stormwater from Vehicle Fueling Areas to storm drains (dry wells or inlets piped to outfalls).

Contamination is defined as:

> Contamination - The presence of any substance (chemical, radiological, or biological) or any condition (temperature, pH, taste, color, odor, turbidity) in soil or water which may create or threaten to create a hazard to human health or the environment, or impair the usefulness of the soil or water.

The Water Quality Ordinance contains enforcement procedures in Section 13.26.120, and provisions for criminal penalties in Section 13.26.130. These sections include provisions for Notice of Violation, Corrective Action Plans, Administrative Review, Judicial Review, criminal misdemeanor prosecution and fines.

The Missoula City-County Health Code, Regulation 1 regulates discharge of wastewater and is applicable throughout the entire county including the city of Missoula. It states:

> *Regulation 1 (A)(3) 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*

And:

> *Regulation 1 (A)(4) Unless an Underground Injection Control (UIC) permit is obtained from the U.S. Environmental Protection Agency pursuant to 40 CFR 144, a person may not install or use any sump, dry well, or septic system from disposal of waste fluids from the washing, servicing, maintenance or storage of any vehicle, equipment or components that are associated with an internal combustion engine.*

Wastewater is defined in the Health Code, Regulation 1 as:

> *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.*

The Missoula City/County Health Code also includes detailed enforcement provisions, including administrative and judicial review and civil penalties.

The following chart references the regulations that would be applied to various sources of illicit discharges within the county MS4:

Source of Illicit Discharge	Applicable Regulation
Sanitary Wastewater	Missoula City County Health Code, Regulation 1, Missoula Municipal Code 13.26.032
Effluent from Septic Tanks	Missoula City County Health Code, Regulation 1, Missoula Municipal Code 13.26.032
Car Wash Wastewaters	Missoula City County Health Code, Regulation 1, Missoula Municipal Code 13.26.032, 034
Improper Oil Disposal, Auto maintenance waste	Missoula Municipal Code 13.26.032, 034, 050
Radiator flushing disposal	Missoula Municipal Code 13.26.032, 034
Manure, pet waste disposal	Missoula Municipal Code 13.26.032, 034
Spills from Roadway accidents	Missoula Municipal Code 13.26.032
Improper disposal of household toxics	Missoula City County Health Code, Regulation 1, Missoula Municipal Code 13.26.032
Trade Contracting Waste disposal	Missoula City County Health Code, Regulation 1, Missoula Municipal Code 13.26.032, 034
Fueling facility releases and storage	Missoula Municipal Code 13.26.032, 034, 036, 050
Carpet Cleaning and Pressure washing disposal	Missoula City County Health Code, Regulation 1, Missoula Municipal Code 13.26.032, 034
Road Maintenance and deicer application	Missoula Municipal Code 13.26.032, 034, 038
Vehicle and Equipment washing	Missoula Municipal Code 13.26.032, 034
Well development	Missoula Municipal Code 13.26.032, 034

Investigation: Once complaints are received, they are logged into the Complaint Management Software. It is assigned to a staff member of the District who receives an immediate notification via email of the complaint. Staff then investigates the complaint, typically by an in-person field inspection. The goal is to document observations, try to confirm the validity of the complaint, identify the responsible party, and seek voluntary compliance if the complaint is confirmed.

When our onsite assessment determines a violation has occurred, but we cannot confirm the responsible party or do not have evidence that the suspected responsible party caused the illicit discharge, we issue an "observed violation" letter. These letters describe the observations, applicable rule, ways to comply with the rule, and consequences of non-compliance. In these cases, compelling clean-up often involves working with the property owner as they are the ultimate responsible party.

If the complaint is of an immediate nature and takes place after hours, staff are notified via pager and cell phone. Information obtained during a field visit may include; witness information, photos, property owner interview, soil and/or water samples. If the property owner is not cooperative and the need to inspect is justifiable, District staff may pursue an administrative warrant to investigate the property.

If an illicit discharge is discovered, staff will attempt to receive immediate voluntary compliance through ceasing the activity and using control measures to minimize spread of contamination (i.e. oil sorbent materials). If necessary, the department may secure contractors necessary to reduce the spread of contamination (i.e. vactor truck or excavator).

Typical investigation and enforcement procedure is as follows:

Complaint Receipt **(1-3 days)** → Investigation **(1-3 days)**→ Notification of Findings to responsible party → Corrective Action timeline given → **(1-60 days depending on corrective action**) Follow up investigation.

Enforcement: When complaints are confirmed and egregious or a repeat offense, a Notice of Violation (NOV) may be issued. This process can be faster if warranted. The timeline for compliance which is outlined in the NOV is based on the circumstances of the illicit discharges. The discharge may be ordered to cease immediately but an extended timeline for investigation and clean-up may be longer.

If compliance is not achieved through the above procedures, the department will pursue compliance through the enforcement procedures outlined in Municipal Code and City-County Health Code.

The Water Quality Ordinance contains enforcement procedures in Section 13.26.120, and provisions for criminal penalties in Section 13.26.130. The Enforcement section includes provisions for Notice of Violation, Administrative Review, Board Hearings, and Judicial Review. The Missoula City-County Health Code also includes detailed enforcement provisions, including administrative and judicial review and civil penalties. The Missoula Municipal Code also contains detailed enforcement provisions.

202219563 B: 1083 P: 721 Pages: 2 Fees: $0.00
11/15/2022 09:37:31 AM Resolution
Tyler R. Gernant, Missoula County Clerk & Recorder
eRecording

RESOLUTION 2022-112

A RESOLUTION OF THE MISSOULA COUNTY COMMISSIONERS APPROVING THE EXTRATERRITORIAL APPLICATION OF THE REVISED MISSOULA MUNICIPAL CODE. TITLE 13, CHAPTER 26, THE "MISSOULA VALLEY WATER QUALITY CODE," AND THE ADMINISTRATIVELT ADOPTED "BEST MANAGEMENT PRACTICES FOR POLLUTION PREVENTION MANUAL

WHEREAS, Title 7, Chapter 13, Part 45 MCA authorizes the creation of local water quality districts to protect, preserve and improve the quality of surface water and groundwater; and

WHEREAS, the Board of County Commissioners, with the approval of the Missoula City Council, created the Missoula Valley Water Quality District in 1992; and

WHEREAS, the Missoula City Council initially enacted the Missoula Valley Aquifer Protection ordinance as chapter 13.26 of the Missoula Municipal Code, entitled Aquifer Protection, on Aug 8, 1994; and

WHEREAS, the Missoula Valley Water Quality Ordinance is a health ordinance of the City of Missoula and has been applied extraterritorially to all places within five miles outside the city limits that are within the boundaries of the Missoula Valley Water Quality District, pursuant to MCA 7-4-4306; and

WHEREAS, at the recommendation of the Missoula Water Quality District Board, the Missoula City Council revised the Missoula Valley Water Quality Code, Title 13, Chapter 26 of the Missoula Municipal Code on June 13, 2022, with an effective date of September 1, 2022; and

WHEREAS, at the recommendation of the Missoula Water Quality District Board, the Missoula mayor administratively adopted the Best Management Practices for Pollution Prevention Manual as a regulatory companion to the Missoula Valley Water Quality Ordinance on Sept. 1, 2022; and

WHEREAS, the revisions to the Missoula Valley Water Quality Code and adoption of the Best Management Practices Manual were necessary to protect the public health, safety and general welfare of those using the Missoula Valley Aquifer and surface waters in the Missoula Valley for drinking water, recreation and other beneficial uses; and

WHEREAS, Missoula's aquifer is the community's sole source of drinking water; and

WHEREAS, Missoula's sole-source aquifer extends beyond the city limits and is recharged by surface water outside the city limits; and

WHEREAS, Section 7-4-4306, MCA, authorizes the mayor to extend a health regulation to five miles outside the city limits with the approval of the Missoula City-County Board of Health and Missoula Board of County Commissioners.

NOW THEREFORE, BE IT RESOLVED that we, the Missoula Board of County Commissioners, approves the extraterritorial application of the Missoula Municipal Code, Chapter 13.26, entitled Missoula Valley Water Quality Code and the administratively adopted Best Management Practices for Pollution Prevention Manual to those areas within five miles of the city limits that are also within the boundary of the Missoula Valley Water Quality District.

PASSED AND ADOPTED THIS 10TH DAY OF NOVERMBER 2022

ATTEST:

Tyler Gernant, Clerk and Recorder

BOARD OF COUNTY COMMISSIONERS
MISSOULA COUNTY

6F45D36DCC41E9C2B2D542DC93A576B2

Juanita Vero, Chair

Josh Slothick, Commissioner

Not available for signature

David Strohmaier, Commissioner

MCM 3.e.ii.: Dry Weather Monitoring, BMP 3.3

Results

Dry weather screening occurred this year in our High Priority Area at outfalls in East Missoula (Deer Cr), the Wye and Lower Miller Cr/Ravenwood in Spring and Fall. On October 10, 2024, all three sites were extremely dry (Figures 1, 2, and 3).

Fig 1. Deer Cr. (East Missoula)

Fig 2. Ravenwood- Round-a-bout

Fig 3. Wye

ANALYTICAL SUMMARY REPORT

June 20, 2024

Missoula Valley Water Quality District
301 W Alder St #2
Missoula, MT 59802-4123

Work Order: B24060413

Project Name: MS4 2024

Energy Laboratories Inc Billings MT received the following 2 samples for Missoula Valley Water Quality District on 6/5/2024 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B24060413-001	WYE	06/03/24 9:20	06/05/24	Aqueous	Metals by ICP/ICPMS, Total Recoverable Chemical Oxygen Demand E1664A Oil & Grease Nitrogen, Nitrate + Nitrite Nitrogen, Total Kjeldahl Nitrogen, Total (TKN+NO3+NO2) Metals Digestion by E200.2 Preparation for COD testing HACH 8000 E365.1 Digestion, Total P TKN preparation E351.2 Phosphorus, Total Solids, Total Suspended
B24060413-002	Marshall	06/03/24 10:20	06/05/24	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 So. 27th Street, Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

Energy Laboratories, Inc. verifies the reported results for the analysis has been technically reviewed and approved for release.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:

CLIENT: Missoula Valley Water Quality District
Project: MS4 2024
Work Order: B24060413

Report Date: 06/20/24

CASE NARRATIVE

We want to alert you on a change which will affect the reporting limit for Oil and Grease and Total Petroleum Hydrocarbon analysis by EPA method 1664A. This method was recently implemented in our Billings laboratory and during implementation, it was recognized the method has very specific language regarding minimum detection limits allowable for the method.

EPA Method 1664A, section 9.2.1 states: “An MDL less than or equal to the MDL in section 1.6 or less than 1/3 the regulatory compliance limit must be achieved prior to the practice of this method.” The laboratory initially interpreted this section of the method to allow reporting to a limit of 1 mg/L because the calculated MDL was less than the MDL in section 1.6 (1.4 mg/L) and lower than 1.0 mg/L. The MDL has historically been 0.7 mg/L ± 0.2 mg/L. After further evaluation of the method and consultation with several auditors we have concluded the method does not allow a laboratory to report to 1.0 mg/L. Section 1.6 states: “For HEM and SGT-HEM in this method, the method detection limit (MDL) is 1.4 mg/L, and the minimum level of quantitation (ML) is 5.0 mg/L.”

The Billings laboratory MDL is 1.2 mg/L, which meets the method requirement in section 9.2.1 (1.4 mg/L). The MDL in the Gillette laboratory is 0.7 mg/L. To meet the second requirement of 1/3 the regulatory limit the required MDL would need to be 0.33 mg/L. After consulting with several TNI auditors, it was determined this is chemically unachievable, and they have not audited a laboratory which can meet that limit.

Recognizing the current regulatory requirement for Oil and Grease is 1 mg/L, we are implementing a reporting limit of 5 mg/L, as defined in the method, and J flagging any result between this limit and the MDL (1.2 mg/L). This approach is utilized in other methods where the regulatory limit is lower than the quantitative limit of the method.

We have initiated communication with the DEQ about this issue and will continue to work with them to minimize any impact this change may have.

Please don’t hesitate to contact your project manager with any questions you may have.

"J" qualified analyte concentrations are below the laboratory minimum recommended Reporting Limit (RL) and above the calculated method detection limit (MDL). The laboratory reporting limits are based on the lowest calibration standard for the method and are set at levels which can be reliably quantitated. Metals reporting limits are based on the MDL and through examination of blank performance. MDL’s are statistically calculated values determined through analysis of a clean sample matrix.

Inorganic analytes reported with "J" qualifiers should be verified against the corresponding method blank. Inorganic "J" quantitations near the MDL may be suspect due to possible method background levels, sample matrix effects, and/or daily variability in instrument signal-to-noise levels.

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Missoula Valley Water Quality District
Project: MS4 2024
Lab ID: B24060413-001
Client Sample ID: WYE

Report Date: 06/20/24
Collection Date: 06/03/24 09:20
DateReceived: 06/05/24
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	3	mg/L	J	10		A2540 D	06/06/24 16:33 / car
AGGREGATE ORGANICS							
Oxygen Demand, Chemical (COD)	20	mg/L		5		E410.4	06/07/24 13:50 / fap
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.01	mg/L		0.01		E353.2	06/07/24 16:04 / krt
Nitrogen, Kjeldahl, Total as N	0.5	mg/L	J	0.5		E351.2	06/19/24 14:34 / jaw
Nitrogen, Total	0.5	mg/L	J	0.5		Calculation	06/20/24 08:10 / bap
Phosphorus, Total as P	0.091	mg/L		0.005		E365.1	06/12/24 17:40 / jpv
METALS, TOTAL RECOVERABLE							
Copper	0.001	mg/L	J	0.002		E200.8	06/15/24 12:14 / aem
Lead	0.0002	mg/L	J	0.0003		E200.8	06/15/24 12:14 / aem
Zinc	0.036	mg/L		0.008		E200.8	06/15/24 12:14 / aem
ORGANIC CHARACTERISTICS							
Oil & Grease (HEM)	ND	mg/L	L	5		E1664A	06/11/24 11:08 / ikc

- The reporting limit for Oil and Grease by E1664 was increased due to EPA method requirements.

Report Definitions:

RL - Analyte Reporting Limit
QCL - Quality Control Limit
J - Estimated value - analyte was present but less than the Reporting Limit (RL)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
L -Lowest available reporting limit for the analytical method used and/or volume submitted

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Missoula Valley Water Quality District
Project: MS4 2024
Lab ID: B24060413-002
Client Sample ID: Marshall

Report Date: 06/20/24
Collection Date: 06/03/24 10:20
DateReceived: 06/05/24
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	3	mg/L	J	10		A2540 D	06/06/24 16:33 / car
TSS did not obtain the minimum residue requirement of 2.5 mg residue.							
AGGREGATE ORGANICS							
Oxygen Demand, Chemical (COD)	12	mg/L		5		E410.4	06/06/24 16:54 / fap
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.06	mg/L		0.01		E353.2	06/07/24 16:05 / krt
Nitrogen, Kjeldahl, Total as N	ND	mg/L		0.5		E351.2	06/19/24 14:36 / jaw
Nitrogen, Total	ND	mg/L		0.5		Calculation	06/20/24 08:10 / bap
Phosphorus, Total as P	0.035	mg/L		0.005		E365.1	06/12/24 17:42 / jpv
METALS, TOTAL RECOVERABLE							
Copper	0.0007	mg/L	J	0.002		E200.8	06/15/24 12:32 / aem
Lead	0.00006	mg/L	J	0.0003		E200.8	06/15/24 12:32 / aem
Zinc	0.001	mg/L	J	0.008		E200.8	06/15/24 12:32 / aem
ORGANIC CHARACTERISTICS							
Oil & Grease (HEM)	ND	mg/L	L	5		E1664A	06/11/24 11:10 / ikc
- The reporting limit for Oil and Grease by E1664 was increased due to EPA method requirements.							

Report Definitions:

RL - Analyte Reporting Limit
QCL - Quality Control Limit
J - Estimated value - analyte was present but less than the Reporting Limit (RL)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
L -Lowest available reporting limit for the analytical method used and/or volume submitted

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Missoula Valley Water Quality District **Work Order:** B24060413 **Report Date:** 06/20/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **A2540 D**									Batch: TSS20240606B	
Lab ID: **MBLK_20240606-4**	Method Blank					Run: BAL #30_240606B			06/06/24 16:33	
Solids, Total Suspended TSS @ 105 C		ND	mg/L	0.6						
Lab ID: **LCS_20240606-4**	Laboratory Control Sample					Run: BAL #30_240606B			06/06/24 16:33	
Solids, Total Suspended TSS @ 105 C		101	mg/L	25	101	80	120			
Lab ID: **B24060510-005FDUP**	Sample Duplicate					Run: BAL #30_240606B			06/06/24 16:33	
Solids, Total Suspended TSS @ 105 C		32.8	mg/L	10				23	10	R

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

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

R - Relative Percent Difference (RPD) exceeds advisory limit

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Missoula Valley Water Quality District **Work Order:** B24060413 **Report Date:** 06/20/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E351.2										Analytical Run: FIA204-B_240619A
Lab ID: ICV-190538	Initial Calibration Verification Standard									06/19/24 14:20
Nitrogen, Kjeldahl, Total as N		10.5	mg/L	0.50	105	90	110			
Method: E351.2										Batch: 190392
Lab ID: MB-190392	Method Blank					Run: FIA204-B_240619A				06/19/24 14:26
Nitrogen, Kjeldahl, Total as N		ND	mg/L	0.3						
Lab ID: LCS-190392	Laboratory Control Sample					Run: FIA204-B_240619A				06/19/24 14:28
Nitrogen, Kjeldahl, Total as N		10.5	mg/L	0.50	105	90	110			
Lab ID: B24060489-002AMS	Sample Matrix Spike					Run: FIA204-B_240619A				06/19/24 14:49
Nitrogen, Kjeldahl, Total as N		13.8	mg/L	0.50	111	90	110			S
Lab ID: B24060489-002AMSD	Sample Matrix Spike Duplicate					Run: FIA204-B_240619A				06/19/24 14:50
Nitrogen, Kjeldahl, Total as N		13.4	mg/L	0.50	107	90	110	2.9	10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

S - Spike recovery outside of advisory limits

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Missoula Valley Water Quality District **Work Order:** B24060413 **Report Date:** 06/20/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2										Analytical Run: FIA203-B_240607B
Lab ID: ICV		Initial Calibration Verification Standard								06/07/24 14:49
Nitrogen, Nitrate+Nitrite as N		0.572	mg/L	0.010	101	90	110			
Lab ID: CCV		Continuing Calibration Verification Standard								06/07/24 15:59
Nitrogen, Nitrate+Nitrite as N		1.02	mg/L	0.010	102	90	110			
Method: E353.2										Batch: R422541
Lab ID: FilterMBLK		Method Blank				Run: FIA203-B_240607B				06/07/24 14:50
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.008						
Lab ID: MBLK		Method Blank				Run: FIA203-B_240607B				06/07/24 14:51
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.008						
Lab ID: FilterLFB		Laboratory Fortified Blank				Run: FIA203-B_240607B				06/07/24 14:52
Nitrogen, Nitrate+Nitrite as N		1.06	mg/L	0.010	106	90	110			
Lab ID: LFB		Laboratory Fortified Blank				Run: FIA203-B_240607B				06/07/24 14:53
Nitrogen, Nitrate+Nitrite as N		1.05	mg/L	0.010	105	90	110			
Lab ID: B24060409-001CMS		Sample Matrix Spike				Run: FIA203-B_240607B				06/07/24 16:02
Nitrogen, Nitrate+Nitrite as N		1.08	mg/L	0.010	108	90	110			
Lab ID: B24060409-001CMSD		Sample Matrix Spike Duplicate				Run: FIA203-B_240607B				06/07/24 16:03
Nitrogen, Nitrate+Nitrite as N		1.09	mg/L	0.010	109	90	110	1.2	10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Missoula Valley Water Quality District **Work Order:** B24060413 **Report Date:** 06/20/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E365.1										Analytical Run: FIA202-B_240612A
Lab ID: ICV-188977		Initial Calibration Verification Standard								06/12/24 16:44
Phosphorus, Total as P		0.493	mg/L	0.0050	99	90	110			
Lab ID: CCV-188977		Continuing Calibration Verification Standard								06/12/24 17:18
Phosphorus, Total as P		0.499	mg/L	0.0050	100	90	110			
Method: E365.1										Batch: 190181
Lab ID: MB-190181		Method Blank				Run: FIA202-B_240612A				06/12/24 16:48
Phosphorus, Total as P		ND	mg/L	0.004						
Lab ID: LCS-190181		Laboratory Control Sample				Run: FIA202-B_240612A				06/12/24 16:50
Phosphorus, Total as P		0.216	mg/L	0.0050	108	90	110			
Lab ID: B24060413-002CMS		Sample Matrix Spike				Run: FIA202-B_240612A				06/12/24 17:44
Phosphorus, Total as P		0.232	mg/L	0.0050	98	90	110			
Lab ID: B24060413-002CMSD		Sample Matrix Spike Duplicate				Run: FIA202-B_240612A				06/12/24 17:46
Phosphorus, Total as P		0.223	mg/L	0.0050	94	90	110	4.0	10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Missoula Valley Water Quality District **Work Order:** B24060413 **Report Date:** 06/20/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E410.4									Analytical Run: SPEC3_240606C	
Lab ID: CCV-190166	Continuing Calibration Verification Standard								06/06/24 15:23	
Oxygen Demand, Chemical (COD)		49.0	mg/L	5.0	98	90	110			
Lab ID: CCV-190166	Continuing Calibration Verification Standard								06/06/24 16:54	
Oxygen Demand, Chemical (COD)		49.0	mg/L	5.0	98	90	110			
Method: E410.4									Batch: 190166	
Lab ID: MB-190166	Method Blank					Run: SPEC3_240606C			06/06/24 15:22	
Oxygen Demand, Chemical (COD)		ND	mg/L	3						
Lab ID: LCS-190166	Laboratory Control Sample					Run: SPEC3_240606C			06/06/24 15:22	
Oxygen Demand, Chemical (COD)		23.8	mg/L	5.0	98	90	110			
Lab ID: B24060236-002EMS	Sample Matrix Spike					Run: SPEC3_240606C			06/06/24 15:22	
Oxygen Demand, Chemical (COD)		62.3	mg/L	5.0	99	90	110			
Lab ID: B24060236-002EMSD	Sample Matrix Spike Duplicate					Run: SPEC3_240606C			06/06/24 15:22	
Oxygen Demand, Chemical (COD)		59.0	mg/L	5.0	85	90	110	5.5	10	S
Lab ID: B24060271-001CMS	Sample Matrix Spike					Run: SPEC3_240606C			06/06/24 16:54	
Oxygen Demand, Chemical (COD)		201	mg/L	10	103	90	110			
Lab ID: B24060271-001CMSD	Sample Matrix Spike Duplicate					Run: SPEC3_240606C			06/06/24 16:54	
Oxygen Demand, Chemical (COD)		198	mg/L	10	96	90	110	1.7	10	
Lab ID: B24060413-002CMS	Sample Matrix Spike					Run: SPEC3_240606C			06/06/24 16:54	
Oxygen Demand, Chemical (COD)		36.4	mg/L	5.0	101	90	110			
Lab ID: B24060413-002CMSD	Sample Matrix Spike Duplicate					Run: SPEC3_240606C			06/06/24 16:54	
Oxygen Demand, Chemical (COD)		39.3	mg/L	5.0	112	90	110	7.5	10	S
Method: E410.4									Analytical Run: SPEC3_240607B	
Lab ID: CCV-190233	Continuing Calibration Verification Standard								06/07/24 13:50	
Oxygen Demand, Chemical (COD)		52.6	mg/L	5.0	105	90	110			
Method: E410.4									Batch: 190233	
Lab ID: MB-190233	Method Blank					Run: SPEC3_240607B			06/07/24 13:50	
Oxygen Demand, Chemical (COD)		ND	mg/L	3						
Lab ID: LCS-190233	Laboratory Control Sample					Run: SPEC3_240607B			06/07/24 13:50	
Oxygen Demand, Chemical (COD)		25.3	mg/L	5.0	104	90	110			
Lab ID: B24060510-001DMS	Sample Matrix Spike					Run: SPEC3_240607B			06/07/24 13:50	
Oxygen Demand, Chemical (COD)		28.7	mg/L	5.0	94	90	110			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

S - Spike recovery outside of advisory limits

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Missoula Valley Water Quality District **Work Order:** B24060413 **Report Date:** 06/20/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **E200.8**									Analytical Run: ICPMS208-B_240614A	
Lab ID: **QCS**	3	Initial Calibration Verification Standard							06/15/24 04:56	
Copper		0.0515	mg/L	0.010	103	90	110			
Lead		0.0487	mg/L	0.0010	97	90	110			
Zinc		0.0520	mg/L	0.0050	104	90	110			
Lab ID: **CCV**	3	Continuing Calibration Verification Standard							06/15/24 10:52	
Copper		0.0505	mg/L	0.010	101	90	110			
Lead		0.0493	mg/L	0.0010	99	90	110			
Zinc		0.0497	mg/L	0.0050	99	90	110			
Lab ID: **CCV**	3	Continuing Calibration Verification Standard							06/15/24 12:20	
Copper		0.0497	mg/L	0.010	99	90	110			
Lead		0.0461	mg/L	0.0010	92	90	110			
Zinc		0.0489	mg/L	0.0050	98	90	110			
Method: **E200.8**									Batch: 190337	
Lab ID: **MB-190337**	3	Method Blank				Run: ICPMS208-B_240614A			06/15/24 05:55	
Copper		ND	mg/L	0.0004						
Lead		ND	mg/L	0.00004						
Zinc		ND	mg/L	0.001						
Lab ID: **LCS4-190337**	3	Laboratory Control Sample				Run: ICPMS208-B_240614A			06/15/24 06:01	
Copper		0.104	mg/L	0.0010	104	85	115			
Lead		0.0983	mg/L	0.0010	98	85	115			
Zinc		0.105	mg/L	0.0050	105	85	115			
Lab ID: **B24060413-002BMS4**	3	Sample Matrix Spike				Run: ICPMS208-B_240614A			06/15/24 12:38	
Copper		0.101	mg/L	0.0050	100	70	130			
Lead		0.0996	mg/L	0.0010	100	70	130			
Zinc		0.102	mg/L	0.010	101	70	130			
Lab ID: **B24060413-002BMSD4**	3	Sample Matrix Spike Duplicate				Run: ICPMS208-B_240614A			06/15/24 12:44	
Copper		0.104	mg/L	0.0050	104	70	130	3.0	20	
Lead		0.0990	mg/L	0.0010	99	70	130	0.7	20	
Zinc		0.104	mg/L	0.010	103	70	130	1.9	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Missoula Valley Water Quality District **Work Order:** B24060413 **Report Date:** 06/19/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E1664A										Batch: 240611A
Lab ID: MBLK2406110913		Method Blank				Run: BAL #31_240611A				06/11/24 09:20
Oil & Grease (HEM)		ND	mg/L	5.0						
Lab ID: LCS2406110913		Laboratory Control Sample				Run: BAL #31_240611A				06/11/24 09:22
Oil & Grease (HEM)		35	mg/L	5.0	88	78	114			
Lab ID: LCSD2406110913		Laboratory Control Sample Duplicate				Run: BAL #31_240611A				06/11/24 09:24
Oil & Grease (HEM)		33	mg/L	5.0	81	78	114	7.7	18	
Lab ID: B24060643-002EMS-24		Sample Matrix Spike				Run: BAL #31_240611A				06/11/24 09:30
Oil & Grease (HEM)		35	mg/L	5.0	84	78	114			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

Work Order Receipt Checklist

Missoula Valley Water Quality District B24060413

Login completed by:	Danielle N. Harris	Date Received:	6/5/2024
Reviewed by:	cjohnson	Received by:	CMJ
Reviewed Date:	6/12/2024	Carrier name:	Return-FedEx Ground

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	1.1°C On Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Standard Reporting Procedures:

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

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

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

For methods that require zero headspace or require preservation check at the time of analysis due to potential interference, the pH is verified at analysis. Nonconforming sample pH is documented as part of the analysis and included in the sample analysis comments.

Trip Blanks and/or Blind Duplicate samples are assigned the earliest collection time for the associated requested analysis in order to evaluate the holding time unless specifically indicated.

Contact and Corrective Action Comments:

None

Chain of Custody & Analytical Request Record

ENERGY LABORATORIES — Trust our People. Trust our Data.

www.energylab.com

Account Information *(Billing information)*

Company/Name	Missoula Valley Water Quality District
Contact	Craig Beebe
Phone	406-258-4968
Mailing Address	301 W Alder
City, State, Zip	Missoula, MT 59802
Email	cbeebe@missoulacounty.us
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☒Email
Purchase Order	
Quote	
Bottle Order	176772

Report Information *(if different than Account Information)*

Company/Name	
Contact	
Phone	
Mailing Address	
City, State, Zip	
Email	
Receive Report	☐Hard Copy ☐Email
Special Report/Formats:	☐ LEVEL IV ☐NELAC ☐ EDD/EDT *(contact laboratory)* ☐ Other_____

Comments

Project Information

Project Name, PWSID, Permit, etc.	MS4 2024
Sampler Name	Craig Beebe
Sampler Phone	
Sample Origin State	MT
EPA/State Compliance	☒Yes ☐ No

URANIUM MINING CLIENTS MUST indicate sample type
☐ Unprocessed Ore
☐ Processed Ore (Ground or Refined) **CALL BEFORE SENDING
☐ 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

Matrix Codes

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

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

	Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	A2540D (TSS)	E410.4 (COD)	E365.1 (Total P)	E353.2 (Nitrate+Nitrite)	E351.2 (Total Kjeldahl)	Calc (Total) Nitrogen	E200.7_8 (Total recoverable metals)	E1664A (Oil & Grease)		See Attached	RUSH TAT	ELI LAB ID (Laboratory Use Only)
1	WYE	6/3/24	09:20	5	W	X	X	X	X	X	X	X	X				B24060413
2	Marshall	6/3/24	10:20	5	W	X	X	X	X	X	X	X	X				
3																	
4																	
5																	
6																	
7																	
8																	
9																	

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were **NOT** used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Craig Beebe	6/3/24 1505				
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature
				Crystal Bores	6/4/24 0910	

LABORATORY USE ONLY

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

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

BOTTLE ORDER 176772

SHIPPED TO: **Missoula Valley Water Quality District**

To report an issue with this order, view Safety Data Sheets, or let us know how we are doing, scan here or go to energylab.com/contact-us

Contact: Todd Seib
301 W Alder St #2
Missoula MT 59802-4123
Phone: (406) 258-4755

Project: Stormwater

Order Created by: Gina McCartney
Shipped From: Billings, MT
Ship Date: 8/21/2023
VIA: FedEx Ground Service

Bottle Size/Type	Bottles Per Samp	Method	Tests	Critical Hold Time	Preservative	Notes	Num of Samp
(4 Sets)							
1 Liter Plastic Wide Mouth	1	A2540 D	Solids, Total Suspended			Fill to the neck of the container.	1
500 mL Plastic	1	E410.4	Chemical Oxygen Demand		H2SO4		1
		E365.1	Phosphorus, Total				
		E353.2	Nitrogen, Nitrate + Nitrite				
		E351.2	Nitrogen, Total Kjeldahl				
		Calculation	Nitrogen, Total (TKN+NO3+NO2)				
250 mL Plastic	1	E200.7_8	Metals by ICP/ICPMS, Total Recoverable		HNO3	Cu Pb Zn-DEQ7 limits	1
1 Liter Clear Glass Narrow Mouth	2	E1664A	Oil & Grease, Gravimetric		H2SO4		1

Comments

HNO3 - Nitric Acid	H2SO4 - Sulfuric Acid	NaOH - Sodium Hydroxide	**We strongly suggest that the samples are shipped the same day as they are collected.**
ZnAc - Zinc Acetate	HCl - Hydrochloric Acid	H3PO4 - Phosphoric Acid	

Material Safety Data Sheets(MSDS) Available @ EnergyLab.com ->Services -> MSDS Sheets

Corrosive Chemicals: Nitric, Sulfuric, Phosphoric, Hydrochloric Acids and Sodium Hydroxide. Zinc Acetate is a skin irritant.

Subcontracting of sample analyses to an outside laboratory may be required. If so, Energy Laboratories will utilize its branch laboratories or qualified contract laboratories for this service. Any such laboratories will be indicated within the Laboratory Analytical Report.

ANALYTICAL SUMMARY REPORT

September 27, 2024

Missoula Valley Water Quality District
301 W Alder St #2
Missoula, MT 59802-4123

Work Order: B24091231

Project Name: MS4

Energy Laboratories Inc Billings MT received the following 3 samples for Missoula Valley Water Quality District on 9/13/2024 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B24091231-001	WYE-002A	09/12/24 9:52	09/13/24	Aqueous	Metals by ICP/ICPMS, Total Recoverable Chemical Oxygen Demand E1664A Oil & Grease Nitrogen, Nitrate + Nitrite Nitrogen, Total Kjeldahl Nitrogen, Total (TKN+NO3+NO2) Metals Digestion by E200.2 Preparation for COD testing HACH 8000 E365.1 Digestion, Total P TKN preparation E351.2 Phosphorus, Total Solids, Total Suspended
B24091231-002	Hwy 10-001A	09/12/24 9:28	09/13/24	Aqueous	Same As Above
B24091231-003	Marshall Cr-003A	09/12/24 10:40	09/13/24	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 So. 27th Street, Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

Energy Laboratories, Inc. verifies the reported results for the analysis has been technically reviewed and approved for release.

If you have any questions regarding these test results, please contact your Project Manager.

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Missoula Valley Water Quality District
Project: MS4
Lab ID: B24091231-001
Client Sample ID: WYE-002A

Report Date: 09/27/24
Collection Date: 09/12/24 09:52
DateReceived: 09/13/24
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	25	mg/L		10		A2540 D	09/17/24 09:24 / pjw
AGGREGATE ORGANICS							
Oxygen Demand, Chemical (COD)	48	mg/L		5		E410.4	09/25/24 16:55 / jaw
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.18	mg/L		0.01		E353.2	09/23/24 17:23 / krt
Nitrogen, Kjeldahl, Total as N	0.8	mg/L		0.5		E351.2	09/17/24 11:40 / jaw
Nitrogen, Total	1.0	mg/L		0.5		Calculation	09/24/24 10:57 / klc
Phosphorus, Total as P	0.460	mg/L		0.005		E365.1	09/19/24 13:03 / jaw
METALS, TOTAL RECOVERABLE							
Copper	0.003	mg/L		0.002		E200.8	09/25/24 08:23 / aem
Lead	0.0005	mg/L		0.0003		E200.8	09/25/24 08:23 / aem
Zinc	0.007	mg/L	J	0.008		E200.8	09/25/24 08:23 / aem
ORGANIC CHARACTERISTICS							
Oil & Grease (HEM)	1.2	mg/L	J	4.0		E1664A	09/16/24 11:33 / ikc

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
J - Estimated value - analyte was present but less than the Reporting Limit (RL)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Missoula Valley Water Quality District
Project: MS4
Lab ID: B24091231-002
Client Sample ID: Hwy 10-001A

Report Date: 09/27/24
Collection Date: 09/12/24 09:28
DateReceived: 09/13/24
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	11	mg/L		10		A2540 D	09/17/24 09:24 / pjw
AGGREGATE ORGANICS							
Oxygen Demand, Chemical (COD)	26	mg/L		5		E410.4	09/25/24 16:55 / jaw
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.06	mg/L		0.01		E353.2	09/23/24 17:24 / krt
Nitrogen, Kjeldahl, Total as N	ND	mg/L		0.5		E351.2	09/17/24 11:41 / jaw
Nitrogen, Total	ND	mg/L		0.5		Calculation	09/24/24 10:57 / klc
Phosphorus, Total as P	0.117	mg/L		0.005		E365.1	09/19/24 13:04 / jaw
METALS, TOTAL RECOVERABLE							
Copper	0.002	mg/L		0.002		E200.8	09/25/24 08:29 / aem
Lead	0.0005	mg/L		0.0003		E200.8	09/25/24 08:29 / aem
Zinc	0.031	mg/L		0.008		E200.8	09/25/24 08:29 / aem
ORGANIC CHARACTERISTICS							
Oil & Grease (HEM)	ND	mg/L		4.0		E1664A	09/16/24 13:06 / ikc

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Missoula Valley Water Quality District
Project: MS4
Lab ID: B24091231-003
Client Sample ID: Marshall Cr-003A

Report Date: 09/27/24
Collection Date: 09/12/24 10:40
DateReceived: 09/13/24
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL PROPERTIES							
Solids, Total Suspended TSS @ 105 C	4	mg/L	J	10		A2540 D	09/17/24 09:24 / pjw
AGGREGATE ORGANICS							
Oxygen Demand, Chemical (COD)	13	mg/L		5		E410.4	09/25/24 16:55 / jaw
NUTRIENTS							
Nitrogen, Nitrate+Nitrite as N	0.05	mg/L		0.01		E353.2	09/23/24 17:25 / krt
Nitrogen, Kjeldahl, Total as N	ND	mg/L		0.5		E351.2	09/17/24 11:43 / jaw
Nitrogen, Total	ND	mg/L		0.5		Calculation	09/24/24 10:57 / klc
Phosphorus, Total as P	0.052	mg/L		0.005		E365.1	09/23/24 13:21 / jaw
METALS, TOTAL RECOVERABLE							
Copper	0.0005	mg/L	J	0.002		E200.8	09/25/24 08:34 / aem
Lead	0.00008	mg/L	J	0.0003		E200.8	09/26/24 06:00 / aem
Zinc	0.001	mg/L	J	0.008		E200.8	09/25/24 08:34 / aem
ORGANIC CHARACTERISTICS							
Oil & Grease (HEM)	ND	mg/L		4.0		E1664A	09/16/24 13:08 / ikc

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
J - Estimated value - analyte was present but less than the Reporting Limit (RL)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Missoula Valley Water Quality District **Work Order:** B24091231 **Report Date:** 09/27/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **A2540 D**										Batch: TSS20240917A
Lab ID: **MBLK_20240917-2**	Method Blank					Run: BAL #30_240917A				09/17/24 09:23
Solids, Total Suspended TSS @ 105 C		ND	mg/L	0.6						
Lab ID: **LCS_20240917-2**	Laboratory Control Sample					Run: BAL #30_240917A				09/17/24 09:23
Solids, Total Suspended TSS @ 105 C		98.0	mg/L	25	98	80	120			
Lab ID: **B24091231-001ADUP**	Sample Duplicate					Run: BAL #30_240917A				09/17/24 09:24
Solids, Total Suspended TSS @ 105 C		26.8	mg/L	10				8.6	10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Missoula Valley Water Quality District **Work Order:** B24091231 **Report Date:** 09/27/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **E1664A**										Batch: 240916A
Lab ID: **MBLK2409160918**	Method Blank					Run: BAL #31_240916A				09/16/24 09:55
Oil & Grease (HEM)		ND	mg/L	4.0						
Lab ID: **LCS2409160918**	Laboratory Control Sample					Run: BAL #31_240916A				09/16/24 09:57
Oil & Grease (HEM)		37	mg/L	4.0	92	78	114			
Lab ID: **LCSD2409160918**	Laboratory Control Sample Duplicate					Run: BAL #31_240916A				09/16/24 09:59
Oil & Grease (HEM)		37	mg/L	4.0	92	78	114	0.4	18	
Lab ID: **B24091217-001FMS-24**	Sample Matrix Spike					Run: BAL #31_240916A				09/16/24 10:03
Oil & Grease (HEM)		39	mg/L	4.0	96	78	114			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Missoula Valley Water Quality District **Work Order:** B24091231 **Report Date:** 09/27/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **E200.8**									Analytical Run: ICPMS207-B_240925A	
Lab ID: **QCS**		Initial Calibration Verification Standard							09/26/24 03:50	
Lead		0.0496	mg/L	0.0010	99	90	110			
Lab ID: **CCV**		Continuing Calibration Verification Standard							09/26/24 05:36	
Lead		0.0481	mg/L	0.0010	96	90	110			
Method: **E200.8**									Batch: 193364	
Lab ID: **MB-193364**		Method Blank				Run: ICPMS207-B_240925A			09/26/24 04:49	
Lead		ND	mg/L	0.00006						
Method: **E200.8**									Analytical Run: ICPMS209-B_240923B	
Lab ID: **QCS**	3	Initial Calibration Verification Standard							09/25/24 05:49	
Copper		0.0501	mg/L	0.010	100	90	110			
Lead		0.0482	mg/L	0.0010	96	90	110			
Zinc		0.0516	mg/L	0.0050	103	90	110			
Lab ID: **CCV**	3	Continuing Calibration Verification Standard							09/25/24 08:12	
Copper		0.0483	mg/L	0.010	97	90	110			
Lead		0.0465	mg/L	0.0010	93	90	110			
Zinc		0.0498	mg/L	0.0050	99	90	110			
Method: **E200.8**									Batch: 193364	
Lab ID: **MB-193364**	3	Method Blank				Run: ICPMS209-B_240923B			09/25/24 06:21	
Copper		ND	mg/L	0.0001						
Lead		ND	mg/L	0.00001						
Zinc		ND	mg/L	0.0008						
Lab ID: **LCS4-193364**	3	Laboratory Control Sample				Run: ICPMS209-B_240923B			09/25/24 06:27	
Copper		0.0995	mg/L	0.0010	100	85	115			
Lead		0.0948	mg/L	0.0010	95	85	115			
Zinc		0.104	mg/L	0.0020	104	85	115			
Lab ID: **B24091231-003BMS4**	3	Sample Matrix Spike				Run: ICPMS209-B_240923B			09/25/24 08:40	
Copper		0.0999	mg/L	0.0050	99	70	130			
Lead		0.101	mg/L	0.0010	101	70	130			
Zinc		0.104	mg/L	0.010	103	70	130			
Lab ID: **B24091231-003BMSD4**	3	Sample Matrix Spike Duplicate				Run: ICPMS209-B_240923B			09/25/24 08:46	
Copper		0.101	mg/L	0.0050	100	70	130	1.1	20	
Lead		0.0999	mg/L	0.0010	100	70	130	0.8	20	
Zinc		0.106	mg/L	0.010	104	70	130	1.0	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Missoula Valley Water Quality District **Work Order:** B24091231 **Report Date:** 09/27/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E351.2										Analytical Run: FIA204-B_240917A
Lab ID: ICV-192634	Initial Calibration Verification Standard									09/17/24 10:12
Nitrogen, Kjeldahl, Total as N		10.2	mg/L	0.50	102	90	110			
Lab ID: CCV-192634	Continuing Calibration Verification Standard									09/17/24 11:25
Nitrogen, Kjeldahl, Total as N		10.1	mg/L	0.50	101	90	110			
Method: E351.2										Batch: 193161
Lab ID: MB-193161	Method Blank					Run: FIA204-B_240917A				09/17/24 11:03
Nitrogen, Kjeldahl, Total as N		ND	mg/L	0.3						
Lab ID: LCS-193161	Laboratory Control Sample					Run: FIA204-B_240917A				09/17/24 11:04
Nitrogen, Kjeldahl, Total as N		10.3	mg/L	0.50	103	90	110			
Lab ID: B24091204-002CMS	Sample Matrix Spike					Run: FIA204-B_240917A				09/17/24 11:30
Nitrogen, Kjeldahl, Total as N		10.8	mg/L	0.50	103	90	110			
Lab ID: B24091204-002CMSD	Sample Matrix Spike Duplicate					Run: FIA204-B_240917A				09/17/24 11:32
Nitrogen, Kjeldahl, Total as N		10.8	mg/L	0.50	103	90	110	0.0	10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Missoula Valley Water Quality District **Work Order:** B24091231 **Report Date:** 09/27/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E353.2										Analytical Run: FIA203-B_240923B
Lab ID: ICV		Initial Calibration Verification Standard								09/23/24 15:53
Nitrogen, Nitrate+Nitrite as N		0.579	mg/L	0.010	102	90	110			
Lab ID: CCV_20240923-4		Continuing Calibration Verification Standard								09/23/24 17:16
Nitrogen, Nitrate+Nitrite as N		1.01	mg/L	0.010	101	90	110			
Method: E353.2										Batch: R429390
Lab ID: FilterMBLK		Method Blank				Run: FIA203-B_240923B				09/23/24 15:55
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.01						
Lab ID: FilterLFB		Laboratory Fortified Blank				Run: FIA203-B_240923B				09/23/24 15:56
Nitrogen, Nitrate+Nitrite as N		1.03	mg/L	0.010	103	90	110			
Lab ID: LFB_20240923-1		Laboratory Fortified Blank				Run: FIA203-B_240923B				09/23/24 15:58
Nitrogen, Nitrate+Nitrite as N		1.03	mg/L	0.010	103	90	110			
Lab ID: MBLK_20240923-5		Method Blank				Run: FIA203-B_240923B				09/23/24 16:10
Nitrogen, Nitrate+Nitrite as N		ND	mg/L	0.01						
Lab ID: B24091227-002BMS		Sample Matrix Spike				Run: FIA203-B_240923B				09/23/24 17:20
Nitrogen, Nitrate+Nitrite as N		1.15	mg/L	0.010	109	90	110			
Lab ID: B24091227-002BMSD		Sample Matrix Spike Duplicate				Run: FIA203-B_240923B				09/23/24 17:21
Nitrogen, Nitrate+Nitrite as N		1.17	mg/L	0.010	110	90	110	1.3	10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Missoula Valley Water Quality District **Work Order:** B24091231 **Report Date:** 09/27/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E365.1										Analytical Run: SEAL201-B_240919A
Lab ID: ICV-193258	Initial Calibration Verification Standard									09/19/24 12:34
Phosphorus, Total as P		0.526	mg/L	0.0050	105	90	110			
Lab ID: CCV-193258	Continuing Calibration Verification Standard									09/19/24 12:50
Phosphorus, Total as P		0.511	mg/L	0.0050	102	90	110			
Method: E365.1										Batch: 193211
Lab ID: MB-193211	Method Blank					Run: SEAL201-B_240919A				09/19/24 12:37
Phosphorus, Total as P		ND	mg/L	0.002						
Lab ID: LCS-193211	Laboratory Control Sample					Run: SEAL201-B_240919A				09/19/24 12:38
Phosphorus, Total as P		0.204	mg/L	0.0050	102	90	110			
Lab ID: B24091146-001AMS	Sample Matrix Spike					Run: SEAL201-B_240919A				09/19/24 12:54
Phosphorus, Total as P		0.332	mg/L	0.0050	100	90	110			
Lab ID: B24091146-001AMSD	Sample Matrix Spike Duplicate					Run: SEAL201-B_240919A				09/19/24 12:55
Phosphorus, Total as P		0.334	mg/L	0.0050	101	90	110	0.7	10	
Method: E365.1										Analytical Run: SEAL201-B_240923A
Lab ID: ICV-193258	Initial Calibration Verification Standard									09/23/24 13:01
Phosphorus, Total as P		0.513	mg/L	0.0050	103	90	110			
Lab ID: CCV-193258	Continuing Calibration Verification Standard									09/23/24 13:18
Phosphorus, Total as P		0.498	mg/L	0.0050	100	90	110			
Method: E365.1										Batch: 193299
Lab ID: MB-193299	Method Blank					Run: SEAL201-B_240923A				09/23/24 13:04
Phosphorus, Total as P		ND	mg/L	0.002						
Lab ID: LCS-193299	Laboratory Control Sample					Run: SEAL201-B_240923A				09/23/24 13:05
Phosphorus, Total as P		0.197	mg/L	0.0050	98	90	110			
Lab ID: B24091513-001CMS	Sample Matrix Spike					Run: SEAL201-B_240923A				09/23/24 13:23
Phosphorus, Total as P		9.38	mg/L	0.050	102	90	110			
Lab ID: B24091513-001CMSD	Sample Matrix Spike Duplicate					Run: SEAL201-B_240923A				09/23/24 13:24
Phosphorus, Total as P		9.18	mg/L	0.050	92	90	110	2.2	10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Missoula Valley Water Quality District **Work Order:** B24091231 **Report Date:** 09/27/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **E410.4**									Analytical Run: SPEC3_240925A	
Lab ID: **CCV-193495**	Continuing Calibration Verification Standard								09/25/24 16:55	
Oxygen Demand, Chemical (COD)		52.0	mg/L	5.0	104	90	110			
Method: **E410.4**									Batch: 193495	
Lab ID: **MB-193495**	Method Blank					Run: SPEC3_240925A			09/25/24 16:55	
Oxygen Demand, Chemical (COD)		ND	mg/L	3						
Lab ID: **LCS-193495**	Laboratory Control Sample					Run: SPEC3_240925A			09/25/24 16:55	
Oxygen Demand, Chemical (COD)		25.3	mg/L	5.0	104	90	110			
Lab ID: **B24091231-001CMS**	Sample Matrix Spike					Run: SPEC3_240925A			09/25/24 16:55	
Oxygen Demand, Chemical (COD)		71.2	mg/L	5.0	95	90	110			
Lab ID: **B24091231-001CMSD**	Sample Matrix Spike Duplicate					Run: SPEC3_240925A			09/25/24 16:55	
Oxygen Demand, Chemical (COD)		74.9	mg/L	5.0	111	90	110	5.1	10	S

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

S - Spike recovery outside of advisory limits

Work Order Receipt Checklist

Missoula Valley Water Quality District B24091231

Login completed by:	Lyndsi E. LeProwse	Date Received:	9/13/2024
Reviewed by:	jmiller	Received by:	CMJ
Reviewed Date:	9/19/2024	Carrier name:	Return-FedEx Ground

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	3.2°C On Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Standard Reporting Procedures:

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

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

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

For methods that require zero headspace or require preservation check at the time of analysis due to potential interference, the pH is verified at analysis. Nonconforming sample pH is documented as part of the analysis and included in the sample analysis comments.

Trip Blanks and/or Blind Duplicate samples are assigned the earliest collection time for the associated requested analysis in order to evaluate the holding time unless specifically indicated.

Contact and Corrective Action Comments:

None

ENERGY LABORATORIES
Trust our People. Trust our Data.

Chain of Custody & Analytical Request Record

www.energylab.com

Account Information *(Billing information)*

Company/Name	Missoula Valley Water Quality District
Contact	Craig Beebe
Phone	406-258-4968
Mailing Address	301 W Alder
City, State, Zip	Missoula, MT 59802
Email	cbeebe@missoulacounty.us
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☒Email
Purchase Order	
Quote	
Bottle Order	182482

Report Information *(if different than Account Information)*

Company/Name	
Contact	
Phone	
Mailing Address	
City, State, Zip	
Email	
Receive Report	☐Hard Copy ☐Email
Special Report/Formats:	☐ LEVEL IV ☐NELAC ☐ EDD/EDT *(contact laboratory)* ☐ Other_____

Comments

Project Information

Project Name, PWSID, Permit, etc.	MS4
Sampler Name	Travis Ross
Sampler Phone	
Sample Origin State	MT
EPA/State Compliance	☐ Yes ☐ No

URANIUM MINING CLIENTS MUST indicate sample type
☐ Unprocessed Ore
☐ Processed Ore (Ground or Refined) **CALL BEFORE SENDING
☐ 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

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

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

Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	TSS A2540D	COD E410.4	Total Phosphorus E365.1	Nitrate+Nitrite E353.2	Total Kjeldahl E351.2	TKN+NO3 Calculation	Total Recoverable Metals E200.7_8	Oil & Grease E1664A		See Attached	RUSH TAT	ELI LAB ID (Laboratory Use Only)
1 WYE-002A	9/12/24	9:52	5	W	x	x	x	x	x	x	x	x				B24091231
2 Hwy 10-001A	9/12/24	9:28	5	W	x	x	x	x	x	x	x	x				
3 Marshall Cr-003A	9/12/24	10:40	5	W	x	x	x	x	x	x	x	x				
4																
5																
6																
7																
8																
9																

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were **NOT** used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Travis Ross	9/12/24 3:50				
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature
				Crystal Bond	9/13/24 08:55	

LABORATORY USE ONLY

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

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

BOTTLE ORDER 182482

SHIPPED TO: **Missoula Valley Water Quality District**

To report an issue with this order, view Safety Data Sheets, or let us know how we are doing, scan here or go to energylab.com/contact-us

Contact: Todd Seib
301 W Alder St #2
Missoula MT 59802-4123
Phone: (406) 258-4755

Project: Stormwater

Order Created by: Gina McCartney
Shipped From: Billings, MT
Ship Date: 3/26/2024
VIA: FedEx Ground Service

Bottle Size/Type	Bottles Per Samp	Method	Tests	Critical Hold Time	Preservative	Notes	Num of Samp
(4 Sets)							
1 Liter Plastic Wide Mouth	1	A2540 D	Solids, Total Suspended			Fill to the neck of the container.	1
500 mL Plastic	1	E410.4	Chemical Oxygen Demand		H2SO4		1
		E365.1	Phosphorus, Total				
		E353.2	Nitrogen, Nitrate + Nitrite				
		E351.2	Nitrogen, Total Kjeldahl				
		Calculation	Nitrogen, Total (TKN+NO3+NO2)				
250 mL Plastic	1	E200.7_8	Metals by ICP/ICPMS, Total Recoverable		HNO3	Cu Pb Zn-DEQ7 limits	1
1 Liter Clear Glass Narrow Mouth	2	E1664A	E1664A Oil & Grease		H2SO4		1

Comments

HNO3 - Nitric Acid | H2SO4 - Sulfuric Acid | NaOH - Sodium Hydroxide
ZnAc - Zinc Acetate | HCl - Hydrochloric Acid | H3PO4 - Phosphoric Acid

We strongly suggest that the samples are shipped the same day as they are collected.

Material Safety Data Sheets(MSDS) Available @ EnergyLab.com ->Services -> MSDS Sheets

Corrosive Chemicals: Nitric, Sulfuric, Phosphoric, Hydrochloric Acids and Sodium Hydroxide. Zinc Acetate is a skin irritant.

Subcontracting of sample analyses to an outside laboratory may be required. If so, Energy Laboratories will utilize its branch laboratories or qualified contract laboratories for this service. Any such laboratories will be indicated within the Laboratory Analytical Report.

Missoula County Public Works
Construction Plan Checklist

In addition to the submittal requirements of the Missoula County Subdivision Regulations, the following information must be addressed in the construction plans submitted. (This list is not inclusive other information may be required)

Date: _____

Subdivision Name:_____

Site Information

_____ Construction estimate for all improvements

_____ Cuts and Fills
Soil Classifications (geotechnical analysis if applicable)

_____ Landscaping (as pertaining to the road easement)

Streets

_____ Approved Road Names

_____ Typical Cross Sections

_____ Grades

_____ Driveway Locations (if applicable)

_____ Cluster Mailbox Locations (if applicable)

_____ Signage Plan

_____ Bridges

_____ Culverts

_____ Temporary turn-arounds

Curbing and Sidewalks (if applicable)

_____ Location (shown in all applicable locations)

_____ County Standard Detail

_____ ADA ramp locations, grades, standard drawings, truncated domes

Bike/Multi-use Facilities/Trails

_____ Location

_____ Structural Section

_____ Easements (width, location)

_____ Street Crossings (details, ADA ramps, crosswalks, truncated domes)

_____ Bridges

Utilities

_____ Gas (w/ appurtenances)

_____ Electric (w/ appurtenances)

_____ Communication – Phone, TV (w/ appurtenances)

Drainage Report

_____ Predevelopment Drainage – include off-site drainage onto property

_____ Storm water calculations – (retain/detain 100 yr, 24hr storm)

_____ Storm Drain inlets, manholes and pipe locations with grades and pipe sizes

_____ Retention/Detention Areas

Erosion Control

_____ Storm Water Pollution Prevention Plan (if applicable)

_____ Acknowledgment Letter from DEQ (if applicable)

_____ Seeding plan (broadcast or hydro seeding)

MCPW Construction Inspection Report

Date:_____

Project Name or location:_____

Weather Conditions:_____

Property Owner_____

Are BMP's identified in the construction plans installed and maintained properly	Yes NO N/A
Entrance/Exit Managed	Yes NO N/A
Are streams, Wetlands, Drainages effectively protected	Yes NO N/A
Inlet and outlet protection in place and in good condition	Yes NO N/A
Are conveyance systems in good working order	Yes NO N/A
Is a violation notice Required	Yes NO N/A

Comments:

_____

_____

_____

_____

_____

_____

_____

Created 12/6/24

MS4 Area Developmet	Address	SWPPP Admin	Contrator	Size of Project site in acres	Waterbody	Distance to Waterb	Discharge to Impaire	Grade of Slope	NOI/SWPPP #	olatio	Response	Eff date / Term date
CH Subdivision	Subdivision	PCI	White Civil	14.5	Lavalle	0.2	N/A	<5%	MTR107269	0		term 2/22/24
Canyon Gate Apartments	425 Michigan	Castlerock	Castlerock	1.43	Clark Fork	0.4	NO	<5%	MTR110109	0		eff/act 7/13/23
Garage Door Guys	7037 Two Smokes	Sean Admundson	Unknown	7	Grass Valley	0.5	NO	<5%	MTR109598	0		eff/act 12/14/22
New Meadows Trail System	Mullan Road	Eric Dickson	U of M College of Tech	8.91	Dourty Dicth	0.5	NO	<5%	MTR110807	0		eff/active 7/22/24
Felco	8285 El way	Justin Hubbard	Knife River	3	Lavalle Creek	0.2	NO	<5%	MTR109582	0		term 6/5/2024
Paradise Dental	8275 HWY 10 W	Western Interstate	Western Interstate	9.8	Grass Valley Ditch	1.2	NO	<5%	MTR109582	0		term 6/5/24
Prospect Yard	9224 Roller Coaster	Stan Dougdale	Stan Dougdale	16	Grass Valley Ditch	0.5	NO	<5%	MTR109438	0		eff/act 3/29/22
Running W PH 3	Subdivsion	Cody Petersen	Cody Petersen	9.5	MS4 Waterway #31	0.01	NO	<5%	MTR109219	1	Written	term 12/13/24
Missoula Storage	5500 Avation Way	Mauer Construction	Mauer Construction	9.5	Dourty Dicth	N/A	NO	<5	MTR110135	0		eff 4/17/23
Saz Yakis Site Development	7390 Deschamps Lane	Jacob Zimmerman	Unknown	8	Grass Valley	0.06	NO	<5%	MTR109755	0		term 5/28/24
The Dairy Subdivision	Subdivision North Ave	PCI	Not started yet	9.5	Missoula Irrigation Ditch	0.01	NO	<5%	MTR1100069	0		eff/act 3/23/23
Montana Knife Company	8659 Robbins Road	Kelly Youbles	3RL	2	O'Keefe Creek	0.6	NO	<5%	MTR110939	1	Verbal	eff/active 8/26/24
Mullan Build	Road Project Mary Jane BLVD	Taylor Cross	Kewitt	2.15	Dourty Ditch	0.2	NO	<5%	MTR109340	0		term 7/16/24

Terminated
High Priority
Low Priority
* All Projects will have a start up inspection followed by random inspections.

MS4 Area Developmet	Address	SWPPP Admin	Contrator	Size of Project site in acres	Waterbody	Distance to Waterbody in miles	Grade of Slope	NOI/SWPPP #	Eff date / Term date
7. CH Subdivision	Subdivision	PCI Jeff Standaert	White Civil	2.4	Lavalle	0.2	<5	MTR107269	term 2/22/24
Canyon Gate Apartments	425 Michigan Ave	Paul Jessop	Castlerock Construction	1.43	Clark Fork River	0.4	<5	MTR109662	eFF 7/13/2023
Garage Door Guys	7037 Two Smokes	Sean Admundson	Unknown	4	Grass Valley Ditch	0.5	<5%	MTR110109	eff/active 7/13/23
New Meadows Trail System	New Meadow Park	Bethany Holland	U of M Technology	8.91	Dourty Ditch	0.5	<5	MTR110807	eff/active 7/22/24
Felco	8285 Elway	Justin Hubbard	Knife River	3	LaValle	0.2	<5	MTR109582	term 6/5/2024
Paridise Dental	8275 HWY 10W	Western Interstate	Western Interstate	9.8	Grass Valley Ditch	1.2	<5%	MTR109582	term 6/5/24
Prospect Yard	9224 Roller Coaster RD	Stan Dougdale	Prospect Inc	11	Grass Valley Ditch	0.5	<5%	MTR108868	eff 3/29/22
Running W 3	Subdivision	Cody Petersen	Petersen Trucking	14.5	MS4 Waterway #31	0.01	<5	MTR109219	term 12/13/24
Missoula Storage	5500 Aviation Way	Mauer Construction	Mauer Construction	9.5	Dourty Ditch	0.3	<5	MTR110069	eff 4/17/2023
Saz Yakis Site Development	7390 DesChamps	Jacob Zimmerman	Unknown	8	Grass Valley Ditch	0.6	<5%	MTR109755	term 5/28/24
The Dairy Subdivision	Subdivision North Ave	PCI	Not started	9.5	Missoula Irrigation Ditch	0.01	<5%	MTR110069	eff 03/23/2023
Montana Knife Company	8659 Robbins Rd	Kelly Youbles	3RL	2	O'Keefe Creek	0.6	<5	MTR110939	eff/active 8/26/24
21. Mullan Build	George Elmer Drive	Daniel Heringer	Kewitt	2.15	Dourty Ditch	0.2	<5	MTR109340	term 7/16/2024

Terminated
High Priority
Low Priority

MS4 Area Developmet	Address	NOI/SWPPP #	SWPPP Admin	Owner	Violation Email Notification	Violation Verbal	Response	Action completed	Status	Eff date / Term date
1.CH Subdivision	Subdivision	MTR107269	PCI	Private	N	N			NOT	term 2/22/24
2. Canyon Gate Apartments	425 Michigan	MTR110109	Castlerock	Private	N	N			Active	eff/act 7/13/23
3. Garage Door Guys	7037 Two Smokes	MTR109598	Sean Admundson	Private	N	N			Active	eff/act 12/14/22
4.New Meadows Trail System3	Mullan Road	MTR110807	Bethany Gunther	Public	N	N			Active	eff/active 7/22/24
5. Felco	8285 El way	MTR109582	Justin Hubbard	Private	N	N			NOT	term 6/5/2024
6. Paradise Dental	8275 HWY 10 W	MTR109582	Western Interstate	Private	N	N			NOT	term 6/5/24
7.Prospect Yard	9224 Roller Coaster	MTR109438	Stan Dougdale	Private	N	N			Active	eff/act 3/29/22
8.Running W PH 3	Subdivsion	MTR109219	Cody Petersen	Public	N	N	Inlet Protection	Y	NOT	term 12/13/24
9.Missoula Storage	5500 Avation Way	MTR110135	Mauer Construction	Public	N	N			Active	eff 4/17/23
10.Saz Yakis Site Development	7390 Deschamps Lane	MTR109755	Jacob Zimmerman	Private	N	N			Not	term 5/28/24
11. The Dairy Subdivision	4005 Whippoorwill Subdivision	MTR1100069	PCI	Public	N	N			No activity	eff/act 3/23/23
12.Montana Knife Company	8659 Robbins Road	MTR110939	Kelly Youbles	Private	N	Y	BMPs Not installed Properly	Y	Active	eff/active 8/26/24
13. Mullan Build	Road Project Mary Jane BLVD	MTR109340	Taylor Cross	Public	N	N			NOT	term 7/16/24

Inspection dates	Site's inspected
2-Mar	7
12-Mar	5,6,8
25-Mar	6,8,13
17-Apr	5,6,7,8,10,13
6-May	7,8,10
8-May	5,6

22-May	7,13
3-Jun	5,7,8
4-Jun	10
1-Aug	8
10-Sep	12
	Green- Project is active with no permanment BMP's
	Yellow- Project has established permanment BMP's but waiting
	BMPs and can likely achieve NOT status

Emergency Response Plan

Missoula County Public Works

6089 Training Drive

Missoula, MT

EMERGENCY MEETING LOCATION:

FIELD ACROSS ROAD FROM OFFICE

12/10/24

Table of Contents

A. Introduction and Purpose

Public Works is committed to the safety and well-being of its staff and the visiting public. Upholding this commitment requires planning and practice. This plan exists to satisfy those needs and to outline the steps to be taken to prepare for and respond to an emergency affecting the Public Works property at Training Drive.

This plan applies to all County employees and any person occupying the physical property of Public Works and includes employees in transit or working in in another location such as road maintenance somewhere else in the county.

This plan may not encompass all hazards and emergencies. This plan may be consulted when responding to any and all emergencies. When encountering a situation which has not been expressly addressed in this plan, use good judgment and the guiding principles outlined below.

B. Goals and Priorities in an Emergency

The goals of Public Works in responding to an emergency situation include:

1. Goals

    - The safety of employees, public, and visiting personnel such as vendors and emergency responders
    - The physical and emotional well-being of employees
    - The timely stabilization of an emergency situation
    - The protection of the Public Works buildings, property, and fleet

The priorities, in order of importance, of Public Works in responding to an emergency situation include:

2. Priorities

    - Evacuate and account for all employees and visitors
    - Contact local emergency service organizations
    - Assemble employees of Public Works with responsibility during an emergency
    - Contact pertinent regulatory agencies
    - Conduct search-and-rescue operations, turnoff utilities, control and hazardous chemical releases
    - Prevent further damage to property
    - Perform cleanup and salvage as needed
    - Conduct post-incident critique and evaluation
    - File any applicable reports with regulatory agencies

C. Responsibilities

The Public Works Emergency Response Plan is the responsibility of the Safety Coordinator, with review approval from the Director or applicable Assistant Director.

1. Maintaining and Modifying Plan

   The Safety Coordinator will review and update this plan at least once annually. Revisions will be made as needed throughout the year. Any suggestions, comments, or questions should be directed to the Safety Coordinator.

2. Chain of Command During Emergency

   Leadership authority during an emergency shall flow downward through the following list of people:

   - Safety Coordinator
   - Assistant Directors
   - Supervisors

D. Reporting an Emergency

1. Types of Emergencies

   Below is a list of emergency responses summarized in this plan. This may not be a complete list of emergencies that may potentially occur at the Public Works Property. Emergencies that occur may not be covered within this plan or may evolve into a situation that requires modification of this plan, are a recognized possibility. The emergencies covered within this plan include;

   - Fire
   - Medical
   - Chemical Spill or Release
   - Bomb Threat or Suspicious Package
   - Utility Failures such as Power or Gas Leak
   - Hostile Intruder or Active Shooter
   - Natural Disasters
   - Airport Emergency
   - Sewer/Water leak

2. Notifying a Supervisor

   If an emergency or situation that could become an emergency occurs, inform the nearest supervisor on the property. Supervisors leave the property all of the time to perform their duties and may not be available at the time of an emergency. Your immediate supervisor

may not be available. Be prepared to contact the next closest supervisor to the emergency by voice, radio, or phone.

3. Emergency Phone Numbers

   a) Emergency Services and Agencies

Name	Phone
Fire Department	911
Emergency Medical Services	911
Police	911
Montana Disaster and Emergency Services	406-324-4777
Montana DEQ Duty Officer (spills)	406-431-0014
Poison Control Center	800-222-1222
National Response Center (spills)	800-424-8802

   b) Personnel Responsible for Evacuation

   Supervisors leave the property all of the time to perform their duties and may not be available at the time of an emergency. Your immediate supervisor may not be available. Be prepared to contact the next closest supervisor to the emergency by voice, radio, or phone.

Name	Title	Office Phone	Cell Phone
Erik Dickson	Assistant Director	258-3772	544-9407
Shawn LaDue	Road Supervisor	258-4851	239-8105
Cory Miller	Road Supervisor	258-4824	544-6603
Shane Quick	Fleet Manager	258-4836	529-3120
Brent O'Connor	Engineering Mgr.	258-4832	370-1911
Kim Adamo	Safety Coordinator	258-3714	

4. Dialing 911

Call 911. If time allows, the supervisor should dial 911. All emergencies that require contacting an outside agency requires dialing 911. A decision may be required to determine if the area you are calling from may be compromised. If using a cell phone to call, be prepared to maintain an effective signal when calling 911.

Be prepared to provide 911 with the information regarding the emergency and follow orders of the dispatcher:

- Where the emergency is
- Nature of the emergency
- Description and details of the emergency
- Listen to the dispatcher
- Answer additional questions
- Do not hang up until instructed to

a) Other means of calling 911, other than phone

- Pull a fire alarm
- Pull the panic button at the front desk of admin building. An alarm will not sound.
- Use a Public Works radio

5. Notifying other Employees

The type of emergency and location will define the specific requirements for notifying personnel on the property. All employees on the property may be required to be notified. Notification of personnel will occur by voice and radio. After dialing 911, the notification sequence will be as follows:

- Both employees, the reporting employee and supervisor, will begin verbally notifying personnel in all buildings, starting with the closest to the emergency.

- During the verbal notifications, the initially notified supervisor will choose an employee to make an announcement on the closest Public Works radio. The radio announcement will capture employees in vehicles or other buildings with active two-way radio intercoms. Note that employees in the field may need to be told to not return to the property.

a) Voice Notifications

Emergencies in the area of the admin building, supervisor's office, shop, warming shed, or sign shop are capable of being communicated by voice for evacuation purposes. An employee physically walking between buildings can carry the message of an emergency quickly and can also confirm if employees are in the building. (possibly away from a phone or radio)

b) Phone Notifications

A phone is the priority method of contacting emergency services. Options include cell phones or landlines. Cell coverage with certain buildings, such as the admin building, may not have trustworthy service. If a cell phone is used, employees should stand outside to limit the chances of having the call disconnected.

A land line is available for use in the following areas:

- Admin building
- Supervisors offices
- Shop
- Sign Shop
- Welding Shop

Note that not all buildings have a phone. Emergency responses that initiate in building without a phone such as the salt shed or wash bay will require a cell phone or physically walking to an adjacent building to communicate with coworkers.

c) Radio Notifications

A large majority of equipment, vehicles, and buildings are equipped with a two way radio. These radios are effective at communication over the entire county when the phone lines are not working. A report of an emergency can be made from any vehicle in the yard as long as the key to the vehicle is available. Many of the radios can contact 911 directly. Public Works radio channels are set up for use off of a repeater or direct (flagger) channel.

For example, an employee out in the rear of the property can use a radio to report a situation to the supervisor's office, admin building, or shop where land lines are available and coordination of the incident can take place.

d) Alarms

Many of the buildings on the property are equipped with an alarm system for fires. The alarm system can be used to notify personnel on the property, however only within certain buildings. Pulling an alarm will notify all personnel within the following buildings only:

- Shop
- Sign Shop
- Welding Shop

E. Evacuation

Priority areas to communicate an evacuation will be closest to the emergency. A typical communication sequence will flow outward from the emergency, focusing on buildings within

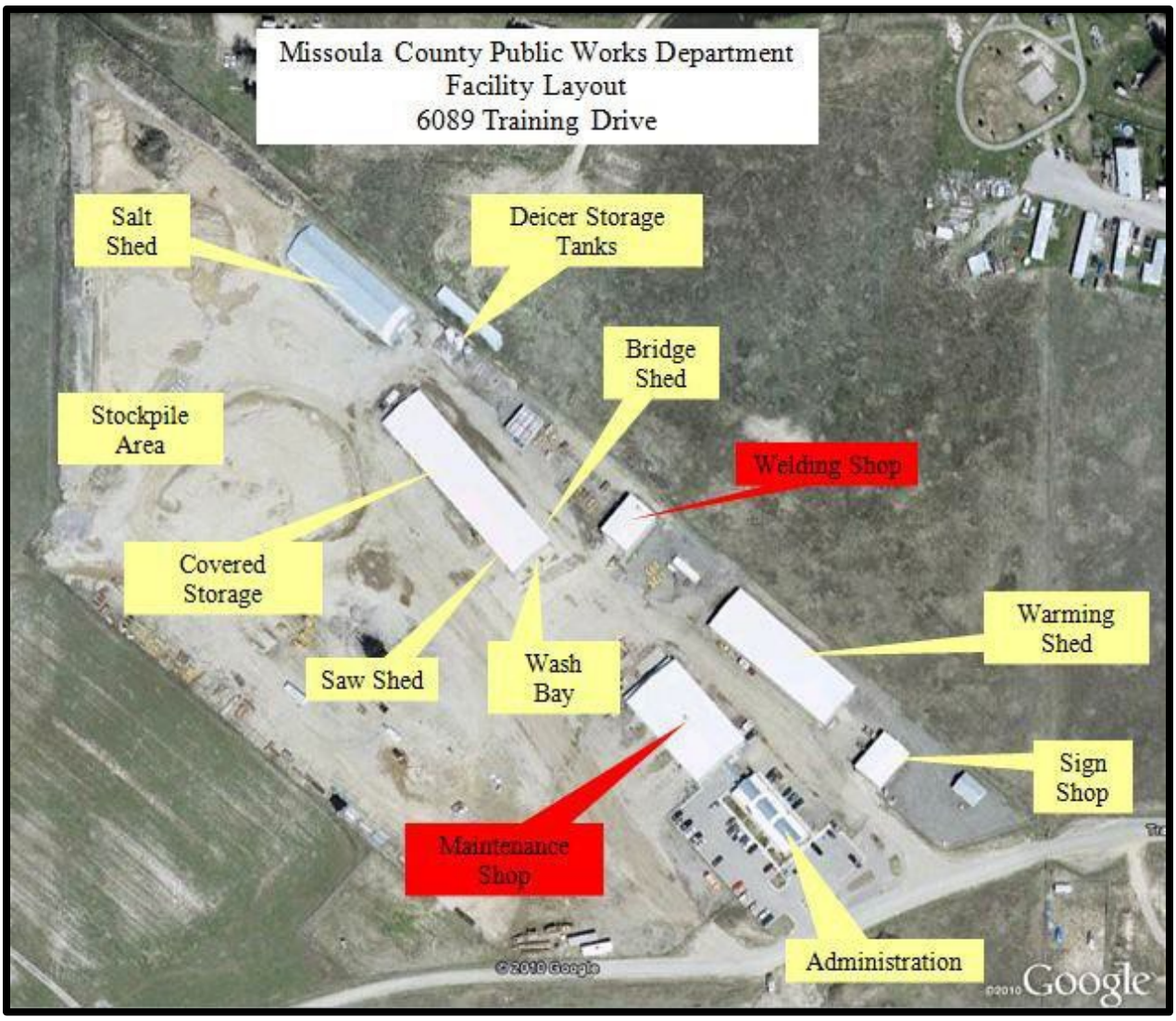
the property. Notifying personnel within a building may only require opening a door and verbally notifying the first person you see.

1. Buildings that May Require Evacuation

   Buildings that will require checking, listed in order of population, include:

   - Administrative building
   - Shop, Fleet Manager office, and NAPA personnel
   - Road supervisor's office
   - Sign shop
   - Welding shop
   - Warming shed
   - Wash bay and truck bay
   - Salt shed (generally unoccupied)
   - Outlying outside areas of property (gravel pile, log pile, culverts)

2. Map of Facility Layout



3. How to Evacuate

You should familiarize yourself with the evacuation routes posted in all of the buildings. If an evacuation order is issued for your building, or if it were necessary to evacuate due to an emergency, follow the precautions below:

- Take only keys, wallets and essential belongings with you
- If possible wear weather appropriate clothing
- Leave the building immediately
- Do not investigate the source of the emergency
- Walk, don't run, to the nearest exit
- Assist people and visitors as needed
- If there is imminent danger and evacuation cannot be delayed, a person with a disability should be carried or helped from the building in the best and fastest manner.
- As you make your way out, encourage those you encounter to exit as well

- Follow instructions of the supervisors and emergency personnel as they arrive
- Wait for instructions before returning to your building after an evacuation

4. Emergency Meeting Location

The Public Works property is large enough that personnel can likely safely move to another portion of the property in the event of an emergency. However, employees that choose to not meet at a single location will undermine the ability to account for personnel. Accounting for all personnel is the primary reason for utilizing a meeting location.

a) Primary Meeting Location – Small field across street from Admin building

A single meeting location when the emergency allows, will be the field across the street from that administrative building, between the gate and the building. Employees can exit the property through any means and congregate across from the admin building. Personnel can coordinate emergency services on Training drive from this location.

b) Secondary Meeting Location – In front of wash bay

A secondary location towards the rear of the property, in front of the wash bay allows for various advantages. If some employees cannot exit through the front (Training Drive) this location will provide a secondary location of the property.

- Employees that are able to exit on Training Drive will be able to confirm employees from outside the fence line.
  Grouping in this location provides options to egress off of the property if necessary.

5. Map of Meeting Locations

6. Map of Security Fence Exits

7. Shelter in Place

Shelter in Place is useful when evacuation is not an option. Refuge is sought in an interior room with few or no windows.

It may be necessary to shelter in place following the intentional or accidental release of chemical, biological, or radiological contaminants into the environment. Shelter in place may also be necessary in the event of a hostile intruder on campus.

- Stop operations in the building.
- If there are visitors in the building, provide for their safety by asking them to stay—not leave.
- Close and lock all doors, windows, and other openings to the outside.
- If necessary/possible, turn off heating or cooling system.
- Turn to the internet or radio for updates.
- Select interior room(s) with the fewest windows and vents.

- Lock the door to any rooms being used and draw the curtains/shades or cover the windows. You should not be visible from the outside or from the corridor.
- Ideally, choose room(s) with hardwired telephones as cellular networks may be unavailable. Use these phones to report any emergencies.
- Stay away from windows and doors.
- In the event of a hostile intruder, remain absolutely quiet and follow steps outlined in the "Hostile Intruder/Active Shooter" section.
- Remain calm and await further instructions.

8. Notification to Employees off the Property

There may be a need to communicate an emergency county wide. A majority of employees are generally not on the property during a typical shift. For instance the road crew, working off the property, may need to be informed whether to return to the property or stay away from the property. The following may be reasons to notify employees to return or stay away from the property:

a) Return to the property

- Storms such as hurricane or blizzard
- Employees with special skills or equipment are required at the property such as a chemical spill or gas leak.

b) Stay away from the property

Telling employees not to return to the property is important in an emergency. Returning employees and vehicles may only get in the way of emergency responders or place the employee in danger. Be prepared to tell employees on the radio to stay away from the property until the All Clear is given.

A situation may arise towards the end of shift that the road crew out in the field in equipment may be told to take the fleet vehicle or equipment home for the night and not to return until told.

- Fire
- Active shooter
- Bomb threat
- Airport emergency

c) Stage at the property

Employees return with equipment, but line up outside the gate on Training Drive, off to the side off the road.

- Utility Failures
- Airport emergency

9. Communication with Media

Inquiries from the media during or after an emergency will be addressed by the Director or Assistant directors.

F. Fire

Fire within the property can be defined as structure, vehicle, wildland, or other property fire. The location and risk to employees will require specific modifications in the response.

1. Responding to a Fire:

    - **Contain** the fire by closing all doors as you leave
    - **Activate** the nearest Fire Alarm pull station (Pull stations are located near all building exits)
    - **Report** the fire by dialing 911
    - **Evacuate** or extinguish (In most cases, it is best to Evacuate)

2. Use a Fire Extinguisher only if:

    - You have been trained
    - You have your back to an unobstructed exit
    - You have a fully charged and proper type unit for the fire you are fighting
    - The fire is contained, and you have reported the fire by **Fire Alarm** or **911** activation
    - Everyone else has left the area
    - There is little smoke or flames

3. Never fight a fire if:

    - You lack a safe way to escape should your efforts fail
    - It has left its source of origin
    - You are unsure of the type of extinguisher you need or have
    - If you can't control the fire within 30 seconds, abandon your efforts, close the door(s) and evacuate immediately.

G. Medical Emergency

An initial report of an injured person should set the Emergency Response procedures in motion. The initial report should be made to the closest supervisor. The need to request an ambulance shall be determined by an on-site supervisor. In situations where an ambulance is obviously necessary, employees should call 911

1. Responding to a Medical Emergency

    - Stay Calm

- Dial **911** and explain the type of emergency, the location, condition, and number of victims
- Let the dispatcher know of any safety hazards - chemical spill, fire, fumes, etc.
- Do not hang up unless told to do so by the dispatcher
- Do not move the victim unless there is danger of further injury if s/he is not moved
- Render first-aid or CPR only if you have been trained
- Do not leave the injured person except to summon help
- Comfort the victim until emergency medical services arrive
- Have someone stand outside the building to flag down the ambulance when they reach the vicinity the gate.

2. Approaching an Injury or Accident Scene

   When entering the scene of an emergency situation, approach accident / injury scenes from the uphill / upwind direction if possible, and conduct a quick survey of the scene which includes:

   - Scan the area for immediate hazards that may be dangerous to you, the victim(s), or bystanders
   - Determine the cause of the injury or illness
   - Determine the number of victims. There may be more than one victim, so look around and ask about others involved
   - Consider existing or potential hazards which may affect response / rescue operations; and
   - Consider on site equipment possibly needed to provide response / rescue operations.

3. Moving Victims

   Victim(s) should not be moved until ready for transport to a hospital, with all necessary first aid provided first. A victim should only be moved if:

   - There is a fire or danger of fire;
   - Other hazardous materials are involved;
   - It is impossible to protect the scene from hazards; or
   - It is impossible to gain access to other victims who need lifesaving care.

H. Chemical Spill or Release

The chemicals maintained on the property are typical vehicle and equipment fluids in volumes maintained below in the Public Works Chemical Quantities section. The potential exists for a release of a delivered product such as a vendor delivering propane, fuel, etc. Public Works will immediately clean up all spills.

The following strategies will be implemented in the event of a spill or drip. Absorbent pads may be used to absorb small spills and to remove petroleum products from non-porous entities.

1. Responding to a Spill or Release

   For mobile sources of spills (i.e. hydraulic, fuel and radiator lines on heavy equipment, etc.) the mechanics will fix the broken equipment and the spilled material will be cleaned up. The spilled products will be absorbed utilizing pads or absorbent and shovels and brooms.

   In the event that fuel does reach waterway, a fire occurs, or a spill larger than the reportable quantity occurs, the following actions will be implemented:

   - Operations will be conducted in accordance with OSHA HAZWOPER regulations and cooperation with the Missoula Rural Fire Department.
   - Contact will be established as detailed in the applicable section titled Reportable Quantities.
   - Booms will be placed around the visible sheen on water and connected to contain the spill, and further absorbed with absorbent pads placed directly on water.
   - Spill absorbent pads or soil will be placed in/on any uncontained free petroleum liquid that is up-gradient of the waterway.
   - Berms will be created with Site heavy equipment to channel free flow petroleum liquids away from the waterways.
   - All spent absorbent, booms, diapers, and petroleum impacted soil will be containerized in either poly drums or roll-off containers and disposed of by at a properly licensed facility.

2. Quantities of Chemicals at Public Works

   The Public Works property has one major potential source of petroleum product storage and that is located within the maintenance shop.

Source Location	**Product**	**Quantity**
Maintenance Shop	Automatic Transmission Fluid	275 gal
	Gear Lube	275 gal
	Hydraulic Tractor Oil	275 gal
	Hydraulic Oil	55 gal
	Motor Oil	550 gal
	Used Motor Oil	1200 gal
	Gasoline/Diesel	No bulk storage

3. Reportable Quantities

The Montana Department of Environmental Quality (DEQ) Spill Management and Reporting Policy require the following notifications:

a) Spills that must be reported to DEQ:

- Releases or spills of hazardous substances in amounts that meet or exceed the reportable quantities in 40 CFR Part 302.
- Spills, overfills, and suspected releases from underground storage tanks and petroleum storage tanks. ARM 17.56.501
- Releases or spills of any materials that would lower the quality of groundwater below water quality standards. ARM 17.30.1045

b) Spills that should be reported to DEQ:

- Spills that enter or may enter state water or a drainage that leads directly to surface water;
- Spills that cause sludge or emulsion beneath the surface of the water, stream banks or shorelines;
- Spills that cause a film, "sheen," or change the color of water, stream banks, or shorelines;
- Spills of 25 gallons or more of any petroleum product.

I. Bomb Threat or Suspicious Package

If you receive a bomb threat, remain calm and attempt to gather information regarding the threat. At the same time, report the incident to your nearest supervisor in order to initiate evacuation procedures.

1. Responding to a Bomb Threat

Obtain as much information from the caller or informant as possible. The following list provides examples of information to gather:

- Write down the number from where the call is coming
- Write down the exact time of the call
- Write down as accurately as possible the statements made
- Listen to the voice to determine the sex, age, accents, lisps, tone, etc. (Note any distinguishing feature)
- Listen for background noises
- Try to signal a for someone else to also listen on the telephone line, if possible
- Do not hang up and stay on the line as long as possible; wait for the caller to hang up
- When will the bomb go off? How much time remains?
- Where is the bomb located?
- What does it look like?
- What kind of bomb is it?
- How do you know about this bomb?

- Why was it placed here?
- Who are you?
- What is your name?

Call **911, e**vacuate the property, and then utilize the Bomb Threat checklist as soon as possible.

2. Responding to a Suspicious Package

a) Characteristics of Suspicious Packages

- Special deliveries, foreign mail, or air mail.
- Restrictive markings such as "Confidential" or "Personal."
- Excessive postage.
- Handwritten or poorly typed addresses.
- Incorrect titles.
- Misspelled words.
- Stains or discoloration on the package.
- Excessive weight.
- Rigid, lopsided, or uneven envelopes.
- Protruding wires or aluminum foil.
- Excessive tape or string.
- Visual distractions such as illustrations.
- No return address.

b) How to Respond

- Evacuate the Property
- Call 911
- Isolate the package or object and evacuate the immediate area.
- Where is the package located?
- What does it look like?
- What kind of package is it?
- Why do you think this is a bomb?
- Why was it placed here?
- Who are you?
- What is your name?
- **DO NOT** touch the package or object.
- **DO NOT** tamper with the package or object.
- **DO NOT** attempt to move the package or object.
- **DO NOT** open the package or object.
- **DO NOT** put the package or object in water or an enclosed space, such as a drawer or box.

c) Bomb Threat Checklist

TELEPHONE BOMB THREAT CHECKLIST

INSTRUCTIONS: BE CALM, BE COURTEOUS. LISTEN. DO NOT INTERRUPT THE CALLER.
YOUR NAME: _____ TIME: _____ DATE: _____
CALLER'S IDENTITY SEX: Male ____ Female ____ Adult ____ Juvenile ____ APPROXIMATE AGE: ____
ORIGIN OF CALL: Local _____ Long Distance _____ Telephone Booth _____

VOICE CHARACTERISTICS		SPEECH		LANGUAGE	
___ Loud	___ Soft	___ Fast	___ Slow	___ Excellent	___ Good
___ High Pitch	___ Deep	___ Distinct	___ Distorted	___ Fair	___ Poor
___ Raspy	___ Pleasant	___ Stutter	___ Nasal	___ Foul	_____
___ Intoxicated	_____	___ Slurred	_____		Other
	Other		Other		

ACCENT		MANNER		BACKGROUND NOISES	
___ Local	___ Not Local	___ Calm	___ Angry	___ Factory	___ Trains
___ Foreign	___ Region	___ Rational	___ Irrational	___ Machines	___ Animals
___ Race		___ Coherent	___ Incoherent	___ Music	___ Quiet
		___ Deliberate	___ Emotional	___ Office	___ Voices
		___ Righteous	___ Laughing	___ Machines	___ Airplanes
				___ Street	___ Party
				___ Traffic	___ Atmosphere

BOMB FACTS

PRETEND DIFFICULTY HEARING - KEEP CALLER TALKING - IF CALLER SEEMS AGREEABLE TO FURTHER CONVERSATION, ASK QUESTIONS LIKE:

When will it go off? Certain Hour ____Time Remaining_____

Where is it located? Building _____ Area _____

What kind of bomb? _____

What kind of package?_____

How do you know so much about the bomb?_____

What is your name and address? _____

If building is occupied, inform caller that detonation could cause injury or death.

Activate malicious call trace: Hang up phone and do not answer another line. Choose same line and dial *57 (if your phone system has this capability). Listen for the confirmation announcement and hang up.

Call Security at _____ and relay information about call.

Did the caller appear familiar with plant or building (by his/her description of the bomb location)? Write out the message in its entirety and any other comments on a separate sheet of paper and attach to this checklist.
Notify your supervisor immediately.

J. Hostile Intruder/Active Shooter

The potential for a hostile intruder or active shooter exists due to the access the public has to the Administrative building of Public Works. Being a department of the local government, training has been performed on the premises on dealing with an active shooter. There is one panic button on the entire property that will contact 911 but not set off any alarms. Utilize immediately. As additional training becomes available, employees are encouraged to attend.

1. Active Intruder/Shooter Inside or Outside the Building

   a) RUN – If exiting the building is possible.

   - Trip the panic button if possible.
   - Move away from the active shooter or the sounds of gunshot(s) and/or explosions
   - Leave the building or immediate area as quickly as possible.
   - Depending on the circumstances, consideration may also be given to exiting ground floor windows as quietly as possible
   - Look for appropriate locations for cover and protection such as inside a building, or behind retaining walls or parked vehicles
   - Call 911

   b) HIDE – If exiting the building is not possible

   - Trip the panic button if possible.
   - Get to a room that can be locked; close and lock windows and doors
   - Look for appropriate locations for cover and protection such as inside a building, or behind retaining walls or parked vehicles
   - If you are locked out of all rooms, seek refuge in the nearest restroom,
   - lock yourself in a stall and keep quiet
   - Close and lock the door and/or block it (try barricading the door with desks and chairs)
   - Cover the door windows
   - Call 911 (the Dispatcher will gather information from you)
   - Keep quiet and act as if no one is in the room (silence cell phones)
   - DO NOT answer the door
   - Turn off the lights
   - Try to get everyone down on the floor (so that no one is visible from outside the room)
   - Stay in place (calls from unfamiliar voices to come out may be the attacker attempting to lure you)
   - Do not respond to any voice commands until you are sure that they come from a Police Officer.

   c) FIGHT – If the intruder enters your immediate area

- Try to escape, but if unable, you must take action to survive!! Make a quick survival decision, either:
- Try to negotiate with the hostile intruder/active shooter (perhaps not the most effective measure),
- Try to hide; bear in mind that being hidden (i.e. behind a wooden door) is not the same as being covered (i.e. behind a steel door)
- Play dead (pretend to be unconscious)
- Try to overpower the hostile intruder/active shooter by force (use anything at your disposal and fight for your life); **Only you can decide if this is something you should do.**
- If someone other than yourself acts to overpower the hostile intruder/active shooter it is recommended that you assist, as this will increase the chances of success and survival.
- Stay in place (calls from unfamiliar voices to come out may be the attacker attempting to lure you)
- Do not respond to any voice commands until you are sure that they come from a Police Officer

2. Deciding to Flee the Intruder/Shooter

    - No matter what the circumstances, make sure you have an escape route.
    - Do not attempt to carry anything while fleeing
    - Do not attempt to remove injured people (leave wounded victims where they are and notify authorities of their location as soon as possible)
    - Move quickly, keep your hands up high and visible
    - Follow the instructions of any Police Officers you may encounter

3. If Intruder/Shooter Leaves your Area

    - Close and lock the door and/or block it (try barricading the door with desks and chairs)
    - Call 911 (if not on the line already)
    - DO NOT answer the door and stay in place behind cover
    - Do not respond to any voice commands until you are <u>sure</u> that they come from a Police Officer.

K. Utility Failures

Utility failures may include electrical outages, plumbing failure/flooding, gas leaks, or ventilation problems. Missoula County has procedures and personnel to deal with utility failures and resumption of service. For your personal safety, in the event of a utility failure:

1. Response to Power Failure

    - Remain calm

- Confirm if the power is out in other buildings.
- If the building must be evacuated, follow the instructions on Building Evacuation
- Unplug all electrical equipment (including computers) and turn off light switches
- Use a flashlight if needed. Do not light candles or use other kinds of flames for lighting
- Remember that the security gates will not open unless manually overridden. Utilize the manual gate closer to the airport of needed

a) How to Open Gates with Power Off

Open Panel

Open Leather Cover

Loosen Knobs Counter Clockwise

2. Response to Gas Leak

- Remain calm
- If the building must be evacuated, exit and get to an assembly area
- Unplug all electrical equipment (including computers) and turn off light switches
- Use a flashlight. Do not light candles or use other kinds of flames for lighting
- Dial 911 to report
- Contact Facilities Maintenance (see numbers listed in Section O).
- If necessary, the main gas shutoff to the property is adjacent to the Sign Shop, by the gate.

L. Natural Disasters

1. Floods

The chance of a flood event at the Public Works property is minimal. Minor or area flooding could occur as a result of a water main break, loss of power to sump pumps, or major multiple rainstorms. National Weather Service, and other emergency advisory systems to stay abreast of weather and alert related conditions and will provide instructions should they be necessary. For imminent or actual flooding, and only if you can safely do so:

- Secure vital equipment, records, and other important papers
- If present in your area, report all hazardous materials
- Move to higher, safer ground
- Shut off all electrical equipment
- Do not attempt to drive or walk through flooded areas
- If the building must be evacuated, follow the instructions on Building Evacuation
- If you are assisting with flood cleanup, report any oil or chemicals suspected of mixing with flood waters

2. Tornadoes

The potential for a tornado in Western Montana is minimal. Local media sources will report a "***Tornado Watch***" which means that tornadoes could potentially develop. A "***Tornado Warning***" means a tornado has actually been sighted. If you see a tornado, seek shelter or safety:

- Go to a basement, underground excavation, or lower floor of interior hallway or corridor (the admin building has the only basement on the property).
- Seek shelter under a sturdy workbench or heavy furniture if no basement is available
- Listen for reports and siren/public address announcements
- Avoid:
  - Top floors of buildings
  - Areas with glass windows or doors
- If out in the open:
  - Cars -do not wait out the storm in a car; cars are not safe in tornadoes
  - Move away from the path of the tornado at a right angle direction
  - Lie flat in the nearest depression, ditch, or ravine if there is no time to escape

3. Earthquakes

Earthquakes are more common in the certain areas of the United States, but they do occur in the Montana area as well. In the event of an earthquake:

- Stay away from large windows, shelving systems, or tall room partitions
- Get under a desk, table, door arch, or stairwell
- If none of these is available: move against an interior wall and cover your head with your arms
- Remain under cover until the movement subsides
- After the shaking stops, survey your immediate area for trapped or injured persons and ruptured utilities (water, gas, etc.)

- Evacuate
- If out in the open:
  - Stay in an open area away from buildings, power lines, trees or roadways
  - If in a car, pull over and stop. Do not park under an overpass or near a building. Be cautious about driving again, in the event roads are damaged.

M. Airport Emergency

The Public Works facility is located adjacent to the Missoula airport. In fact the property is located essentially at the end of one runway. The potential exists for an airplane crash, and has had two within the immediate area of the property in the last few years.

Public Works does not condone employees responding to an airplane crash. A crash site is a dangerous environment with obvious concerns such as a large fuel fire, debris everywhere, high pressure hydraulic lines, miles of electrical wiring, injured and deceased passengers. Only personnel with proper personal protective equipment and with an operational need will be allowed at the scene. An airport emergency crash scene is considered a crime scene until proven otherwise by the National Transportation Safety Board.

Emergency responders from the fire department and airport are only minutes away. The following considerations shall take place in the event of an airplane crash in the vicinity of the property:

- Dial 911 with the best description and location of the incident you can provide
- Consider evacuation or shelter in place depending on the proximity of the incident
- Consider that all responders may be required to approach the scene from Training Drive, keep that area free of personnel and vehicles.
- Inform employees off site to stay away from the property until told to return

N. Training, and Exercises

Public Works will train all employees on the procedures contained in this plan. New employees will be trained upon hiring, and re-trained any time the employees responsibilities under the plan change or whenever the plan changes.

Copies of the emergency response plans to be kept in the office of Assistant Directors, road supervisors, the safety coordinator, the safety manual and will post copies on employee bulletin boards.

Public Works also will designate and train a sufficient number of employees to assist in the safe and orderly evacuation of employees and visitors. These employees will be trained and re-trained as needed.

1. Training Topics

- Emergency reporting
- Evacuation routes
- Alarm systems
- Specific assigned duties

2. Periodic drills

   Drills will be held to ensure that all employees know the appropriate action to take in case of an emergency. Public Works will provide additional training and drills as needed for employees with specific emergency-response duties; and invite local emergency service units to participate in training whenever possible.

O. Response to Sewer & Water leaks

1. Training Drive has an alarm on our pressurized septic system (pressure transducer). An alarm will sound back by the shop (between shop and administration building by the breezeway) when there is something wrong with the septic and sewage system. In the event that the alarm does sound a supervisor should be notified and they should contact facilities maintenance team immediately:
   a) Larry Farnes: 544-8746
   b) Steve Funston: 830-8094
   c) Rick Goldsby: 531-2556
   d) Sean Chandler: 240-5760
   e) Brad Smalley: 370-2854
   f) Tami Quinn: 370-1838
   g) Jasen Neese: 544-1458

2. Training Drive is currently on an independent well located east (in front) of the Administration Building. The well head is also the primary assembly point for personnel in the event of an emergency. This well is the water source for the entire facility and is tested by Tami Quinn/Greg Evison as part of our DEQ compliance. (Public Water Supply #MT0004479 Missoula County Public Water Dept.)

3. If there is a main break for any of the RSID's or on site at Training Drive the operator/facilities will notify (management) and together you will determine the scope. If more than a service line is affected (meaning 10 to 12 homes), then a press release should be considered.
   a) Things you need to know:
      1) Number of homes/facilities affected
      2) Area to be affected – prepared to make a map to be released for the public
      3) Length of time it will take to fix – ballpark number is fine
      4) Any roads to be closed or public facilities or events affected
      5) Point person on the ground on site who will be dealing with the public, TV and all inquiries.
   b) For those that require a Press Release:
      1) Contact: Public Works Director – Public Works Director will either coordinate the proper steps to follow or delegate.

2) Contact: Chief Admin Officer (Vickie Zeier) 239-1749.
3) Contact: Communications & Projects Director (Anne Hughes) 531-1921 – work with her on formulating a press release (5 sentences or less).
4) Contact: Board of County Commissioners: All 3 and let them know what is going on.

c) If critical care facilities are affected:
Dr. Offices
Nursing Homes
Hospitals
Grocery Stores
Schools (shelters)
Homebound individuals
Veteran's Affairs
These facilities should take priority in establishing contact, facilities being re-established or alternate methods and services assistance.

12/10/2024

Missoula County Public Works Construction ERP for MS4

Purpose: The Public Works Department is charged with Construction Site Runoff. In order to prevent storm water pollution by way of sedimate and other unwanted contaminants to reach water ways a response plan is necessary. Public Works looks to Water Quality Ordinances and other state laws for enforcement actions. All complaints shall be

Applicable Regulations:

Missoula Valley Water Quality District Ordinance 13.26.080

Montana Code Annotated ARM 17.8.308 Sec, 1

Missoula County Resolution 2018-005 Sec. 11

Once a complaint is received by the department, directly, or indirectly from the Department of Emergency services a supervisor is dispatched to investigate by going out on site. The supervisor will determine the nature of complaint and severity of the situation. After the determination is made contacting the owner of the property or the responsible party is assumed but not required depending on the circumstance.

Corrective action may vary depending on severity. Possible outcomes shall be:

1. Educate the owner
2. Provide written warning of observation and instruct the owner to provide a corrective action plan
3. Dispatch Public Works workers to clean or remove hazard
4. Contact law enforcement of other regulatory agencies to assist

All complaints shall be recorded and documented in a recording mechanism for tracking purposes.

SECTION 9. STORM DRAINAGE IN ZONED AREAS

In order to preserve and protect existing storm drainage systems, natural drainages, private and public property, and in order to ensure that proposed developments provide adequate storm water management facilities, either through subdivisions or through individual residential or commercial/industrial developments, storm drainage plans shall be submitted to the County before these developments will be approved. More specific requirements for storm drainage associated with subdivisions are listed in Section 12 of this Manual.

9.1 Zoning Compliance Permit Requirements

All construction and development within the jurisdiction of Missoula County on zoned land must receive a Zoning Compliance Permit from the Community and Planning Services office before starting construction. Public Works is charged with reviewing grading and drainage plans for Zoning Compliance Permits. The thresholds for grading and drainage plan review are as follows:

1. Residential projects on slopes between 5% and 10% may obtain a permit with an approved site plan submitted by the property owner or their contractor.
2. Residential projects on slopes greater than 10% require professionally engineered plans.
3. All commercial or industrial projects require professionally engineered plans regardless of grade.
4. All Condominium and Townhome Exemption Development (C-TED) projects require professionally engineered plans regardless of grade.
5. All multi-family development projects creating three or more units require professionally engineered plans regardless of grade.

9.2 Zoning Compliance Permit Exemptions

Exemptions from grading and drainage review include:

1. One- and two-family units, with a total of three (3) units per parcel on slopes less than five percent (5%)
2. Interior remodels
3. Deck construction or accessories
4. Structures, both residential and commercial, less than two hundred (200) square feet
5. Additions of less than two hundred (200) square feet to any existing structure
6. The addition of a structure over an existing impervious surface
7. Billboards and signs
8. Pole barns
9. Any other project not on a permanent foundation intended for seasonal use
10. Any construction controlled by the Missoula Airport Authority

9.3 Zoning Compliance Plan Submittals

If construction requires a grading plan due to Zoning Compliance regulations, adequate plans shall be submitted in a digital format to the department for review and approval. The plans, at a minimum, shall show the following (if applicable):

1. 5% to 10% residential requirements
   (a) building footprint;
   (b) approach/driveway location;
   (c) proposed drainage facilities or materials;
   (d) existing site elevations;
   (e) finished floor elevations with corner spot elevations;
   (f) arrows drawn depicting direction of storm water flow;
   (g) gutter spill locations; and
   (h) retaining wall locations with elevations at top and bottom of wall.
2. Greater than 10% grade conditions for residential projects; all commercial or industrial development; all multi-family and C-TED requirements
   (a) all requirements listed in 9.3.1; and
   (b) topographic map showing existing and proposed contours at 2 foot minimum intervals; and
   (c) sidewalk, curb and gutter locations and details.
3. The County will only review required landscaping plans where they may impact a public right-of-way.
4. All commercial/industrial and C-TED developments shall be required to complete a drainage report for the installation of storm water management systems. The system shall be designed to detain/retain the one hundred (100) year, twenty-four (24) hour rainstorm as obtained from the NOAA Atlas 2 using the SCS Type 2 Rainfall Distribution. Post-development discharge shall be limited to pre-development runoff rates, and complete retention may be required if downstream conditions warrant.
5. Where drainage swales are used to convey or store storm water, they shall be protected against erosion and weed invasion as approved by the County.
6. Natural drainage ways shall be preserved except for necessary crossings in which the capacity of existing drainage ways shall be preserved.
7. Graded slopes shall be planted with a vegetative ground cover, and, if applicable, consistent with the Wildland Residential Interface (WRI) requirements. Landowners shall replant areas of disturbance no later than the first growing season to prevent erosion and weed invasion in consultation with the Missoula County Extension Office in accordance with Section 11 of these standards. Where site grading is necessary, top soil shall be salvaged or imported to redistribute on areas to be re-vegetated.
8. Dry wells (sumps) may be allowed, but must be pre-approved by the County for inclusion in the drainage plan design.
9. Underground storage reservoirs or structures may be allowed, but must be pre-approved by the County for inclusion in the drainage plan design.
10. The Engineer shall submit a letter certifying that the storm water management system has been constructed to the approved design.

11. For projects disturbing one (1) acre or more, the Owner is required to submit to the County a Notice of Intent (NOI), a Storm Water Pollution Prevention Plan (SWPPP) and a notice of receipt from the Montana DEQ. These documents will be kept on file as part of the Missoula County Storm Water Management Plan (SWMP).
12. In addition to these standards, all drainage systems shall meet the minimum standards of the Montana Department of Environmental Quality, as required by Title 76, Chapter 4, Part 1 MCA and all applicable state and local regulations.
13. Projects found to be within the MS4 Boundary may require additional review by the Missoula County MS4 committee. The current MS4 boundary can be found on the Missoula Valley Water Quality District website or the Property Information System found on the Geographic Information Systems website.

MS4 Area Developmet	Address	SWPPP Admin	Contrator	Contractor Compliance	Project site in acres	Water body	Impaired Water	Grade of Slope	NOI/SWPPP #
Fontaine Site	7099 Two Smokes	Kevin Frame	Knife River	Y	5.2	Grass Valley Ditch	NO	<5%	MTR109379
Felco	8285 El way	Justin Hubbard	Knife River	Y	2.9	La Valle Creek	NO	<5%	MTR109582
Grant Creek Mini Storage	Michael RD	Justin Hubbard	Knife River	Y	17.2	Grant Creek	NO	<5%	MTR108868
I state/Racetrack	Racetrack/I-State	Scott Raymond	KCI	Y	14.5	Grass Valley Ditch	NO	<5%	MTR108289
Running W PH2A	Subdivision	Cody Petersen	Peterson Contracting	Y	5.5	No water bodies listed	NO	<5%	MTR108749
Running W PH 3	Subdivsion	Cody Petersen	Peterson Contracting	Y	14.5	No water bodies listed	NO	<8%	MTR109219
Prospect Yard	9224 Roller Coaster	Stan Dougdale	Prospect	Y	1.2	Grass Valley Ditch	NO	<5%	MTR109438
Peterbilt	4867 Technology	Shiloh Kerr	Jackson	Y	7	Grant Creek	NO	<5%	MTR109508
Everlog Systems	8320 Deschamps LN	Justin Hubbard	Knife River	Y	13.4	Grass Valley Ditch	NO	<5%	MTR109098
Spalding Auto	9919 Garrymore	Chris Brown	Reveal Excavating	Y	2	Grass Valley Ditch	NO	<5%	MTR108153
TECE Truck Wash	9200 Stainless Way	N/A	N/A	Y	5	O'Keefe Creek	No	<5%	MTR106994
Garage Door Guys	7037 Two Smokes	Lewis Heil	406 Engineering	Y	2	No water bodies listed	NO	<5%	MTR109598
Mullan Build	Road Project	Taylor Cross	Kiewit	Y	16	Grant Creek/Flynn Lowery	No	<5%	MTR109340
7. CH Subdivision	Subdivision	PCI Jeff Standardt	White Civil	y	2.5	Missoula Irrigation Ditch	NO	<5%	MTR107269
Canyon Gate Apartments	425 Michigan Ave	Paul Jessop	Castlerock Construction	y	1.43	Clark Fork River	NO	<5%	MTR110109
New Meadows Trail System	Trail Project	Missoula County	Uof M Technology	y	8.91	Dourty Ditch	NO	<5%	MTR110807
Paridise Dental	8275 HWY 10W	Western Interstate	Western Interstate	y	1.2	Grass Valley Ditch	NO	<5%	MTR109582
Missoula Storage	5500 Aviation Way	Mauer Construction	Mauer	y	9.5	O'Keefe Creek	NO	<5%	MTR110135
Saz Yakis Site Development	7390 DesChamps	Jacob Zimmerman	N/A	y	8	Grass Valley Ditch	NO	<5%	MTR109755
The Dairy Subdivision	Subdivision	PCI	Not started	y	9.5	Missoula Irrigation Ditch	NO	<5%	MTR1100069
Montana Knife Company	8659 Robbins Rd	Kelly Youbles	3RL	y	2	O'Keefe Creek	NO	<5%	MTR110939

MCPW Post Construction Inspection Form

Date:_____

Project Name or location:_____

Weather Conditions:_____

Property Owner_____

Are BMP's identified in the construction plans installed and maintained properly	Yes NO N/A
Entrance/Exit Managed	Yes NO N/A
Are streams, Wetlands, Drainages effectively protected	Yes NO N/A
Inlet and outlet protection in place and in good condition	Yes NO N/A
Are conveyance systems in good working order	Yes NO N/A
Is a violation notice Required	Yes NO N/A

Comments:

_____

_____

_____

_____

_____

_____

_____

Reviewed 12/10/24

MS4 Area Developmet Inventory	Address	Date	SWPPP Number	Conveyence System Type	Easement	Description
I state/Racetrack	Racetrack/I-State	3/26/2020	MTR108289	Roads and swales	Public	Racetrack LN is located off of HWY 10 W T14/R20/S28.
Running W PH2A	Subdivision	6/9/2021	MTR108749	Gutter/Storm Collection System	Public	Snapdragon Drive is located in the WYE area T14/R20/S22.
Running W PH 3	Subdivsion	3/8/2022	MTR109219	Gutter/Storm Collection System	Public	Snapdragon Drive is located in the WYE area T14/R20/S23.
Mullan Build	Road Project	3/9/2022	MTR109340	Curb/Gutter/Collection System	Public	The county's portion of this is a small stretch of Roadway called Mary Jane BLVD. The road intersects with Flynn LN T13/R19/S7.
Prospect	Subdvision	8/24/2024	MTR109438	Road and swales	Public	Venture way is a 850 foot paved roadway that can be found in T14/R20/S28

Post Construction Inspection Prioirty

MS4 Area Developmet	Address	SWPPP Admin	Contrator	Size of Project site in acres	Waterbody	Distance to Waterbody in miles	Discharge to Impaired Waterbodies	Land use type	Post Construction SWMC	Operation and Maintenance Frequency	NOI/SWPPP #
CH Subdivision	Professional DR	Jeff Standaert	White Civil	2	La Valle Creek	0.6	NO	Commercial LD	N/A	N/A	MTR107269
Everlog Systems	8320 Deschamps LN	Justin Hubbard	Knife River	13.4	Grass Valley Ditch	1	NO	Commercial LD	N/A	N/A	MTR109098
Felco	8285 El way	Justin Hubbard	Knife River	2.9	La Valle Creek	0.2	NO	Commercial LD	N/A	N/A	MTR109582
Fontaine Site	7099 Two Smokes	Kevin Frame	Knife River	5.2	Grass Valley Ditch	0.15	NO	Commercial LD	N/A	N/A	MTR109379
Garage Door Guys	7037 Two Smokes	Lewis Heil	406 Engineering	2	No water bodies listed	0.2	NO	Commercial LD	N/A	N/A	MTR109598
Grant Creek Mini Storage	2405 Michael RD	Justin Hubbard	Knife River	17.2	Grant Creek	0.02	NO	Commercial LD	N/A	N/A	MTR108868
I state/Racetrack	Racetrack/I-State	ELI	Knife River	14.5	Grass Valley Ditch	0.8	NO	Local RD	N/A	N/A	MTR108289
Mullan Build	Road Project	Taylor Cross	Kiewit	16	Grant Creek/Flynn Lowery	0.1	NO	Minor Collector	N/A	Annually	MTR109340
Peterbilt	4867 Technology	Shiloh Kerr	Jackson	7	Grant Creek	0.4	NO	Commercial LD	N/A	N/A	MTR109508
Prospect Yard	9224 Roller Coaster	Stan Dougdale	Prospect	1.2	Grass Valley Ditch	0.7	NO	Local RD	N/A	Annually	MTR109438
Running W PH 3	Subdivsion	Cody Petersen	Peterson Contracting	14.5	OKeefe Creek	N/A	N/A	Low density Residential	N/A	Annually	MTR109219
Running W PH2A	Subdivision	Cody Petersen	Peterson Contracting	5.5	OKeefe Creek	N/A	N/A	Low density Residential	N/A	Annually	MTR108749
SAZ YAKIS SITE DEVELOPMENT	7390 DESCHAMPS LANE	Jacob Zimmerman	Unknown	8	Grass Valley Ditch	0.6	NO	Low Density Commercial	N/A	N/A	MTR109755
Spalding Auto	9919 Garrymore	Chris Brown	Reveal Excavating	2	Grass Valley Ditch	0.6	NO	Commercial LD	N/A	N/A	MTR108153
TECE Truck Wash	9200 Stainless Way	Unknown	Unknown	5	OKeefe Creek	1.25	NO	Commercial LD	N/A	N/A	MTR106994
New Meadows Trail System	Mullan RD	Missoula County	U of M Tech	8.91	Dourth Ditch	8.91	NO	Public	N/A	Annually	MTR110807
Montana Knife Company	8659 Robbins Road	Kelly Youbles	3RL	2	OKeefe Creek	2	NO	Commercial LD	N/A	N/A	MTR110939
The Dairy	Subdivision North Ave	PCI	Unknown	9.5	Missoula Irrigation Ditch	9.5	NO	Residential LD	N/A	N/A	MTR110069

	Closed	
	Low Priority	
	High Priority	
	Title	

MCM 5.d.i – Missoula County Response

Incorporate recommendations and requirements into plans, policies, and ordinances which allow and support utilization of LID (low impact development) concepts and green infrastructure on public and private property.

Assess and document existing ordinances, policies, programs, and studies to identify whether the following LID concepts (both structural and non-structural BPMs) 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
- Minimizing and/or increasing open space
- Providing buffer along sensitive water bodies
- Minimizing impervious surfaces
- Minimizing disturbance of soils and vegetation

Missoula County Subdivision Regulations Examples

Missoula County Subdivision Regulations (MCSR)

- Prior to approval of a preliminary plat/plan, all resources on the site shall remain unaltered, including but not limited to, historic, cultural, archeological, agricultural land, and natural resources. Riparian vegetation within a Riparian Resource area and agricultural soils shall not be damaged or removed prior to approval of the preliminary plat/plan (Section 1.7.1).
- New subdivisions shall be designed to preserve natural drainages and minimize impervious surfaces. Existing topsoil, trees, and natural vegetation shall be preserved to the maximum extent practical. (Section 3.1.2.1)
- Subdivision design and development shall conform to the general landforms and topography and minimize alteration to the natural landscape (Section 3.1.2.3).
- Any land alteration including roads, utilities, or other form of development related to a subdivision shall be prohibited in flood hazard areas (Section 3.1.3.6.A.1).
- Flood hazard areas shall not be included within platted lots that are designated for development. Flood hazard areas shall be designated for common area, open space or agricultural uses. Flood hazard areas shall be owned and managed by a Homeowners' Association or a governmental entity (Sections 3.1.3.6.B.1-3).
- Subdivisions shall be designed to prevent stormwater runoff from subdivision lots and roads, and lawn watering from draining into agricultural water facilities or onto agricultural land (Section 3.1.4.2.B.1)
- The Missoula County Subdivision Regulations require protection of riparian resource areas, including for sediment filtration and to support water quantity

and quality. Development and disturbance is prohibited unless expressly approved as part of a plan (Section 3.2.4.1).

- Major subdivisions shall be designed to include riparian resources in the subdivision common area and to preserve the area with an irrevocable covenant that prohibits further subdivision and development of the area. Minor subdivisions may be designed to include riparian resources in lots that are proposed for development provided the riparian areas are designated as no-build areas (Section 3.2.4.2).
- Road designs must minimize riparian area impacts, include the requirement for perpendicular crossings to minimize impact (Section 3.2.5).
- Road alignment shall be designed to maximize use of open areas and minimize removal of vegetation. Roads shall be constructed on soils that are not susceptible to erosion and will avoid sedimentation and pollution runoff into water bodies. Crossings of streams, lakes, wetlands or other water bodies must occur at perpendicular angles to minimize disturbance of the riparian resources. The sidecasting of road material into a stream, lake, wetland, or other body of water during road construction or maintenance is prohibited. Effective erosion and sedimentation control practices shall be conducted during all clearing, construction, or reconstruction operations. Road fill material shall not be deposited in the riparian resources or in a location that creates adverse impacts to the riparian resources (Section 3.2.5).
- Section 3.7 is specific to stormwater management, grading, and erosion control. It requires a grading and drainage plan for all subdivisions (Section 3.7.2), and preservation of natural drainage ways (Section 3.7.3).
- Missoula County requires design of stormwater to the higher standard of the 100 year/24 hour storm (Section 3.7.4), and appropriate grading and erosion control in all areas within the subdivision (Sections 3.7.10-3.7.12).
- All stormwater facilities and graded areas shall be protected from erosion or silt deposition and seeded to reestablish beneficial vegetation. A revegetation plan shall be required pursuant to Section 17, Seeding and Weed Management, of the Missoula County Public Works Manual, as amended (Section 3.7.11).

Missoula County Zoning Regulations (effective September 14, 2023) Examples

- Three zoning districts emphasize open space and natural resource protection:
  - RESOURCE AND OPEN LANDS: The purpose of this district is to protect natural landscapes, waterways, and fish and wildlife habitat and minimize risks to public health and safety.
  - AGRICULTURE, RESERVE (AGR): The purpose of this district is to protect prime agricultural soils that support a diverse local and regional agricultural economy. This zone is characterized by large farm tracts and intact agricultural landscapes, mediated by the availability of irrigation.

Land use and development is limited to agriculture and associated activities incidental to and supportive of agricultural use that are designed and managed in a way that protects natural resources, public health, and critical fish and wildlife habitat. Minimum lot size = 40 acres.

- AGRICULTURE, WORKING (AGW): The purpose of this district is to conserve the integrity and quality of the rural character. This district provides opportunities for a rural residential lifestyle that may include income generation from agriculture and natural resource-based industries. There is limited infrastructure and few services as the emphasis in this zone remains focused on protecting the functionality of the natural environment as well as promoting public health and safety through site design and conservation development measures. Minimum lot size = 40/80/160 acres.

- Hillside and Ridgeline standards (Section 7.1)
  - Drainage systems must be preserved and incorporated as an integral part of the project design and should appear and function as an essential part of the environment to the greatest extent possible to meet the objectives of this section. Drainage channels and ditches must follow the existing drainage patterns to the extent possible or be otherwise placed in inconspicuous locations and receive a naturalizing treatment to avoid excessive erosion resulting from the runoff of pollutants into waterways. Such treatments may include native rock, colored concrete, and landscaping so that they appear as an integral part of the environment (General Standards, Subsection 7).
- Missoula County Zoning Regulations Section 7.2 ensures that site grading and the control of stormwater runoff, both quantity and quality, comply with the Missoula County Public Works Manual and the Subdivision Regulations. Design standards include stabilization of cleared areas with vegetation, and encouragement of natural and vegetated stormwater management systems. Residential parcels under acre may be required to utilize additional drainage and erosion control considerations if impervious area exceeds 35 percent.
- Riparian Resource Protection (Section 7.4).
  - Buffers are prescribed for riparian areas (Section 7.4(D)), ranging from 50 feet for wetlands, to 75 feet for smaller prescribed streams, to 450 feet for the Clark Fork and Bitterroot Rivers.
- Conservation Design Development (Section 9.3)
  - The goal of conservation design includes preservation of important agricultural soils, protection of water bodies or riparian resources, protection or enhancement of wildlife habitat and corridors, including nongame wildlife habitat, preservation of important public viewsheds and protection/enhancement of rural character, connection of public accesses non-motorized facilities to public parks, trails, open space lands, and water bodies where applicable, and conservation of historic sites and archeological resources (Subsection C1, Resource Protection standards).

- Low-Impact Stormwater Development (LID) for stormwater management shall be incorporated into the conservation design development plan. Conservation land area set asides cannot be used for stormwater management necessary for the developed areas (Subsection D3, areas dedicated to development).
- Total project site land area dedication requirements range from 30% to 90%, allowing potential increases in base density that range from 140% to 200% (Table 1, conservation area requirements).
- Agricultural soils set-asides range from 50% to 90%, allowing potential increases in base density that range from 200% to 500% (Table 2, conservation area requirements).

Missoula Valley Water Quality Code

A local municipal code applicable to areas 5 miles outside City of Missoula limits is intended to protect the public health, safety, and general welfare of those who depend on the Missoula Valley Aquifer and surface waters in the Missoula Valley. This code targets industries, businesses, and activities that have the potential to pollute Missoula's Aquifer. This code is not specifically focused on residential development but any sediment tracking or non-allowable discharges leaving construction sites would be a violation of our code. The code has number of prohibitions related to stormwater infrastructure and practices aimed to prevent non-point source pollution. Therefore as per Chapter 13.26 MMC, it is unlawful for a person to:

- Cause contamination or to place, cause to be placed, or allow to remain in place any substance in a location where it is likely to cause contamination of soil, groundwater or surface water.
- Discharge anything that does not meet the definition of stormwater or an Allowable Non-Stormwater Discharge to a municipal separate storm sewer system.
- Discharge stormwater from Vehicle Fueling Areas to storm drains (dry wells or inlets piped to outfalls).
- Discharge stormwater from Tank Fueling Areas directly to storm drains (dry wells or inlets piped to outfalls

Acceptable alternatives to the final bullet above includes green infrastructure including vegetated filtration, swales, and other low impact development systems designed for pollutant removal.

In addition to the District code, during the process of subdivision review, recommendations and considerations related to groundwater and surface water pollution, local hydrogeology concerns, and aquifer protection are made by District staff.

Standard Operating Procedures

For county owned facilities in County MS4

MS4 Coordinator 12/10/24

Contents

1 Abstract

Missoula County is a designated small Municipal Separate Storm Sewer System (MS4) owner and operator under the Montana Pollutant Discharge Elimination System (MPDES) Phase II Stormwater Program. Within the State of Montana, the MPDES Phase II program is administered by the Montana Department of Environmental Quality (DEQ). Each designated MS4 owner or operator must apply to the DEQ for coverage to discharge stormwater from the MS4 to waters of the State.

One of the requirements for MS4 permit coverage is for Missoula County to develop pollution prevention/good housekeeping practices for permittee operations. The permittee is required to develop and implement an operations and maintenance program, which includes a training component that has the goal of preventing or reducing pollutant runoff form permittee operations. According to the regulations, the operator of a regulated Municipal Separate Storm Sewer System (MS4) community must develop a program to:

- Maintain an inventory of permittee owned/operated facilities and activities that have the potential to release contaminants to the MS4, including possible contaminant(s) from each facility/activity and the local department(s)/position(s) responsible for pollution prevention with each facility/activity.
- Develop standard operating procedures to prevent or reduce the amount of stormwater pollution generated by municipal operations and conveyed into receiving State waters.
- Train employees on procedures to incorporate pollution prevention/good housekeeping techniques into County operations.

This document presents a summary of County facilities, best management practices (BMPs), good housekeeping, and training procedures, to be employed by the County to reduce the potential for polluting or negatively impacting local receiving waters from stormwater runoff.

The intent of this document is to ensure that municipal practices are performed in ways that will minimize contamination of storm drainage discharges to receiving waters. As the permittee, it is important that the county's own operations minimize contamination of stormwater discharges and serve as a model for the entire regulated area.

The manual is outlined to provide pollution awareness to County employees regarding operations and maintenance activities. The MS4 Program manager will work with County Departments and develop schedules for the implementation of the recommendation based on the availability staffing, resource, and budgets.

2. County owned facilities In County MS4

a. Office facilities

- 4900 Technology CT (Building leased to AT&T)
- 6089 Training DR Public Works Shop (Not in County MS4)

Office Potential Pollutants Summary									
Facility Activity	Potential Pollutants								
	Sediments	Nutrients	Trash	Metals	Bacteria	Petroleum products	Organic material	Pesticides / Herbicides	HAZMAT
Building R&M and Operations			x	x	x	x	x		x
Parking lot and Grounds R&M	x	x	x	x	x	x	x	x	x
Landscaping	x	x			x		x		
Vehicle Parking and storage			x	x		x	x		x

b. Well Facilities

- El Mar Water district RSID 916
  - 8665 Pheasant DR
  - 8320 Mourning Dove DR
  - 8108 Pheasant DR
  - 7619 Mullan RD

Sewage and Well Potential Pollutants Summary									
Facility Activity	Potential Pollutants								
	Sediments	Nutrients	Trash	Metals	Bacteria	Petroleum products	Organic material	Pesticides / Herbicides	HAZMAT
Building R&M			x	x		x	x		x
Parking lot and Grounds R&M	x	x	x	x	x	x	x	x	x
Landscaping	x	x			x		x		
Vehicle Parking			x	x		x	x		x
Solid waste handling and disposal	x	x	x	x	x	x	x	x	x
Small equipment R&M						x	x		x
Chlorine, other HAZMAT									x

c. Mine Facilities

- 9890 Highway 10 W Mining facility
- 5738 Training DR Public Works topsoil pile

Mine Facility Potential Pollutants Summary									
Facility Activity	Potential Pollutants								
	Sediments	Nutrients	Trash	Metals	Bacteria	Petroleum products	Organic material	Pesticides / Herbicides	HAZMAT
Building R&M			x	x		x	x		x
Parking lot and Grounds R&M	x	x	x	x	x	x	x	x	x
Landscaping	x	x			x		x		
Vehicle Parking			x	x		x	x		x
Storage of Materials (gravel, ext)	x	x		x		x	x		x
Small equipment R&M						x	x		x
Large equipment Fueling R&M			x	x		x			x

d. Vehicle recycling facilities

- 8280 Deschamps LN Missoula public health Vehicle recycling program

Vehicle Recycling Potential Pollutants Summary									
Facility Activity	Potential Pollutants								
	Sediments	Nutrients	Trash	Metals	Bacteria	Petroleum products	Organic material	Pesticides / Herbicides	HAZMAT
Building R&M			x	x		x	x		x
Parking lot and Grounds R&M	x	x	x	x	x	x	x	x	x
Vehicle Parking			x	x		x	x		x
Vehicle fluids; glycol, oil, ext.			x	x		x			x
Small equipment R&M						x	x		x
Large equipment Fueling R&M			x	x		x			x

e. Parks and open space

Mullan Area

- New Meadows Park
- Golden West Park
- Utility Parcel
- Council Hill Park
- Kestrel Park
- Development Park Trail

Orchard homes

- 3417 Kerwald (retired)

Target range

- Big Sky Park
- Mulberry Park
- Double R acres park
- Capy Court Park
- Rose-crest Park
- Schmautz Park

Miller Creek

- Ravenwood Park
- Meriweather Park
- Bridge Park
- Raelene Park
- C bar C estates Park
- Mockingbird Park
- Kelsey Park

East Missoula

- East Missoula Lions Park
- Hidden Heights Park

West Riverside

- West Riverside Park
- McDowell Park

Park Potential Pollutants Summary									
Facility Activity	Potential Pollutants								
	Sediments	Nutrients	Trash	Metals	Bacteria	Petroleum products	Organic material	Pesticides / Herbicides	HAZMAT
Building R&M			x	x		x	x		x
Parking lot and Grounds R&M	x	x	x	x	x	x	x	x	x
Landscaping	x	x			x		x		

f. County owned Facilities in City of Missoula MS4 omitted from County report.

1. Public works facility and shop
2. County jail
3. Temporary housing
4. Partnership health care
5. County Health department
6. Risk and benefits
7. County courthouse and surrounding offices
8. Fairgrounds
9. County records Office
10. Mine site at 7550 miller creek RD
11. Larchmont Golf course
12. South avenue park
13. Fort Missoula
14. Scotty Park
15. Invermere Park
16. 6700 Butler Creek. Animal control Facility
17. County owned properties operated by others
    a. 4751 Sunnyside CT. Sunny Meadows Water and Sewer District
    b. 1850 Ola DR. Sunny Meadows Water and Sewer District
    c. 4900 Technology Way. (Building) AT&T

3. Best Management Practices

a. Building Repair and Maintenance

Description of Pollutant Source

Stormwater runoff from building maintenance activities can be contaminated with petroleum products in solvents, suspended solids, heavy metals, waste debris, trash, and corrosive agents. Waste wash water from building cleaning activities contains pollutants that can wash into the stormwater drainage system.

Pollution Prevention Approach

- Employee education
- Facility inspections
- Cover and/or contain the maintenance activity
- Convey waste wash water to sanitary sewer
- Store waste debris and trash in designated area or in solid waste container
- Recycle residual paint, solvents, lumber, and other material as much as possible
- Implement good housekeeping spill response methods

Best Management Practices

- Know the facilities runoff patterns and stormwater management system.
- Clean up spills promptly; keep spill kit nearby.
- Choose cleaning agent that can be recycled.
- Use non-toxic chemicals for maintenance when possible.
- Cover dumpsters or keep them undercover to prevent the entry of stormwater. Replace or repair leaking garbage dumpsters. Drain dumpster pads to sanitary sewer. Keep dumpster lids closed.
- Sweep paved area regularly to collect loose particles and wipe up spills with rags and other absorbent materials immediately; do not hose down the area to a storm drain.
- Do not dump any toxic substance or liquid waste on the pavement, the ground, or toward a storm drain.

Pressure Washing of Buildings and Other Larger Objects

Cleaning methods other than pressure washing will be used when feasible. If pressure washing needs to be used the following practices will be followed:

i) When the surrounding area is paved use wastewater collection devices or filters that enable collection of wash water and associated solids. A collection device can be a sump pump and wet vacuum used to collect the runoff and loose materials. A filter can consist of filter fabric or a small mesh screen.

ii) When the surrounding area is grassed, runoff must be dispersed as sheet flow. The wash runoff must remain on the grass and not drain to pavement.

Painting

- Use ground or drop cloths underneath outdoor painting, scraping, and sandblasting work, and properly dispose of collected material daily.

- Clean paintbrushes and tools covered with water-based paint in sinks connected to sanitary sewer. Brushes and tools covered with non-water-based paints, finishes, or other materials must be cleaned in a manner that enables collection of used solvents (e.g., paint thinners, turpentine, etc.) for recycling or proper disposal.

Inspection

Facilities and storage areas are entered and inspected daily to ensure pollutants sources are contained and best management practices are in place.

b. Parking and Grounds Maintenance and Repair

Description of Pollutant Source

Stormwater runoff from grounds maintenance activities and parking lots can be contaminated with Petroleum products, suspended solids, heavy metals, oils and grease, trash, and nutrients.

Pollution Prevention Approach

- Employee education
- Facility inspections
- Encourage proper landscaping and pest management techniques
- Encourage proper onsite reuse and recycling of yard waste material
- Use dry cleanup methods
- Implement good housekeeping spill response methods

Best Management Practices

- Know the facilities runoff patterns and stormwater management system.
- Clean up spills promptly; keep spill kit nearby.
- Use less-toxic chemicals for maintenance when possible.
- Sweep paved areas regularly to collect loose particles and wipe up spills with rags and other absorbent materials immediately; do not hose down the area to a storm drain.
- Do not dump any toxic substance or liquid waste on the pavement, the ground, or toward a storm drain.
- Maintain solid waste containers. Empty on-site solid waste containers weekly. Do not over fill the container capacity.
- Pick up and dispose of debris and trash around at the facility.

Landscaping Management Activities

- Do not apply any chemicals (insecticide, herbicide, or fertilizer) directly to surface waters.
- When chemicals are used for grounds maintenance, they will be waterway safe.
- Dispose of grass clippings, leaves, sticks or other collected vegetation as garbage, as compost, or designate for reuse. Do not dispose of collected vegetation into waterways or storm drainage systems.
- If the area is irrigated, check the irrigation schedule so chemicals will not be washed away and to minimize non-stormwater discharge.

- Check the weather forecast; do not apply chemicals within 24 hours of a rain event.
- Use mulch or other erosion control measures (i.e., mats, wattles, etc.) when soils are exposed.
- When possible, material will not be stockpiled and will be hauled off at the end of the day. If stockpiling is needed the following practices will be followed:
  - Place temporary stockpile material away from water course or storm drain inlet, and berm around or cover stockpiles to prevent release to the storm drain system.
- Use hand or mechanical weeding where practical.

Fertilizer and Pesticide Management

- Follow manufacturer's recommendations and label directions.
- Do not apply pesticide or fertilizers within 100 feet of surface waters or well heads.
- Calibrate fertilizer distributors to avoid excessive application.
- Apply pesticides only when wind speed in the area is low.
- Work fertilizers into the soil rather than dumping or broadcasting them onto the surface.
- If irrigating, irrigate slowly to prevent runoff.
- Dispose of empty pesticide containers according to the instructions on the container label.

Parking Lot Management

- Keep the parking areas clean and orderly. Remove debris in a timely fashion.
- Use dry cleaning methods such as sweeping and vacuuming to prevent the discharge of pollutants into the stormwater conveyance system.
- Sweep all parking lots before the spring wet season and prior to winter snow.
- When cleaning heavy oily deposits, use absorbent materials prior to sweeping.
- Dispose of used absorbent material in a solid waste container.

Inspection

Parking and grounds maintenance areas are visually inspected on a weekly basis by County personnel.

c. Solid Waste Handling and Disposal

Description of Pollutant Source

Improper storage and handling of solid waste can allow toxic compounds, oils and grease, heavy metals, nutrients, suspended solids, trash, and other pollutants to enter stormwater runoff.

Pollution Prevention Approach

- Employee education
- Facility inspections
- Cover storage containers
- Store waste debris and trash in designated area or in solid waste container
- Recycle materials whenever possible.

- Implement good housekeeping spill response methods

Best Management Practices

- Know the facilities runoff patterns and stormwater management system.
- Clean up spills promptly; keep spill kit nearby.
- Cover storage containers with leak proof lids, cover all waste piles and use a berm when required to prevent runoff into storm drain systems.
- Inspect storage container for leaks and replace any that are leaking, corroded, or otherwise deteriorated.
- Sweep and clean the storage area regularly. Do not hose down the area to a storm drain.
- Dispose of rinse and wash water from cleaning waste containers into sanitary sewer. Do not discharge waste wash water to the street or storm drain.
- Take special care when loading or unloading waste to minimize losses. Pick up fallen waste and place in waste container.
- Provide enough solid waste containers for the facility.
- Keep waste collection areas clean by sweeping and cleaning up spills immediately.
- Do not fill waste container with washout water or any other liquid.
- Place solid waste containers in areas that do not directly drain into the stormwater system.
- Prohibit littering by workers and visitors.
- Do not allow trash containers to overflow.

Inspection

Conduct weekly inspections of solid waste storage areas. Inspection will be performed by designated County personnel. Inspection check lists for each facility will be developed for site inspections.

d. Equipment Maintenance and Repair

Description of Pollutant Source

Equipment maintenance and repair is a significant source of stormwater pollution, due to the use of materials and wastes created that are harmful to humans and the environment. Pollutant sources include parts cleaning, spill/leaks of equipment liquids, replacement of fluids, equipment washing, and outdoor storage of batteries.

Pollution Prevention Approach

- Employee education
- Recycle used motor oil, diesel oil, other maintenance liquids, and batteries
- Control leaks and spills using good housekeeping spill response, cover, and containment practices

Best Management Practices

- Know the facilities runoff patterns and stormwater management system.

- Do not perform maintenance and repair activity directly over or next to the storm drain system.
- Do not pour materials down drains or hose work areas; use dry absorbent and sweeping.

Material and Waste Handling

- Collect leaking or dripping fluids in drip pans or containers. Fluids are easier to recycle if kept separated.
- Do not dispose of oil and gas filters in trash cans or dumpsters. Drain excess oil before disposal. Oil filters can be recycled.

Maintenance and Repair Activities

- If temporary work is being conducted outside: Place a tarp, ground cloth, absorbent material, or drip pans beneath the equipment to capture all spills and drips. The collected drips and spills must be disposed, reused, or recycled properly.
- If possible, perform all fluid removal or changing inside or under cover to prevent the run-on of stormwater and the runoff of spills:
  a. Keep a drip pan underneath equipment that might leak while work is being performed.
  b. Promptly transfer used fluids to the proper waste or recycle drums.
- If equipment is being stored outdoors, oil and other fluids will be checked for leaks.
- Monitor equipment closely for leaks and place pans under any leak to collect the fluids for proper disposal or recycling.
- Do not mix dissimilar or incompatible waste liquids stored for recycling.

Parts Cleaning

- Clean vehicle parts without using liquid cleaners whenever possible to reduce waste.

Inspection

Visual inspection will be conducted at the conclusion of the repair or maintenance activity to ensure all pollutant sources are removed or cleaned and that all best management practices are in place.

e. Vehicle Parking and Storage

Description of Pollutant Source

Vehicle parking and storage areas can contribute pollutants to the storm drainage system such as trash, suspended solids, Petroleum products, and heavy metals. Spills and leaks that occur are collected in the runoff and transported to the storm drain system.

Pollution Prevention Approach

- Employee education

- Facility inspections
- Implement good housekeeping spill response methods

Best Management Practices

- Know the facilities runoff patterns and stormwater management system.
- Clean up spills and leaks promptly; know the spill kit locations. Spills are not cleaned up until the absorbent is picked up and disposed of properly. Report large spills to the supervisor.
- Sweep and clean the storage area regularly. Do not hose down the spill area or absorbent material into a storm drain.
- Report leaking vehicles to fleet maintenance.
- If equipment is being stored outdoors for long periods of time, oil and other fluids should be drained.
- Monitor vehicles closely for leaks and place drip pans under any leak to collect the fluids for proper disposal or recycling.
- Keep the parking and storage areas clean and orderly.
- Sweep all parking areas a minimum of once a month.

Inspection

Vehicle parking and storage areas are visually inspected on a weekly basis by County personnel.

f. Outdoor Storage of Raw Materials Such as Asphalt, Sand, Gravel, Concrete, Topsoil, Mulch, Compost, Landscape Maintenance Waste

Description of Pollutant Source

The improper storage of materials outdoors can directly lead to the pollution of local receiving waters. Raw material, by-products, and products such as gravel, sand, salts, topsoil, compost, sawdust, wood chips, building materials, concrete, and metal products are typically stored outside in large piles and stacks. Stormwater can become contaminated when material washes off or dissolves into stormwater.

Pollution Prevention Approach

- Employee education
- Facility Inspections
- Manage inventory of raw material
- Site management of raw material with signs and material designated locations

Best Management Practices

- Know the facilities runoff patterns and stormwater management system.
- Store raw material under cover and bermed or enclosed and bermed to prevent stormwater contact.

    - Physical barriers such as curbs, silt fencing, or jersey barriers can be used to prevent material migration to stormwater systems.
    - For large stockpiles that cannot be covered, implement containment practices at the perimeter of the site to prevent discharge of the material offsite or to a storm drain.
- Store raw material in an area where direct runoff from the material will not enter the stormwater system. Do not store raw material close to storm drain inlets or by drainage conveyance swales.
- Keep storage areas swept and dry. Sweep areas regularly for collection and disposal of loose solid materials.
- Store raw material on asphalt or concrete surfaces when feasible.
- Cover treated wood products and metal products with tarps or store indoors.
- Prevent run-on of uncontaminated stormwater from adjacent areas from contacting raw material.

Inspection

Outdoor storage areas are visually inspected on a weekly basis by County personnel.

g. Hazardous Materials Management-used oil, antifreeze, used batteries

Description of Pollutant Source

The improper disposal, handling, and storage of used oil, solvents, paints, antifreeze, batteries, and cleaners can allow runoff to come in contact with pollutants and discharge into the storm drainage system.

Pollution Prevention Approach

- Employee education
- Facility inspections
- Recycle used motor oil, diesel oil, other maintenance liquids, and batteries
- Designate hazardous material storage locations
- Reduce the amount of waste generated by using source controls
- Control leaks and spills using good housekeeping spill response, cover, and containment practices

Best Management Practices

- Know the facilities runoff patterns and stormwater management system.
- Clean up spills and leaks promptly; know the spill kit locations. Spills are not cleaned up until the absorbent is picked up and disposed of properly. Report large spills to the supervisor.
- Designate a location for waste storage and disposal areas. The location should not have any connection to the storm drain system or direct connection to the sanitary sewer. The area should allow for easy cleanup of drips and spills, and be under a cover whenever feasible.
- Do not pour materials down drains or hose work areas; use dry absorbents and sweeping.
- Minimize the use of waste material. Manage waste amounts by buying only the amount needed to complete the activity.
- Recycle used motor oil, diesel oil, and batteries.

Storage

- Segregate potentially hazardous waste from nonhazardous waste.
- Keep chemicals in appropriate containers and under cover.
- Ensure all containers are properly labeled and secure. All containers containing used products should be clearly and correctly labeled, identifying the material stored within the container.
- Do not mix dissimilar or incompatible waste liquids stored for recycling.
- Inspect containers for leaks and ensure that lids are on tightly. Immediately replace any containers that are leaking, corroded, or otherwise deteriorating.
- Store chemicals away from storm drainage systems including ditches, catch basins, and manholes.
- All pollutant containers with a storage capacity greater than 15 gallons should have secondary containment.

Material and Waste Handling

- Minimize water usage during paint wash-up. Dispose of paint wash water with other liquids waste. Do not dispose of wash water in or near storm drainage systems.
- Retain and use all products such as paint, thinners, and so on until supplies are depleted.
- Allow water-based paint rollers, drop clothes, and cans less than a third full to completely dry then discard into solid waste containers.
- Any minor spill of wastes or product that occurs during transfer to storage containers should be cleaned up immediately.

Inspection

Hazardous material management areas are visually inspected on a weekly basis by County personnel.

h. Landscape Maintenance

Description of Pollutant Source

Landscape maintenance activities include vegetation removal, herbicide and insecticide applications, fertilizer and pesticide application, grading, excavations, and watering. All of the listed maintenance activities have the potential to contribute pollutants to the storm drain system.

Pollution Prevention Approach

- Employee education
- Facility inspections
- Encourage proper landscaping and pest management techniques
- Encourage proper on-site reuse and recycling of yard waste material
- Implement good housekeeping spill response methods

Best Management Practices

- Know the facilities runoff patterns and stormwater management system.
- Clean up spills promptly; keep spill kit nearby.
- Use less-toxic chemicals for maintenance activities when possible.

- Sweep paved areas regularly to collect loose particles and wipe up spills with rags and other absorbent materials immediately; do not hose down the area to a storm drain.
- Do not dispose of collected vegetation into waterways or storm drainage systems.
- Dispose of grass clippings, leaves, sticks or other collected vegetation by
- composting, if feasible. Alternatively, grass clippings may be broadcast and used as
- mulch.
- If possible, raw materials will not be stored on site overnight. If needed, store raw
- material in an area where direct runoff from the material will not enter the
- stormwater system. Do not store raw material close to storm drain inlets or by any
- watercourse.

Landscaping Management Activities

- Dispose of grass clippings, leaves, sticks or other collected vegetation as garbage or by composting. Alternatively, grass clippings may be broadcast and used as mulch.
- Do not dispose of collected vegetation into waterways or storm drainage systems.
- Check the irrigation schedule so chemicals will not be washed away and to minimize non-stormwater discharge.
- Use mulch or other erosion control measures when soils are exposed.
- Use hand or mechanical weeding where practical.
- Sweep area around excavation sites to remove sediments from asphalt and concrete surfaces.

Fertilizer, Herbicide, and Pesticide Management

- Follow manufacturer's recommendations and label directions for application rates and dosage.
- Do not apply any chemicals (insecticide, herbicide, or fertilizer) directly to surface waters.
- Do not apply pesticide, herbicide, or fertilizers within 10 feet of surface waters and within 100' of a Well Head.
- Check the weather forecast; do not apply chemicals within 24 hours of a rain event.
- Calibrate fertilizer distributors to avoid excessive application.
- Apply pesticides only when wind speed in the area is low.
- Reduce the use of high nitrogen fertilizers that produce excess growth requiring more frequent mowing or trimming.
- Work fertilizers into the soil rather than dumping or broadcasting them onto the surface.
- Irrigate slowly to prevent runoff.
- Dispose of empty pesticide containers according to the instructions on the container label.

Inspection

- Landscape maintenance areas are visually inspected on a weekly basis by County personnel.

I. Vehicle and Equipment Washing

Description of Pollutant Source

Wash water from vehicle and equipment cleaning activities can contain oil and grease, suspended solids, heavy metals, soluble organics, soaps, and detergents.

Pollution Prevention Approach

- Employee education
- Facility inspections
- Conduct washing activity at designated vehicle wash areas
- Implement good housekeeping spill response methods

Best Management Practices

- Know the facilities runoff patterns and stormwater management system.
- Clean up spills and leaks promptly; know the spill kit locations. Spills are not cleaned up until the absorbent is picked up and disposed of properly.
- Report large spills to the supervisor.
- Conduct vehicle equipment washing in one of the following locations:
- At the Public Works shop in the vehicle wash building,
- At the Public works shop in the outdoor vehicle wash area, or
- At a commercial vehicle washing facility.
- Waste wash water CANNOT runoff to the stormwater drainage system.
- Clean Waste wash water basins at Public Works Shop every six months or more if needed.

Inspection

Vehicle and equipment washing areas are visually inspected on a weekly basis by county personnel.

4. Map of County owned properties in MS4, City or County

5. Training

As part of the County's training program all new employees that are essential to the MS4 program will be provided BMP training though or Safety & Training Coordinator. Additional storm water training for current staff will be provided as necessary and as required by the MS4 General Permit Conditions.

Date	Sweeper Number	Number of Loads (5.5 cubic yards each)	Total Volume
3/12/2024	228	5	27.5
3/12/2024	226	2	11
3/13/2024	228	2	11
3/13/2024	220	1	5.5
3/13/2024	226	3	16.5
8/7/2024	228	2	11
8/7/2024	226	3	16.5
9/17/2024	220	8	44
9/18/2024	228	9	49.5
9/18/2024	220	7	38.5
9/19/2024	228	7	38.5
9/19/2024	220	6	33
9/23/2024	228	5	27.5
9/23/2024	220	4	22
			0
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			0
			0
			0
			0
			0
			0
			0
			0

Total for area 352

220 - 300 GALS
225 - 250 GALS
226 - 250 GALS
228 - 240 GALS

SAFETY TRAINING AGENDA

Missoula County Public Works- Water/Wastewater

Date: 12/13/2023 @ 1:00PM
Topic: MS4 Training- BMPs, IDDE, MCM 6 Training Requirements
Conducted By: Kim Adamo

1. Standard Operating Procedures for County owned facilities in the County MS4
    a. County Facilities
    b. Best Management Practices
    c. Map of County owned facilities within City & County MS4
    d. Training
2. Missoula's Storm Water General Permit
    a. Public education and outreach
    b. Public involvement/participation
    c. Illicit discharge detection and elimination
    d. Construction site runoff control
    e. Post construction runoff control
    f. Pollution prevention/good housekeeping
3. Best Management Practices Training video (20 minutes)
    a. 7 outdoor activities that could potentially pollute stormwater runoff
        i. Vehicle and equipment washing
        ii. Vehicle and equipment maintenance
        iii. Good housekeeping and spill prevention
        iv. Spill reporting and response
        v. Street maintenance
        vi. Outdoor storage
        vii. Landscaping and lawncare
4. Illicit Discharge Detection & Elimination Video (15 minutes)
5. 21 Question Quiz
6. Questions/Comments

Missoula COUNTY

Department & Division: Public Works Water/Wastewater **Date:** 12/13/2023

Training: MS4 Training- BMPs, IDDE, MCM 6 Training Req. **Start:** 1:00pm

Trainer: Kim Adamo **End:** 2:00pm

Print Name:	Signature:
David Sheldon	
Jasen Neese	
GREG EVISON	
Tami Quinn	
Kelly McKeehan	
Kim Adamo	

Facilities Department

SAFETY MEETING AGENDA

Date: 2/20/2024 @ 9:30AM
Topic: MS4 Training- BMPs, IDDE, MCM 6 Training Requirements
Conducted By: Kim Adamo

1. Standard Operating Procedures for County owned facilities in the County MS4
    a. County facilities
    b. Best management practices
    c. Training
2. Missoula's Storm Water General Permit
    a. Public education and outreach
    b. Public involvement/participation
    c. Illicit discharge detection and elimination
    d. Construction site runoff control
    e. Post construction runoff control
    f. Pollution prevention/good housekeeping
3. Best Management Practices Training video (20 min)
    a. 7 outdoor activities that could potentially pollute stormwater runoff
        i. Vehicle and equipment washing
        ii. Vehicle and equipment maintenance
        iii. Good housekeeping and spill prevention
        iv. Spill reporting and response
        v. Street maintenance
        vi. Outdoor storage
        vii. Landscaping and lawncare
4. Illicit Discharge Detection & Elimination Video (15 min)
5. 20 Question Quiz
6. Questions/Comments

Missoula COUNTY

Department & Division: Facilities Department **Date:** 2/27/2024

Training: MS4Training- BMPs, IDDE, MCM 6 Training Req. **Time:** 9:30am

Trainer: Kim Adamo

Print Name:	Signature:
Carey Sundberg	
Steve Funston	
Loren Leiby	
Kurtis Howell	
Randy Wright	
Weston Wade	
David Sheldon	
Bill Thompson	
John DeYoung	
Brad Smalley	
Rick Goldsby	
Wade Baughman	
Jim Sparks	
Travis Phillips	
Casey Macy	

Print Name:	Signature:
Jess Ebel	Jess Ebel
CARL	