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

Agency Use
Permit No.: MTR04
Date Rec'd
Amount Rec'd
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 0 0 0 8
Small MS4 Name	Malmstrom Air Force Base
Contact Person, *(name, title)*	Shannon L. Chouinard, Environmental Engineer
Mailing Address	39 78th Street North
City, State, and Zip Code	Malmstrom AFB, MT 59402
Phone Number, Email Address	(406) 731-7148 shannon.chouinard@us.af.mil

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 See Attachment 2

Minimum Control Measure 1 & 2

Link to storm water website: https://www.malmstrom.af.mil/

List of four key target audiences:	Associated Pollutants:	Outreach strategy:
General Common Education	Sedimentation/Chemicals	Articles and Advertisments
Industrial Facilities and Ops.	Sedimentation	Industry Specific Training
Car Washing/Car	Sedimentation/Chemicals	Brochures/Advertisments
Landscapers	Sedimentation	Industry Specific Training

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

See Attachment 1

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

See Attachment 2

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: JAN 2022

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 See Attachment 1

Number of outfalls inspected during dry weather: 6 of 6 *(total number of outfalls)*

Number of high priority outfalls inspected: 4 of 4 *(total number of high priority outfalls)*

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

See Attachment 1

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 _____

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

See Attachment 1

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 _____

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: 11

Attach a summary of any resulting actions taken from inspections. ☒ Attached ☐ Not Applicable See Attachment 1

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 _____

Year 2025 only: Submit a plan to modify relevant codes, ordinances, policies, and/or programs to implement LID/green infrastructure concepts. ☒ Attached ☐ Not Attached See Attachment 1

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

Number of SOPs evaluated: 23 of 23 *(total number of SOPs for permittee facilities/activities)*

Summary of SOP updates made in the last year. ☒ Attached ☐ Not Applicable See Attachment 1

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

See Attachment 1

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 See Attachment 1

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.)* See Attachment 1

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 See Attachment 2

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)	
Frederyck A. Cayer, Jr.	
Title (Type or Print) Deputy Base Civil Engineer, 341 CES/CD	Phone Number 406-731-6188
Signature CAYER.FREDERYCK.ALAN.JR.1151558654 Digitally signed by CAYER.FREDERYCK.ALAN.JR.1151558654 Date: 2025.02.13 15:20:40 -07'00'	Date Signed 13 Feb 25

* 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.

Attachment 1: CY 2024 MS4 Annual Report Responses

CY 2024 MS4 ANNUAL REPORT RESPONSES

MINIMUM CONTROL MEASURE 1 & 2

1. ATTACH DOCUMENTATION OF PARTICIPATION AND/OR FEEDBACK OF KEY TARGET AUDIENCES.

Key Target Audiences	Outreach strategy	2024 Metric
General Common Education	Cleanup Days/Events	134 personnel from the 341 CES participated in the City of Great Falls Comm-UNITY Clean-up. Their participation consisted of a total of 446 labor hours and the removal of 17K pounds of trash. 558 personnel from MAFB participated in 2 base wide clean-ups in the spring on the installation. Their participation consisted of a total of 2400 labor hours. 20 personnel from the 341 CES participated, in June, with clean-up of the Pow Wow Pond area. Their participation consisted of a total of 60 labor hours.
	Advertisements	Over a multi-week period the MAFB stormwater logo was added in the advertising rotation on the road-side marquees at the installation. The logo appears multiple times an hour and the marquee run 24 hours a day. On a given day an estimated 5798 persons of the 7247 DAF (Assigned and Dependents) & Others (NAF and Contract Employees) pass by Marquess when entering the installation.
	Informational Articles	The MAFB Public Affairs highlighted Articles on Car Washing/Sedimentation and Proper Use of Ice Melt on the MAFB Website.
	Student Outreach	On Earth Day 341 CES Environmental Element hosted an Earth Day presentation to approximately 50 children at the Malmstrom Youth Center.
Industrial Facilities & Ops	Industry Specific Training	Please see MCM 6 below for training metrics.
Car Washing/Care	Brochures	Installation housing consists of 1,116 privatized housing, 784 dorm room, and 83 billeted housing. When new personnel arrive at the Installation, they are provided a copy of the Resident's Guide to Understanding Stormwater. Last year 350 additional copies of the brochure were requested by the contractor that runs privatized housing.
	Advertisements	Please see General Common Education/Advertisements section above for metric information.
Landscapers	Industry Specific Training	Grounds maintenance personnel received MS4 Awareness training and Industrial SWPPP BMP training during CY 2024.

MINIMUM CONTROL MEASURE 3

1. SUMMARY OF INVESTIGATIONS AND CORRECTIVE ACTIONS TAKEN OVER THE PAST YEAR PER THE ILLICIT DISCHARGE AND CORRECTIVE ACTION PLAN:

MAFB had one Illicit Discharge during CY 2024.

On 14 May 24, a contractor drilled into the installation sanitary sewer force main on installation property. The pipe is owned and maintained by the installation. The contractor was working on the sanitary sewer inflow and infiltration study for CEOE in Minuteman Village. WFSMs was notified and responded to the break site. To determine the extent of the damage, the crew started to expose the pipe and dewatered the effluent into a field downstream where the break occurred (inside MAFB installation). The event was reported, as required, to the State of Montana DES Duty Officer and MAFB communicated with Department of Environmental Quality (DEQ) Duty Officer and DEQ Water Quality Enforcement. On 24 May 24 MDEQ Water Quality Enforcement sent MAFB a correspondence stating no further information for the event was required.

2. ATTACH A SUMMARY OF ANY RESULTING ACTIONS TAKEN FROM OUTFALL SCREENING RESULTS:

341 CES/CEIE inspected each of the 6 total storm water outfalls twice during dry weather in CY 2024. The water quality during all inspections appeared normal. Malmstrom continues to experience base flow during dry weather at Outfalls 1-3. This is historically normal. A study completed in 2008 determined the base flow originated from ground water drain tiles on the flightline.

The main issue plaguing the outfalls is the slide gates. Malmstrom executed an inspection and maintenance contract in 2019 to determine the status of the outfall slide gates. In summary, all the gate actuators need replaced and cannot be refurbished. The design for the project to replace the slide gate and make other outfall repairs is complete. The project is expected to be funded for construction during FY25.

Beyond the gate actuators, during the June inspections sediment in the concrete flow bays on Outfalls 1-3 was noted. 341 CES Horizontal Pavement was contacted, and arrangements were made to have the sediment removed.

MINIMUM CONTROL MEASURE 4

1. LIST OF CONSTRUCTION SITES/PROJECTS INSPECTED OVER THE LAST YEAR AND ANY RESULTING ACTIONS:

CY 2024 Construction SWPPP Inspection Summary

Inspection Date	Construction SWPPP Project	SWPPP Responsible Group	Summary of Issues
06/14/2024	**Grizzly Bend**	**341 Civil Eng. Squadron**	**NO ACTION ITEMS NOTED**
The parking lot project is complete, and no active work is underway. The landscaping portion (re-vegetation), between the building and the parking lot remains. A funding issue prevented the landscaping from occurring during the first half of the year. Monthly inspections are occurring.			
06/20/2024	**Weapons Storage Facility**	**Archer Western Const.**	**NO ACTION ITEMS NOTED**
The detention pond and flow channel that will be become a post construction feature at MAFB, upon completion of the WSF, is complete and has had two rounds of seeding applied. Weekly inspections are ongoing.			
06/24/2024	**Gravel Training Road**	**819 Red Horse Squadron**	**NO ACTION ITEMS NOTED**
There are no remaining BMPS. 1st round of re-seeding has occurred. The second round has been applied as of the time inspection time. I advised them to wait until the fall, as to not waste the effort due to the dry season. The second round is to be mainly applied to roadway shoulders. Monthly inspections are occurring.			
11/05/2024	**Grizzly Bend**	**341 Civil Eng. Squadron**	**NO ACTION ITEMS NOTED**
The parking lot project is complete, and no active work is underway. The landscaping portion (re-vegetation), between the building and the parking lot remains. A funding issue prevented the landscaping from occurring during the second half of the year. Monthly inspections are occurring.			
11/06/2024	**Gravel Training Road**	**Archer Western Const**	**NO ACTION ITEMS NOTED**
There are no remaining BMPS. 2nd round of re-seeding has occurred. Monthly inspections are occurring.			
11/15/2024	**Weapons Storage Facility**	**819 Red Horse Squadron**	**NO ACTION ITEMS NOTED**
The detention pond re-vegetation is considered complete. Final grading of disturbed areas around the site is complete and the first round of re-vegetation is to be applied in November. Weekly inspections are ongoing.			

MINIMUM CONTROL MEASURE 5

1. ATTACH A SUMMARY OF ANY RESULTING ACTIONS TAKEN FROM INSPECTIONS:

In CY 2024 (November), 341 CES/CEIE inspected post-construction storm water features on base using form SW-105 (SWMP, Attachment D). These features are all owned by Malmstrom and will therefore be maintained by the Air Force. All the post-construction features were in good operating condition.

A summary of annual inspections is shown in the table below:

CY 2024 Post-Construction Feature Inspection Summary

Feature Name	BMP Type	Summary of Issues
10th Ave North Ponds	Extended Detention	None
74th Street, Dorm Ponds	Extended Detention	None
Base Exchange	Swale with Extended Detention	None
Fitness Center Pond	Bioretention	None
Flightline Ponds	Detention/Retention	None
Tactical Response Facility	Extended Detention	None.
Outfall 3 Pond	Extended Detention	None.
Powwow Pond	Wet Detention Pond	None
Sun Plaza Park Pond	Extended Detention	None
Grizzly Bend Pond	Detention Pond	None
Missile Maint. Dispatch Facility	Hydrodynamic Separator	None

2. BY THE END OF THE THIRD PERMIT YEAR SUBMIT A PLAN TO MODIFY RELEVANT CODES, ORDINANCES, POLICIES, AND/OR PROGRAMS TO IMPLEMENT LID/GREEN INFRASTRUCTURE CONCEPTS.

The Base responsibly balances design requirements (meeting at least minimum standards) versus funding buckets (tax dollars) to maximize outcomes. To that end, the Base has previously developed specifications and actively implements them for post-construction storm water management in all applicable project contracts. The Base may opt to address additional requirements, such as:

- Infiltration, evapotranspiration, or capture of runoff from the 95th percentile rainfall event determined in accordance with EPA 841-B-09-001, Technical Guidance on Implementing the Storm Water Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act to the maximum extent technically feasible, and
- Low-impact development.

MINIMUM CONTROL MEASURE 6 (INDUSTRIAL)

3. RECORDS OF COMPLETED TRAININGS IN CONFORMANCE WITH SECTION II.B. OF THE GENERAL PERMIT:

For CY 2024, 43 personnel were trained in stormwater procedures and BMPS.

4. INVENTOR Y OF PERMITTEE FACILITIES/ACTIVITIES WITH POTENTIAL TO CONTRIBUTE CONTAMINANTS

341 CES/CEIE utilizes the Industrial SWPPP as a mechanism to write and execute SOPs. The language in the Industrial permit describes the SOPs as BMPs, but the intent is the same. The table below shows the shops that are enrolled under the Industrial SWPPP and the type of work they do. Figures 1 describes the menu of BMPs/SOPs available to each shop. Each shop is assigned a list of BMPs/SOPS depending on the type of work the shop is responsible for. Per the Industrial SWPPP, 341 CES/CEIE trains shop representatives on the BMPs/SOPs, and representatives must complete quarterly/storm event inspections.

MAFB Industrial Facilities

Org/Shop Symbol	Shop Name	Facility/Activity Type
219 RHS/DOP 819 RHS/DOP	Airfields	Heavy equipment construction, deployable
219 RHS/DOSP 819 RHS/DOSEA	Power Pro	Generator operations/maintenance, deployable
341 CES/CEOES	Grounds Maintenance Contractor	Landscape maintenance
341 CES/CEOHP	Pavements and Maintenance (Horizontal)	Heavy equipment construction, snow removal
341 LRS/LGRMSF	Fuels Maintenance Contractor	Bulk fuel tank maintenance and delivery
341 LRS/LGRV	Truck Tractor Maintenance	Large vehicle maintenance
341 LRS/LGRV	Vehicle Maintenance	Light vehicle maintenance
582 HG/MXOO	Helicopter Maintenance Contractor	Helicopter maintenance and refueling
819 RHS/DOSMS	Structures	Carpentry
819 RHS/LGVM	Vehicle Maintenance	Heavy equipment maintenance

5. SUMMARY OF INSPECTION PROCEDURES FOR FACILITIES AND THEIR STRUCTURAL STORM WATER CONTROLS:

During CY 2022 MAFB produced an Industrial SWPPP in accordance with MTR000197. The entire list below was reviewed for applicability and completeness through that process. No additional processes were identified during CY 2024.

Industrial Facility BMP List

BMP_ID	Description	Detailed Procedure
F1	Inspect dumpsters, fence lines	Inspect dumpsters and shop boundary fence lines at least quarterly for over- filling, blowing trash, general housekeeping.
F2	Cover dumpsters, secure trash	Install lids or covers on all dumpsters or waste containers where possible. Ensure all dumpster and waste container lids or covers are kept closed.
F3	Seal dumpster bungs, Prevent or control liquid discharge	Ensure dumpster drain plugs are in place and in good condition. Report any evidence of leachate or other discharges to the SWPPP Administrator.
F4	Petroleum, oil, lubricant (POL) spills, sediment, etc. cleaned from pavement	Inspect and sweep paved surfaces to remove sediment and prevent discharge. Ensure that wet or dry pavement, sidewalk, floor, and deck cleaning procedures include proper waste pickup and disposal. For wet cleanup procedures, use vacuum truck, street sweeper, or similar.
F5	Perform wet weather inspections	Perform at least one routine inspection per year during wet weather to observe curbs, gutters, pipelines, inlets, flow across paved areas, etc.
F6	Ensure personnel are trained	Verify that shop supervisor has received initial SWPPP implementation training. 341 CES/CEIEC will maintain training records.
F7	Perform timely quarterly and storm event inspections	Perform timely storm event and quarterly routine inspections.
O1	Control pollution during fueling, oiling, or other fluids management. Maintain SPCC training, spill prevention, timely reporting. Ensure no evidence of spills.	Follow procedures in the MAFB SPCC Plan during all fueling, fluid addition, or other equipment maintenance operations.
O2	Ensure no contamination from bulk fuels receipt,	Follow procedures in the MAFB SPCC Plan during all bulk fuel receipts from vendors, fuel transfers between storage tanks, fuel truck operations, etc. Use active pollution prevention controls (multiple

	transfers, terminal operations	personnel, dead man switches, ullage measurements, storm sewer inlet covers, etc.) where required. Implement Technical Orders or checklists such as “South Storage (Jet-A System) LCL-01,” “Service Station Transferred / Receipt SSTA LCL-03,” or others as applicable.
O3	Perform monthly, annual bulk storage tank inspections	Ensure timely performance of monthly and annual bulk fuel storage tank inspections per SPCC Tables A-5 and A-6, respectively
O4	Outdoor materials storage on pallets, blocks, etc. only, not directly on the ground. Minimal evidence of weather damage	Do not store palletized bulk materials outdoors unless the materials are weatherproof. Monitor loading and unloading processes for leakage, burst bags, etc. Clean up all spills, damaged goods, sawdust, swarf, etc. with wet or dry methods as needed.
O5	Implement effective construction storm water BMPs for all projects regardless of size	Implement construction storm water Best Management Practices for all outdoor projects, regardless of size. Implement permit coverage and maintain Storm Water Pollution Prevention Plans for all projects 1 acre or larger.
O6	No evidence of sawdust, paint chips, overspray, cuttings, or other discharges	Monitor all construction projects, repair sites, renovation projects, materials storage areas, facility grounds, etc. and remove sawdust, trash, spilled bulk materials, or other contaminants.
S1	Outdoor clean scrap storage on pallets, blocks, etc. only, not directly on the ground	Outside storage of scrap metal or other materials directly on the ground is prohibited. Store all uncontaminated material storage on pallets, blocking, in containers, etc. if outdoors.
S2	Contaminated scrap storage under cover or in containment. No signs of POL, other spills	Store all contaminated material (machine shop cuttings, lubricated metal, etc.) indoors where possible. Outdoors, store such material in a dumpster or container with a closed lid or within secondary containment. Monitor all outdoor storage containers for leakage, oil slicks, leachate, etc.

V1	All repairs, maintenance performed indoors	Perform all equipment maintenance or repair indoors or under cover.
V2	Maintain SPCC training, reporting.	Verify that the SPCC Plan is on site and employees are trained in its use. Implement the SPCC plan. Notify CES/CEIE (731-6155, 731-7148) (or call Malmstrom 911 if after hours) immediately regarding any POL spills. See §2.2.2 of the SPCC for more information.
V3	Implement effective SPCC procedures: drip pans, rags, spill kits. No signs of spills allowed	Use cleanup rags, drip mats, drip pans under portable or stationary engine- powered equipment (operable or inoperable) stored outdoors to control POL, antifreeze, fluid, or other leaks. Inspect drip pans at least quarterly and dispose of collected rainwater or snow melt according to the SPCC Plan.
V4	Install containment under leaking operable or inoperable machines, equipment stored outdoors	Install and maintain portable POL containment under generators or similar skid- or wheel-mounted engine-powered equipment stored outdoors.
V5	Ensure proper recordkeeping for drip pan or containment discharges	Maintain drip pan or portable secondary containment inspection and discharge logs for the current and previous three calendar years. Use the procedures outlined in the SPCC Plan.
V6	Follow detailed procedures to prevent hydraulic oil leaks	Use these procedures to prevent oil leaks while connecting, disconnecting, or storing hydraulic equipment outdoors: 1. For tractor implements, cylinders, motors, etc. equipped with male and female quick-connect fittings: • Disconnect the implement from the tractor and connect the male and female fittings to each other. • If the fittings don't match, install a positive-seal, leak-proof cap or plug onto the quick-connect fitting. Monitor the fitting for drips or leakage. 2. For hydraulic equipment, cylinders, motors, hoses, etc. without quick- connect fittings: • Disconnect the fitting and drain the equipment, hose, etc. into a portable waste container. Dispose of the waste oil per the SPCC Plan. • Install a leak-proof cap, plug, etc. onto the equipment port(s), hose end(s), or other potential leakage points. Temporary measures such as duct tape are not acceptable.

		• Use rags, towels, floor dry, or other controls to pick up all drips and spills. Monitor all fittings for leaks or drips. 3. For hydraulic equipment with broken fittings or hoses: • Outdoor storage is prohibited. • Remove and dispose of the broken component or store it indoors. • Install leak-proof caps, plugs, etc. on the remaining parts, cylinder ports, etc. Monitor for leaks or drips.
V7	Control equipment washdown water, sediment on pavements, etc.	All vehicle washing will occur at designated wash racks. The SWPPP Administrator may designate special equipment cleaning areas if effective pollution prevention and control measures are in place. Suggestions for cleaning muddy earth-moving or other equipment: 1. Prevent track-off from job sites. Manually remove mud or other debris from tractor treads, buckets, implements, etc. prior to leaving the site if possible. 2. Immediately perform street sweeping or other cleaning operations if track off occurs. 3. Park the implement on pavement until the mud dries enough to remove it with spades, spud bars, etc. Move the equipment and clean the pavement with power sweepers or other means.
V8	Zero evidence of new or aged leaks from junk vehicles or equipment	Inspect junk equipment stored outdoors at least quarterly and remove leaking components. Store leaking or contaminated components indoors. Promptly clean up all spills or contamination. Document all corrective actions on the Routine Facility Inspection form and maintain these records.

STORM WATER MANAGEMENT PLAN (SWMP)

1. CY 2024 INSTALLATION WIDE COMMENT PERIOD

MAFB conducted a two week installation wide comment period, via the 341 MW Public Affairs office, and received no comments or questions.

2. ATTACH A SUMMARY INCLUDING THE DATE AND DESCRIPTION OF UPDATES AND RATIONALE FOR DECISION MAKING

Updates to the SWMP (See Attachment 2) for 2024 include the following:

Minor
Signed Record of Review Block (dated 2/13/25), changed name of Responsible Officer, and WQ Program Manager.

MONITORING AND REPORTING

1. IF NOT ABLE TO DEPENDABLY OBTAIN TWO SAMPLES A YEAR AT EACH MONITORING LOCATION, ATTACH A SUMMARY OF RATIONALE.

2024 Outfall Sampling Summary

Sample Event	Sample Date	Outfall(s) Sampled	Event Notes
2024A	04/4/2024	1,2,3	The rain event was not significant enough to produce flow at Outfall #4.
2023B	5/8/2024	4	This was a makeup event for CY 2023. There was not a significant enough rain event in the second half of CY 2023 to conduct sampling.
2024A	6/17/2024	4	All sampling completed
2024B	9/12/2024	1,2,3	the rain event was not significant enough to produce flow at Outfall #4.

2. ATTACH AN INVENTORY OF OUTFALLS DISCHARGING TO IMPAIRED WATERBODIES INCLUDING ASSOCIATED POLLUTANTS.

MAFB Outfall Inventory

Outfall	Latitude	Longitude
1	47.520346	-111.196702
2	47.520582	-111.193409
3	47.521652	-111.173242
4	47.522181	-111.169653
5	47.514075	-111.163669
6	47.513850	-111.161292

All 6 of Malmstrom's storm water outfalls discharge to the Missouri River between Rainbow Dam and Morony Dam. This reach of the Missouri River is impaired for polychlorinated biphenyls, sedimentation/siltation, turbidity, arsenic, copper, and temperature. Of those, Malmstrom focuses on sedimentation/siltation and turbidity. Copper is a pollutant that we sample for in accordance with the MS4 Permit, Part IV, but Montana's Clean Water Information Center indicates copper pollution is from abandon mine operations and industrial point source discharges. Malmstrom does not have any processes that would discharge copper to the storm sewer system.

Attachment 2: Malmstrom AFB Storm Water Management Plan (SWMP)

U.S. AIR FORCE
STORMWATER MANAGEMENT PLAN

Malmstrom Air Force Base

MTR040000

2/13/2025

TABLE OF CONTENTS

TABLES

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 gathered and evaluated 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.

Responsible Official Certification

Printed Name: Ryck Cayer Date:

Signature: CAYER.FREDERYCK.ALAN.JR.1151558654 Digitally signed by CAYER.FREDERYCK.ALAN.JR.1151558654 Date: 2023.02.24 08:09:08 -07'00' Title: Deputy Base Civil Engineer

DOCUMENT CONTROL

Record of Updates

The SWMP is updated as changes to requirements and management practices occur, including those driven by changes in applicable regulations and permits.

Record of Review

The SWMP must be reviewed and revised on an annual basis.

Record of Updates

Change No.	Nature of Change	Date of Change	Approved By:
0	New MDEQ Permit Update	5/1/2022	Shannon L. Chouinard
1	Annual Report Update	3/1/2023	Shannon L. Chouinard
2	Annual Report Update	2/13/2025	Shannon L. Chouinard

Record of Review

Review Date	Review Participants	Notes/Remarks	Results in Plan Update (Yes or No)
12/15/2022	Cody Koontz Shannon Chouinard	Minor Edits	Y
1/31/2024	Shannon Chouinard	No Edits Needed	N
2/13/2025	Shannon Chouinard	RO and WQ Contacts Updated	Y

1.0 OVERVIEW AND SCOPE

The primary objective of this SWMP is to reduce the discharge of pollutants to storm water to the maximum extent practicable (MEP). Pollutant discharge reduction will be accomplished by implementing best management practices (BMPs) and measurable goals for the following six minimum control measures (MCMs):

- Public Education and Outreach (MCM 1)
- Public Involvement and Participation (MCM 2)
- Illicit Discharge Detection and Elimination (MCM 3)
- Construction Site Runoff Control (MCM 4
- Post-Construction Runoff Control (MCM 5)
- Pollution Prevention / Good Housekeeping (MCM 6)

The Montana Department of Environmental Quality (MDEQ) General Permit (Permit) for Storm Water Discharges Associated with Small Municipal Separate Storm Sewer Systems (Small MS4) requires that Malmstrom Air Force Base (Base) develop and implement a SWMP. This SWMP fulfills the MS4 Permit requirements and supersedes all previous versions. SWMP implementation will help reduce pollutant discharge from the storm water system, as required by the MS4 Permit, and as defined by the Phase II Storm Water Regulations (Federal Register, 64 FR 68722, December 9, 1999). This SWMP complies with Section 75-5-101 *et seq*., Montana Code Annotated, as well as the Administrative Rules of Montana (ARM) (17.30.1101(23)(d) for Non-Traditional MS4s; 17.30.1301 *et.seq*; and ARM 17.30.601 *et seq*. Malmstrom Air Force Base (AFB) will comply with the Standard Conditions of the Permit (Section IV).

The 341st Civil Engineer Squadron/Environmental Element (341 CES/CEIE) is responsible for oversight of the Base storm water program and permits listed below. CEIE implements the technical aspects of the storm water program including implementation, maintenance, and revisions.

- General Permit for Storm Water Discharges Associated with Industrial Activity (Industrial General Permit) (Permit Number MTR000000),
- General Permit for Storm Water Discharges Associated with Small Municipal Separate Storm Sewer Systems (MS4s General Permit) (Permit Number MTR040000),
- General Permit for Disinfected Water and Hydrostatic Testing (Disinfected Water General Permit) (Permit Number MTG770000),
- General Permit for Pesticide Application to or Over Surface Water (Pesticide General Permit) (Permit Number MTG870000).

SWMP Structure, Updates and Organization

This SWMP provides information and guidance to support coverage of areas that are served by, or contribute to, municipal separate storm sewers (Permit Number MTR040000). This Permit term is 1 April 2022 to 31 March 2027. This SWMP addresses the following six minimum control measures (MCMs) required by the Permit pursuant to the ARM, Title 17, Chapter 30, Subchapters 11, 12, and 13:

- Public Education, Outreach, Involvement, and Participation (MCM 1 and 2),
- Illicit Discharge Detection and Elimination (IDDE) (MCM 3),
- Construction Site Runoff Control (MCM 4),
- Post-Construction Site Runoff Control (MCM 5), and
- Pollution Prevention and Good Housekeeping (MCM 6).

This SWMP also outlines the best management practices (BMPs) the Base will implement to control the quality and quantity of storm water leaving the Base. Each MCM includes BMPs that satisfy the requirements of the MCM. Many selected BMPs are already in place and successfully functioning. Other BMPs were identified to reach out to a broader sector of Base residents who may not be involved in mission operations. CEIE storm water personnel will add or modify BMPs as the program evolves.

Support information is provided in Appendix A-F of this SWMP as identified below:

Appendix A: Base Map,
Appendix B: SWMP Team Organization,
Appendix C: Key Target Audience,
Appendix D: Field Data Forms,
Appendix E: Enforcement Response Plan,
Appendix F: Storm Water Policy Letter.

2.0 INSTALLATION PROFILE

Installation Profile

Scope of Plan	This Plan provides information and guidance for compliance with the Permit for Storm Water Discharges Associated with Small Municipal Separate Storm Sewer Systems (Small MS4s) who are authorized to discharge storm water resulting from Small MS4s in accordance with effluent limitations, monitoring requirements, and other conditions set forth in the Permit.
OPR	341 CES/CEIE has overall responsibility for implementing the storm water management program and is the lead organization for monitoring compliance with applicable federal, state, and local storm water regulations.
Responsible Official	*Colonel Daniel J. Voorhees*
Water Quality Program Manager	*Mr. Jared Grundhauser*
Permitting Authority	*Montana Department of Environmental Quality*
MS4 Permit Number	*MTR040000*
MS4 Permit Expiration Date	*3/31/2027*
Applicable Federal and AF regulatory references	Clean Water Act AFMAN 32-1067, *Water and Fuel Systems* AFI 32-1001, *Civil Engineer Operations* AFI 32-7001, *Environmental Management*
Applicable State and local regulatory references	*Montana General Permit for Storm Water Discharges Associated with Small Municipal Separate Storm Sewer Systems (Small MS4s)*

3.0 ENVIRONMENTAL MANAGEMENT

The AF environmental program adheres to the Environmental Management System (EMS) framework and its Plan, Do, Check, Act cycle for ensuring mission success. Executive Order (EO) 13990, Protecting Public Health and the Environment and Restoring Science To Tackle the Climate Crisis, U.S. Department of Defense Instruction (DoDI) 4715.17, Environmental Management Systems, AFI 32-7001, and International Organization for Standardization (ISO) standard 14001, Environmental Management Systems – Requirements with guidance for use, provide guidance on how environmental programs should be established, implemented, and maintained to operate under the EMS framework.

The storm water management program employs EMS-based processes to achieve compliance with all legal obligations and current policy drivers, effectively manage associated risks, and instill a culture of continual improvement. The SWMP serves as an administrative operational control that defines compliance-related activities and processes.

4.0 GENERAL ROLES AND RESPONSIBILITIES

Storm water management requires the full involvement of all organizations and personnel on the installation, including contractors, tenants, and family members living on the installation. The major roles/organizations involved in supporting the storm water management program at a typical installation include:

- Installation Commander
- Base Civil Engineer
- Flight Chief, Installation Management
- Water Quality Program Manager
- Storm Water Pollution Prevention Team
- Unit Environmental Coordinator (UEC)
- Installation Personnel
- AFCEC

Additional organizational and personnel roles and responsibilities for storm water management are described throughout this plan and in referenced documents. Detailed information about typical responsibilities is available in AFMAN 32-1067, AFI 32-7001, and the Water Quality Playbook. Additional installation-specific roles and responsibilities are documented in the BMPs below.

The Base Storm Water Management Coordinator (SWMC) is the primary person responsible for directing and coordinating the Base MS4 Program including implementing and documenting the BMPs, MCMs, and evaluation metrics for MCMs. The SWMC will not perform every activity or task required under the program individually but will direct and designate other personnel within the Base Environmental Element, and within other Base offices and organizations to perform or conduct various activities.

Storm Water Management Team Organization

The SWMP Team organizational chart presents an overview of the team and identifies responsibilities (Appendix B). The SWMC is responsible to review and update the organizational chart. Updates to the organizational chart will be included in the Annual Report.

5.0 TRAINING

AF installations implement storm water training programs to ensure that installation personnel, contractors, and visitors are aware of their role in the program and the importance of their participation to its success. DoDI 4715.10, Environmental Education, Training, and Career Development, implements policy and provides the procedures for environmental education, training, and career development programs for DoD personnel. AF installations ensure that appropriate personnel complete required education, training, and certification necessary to perform their jobs. Priority is given to the use of AF-approved education/training sources such as the Air Force Institute of Technology (AFIT) training courses and official AF-approved

computer-based training resources (e.g., The Environmental Awareness Course Hub [TEACH], myLearning, ArcNet, etc.) to meet training needs.

Specific training requirements are outlined in the BMPs below. Training records are maintained in IAW the Recordkeeping and Reporting section of this plan.

Base training is broken down into two categories: Type A and B. Type A training is focused on storm water personnel that work in CES/CEIE. Personnel involved with storm water management will utilize MDEQ-sponsored training in the form of the Storm Water Pollution Prevention Plan (SWPPP) Administrator course. For Base-Specific requirements, personnel will review specific presentations and guidance documents set forth by the SWMC.

Type B training is provided to Base personnel by the SWMC. The SWMC will contact each shop supervisor on a quarterly basis to obtain a list of personnel for training. The SWMC will then coordinate training sessions for any new or overdue employees. All new hires that fall into the categories below with potential to impact Storm Water pollution contributions must receive the equivalent amount of the following training within 90-days of their hire date.

The Base is required to conduct and/or coordinate, at a minimum, the following trainings and document applicable personnel participation.

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 SWPPP training for personnel, including inspectors and plan reviewers, responsible for the implementation of the Construction Site Storm Water Management MCM 3. Training shall include at a minimum, inspection protocol and implementation of the MS4 Enforcement Response Plan (ERP).

3. Post-Construction Site Personnel

At a minimum of once during the permit term, conduct plan review and storm water facility inspection training for all personnel responsible for the implementation of the Post-Construction Site Storm Water Management MCM 4. Inspector training shall include at a minimum, inspection protocol and implementation of the MS4 ERP.

4. Field and Facility Personnel

Once during the 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 MCM 6. The training must provide, at a minimum, education regarding the following:

- An overview of the 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, and
- Any SOP updates completed under MCM 6.

Personnel involved in the IDDE Program receive IDDE Training annually, at a minimum.

Table 1 - Training Requirements

Training	Audience	Frequency	Training Type
Storm Water Management Team	Stormwater Management Team	Permit Year 1	A
Construction Site Storm Water Management	Construction Site SWPPP Reviewers and Inspectors	Once during the Permit Term	A
Post-Construction Storm Water Management	Post-Construction Plan Reviewers and Inspectors	Once during the Permit Term	A
Field and Facility Personnel Awareness	Permittee Field Staff	1st & 4th year during the Permit Term	B
SOPs	Shop Staff Responsible for SOP Implementation	Annually	B

6.0 RECORDKEEPING AND REPORTING

The SWMC maintains a copy of the Permit, permit authorization letter, required SWMP documents, annual reports, discharge monitoring reports (DMRs) if required, and other pertinent records required by the Permit are maintained by the SWMC and made available to MDEQ inspectors upon request. Records of information required by the 2022 MS4 Permit are kept for five years.

Reporting

Reporting under the Permit includes:

- Annual Report
- SWMP Updates

Annual Reporting

The SWMC will prepare and submit an Annual Report form for each calendar year within the Permit term starting 1 March 2023. The report form will be signed and submitted electronically on the Annual Report form (supplied by DEQ), and include all required attachments, and any additional requested information to the Department by 1 March of each year for the preceding calendar year. The Base does not have co-permittees; therefore, no Annual Report form pertaining to their respective permitted MS4(s) is required.

If there are updates, changes, or improvements to the Base Storm Water Management Program during the prior calendar year, an attachment to the Annual Report must provide a date and description of these updates. Updates to the storm sewer map(s) should also be submitted electronically via GIS shapefiles, PDFs, or reference to available online maps. Updates or revisions to submitted documents are retained onsite with the SWMC with the last revision date. Documents will be made available to the MDEQ or other regulating agencies upon request.

Permit Special Conditions

Sharing Responsibility

The Base does not share responsibility to implement the MCMs.

Qualifying Local Program

There is no qualifying local program requiring the Base to implement the MCMs identified in this SWMP.

Ownership, Authority, or Responsibility for SWMP Implementation

The Base has the responsibility for implementing the SWMP in all new areas added to the Base portion of the MS4, or for which the Base becomes responsible for implementation of storm water quality controls, as expeditiously as possible. Within 90 days of transfer of ownership, operational authority, or responsibility for SWMP implementation, the Base must have a plan for implementing the requirements of the Permit on all newly added areas. The plan may include phases/schedules for implementation to allow for controls that cannot be implemented immediately. Information on all new annexed areas and any resulting updates to the SWMP must be included in the Annual Report.

Changes in Storm Water Coordinator

If the SWMC person/position, mailing address, email address, or telephone number identified on the application form change, the permittee shall notify the Department in writing within 15 calendar days of the change. Written notice must reference a "change of Storm Water Coordinator", identify the permit authorization number, identify the formal Small MS4 Name as identified on the application, and be signed by a person meeting the signatory requirements of Part V.G of the Permit.

Records for Inspection

As outlined previously in this SWMP, a copy of the Permit, permit authorization letter, required SWMP documents, annual reports, discharge monitoring reports (if required), and other pertinent records required by the Permit shall be maintained by the SWMC and made available to MDEQ inspectors upon request.

Twenty-Four Hour Notice of Noncompliance or Illicit Discharge

The SWMC will report any serious incident of noncompliance or illicit discharge affecting the environment as soon as possible, but no later than twenty-four (24) hours from the time the permittee first becomes aware of the circumstances. The report will be made to the Water Protection Bureau at (406) 444-5546 or the Office of Disaster and Emergency Services at (406) 324-4777. The following examples are considered serious incidents:

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

Additionally, a written submission shall be provided within five days of the time that the permittee becomes aware of the circumstances. The written submission shall contain:

- A description of the noncompliance/illicit discharge and its cause/origin.
- The period of noncompliance/illicit discharge, including exact dates and times.
- The estimated time for correction if it has not been corrected already.

MDEQ may waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the Water Protection Bureau, by phone, (406) 444-5546. Reports shall be submitted to the following address: MDEQ Water Protection Bureau, PO Box 200901, Helena, MT 59620.

7.0 MINIMUM CONTROL MEASURES

7.1 Public Education, Outreach, and Participation

Under the Permit, Public Education and Outreach (MCM 1) and Public Involvement and Participation (MCM 2) are combined into one section. The principal goal of this Section is to provide information and a platform to Base staff and residents to participate in the Storm Water program.

Public Education and Outreach (MCM 1) will be accomplished by providing information through educational materials and opportunity to participate in the key elements of the program. Educational materials will be developed and distributed to personnel living or working on Base. The educational materials will address the negative impacts polluted storm water runoff discharges can have on surface water, specific pollutant sources, and how all personnel can help reduce them.

For Public Involvement and Participation (MCM 2), Base staff and residents will have an opportunity to participate in SWMP development and implementation. The public can provide valuable input and assistance to the storm water program, and their support can ensure long-term success. Public involvement and participation include outreach to key target audiences allowing participation in key elements of the program.

The Base agencies responsible for implementation are the 341 CES/CEIE, 341 Missile Wing/Public Affairs (341 MW/PA), and Balfour Beatty Communities (BBC) and the SWMP Team.

Program Strategy and Decision Process

Public Education and Outreach

The Base will use public education and outreach to increase awareness of the potential storm water discharge impacts on surface water and other natural resources. The targeted audience for public education and outreach will include Base personnel, residents, and contractors. By targeting these audiences, virtually everyone working or living on the Base will be aware of the SWMP goals and requirements. Ultimately, having an informed and knowledgeable public will be the key to long-term program success and continued public support and involvement.

The Base will use existing educational materials whenever possible, including those available from the U.S. Environmental Protection Agency (EPA), MDEQ, industry, or trade organizations. The SWMC will review all educational materials to ensure they are relevant to Malmstrom AFB storm water issues and concerns. Outreach materials may be developed to inform individuals about site-specific issues, volunteer opportunities, annual clean-up activities, and locations for additional information. The educational material

will target industrial and construction pollutant sources (detailed in the Base's permits for storm water associated with industrial and construction activities) and residential sources (such as fertilizers, household cleaning products, wash water, pesticides, herbicides, and sediment).

Public Involvement and Participation

The goal of Public Involvement and Participation is to involve a diverse cross-section of the Base community in SWMP development and implementation. The targeted audience for public involvement and participation includes all Base personnel, residents, and contractors. The SWMP Team has identified and implemented programs that encourage public participation in the storm water program. The Base will continue to work with other governmental and non-governmental entities on exchanging information concerning successful BMPs and other technical information.

Program Tasks and Associated BMPs

Public Education and Outreach

The BMPs selected to initiate the public education and outreach program may include activities such as:

- Distributing brochures and fliers,
- Publishing articles periodically in the Base newspaper to advertise upcoming educational or volunteer opportunities,
- Conducting annual shop level storm water awareness training, and
- Setting up displays or making presentations at varying venues as funding and manpower allows.

Public Involvement and Participation

The program tasks and BMPs are designed to involve the public in the Base storm water program and are intended to raise public awareness about storm water runoff and pollution prevention efforts while fostering participation through community-based projects or volunteer activities focused on pollution prevention.

The Base will schedule annual events (e.g., storm drain marking, clean-up days, etc.) where the public can be actively involved in pollution prevention efforts and learn the storm drain manhole, outfall, and receiving water locations.

Table 2 summarizes the BMPs and measurable goals for MCMs 1 & 2. Target audiences, outreach strategies, and tracking is provided in Appendix C.

Table 2 - Public Education, Outreach, Involvement, and Participation

BMPs	Measurable Goals
Develop and continue to utilize the Base storm water website for public involvement.	Update Malmstrom's official website (www.malmstrom.af.mil) at least annually. Advertise and seek public comments annually on Malmstrom's SWMP. Document comments and changes as a result.
Determine key target audiences most appropriate for storm water education.	Based on the permittee's local knowledge of storm water pollutant generating activity within their MS4, document which business types and/or residential behaviors 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.
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.	For each key target audience, select two active outreach strategies. Each year implement at least four activities. For key target audiences, identify outreach strategies for the upcoming year, and a planned timeframe for implementing the outreach strategies. Include this information in the Annual Report.
Distribute and/or perform outreach to target audiences and track performance/ public involvement.	Document participation and feedback using performance tracking methods such as community surveys, total event participants and percent population reached.

7.2 Illicit Discharge, Detection, and Elimination

The goal of MCM 3 is to develop and implement a plan to detect and eliminate significant non-storm water illicit discharges into the MS4. An illicit discharge is defined as any discharge to an MS4 that is not composed entirely of storm water, excluding certain non-storm water sources such as runoff from irrigation, air conditioner condensate, and firefighting activities.

The Base agencies responsible for implementation of MCM 3 are 341 CES/CEIE, 341 CES/CENME (GeoBase Office), 341 CES/CEOIU (Utilities Shop), 341 CES/CEOHP (Heavy Equipment Shop), 341 MW/JA (Legal Office), 341 CONS (Contracting Squadron).

MCM 3 of the 2022 MS4 General Permit requires the permittee to:

- Develop, implement, and enforce a program to detect and eliminate discharges into the 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 significant non-storm water discharges, to the MS4.
- Inform employees, businesses, and general public of hazards associated with illegal discharges and improper disposal of waste.

Program Strategy and Decision Process

The Base has implemented a program to identify and eliminate illicit discharges to the Base storm drain system. Base personnel, residents, and other interested parties will continue to be educated about illicit discharges and improper waste disposal in coordination with other storm water training programs. However, a part of the educational component will be to inform the community of proper disposal methods and locations to prevent unwanted pollutants from entering the storm sewer system.

The Base has developed and implemented a SWPPP under the Industrial General Permit (Permit MTR000000). Elements of the SWPPP are followed to help manage discharges from the Base.

341 CES/CEIE will use the Environmental Inspection Process (EIP) to document problems and follow up on solutions. EIP is a program developed by the Air Force to meet the Environmental Management System goals set forth in ISO 14001. The Base has adopted the EIP program and uses it to evaluate all the environmental program areas.

The EIP includes the following procedures:

- Document the problem or issue in the Environmental Actions Spills Inspections Environmental Reporting (EASIER) database,
- The EIP manager determines deadlines, summarizes the proposed solutions, and elevates the finding to the appropriate leaders,
- Leaders resolve the finding, and
- EIP manager follows up with the finding's author.

The Base does not currently discharge to a neighboring MS4 system. The Base will continue to monitor the status of Cascade County and the City of Great Falls development and create agreements as necessary in the future.

The Base currently monitors non-storm water discharges or flows in six outfalls. Outfalls 1-4 are designated as high priority. These outfalls were chosen as high priority outfalls because they regularly see Storm Water flows and represent the entire developed side of the Base. Outfalls 5 & 6 rarely see discharge and predominantly use vegetated swales for Storm Water conveyance.

The Base SWMP Team will continue to be evaluate and address these flows as necessary.

Program Tasks and Associated BMPs

Once an illicit discharge has been identified and documented, the SWMP Team will take proper actions to correct the problem as directed by the SWMC. Documentation of all actions is included in annual reports. Such actions may include the number of outfalls screened, complaints received and corrected, number of discharges and quantities of flow eliminated, and the number of dye or smoke tests conducted. New construction designs that have the potential to create an illicit discharge are reviewed by the SWMC or designee.

Table 3 summarizes the BMPs, measurable goals, and implementation schedules.

Table 3 - Illicit Discharge Detection and Elimination

BMPs	**Measurable Goals**
Identify non-storm water discharges or flows that are significant contributors of pollutants to the MS4.	Create a list of potential significant & non-significant non-storm water discharges and the pollutants associated with those discharges. Update annually. Identify and document any controls on these non-storm water discharges. Review/update annually. Potential non-storm water discharges (both significant and non-significant) are discussed in Table 5 below.
Create a provision to prohibit any non-storm water discharges that significantly contribute pollutants to the MS4 system.	Enact Base policy or procedures to reduce occasional, incidental discharges with significant pollutant load. Enact Base policy and contractual specifications prevent significant amounts of pollutants into the MS4 system.
Update storm water map showing storm sewers, drainage patterns, and outfalls and incorporate map into Base Geographic Information System (GIS) system.	Complete GIS quality assurance (QA) and maintain annual updates, as necessary.
Incorporate mapping, inspection, and review of previously completed sanitary sewer system inspection reports to identify possible leaks or spills to the storm system.	Complete GIS QA. Conduct and record inspections of outfalls looking for signs of IDDE, including discoloration, oily sheen or changes in vegetation.

Develop Enforcement Response Plan (ERP) to describe illicit discharge investigation and enforcement responsibilities.	Develop and implement ERP for base employees and contractors. Track number of illicit discharges and investigations.
Inspect and screen high priority outfalls during dry weather. Conduct annually.	Inspect and screen all outfalls at least semi-annually using Form SW-102.
Develop illicit discharge investigation and corrective action plan.	Develop and implement illicit discharge investigation and corrective action plan. Document the number of investigation and corrective actions.
Update SWMP to incorporate findings of significant contributors of pollutants to the storm water system.	Conduct annual SWMP review or revision.

Table 4 lists identified potential non-storm water discharges or flows.

Table 4 - Non-Storm Water Discharges or Flows

Categories	**Significant Pollutant Source**	**Pollutants**	**Controls**	**Rationale**
Water Line Flushing	Significant	Chlorine	Dechlorination, Sanitary Sewer Discharge	Activity happens occasionally and usually in emergency situations. Potential for pollutants to enter storm system. Regulated under the Disinfected Water General Permit.
Individual Residential Car Washing	Significant	Sediment, Oil/Grease	Base Policy, Outreach	Continues to be a public outreach focus. No real controls other than to limit the activity as much as possible.
Concrete Washout	Significant	High pH, Sediment	Washout containments	Easy for workers and drivers to wash their equipment in a grassy area. Hard to catch in action, but there are occasionally signs of washout after the construction is completed

Vehicle Fluids/Spills	Significant	Oil/Grease	Spill cleanup capabilities	Vehicle accidents are inevitable. They leave behind some residual whether they are cleaned up immediately or not.
Construction Dewatering	Significant	Sediment	Dewatering bags, direct flow away from storm drain	Shallow groundwater lenses at Malmstrom cause dewatering on many excavation projects.
Ground Water Infiltration	Significant	PFAS	None	PFAS compounds have been found in soils and storm water at Malmstrom. Air Force Restoration Program is investigating into the source and extent of contamination.
Landscape Irrigation	Non-Significant	Chlorine, Nutrients	Maintenance	Grounds Maintenance Contractor and BBC provide continual maintenance on these systems to prevent excessive runoff. Discharges are minimal.
Discharges from Potable Water Sources	Non-Significant	Chlorine	Dechlorination	Potable line repairs superchlorination discharges are directed to the sanitary sewer when possible. Other sources are minimal.
Foundation/Footing Drains	Non-Significant	Sediment	None	Certain housing areas have sump pumps connected to the storm system. No issues identified currently.
Air Conditioning Condensation	Non-Significant	Metals	None	Very small discharges. No current concerns with metals.
Water from Crawl Spaces	Non-Significant	Sediment	None	Not currently any issues.
Lawn Watering	Non-Significant	Chlorine, Nutrients	Outreach	Some overwater occurs in housing areas. No significant flows. Outreach brochures makes residents aware of overwatering impacts.

Dechlorinated Swimming Pool Discharges	Non-Significant	Sediment	Discharge to Sanitary Sewer	Dechlorinated water is typically discharged to the sanitary system from the base pool. Residential pools are not an issue at this time.
Diverted Stream Flows	Not Currently Present	N/A	N/A	Not present at Malmstrom at this time.
Rising Groundwater	Not Currently Present	N/A	N/A	Not present at Malmstrom at this time.
Irrigation Water	Not Currently Present	N/A	N/A	Not present at Malmstrom at this time.
Springs	Not Currently Present	N/A	N/A	Not present at Malmstrom at this time.
Flows from Riparian Habitats or Wetlands	Not Currently Present	N/A	N/A	Not present at Malmstrom at this time.
Street Wash Water	Not Currently Present	N/A	N/A	Not present at Malmstrom at this time.

7.3 Construction Site Stormwater Runoff Control

The goal of MCM 4 is to prevent erosion, sedimentation, and pollutant discharges in storm water runoff from construction activities at the Base that result in land disturbance.

The Base agencies responsible for implementation of MCM 4 are 341 CES/CEIE, 341 CES/CEN (Engineering Flight), 819 RHS (RED HORSE Squadron), 341 CONS.

MCM 4 of the 2022 MS4 Permit requires the permittee to:

- 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 a 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.

Program Strategy and Decision Process

The Base requires all construction sites greater than one acre to obtain coverage under the Montana General Permit for Storm Water Discharges Associated with Construction Activity, Permit Number MTR100000 (Construction General Permit). All such projects must develop a SWPPP and implement appropriate BMPs. Only trained and qualified personnel may design or administer SWPPPs. The SWMC or authorized agent(s) will review all SWPPPs, site plans, BMP details, etc. prior to the onset of construction. They will inspect all construction sites to ensure compliance with program requirements.

Program Tasks and Associated BMPs

Table 5 summarizes the BMPs, measurable goals, and implementation schedules intended to control storm water pollutants for construction sites.

Table 5 - Construction Site Storm Water Runoff Control

BMPs	**Measurable Goal**
Implement policy that requires all project site plans to incorporate runoff control measure specifications.	The SWMC will review site plans, BMP installation details, SWPPPs (where applicable) and document the number of reviews in the annual report. The SWMC will conduct at least one annual review regarding storm water runoff control effectiveness during the preceding year. The SWMC will update policies as needed.
Develop boilerplate contractual specifications referencing 013600 "Environmental Protection" specification and ECAMP for permits; erosion control plans; and language covering construction waste and sanitary waste management.	The SWMC will conduct at least one review of contractual standard specification Section 013600 "Environmental Protection" as related to runoff control policy and this SWMP and update as needed.

Develop an ERP for construction site storm water management.	Evaluate proper procedures for enforcement and develop a written ERP to enforce construction related discharges. Implement the construction site ERP. Implement the construction site ERP and review annually.
Continue to develop plan review and inspection procedures to address construction storm water requirements. Include procedures for notifying contractors and others about the storm water requirements.	Develop and implement plan review and inspection procedures. Procedures and checklist for plan reviewers and construction inspectors are presented in Forms SW-103 and Form SW-101, respectively. Construction sites in violation of erosion policy tracked through the ECAMP. A minimum of two construction projects will be inspected annually.
Implement and review the AF Environmental Impact Analysis Process, (32 CFR 989) for all projects that may significantly impact storm water.	The SWMC will review work requests submitted; determine the degree of environmental review required; and assess potential storm water impacts. The Annual Report will summarize the number of work requests reviewed. Refer to Form SW-103 for procedure.
Develop and maintain an inventory of regulated construction projects. Develop inspection frequency and protocol.	Create database for regulated construction projects. Inspect construction projects >1 acre at least twice during the period of performance. Develop criteria matrix to prioritize other construction sites.
Annual review of construction activity site inspection reports and update database of successful BMPs.	Perform annual review of construction BMP performance based on anecdotal or documented data and inspections. Publicize availability of successful BMPs at the annual storm water working group.

7.4 Post-Construction Site Runoff Control

The goal of MCM 5is to develop, implement, and enforce a program to address post-construction storm water discharges from new development and redevelopment areas that discharge into the permitted small MS4. The program will ensure that controls are in place that will prevent or minimize water quality impacts. The Base agencies responsible for implementation of MCM 4 are 341 CES/CEIE, 341 CES/CEN, 341 CES/CEO, 341 CONS, 819 RHS, BBC.

MCM 5 of the 2022 MS4 General Permit requires the permittee to:

- 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, and
- Ensure adequate long-term operation and maintenance of post-construction BMPs.

Program Strategy and Decision Process

The Base has developed and implemented a program to control flow and water quality from new development and redevelopment areas. Areas proposed for development or redevelopment are planned, designed, and constructed in a manner that is sensitive to urban runoff issues. Program development includes integrating existing land-use programs, developing BMPs, and evaluating structural and non-structural controls to ensure that the potential for pollutant discharge into urban runoff is minimized to the maximum extent practicable.

Program Tasks and Associated BMPs

The selected BMPs for MCM 5 include adopting regulatory mechanisms (such as policy, contractual language) to ensure:

- Permit compliance,
- Developing program guidelines and directives for reviewing site plans for storm water issues,
- Identifying and developing maintenance schedules for existing structural storm water controls, and
- Educating Base staff and others on implementing the program.

The Base has developed specifications for post-construction storm water management included in project contracts. The Base may opt to address additional requirements, such as:

- Infiltration, evapotranspiration, or capture of runoff from the 95th percentile rainfall event determined in accordance with EPA 841-B-09-001, Technical Guidance on Implementing the Storm Water Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act to the maximum extent technically feasible, and
- Low-impact development.

The Base has developed program guidelines and directives for reviewing existing plans and permitting programs and revising them to include storm water issues. This includes the storm water team reviewing existing construction site inspection programs and revising them for storm water issues. Guidance

document SW-103 was prepared for plan review and site inspection procedures that includes a checklist for inspections and a Construction Inspection Frequency Worksheet (SW-101). The Base maintains an inventory of existing structural storm water controls and will continue to update the inventory. Staff will continue to receive annual training in proper inspection and monitoring of storm water structural controls, BMPs, and record-keeping procedures. Table 6 summarizes the BMPs, measurable goals, and implementation schedules.

Table 6 - Post-Construction Storm Water Management

BMPs	**Measurable Goal**
Implement plan review and inspection procedures to address construction storm water requirements and include procedures for notifying project managers, designers, contractors and others about the storm water requirements.	Plan review and inspection procedures are included in specifications for projects. Procedures and checklist for plan reviewers and construction inspectors are included in Guidance Document SW-103 and Form SW-101, respectively. Construction sites in violation of erosion policy are tracked, with follow-up under the ERP.
Develop policies or procedures to enforce post-construction storm water requirements.	Revise contractual requirements for construction projects and create base policy for post-construction storm water controls.
Develop an ERP for post-construction site storm water management.	Evaluate proper procedures for enforcement and develop a written ERP to enforce post-construction related discharges. Implement post-construction ERP. Implement the construction site ERP and review annually.
Develop a process to require practices to infiltrate, evapotranspire, or capture for reuse any runoff generated from the first 0.5 inches of rainfall from a 24-hour storm for projects equal to or greater than one acre.	341 CES/CEIE will review work orders and project plans to ensure compliance with this requirement. The Annual Report will summarize the number of plans reviewed during the year. Develop criteria to evaluate projects that cannot meet 100% of the runoff reduction requirement.
Develop and implement post-construction inspection form.	Create and implement an inspection to address post-construction storm water management controls.

Develop and implement new and existing post-construction BMP inventory and inspection frequency.	Develop criteria and inspection frequency for high priority post-construction BMPs. Inspect high priority post-construction BMPs annually.
Annually review construction site inspection reports and update database of successful BMPs, new policies, and low-impact development (LID) technologies.	Perform annual review of post-construction BMP performance based on anecdotal or documented data, site inspections and review of contractor BMP maintenance logs. Address findings and improvements at annual storm water working group.

The following structural BMPs in Table 7 are currently in place at Malmstrom AFB. The SWMC or designee will inspect all structural post-construction BMPs in Table 7 annually using form SW-105. An annual inspection ensures that any problems are identified early. Any issues will be input as a work task in the TRIRIGA system.

Table 7 - List of Structural BMPs at Malmstrom AFB

Location	**Type of Structural BMP**	**Water Quality Benefit**
Outfall 3	Extended detention basin	Storage and slow release of storm water allows sediment particles to settle out.
Ponds 1 and 2 near 10th Avenue North	Extended detention basin	Storage and slow release of storm water allows sediment particles to settle out.
Flight line, southern side	Detention/retention ponds and MS4 inlet vault at eastern end	Soil and vegetation filter and remove pollutants.
Powwow Pond	Wet detention pond	Storage and slow release of storm water allows sediment particles to settle out.
Pond at Grizzly Bend Club	Detention pond/vegetated area	Storage and slow release of storm water allows sediment particles to settle out while soil and vegetation filter and remove pollutants. This location is currently being demoed and reconstructed for a parking lot expansion.
Pond by Bldg. 1012 (Fitness Center)	Small detention pond/vegetated area	Storage and slow release of storm water allows sediment particles to settle out while soil and vegetation filter and remove pollutants.

Near Bldg. 1201 (Sun Plaza Park)	Small detention basin/vegetated area	Storage and slow release of storm water allows sediment particles to settle out while soil and vegetation filter and remove pollutants.
Parking lots and vegetated ground on north side of Flightline Road between 73rd and 74th Street North.	Detention basin/vegetated area	Storage and slow release of storm water allows sediment particles to settle out while soil and vegetation filter and remove pollutants.
Base Exchange (BX) Parking Lot	Extended detention basin	Storage and slow release of storm water allows sediment particles to settle out while soil and vegetation filter and remove pollutants.
Tactical Response Facility (TRF)	Vegetated swale and extended detention basin	Removed settleable solids in the swale and evapotranspire into vegetation. Detention basin will settle solids and infiltrate storm water.
Missile Maintenance Dispatch Facility (MMDF)	Hydrodynamic separator	Designed to remove 80% total suspended solids per manufacturer's specifications

7.5 Pollution Prevention and Good Housekeeping

The goal of MCM 6 is to ensure existing Base operation and maintenance practices are performed in ways that will minimize storm water pollutants discharged by Base activities.

The Base agencies responsible for implementation of MCM 6 are 341 CES/CEIE, 341 CES/CEO, 341 CES/CENME, 819 RHS.

MCM 6 of the 2022 MS4 Permit requires the permittee to:

- 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.

Program Strategy and Decision Process

The Base has evaluated and revised existing Base pollution prevention and good housekeeping programs to include BMPs designed to protect storm water. This includes reviewing current good housekeeping programs and associated BMPs for the Industrial General Permit. The BMPs and inspection protocols developed for the Industrial General Permit have been expanded to include all municipal-type activities at the Base, including park and open-space maintenance, residential street maintenance, sidewalk maintenance, recreational area maintenance, and road repair and maintenance.

Program Tasks and Associated BMPs

The Base has numerous existing BMPs that help meet good housekeeping requirements for the MS4 permit. Many of the BMPs developed for the Industrial SWPPP also apply to this SWMP. BMPs are in place for:

- Operations and Maintenance activities (maintaining clean work environments, understanding spill cleanup procedures, completing inspections for leaks),
- Materials Storage Practices (provide adequate aisle space for material transfer and access for inspection, store containers away from direct traffic routes), and
- Material Inventory Controls (implementation of a hazardous material pharmacy for managing hazardous wastes, implementation of a hazardous waste recovery and recycling program).

341 CES/CEIE and other offices maintain preventative maintenance and visual inspection programs for the following areas that require facility inspections to uncover potential issues that could lead to storm water contamination:

- Aboveground and underground storage tanks,
- Hazardous waste accumulation points,
- Hazardous materials storage areas,
- Loading and unloading areas,
- Oil and water separators,
- Catch basins, storm water inlets, channels, slide gates, and other structural BMPs, and
- Street clean-up and sweeping.

The Base conducts comprehensive annual site compliance evaluations under the Industrial SWPPP. Areas are inspected to:

- Identify evidence of, or potential for, pollutants entering the storm water drainage system,
- Determine if measures to reduce pollutant loading are adequate and properly implemented,
- Determine if additional controls are needed or if existing structural control measures are operating correctly, and
- Visually determine status of pollution prevention equipment (i.e., spill response equipment).

The Base SWMC will evaluate the comprehensive inspection program and modify, if necessary, to ensure it includes inspections of all municipal-type operations annually. Table 8 summarizes the BMPs, measurable goals, and implementation schedules. Table 9 provides a list of Base-owned or operated potential pollutant sources.

Table 8 – Pollution Prevention and Good Housekeeping

BMPs	**Measurable Goal**
Inventory permittee-owned or operated facilities and activities that have potential to release contaminants to the MS4 system. Develop standard operating procedures (SOPs).	Create inventory of facilities and activities that contribute to storm water pollution. Review annually. Develop map of facilities and activities listed in the inventory. Update annually based on inventory. Categorize facilities and activities and develop SOPs for each category. Inspect 2 facilities in each category prior to SOP finalization. Develop training for each facility and activity category in the permit year the SOP is developed. Conduct annual training for staff implementing SOPs.
Evaluate existing storm sewer inspection, maintenance, and cleaning procedures.	Summarize existing storm drain and ditch inspection, maintenance, and cleaning procedures.
Continue to implement street sweeping and minimal road salting and sanding practices.	Summary report of street sweeping hours, record quantity of road salt and sand used.
At least semi-annual outfall trash cleanup at Outfalls 1 and 2	Grounds maintenance contractor charged with cleaning up trash cleanup at Outfalls 1 and 2.

Table 9 - Base-Owned/Operated Potential Pollutant Sources

Shop/Office	**Shop Name**	**Responsibility**	**Activities**	**Potential Pollutants**
219 RHS/DOP 819 RHS/DOP	Airfields	Shop Supervisor	Heavy equipment construction, deployable	Petroleum products, sediment, vehicle fluids
819 RHS/DOSP 819 RHS/DOSEA	Power Pro	Shop Supervisor	Generator operations/ maintenance, deployable	Petroleum products
341 CES/CEOES	Grounds Maintenance Contractor	Shop Supervisor	Landscape maintenance	Petroleum products

341 CES/CEOHP	Pavements and Maintenance (Horizontal)	Shop Supervisor	Heavy equipment construction, snow removal	Petroleum products, sediment, vehicle fluids
341 LRS/LGRMSF	Fuels Maintenance Contractor	Shop Supervisor	Bulk fuel tank maintenance and delivery	Petroleum products
341 LRS/LGRV	Truck Tractor Maintenance	Shop Supervisor	Large vehicle maintenance	Petroleum products, vehicle fluids
341 LRS/LGRV	Vehicle Maintenance	Shop Supervisor	Light vehicle maintenance	Petroleum products, vehicle fluids
582 HG/MXOO	Helicopter Maintenance Contractor	Shop Supervisor	Helicopter maintenance and refueling	Petroleum products
819 RHS/DOSMS	Structures	Shop Supervisor	Carpentry	Outdoor storage, floatables
819 RHS LGVM	Vehicle Maintenance	Shop Supervisor	Heavy equipment maintenance	Petroleum products, vehicle fluids

8.0 REFERENCES

Standard References *(Applicable to all AF Installations)*

- Federal Water Pollution Control Act (Clean Water Act)
- AFMAN 32-1067, *Water and Fuel Systems*
- AFI 32-1001, *Civil Engineer Operations*
- AFI 32-7001, *Environmental Management*
- AFI 90-201, *Air force Inspections System*
- ETL 14-1, *Construction and Operation and Maintenance Guidance for Storm Water Systems*
- AF Civil Engineer Clean Water Act Playbook
- eDASH Water Quality Legal and Other Requirements
- eDASH Water Quality Program Page
- eDASH Training Matrix
- myLearning

9.0 ACRONYMS

- eDASH Acronym Library
- AF Civil Engineer Clean Water Act Acronym Section
- 341 CES/CEIE Civil Engineer Squadron/Environmental Flight
- 341 MW/PA Missile Wing/Public Affairs
- ARM Administrative Rules of Montana
- BBC Balfour-Beatty Communities
- BMP Best Management Practice
- BX Base Exchange
- CES/CENME GeoBase Office
- CES/CEOIU Utilities Shop
- CES/CEOHP Heavy Equipment Shop
- CES/CEN Engineering Flight
- COD chemical oxygen demand
- CONS Contracting Squadron
- DEQ Department Environmental Quality
- DMR Discharge Monitoring Report
- EASIER Environmental Actions Spills Inspections Environmental Reporting
- ECAMP Environmental Compliance Assessment and Management Program
- EPA Environmental Protection Agency
- ERP Emergency Response Plan
- GIS Geographic Information System
- Gpm Gallons per Minute
- IDDE Illicit Discharge Detection Elimination

- LID low-impact development
- µg/L micrograms per liter
- mg/L Milligrams per Liter
- MCM Minimum Control Measure
- MDEQ Montana Department of Environmental Quality
- MMDF Missile Maintenance Dispatch Facility
- MS4 Municipal Storm Water System
- MW/JA Legal Office
- QA Quality Assurance
- RDS Records Disposition Schedule
- RHS Red Horse Squadron
- SOP Standard Operating Procedure
- SPCC Spill Prevention Control Countermeasures
- SWMC Storm Water Management Coordinator
- SWPPP Storm Water Pollution Prevention Plan
- TRF Tactical Response Facility
- TSS Total Suspended Solids

10.0 DEFINITIONS

Standard Definitions *(Applicable to all AF Installations)*

- AF Civil Engineer Clean Water Act Playbook Definition Section

11.0 MONITORING AND IMPAIRMENTS

Monitoring and Total Maximum Daily Load
Monitoring Requirements

Permittees are required to perform storm event monitoring to include sampling, testing, and reporting of storm water discharges for their MS4 during a storm event with a measurable amount of discharge. The Base began storm event self-monitoring 1 January 2018. Four locations are monitored on a semi-annual basis for a total of eight samples per year.

Sampling must be conducted at least semi-annually (two times per year) for each of the parameters listed in Table 11 during a storm event with a measurable amount of discharge. One sample at each monitoring location must be taken between January 1st and June 30th of each permitted calendar year and the other sample between July 1st and December 31st. If a permittee is not able to dependably obtain a sample at the identified required sampling outfall during a six-month monitoring period, rationale must be recorded in the corresponding Annual Report on why the collection of a sample was impracticable. The permittee must collect a substitute sample during the subsequent six-month monitoring period in addition to the required sample. The substitute and required six-month sample may be collected from back-to-back storm events when there has been at least 48 hours of no measurable precipitation in between events. MDEQ reserves the right to require additional storm water sampling, testing, and reporting on a case-by-case basis. All analytical procedures must comply with the specifications of 40 CFR Part 136. The required monitoring parameters are listed in Table 10.

For each semi-annual monitoring period, permittees must sample within the permitted geographic area during a storm event with a measurable amount of discharge. Permittees will establish a network of at least four monitoring locations with at least one location representing a predominantly commercial and/or industrial area and at least one location representing a predominantly residential area. One monitoring location may be upstream, outside the MS4 boundary to evaluate water quality entering the MS4. Monitoring locations must be consistently identified using a naming scheme of the permittee's choice, but the permittee can only use a chosen name once. The permittee may request, in writing, to replace a monitoring location outfall. If MDEQ approves the request, the new outfall monitoring location must be identified with an unused outfall name/number. Replacement monitoring locations can only occur once per permit cycle for each outfall.

Table 10
Table 10- Self- Monitoring and Reporting Requirements

Parameter	Parameter Units	Frequency	Frequency Type (1)
Estimated Flow	gpm	Semi-Annual(3)	Instantaneous (2)
pH	s.u.		Instantaneous

Chemical Oxygen Demand (COD)	mg/L		Grab or Composite
Total Suspended Solids (TSS)	mg/L		Grab or Composite
Total Phosphorus	mg/L		Grab or Composite
Total Nitrogen	mg/L		Grab or Composite
Oil and Grease (4)	mg/L		Grab
Copper, Total Recoverable	µg/L		Grab or Composite
Lead, Total Recoverable	µg/L		Grab or Composite
Zinc, Total Recoverable	µg/L		Grab or Composite

(1) See MDEQ General Permit for small MS4 Permit MTR040000 for explanation of terms.
(2) Estimated flow rates are appropriate in cases where measurement gauges are not installed.
(3) Twice per year. One sample at each monitoring location must be taken between January 1st and June 30th of each permitted calendar year and the other sample between July1standDecember 31st.
(4) Hexanes extraction (EPA Method 1664A).

Permittees are required to perform Impaired Water Monitoring if discharges from outfalls are to an impaired water. Impaired waters are streams, rivers, and lakes that do not currently meet their applicable designated uses and water quality standards. The Base is required to review and comply with the most recent 303(d) list of Impaired Waters each year to determine the status and associated pollutants.

Discharges from the Base enter the MS4 prior to discharge to the Missouri River, the first water of the U.S. that is considered impaired. All 6 of Malmstrom's storm water outfalls discharge to the Missouri River between Rainbow Dam and Morony Dam. This reach of the Missouri River is impaired for polychlorinated biphenyls, sedimentation/siltation, turbidity, arsenic, copper, and temperature. Of those, Malmstrom focuses on sedimentation/siltation and turbidity. Copper is a pollutant that is sampled for in accordance with the MS4 Permit, but Montana's Clean Water Information Center indicates copper pollution is from abandon mine operations and industrial point source discharges. Malmstrom does not have any processes that would discharge copper to the storm sewer system. Documentation confirming this information is kept with the SWMC and available upon request. Information on impaired waterbodies may be obtained from DEQ or from the Clean Water Act Information Center website (http://cwaic.mt.gov/)

Permittees are required to perform Impaired Water Monitoring if discharges from outfalls are to an impaired water. Impaired waters are streams, rivers, and lakes that do not currently meet their applicable designated uses and water quality standards. The Base is required to review and comply with the most recent 303(d) list of Impaired Waters each year to determine the status and associated pollutants.

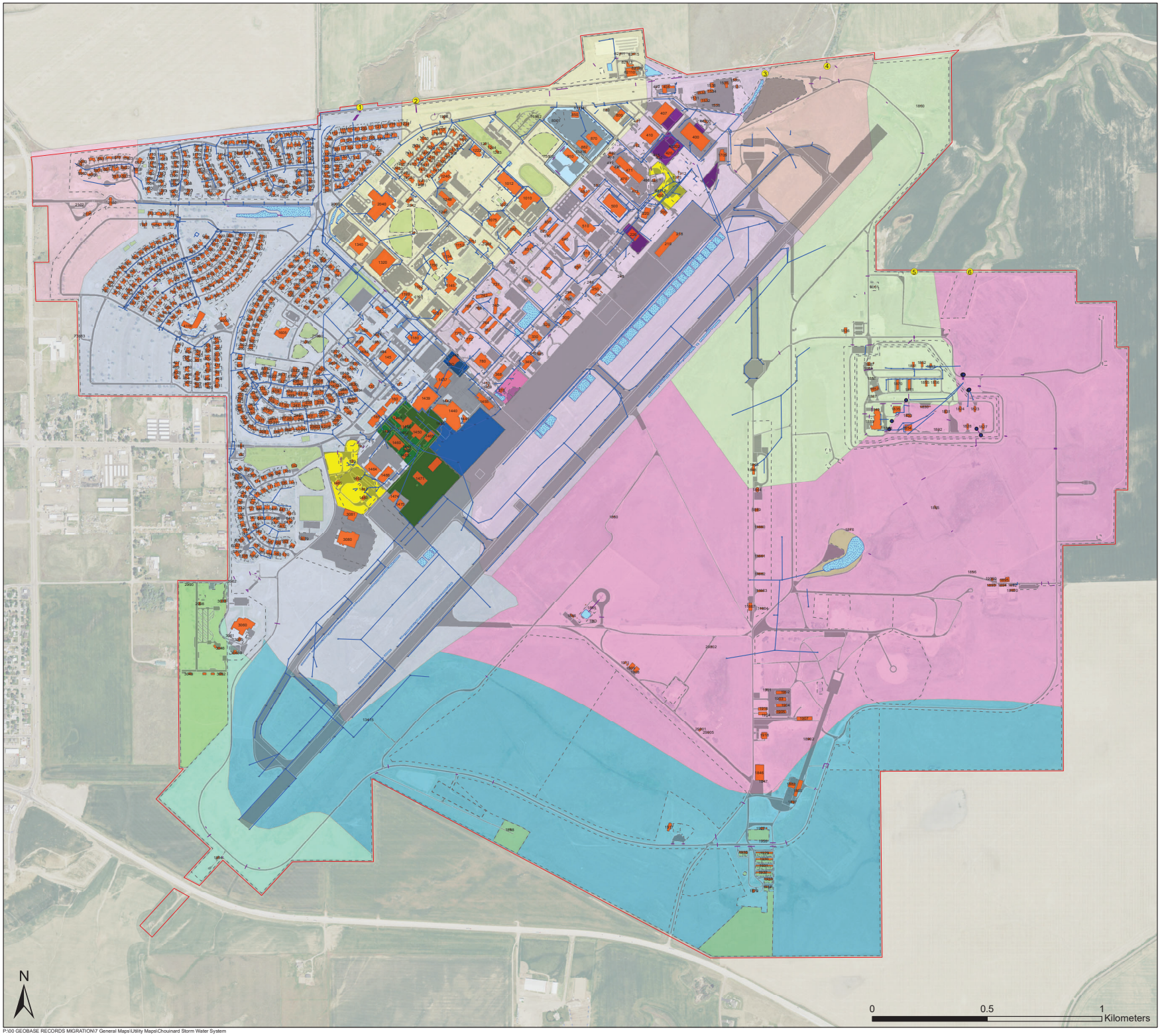
Discharges from the Base enter the MS4 prior to discharge to the Missouri River, the first water of the U.S. that is considered impaired. All 6 of Malmstrom's storm water outfalls discharge to the Missouri River between Rainbow Dam and Morony Dam. This reach of the Missouri River is impaired for polychlorinated biphenyls, sedimentation/siltation, turbidity, arsenic, copper, and temperature. Of those, Malmstrom focuses on sedimentation/siltation and turbidity. Copper is a pollutant that is sample for in accordance with the MS4 Permit, but Montana's Clean Water Information Center indicates copper pollution is from abandon mine operations and industrial point source discharges. Malmstrom does not have any processes that would discharge copper to the storm sewer system. Documentation confirming this information is kept with the SWMC and available upon request. Information on impaired waterbodies may be obtained from DEQ or from the Clean Water Act Information Center website (http://cwaic.mt.gov/)

APPENDICES

Appendices are provided below

Appendix A: Base Map

Storm Water System (including Drainage & Outfalls)



MALMSTROM AFB
MONTANA

STORM WATER SYSTEM DRAINAGE AND OUTFALLS

47°30'17"N 111°11'14"W

Q2 2023

Legend

- Outfalls
- Stormwater Inlet
- Stormwater Manhole
- Storm Main Line
- GIO.SwCulvert_L
- GIO.SwStorageReservoir_A
- GIO.Building_A
- Base Boundry

Pavements

- Pavements

Industrial Facilities

- 341 LRS/LGRMSF Fuels Management Facilities
- 341 LRS/LGRV Truck Tractor Maintenance Facilities
- 341 LRS/LGRV Vehicle Maintenance Facilities
- 582 HG/MXOO Helicopter Maintenance Contractor
- 819 RHS/LGRVM Vehicle Maintenance
- Grounds Maintenance Contractor
- Pavements and Maintenance (Horizontal) Facilities

Drainage Area

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9

MAP INFORMATION AS OF 2023

COORDINATE SYSTEM: WGS 1984 UTM ZONE 12N
PROJECTION: TRANSVERSE MERCATOR
DATUM: WGS 1984
FALSE EASTING: 500,000.0000
FALSE NORTHING: 0.0000
CENTRAL MERIDIAN: -111.0000
SCALE FACTOR: 0.9996
LATITUDE OF ORIGIN: 0.0000
UNITS: METER

This map is for reference and planning purposes only and is not meant to be used for engineering or survey work. Every reasonable effort has been made to ensure the accuracy of this map and associated data. This map has been generated utilizing the USAF's adaptation of the SDSFIE 4.x data model. Information safeguarding is the responsibility of the individual, agency and/or company requesting and taking possession of this map. Release or reproduction of this map, or any part of it is prohibited except for official use only. No public publication of this map by any means is authorized. This map must be destoyed properly. Direct any questions in regards to this policy to the 341 CES/CENME at COMM (406) 731-7249. Information safeguarding requirements are per AFMAN.

DO NOT DUPLICATE THIS MAP

341 CIVIL ENGINEER SQUADRON
GeoBase Office
COMM: (406) 731-7249
DSN: 632-7249
341CES.GeoBase@us.af.mil

P:\00 GEOBASE RECORDS MIGRATION\7 General Maps\Utility Maps\Chouinard Storm Water System

Appendix B: SWMP Team Organization

Storm Water Management Program (SWMP) Team

Team Members

Storm Water Management Coordinator (SWMC) (341 CES/CEIE)

- Appointed by 341 CES/CEIE, Environmental Element Chief
- Responsible for implementing permit requirements
- Compile data and submit annual report
- Review and update the SWMP
- Project review and comment

Heavy Equipment Shop (341 CES/CEOHP)

- Street Sweeping
- Inlet clean out
- Minor construction or earthwork projects

Project Engineering (341 CES/CEN)

- Large construction projects
- Ensures money is programmed for storm water requirements
- Involves SWMC in project design reviews

GeoBase Office (341 CES/CENME)

- Update base map with surveys or construction

Contracting (341 CONS)

- Administers construction contracts
- Ability to stop work if a violation occurs
- Enforces contract specifications

Balfour Beatty Communities (BBC)

- Street sweeping in housing areas
- Enforces illicit discharges in housing areas
- Distributes storm water brochures to housing residents

RED HORSE (819 RHS)

- In-house construction design and execution
- Involves SWMC in project designs that involve earthwork

Base Legal Office (341 MW/JA)

- Provide legal counsel for potential or pending issues
- Involved for serious non-compliance incidents

Public Affairs (341 MW/PA)

- Malmstrom website administrators
- Point of contact for public complaints

Training:

In accordance with the MS4 General Permit, all members of the SWMP Team must complete comprehensive storm water training. Contact the SWMC for more information.

Appendix C: Key Target Audience

Appendix C: Key Target Audience

Key Target Audience	Type	Priority	Explanation	Outreach Strategy	Active or Passive	Implementation Year	Performance Tracking Method	Description
General Common Education	Residential	1	Majority of the base population is ~18-25 years old. Typically this age group rotates in and out of base every 3 years and have limited knowledge of storm water impacts. General education will benefit many without targetting a specific audience.	Cleanup Days/Events	Active	2022	# of events, estimated personnel	Malmstrom direct 1-3 clean up days on base per year. Malmstom also participates in spring cleanup events with the City of Great Falls.
				Advertisements	Passive	2022	Percent population reached	Continue to use base marquees for storm water logo display
				Informational articles	Passive	2022	Website Distribution	Higlight Informational articles on installation website via insatlation Public Affairs annoucemnts.
				Student outreach	Active	2022	Total participants	Host an annual event with the Youth Center. Typically this is Earth Day, but could include other events.
Industrial Facilities & Operations	Business	2	Malmstrom's mission is comprised of industrial components and maintenance. The industrial SWPPP covers these activites, but continues to be a large source of pollution.	Industry Specific Training	Active	2022	Total participants	Train personnel through the Industrial SWPPP training program and track personnel trained.
Car Washing/Care	Residential	3	Most base personnel know to take government vehicles to a designated car wash facility. BBC (Housing authority) consistently notifies resident to stop washing vehicles.	Brochures	Passive	2022	Total Distribution	Continue to provide new resident brochures to BBC (Housing authority).
				Advertisements	Passive	2022	Percent population reached	Continue to use base marquees for storm water logo display
Landscapers	Business	4	Malmstrom has 2 contractors that take of of the general lawn and sprinkler maintenance on base.	Industry specific training	Active	2023	Total participants	Train grounds maintenance supervisors (at a minimum) on grounds maintenance practices to minimize storm water impacts
Construction Industry	Business	5	Malmstrom typically has a consistent amount of construction on base from O&M to new buildings. Activities are reviewed through work task process.					
Pet Waste	Residential	6	Housing resident are allowed to have pets and typically pick up after them. Not a big pollution source, but could become one.					
Gas Station	Business	7	BX and Military gas station. Military gas station is covered under the industrial SWPPP. BX is in good shape (relatively new and not many issues)					
Restaurant/Food trucks	Business	8	Restaurants handle used cooking oil and are subject to SPCC requirements. Not currently any issues.					
Hazardous Waste Disposal	Residential	9	Base hazardous waste is handled through the Malmstrom Environmental office. Subject to RCRA, no issues.					
Lawn/Garden Care	Residential	10	Not a prominent issue. Covered under general education with residents or eduction through landscape contractors.					
Home Chemical Care	Residential	11	Residents encouraged to share left over chemicals before leaving. Hasn't been an issue to date.					
Mobile cleaning/Pressure Washer	Business	12	One isolated incident in 2020. Could become an issue, but not current is one.					
Carpet Cleaning/Restoration	Business	13	Carpet cleaners do not discharge waste on base and are required to take it with them off base. Don't foresee issues					
Post Construction Facility Owners	Business	14	Post Construction facilities are owned by the base. Any significant issues can be handled in-house					

Appendix D: Field Data Forms

SW-101A: MALMSTROM AFB CONSTRUCTION SWPPP PLAN REVIEW CHECKLIST

Project Name					
Date:		**Time:**		**Contractor name**	
Job Superintendent/site representative:				**Phone(s), e-mail:**	
341 CES project manager (name):				**341 CES project inspector (name):**	
Contracting authority (check one):	**341 CES**	**USACE**	**Other**	**USACE/other project inspector (name):**	
Checklist filled out by (print name):				**Signature**	

SWPPP Plan Review Checklist		
Description	**Complete?**	**Comments**
1. Describes the project location (address, lat/long, etc)		
2. Description of Project Activity		
3. Describes site acreage, disturbed area, and existing impervious area		
4. Identifies site features		
a. Limits clearing and grading		
b. Existing vegetation delineated		
c. Existing and proposed topography		
d. Existing and proposed runoff direction		
e. Description of outfalls and surface waters		
f. Plan includes adequate phasing		
g. Stockpile locations, staging areas, and access points identified		
h. Identifies dumpsters, porta-potties, concrete washout locations		
5. Copy of NOI and SWPPP as submitted to DEQ		
6. Copy of SWPPP Administrator Certificates		
7. Establishes inspection frequency		
8. Complies with EISA Section 438 requirements		
9. Complies with MS4 retention requirements		
10. Adequately addresses revegetation/final stabilization		

Notes:

Inspection General Information			
Temp (F)		NOI/MT DEQ Confirmation/Permit on-site?	
Weather (windy, rainy, etc)		Site map up-to-date?	
Recent 0.25" rain events (list)		Most recent SWPPP revision	
Acres disturbed		Most recent inspections	

Construction Site Storm Water Details			
Requirement	**SWPPP**	**Field**	**Comments**
Erosion and Sediment Controls (General Permit Section 2.1.1)			
a. Selects and designs BMPs to address peak precipitation and runoff expected at the site			
b. Implements/installs all BMPs with good engineering practice and design specifications			
c. Implements/installs BMPs before and after each major construction activity			
d. Minimizes erosion within the project area			
e. Diverts runoff from disturbed areas to sediment removal BMPs			
f. Minimizes sediments discharge from project area			
g. Maintains BMPs in effective operating condition			
h. Minimizes erosion at outlets and conveyance channels			
i. Protects all storm drain inlets			
j. Manages/minimizes vehicle entrance/exits to the site			
k. Stabilizes ditches, swales, and channels			
l. Constructs retention/detention facilities during initial grading			
m. Provides surface outlets for retention/detention facilities			
n. Protects infiltration facilities from sedimentation during construction			
o. Limits areas of disturbance			
p. Provides natural buffer within project site (when feasible)			
q. Designs and construct cut-and-fill slopes to minimize erosion			
r. Diverts storm water away from slopes/disturbed areas			
s. Prevent storm water run on from impacting sediment removal BMPs			
t. Maintains natural buffers around state waters			
u. Directs storm water runoff to vegetated areas			
v. Marks and maintains clearing limits			
w. Preserves topsoil			
Soil Stabilization (General Permit Section 2.1.2)			
a. Stabilizes disturbed areas when work ceases for greater than 14 days			
b. Stabilizes disturbed areas that have been completed			
Dewatering Activities (General Permit Section 2.1.3)			
a. Dewatering activities permitted and managed appropriately			
Pollution Prevention (General Permit Section 2.1.4)			
a. Provide cover/containment for chemicals, petroleum, and wastes			
b. Utilizes spill prevention and controls for vehicle fueling/maintenance			
c. Maintains spill kits, clean up spills, and report immediately			
d. Prevents discharge of wash water and clean-out wastes			
e. Applies fertilizers and herbicides per specifications			
f. Prevents discharges of concrete products			
Prohibited Discharges (General Permit Section 2.1.6)			
a. Concrete washout managed by appropriate controls			
b. Control washout from paints and other chemicals			

c. Manages soap and solvents in vehicle or equipment washing			
d. Prohibits discharges from contaminated soils			
Requirements	**SWPPP**	**Field**	**Comments**
Other requirements			
BMP installation/maintenance match between SWPPP and field (General Permit Section 3.11)			
SWPPP map is of adequate size and detail and is up-to-date (General Permit Section 3.10)			
Identifies and implements inspection frequency (General Permit Section 2.3)			

Notes/Follow-up Method/Date:

SW-101B Construction Inspection Frequency Worksheet				
Project Name				
Evaluator				
Date				
Criteria		**Rating System**	**Rating Value**	**Score**
Project Size		1 – 3 acres	1	
		>3 acres	3	
Proximity to Outfall		0 – 500 ft	5	
		501 – 1,500 ft	3	
		>1,501 ft	1	
Steepness of Project Site		Flat	1	
		Near 3:1	3	
		>2:1	5	
Discharge to a waterbody impaired for expected pollutants[1]		Yes	3	
		No	1	
Contractor history		No history of complaint	1	
		One complaint	3	
		2+ complaints	5	
Risk of spill/hazardous materials		No hazardous materials	1	
		Non-liquid wastes	3	
		Liquid wastes	5	
[1] Impairments: arsenic, copper, PCBs, turbidity, sedimentation/siltation, temperature				
			Total Score	
Scoring Matrix				
Score	**Priority**	**Inspection Frequency/Protocol**		
6 – 9	Low	1/project duration		
10 – 16	Medium	2/project duration		
		Once after 0.25 inch or greater rain event (counts as one of the two)		
17 – 24	High	Once within 48-hours after a 0.25 inch or greater rain event		
		Once within 48-hours after snowmelt erosion		
		Once at project conclusion (prior to finalization)		
INSTRUCTIONS: Based on project details, score each of the criteria sections (Column D). A total score will be calculated (Cell D18). Ust the scoring matrix to select the inspection frequency/protocol for the project. Save file under J:\CEI\CEIE\CEIEC\Storm_Water\MS4 SW\MCM 4\Inspections				

An Excel version of this form is available for ease of calculations.

SW-102: OUTFALL DRY WEATHER SCREENING

Background Information					
Date		Time		Inspector	
Inspector Signature					

Weather Information			
Ambient Temperature		Wind Speed	
Cloudy/Clear		Wind Direction	
Recent Precipitation*		Snow Melt (y/n)	
*Inspection must occur after at least 48 hours of no measurable precipitation			

Outfall Evaluation	
Indicator	**Evaluation**
Pipe Condition	☐ Spalling, Cracking, Chipping ☐ Corrosion ☐ Other:
Pipe Debris (includes trash racks)	☐ Trash ☐ Pipe build-up ☐ Other:
Outfall Gates	☐ Inoperable ☐ Inadequate seal ☐ Other:
Inlet/Outlet	☐ Excessive vegetation ☐ Scouring/erosion ☐ Other:
Vegetation Issues	☐ Excessive ☐ Inhibiting ☐ Other:
Spill Kit	☐ Missing items ☐ Not labeled ☐ Items deteriorated ☐ Other:
Other Notes	

Flow Evaluation						
Flow Present	☐ Yes ☐ No		Water Temperature (ºF)		Flow (gpm)*	
Indicator	**Present?**		**Description**		**Severity Index**	
	Yes	**No**				
Odor	☐	☐	☐ Sewage ☐ Rancid/Sour ☐ Petroleum ☐ Sulfide ☐ Other:		☐ 1- Faint ☐ 2- Easily detected ☐ 3- Noticeable from a distance	
Color	☐	☐	☐ Brown ☐ Gray ☐ Yellow ☐Green ☐ Orange ☐ Red ☐ Other:		☐ 1- Faint ☐ 2- Visible in sample bottle ☐ 3- Visible in flow	
Turbidity	☐	☐	See severity index		☐ 1- Slight cloudiness ☐ 2- Cloudy ☐ 3- Opaque	
Floatables	☐	☐	☐ Sewage ☐ Suds ☐ Oil Sheen ☐ Other:		☐ 1- Barely noticeable ☐ 2- Noticeable ☐ 3- Obvious	
Other Sampling Protocols (Optional)						
Parameter		Result		Parameter		Result
*Visual estimate, flow estimation worksheet from Sampling Plan, or flow calculator (J:\CEI\CEIE\CEIEC\Storm_Water\Flow Calculator)						

Form continues on next page→

Follow-Up	
Any indication of illicit discharge?	☐ Yes ☐ No If yes, conduct an investigation and document
Work request required?	☐ Yes ☐ No If yes, Work Task#
Other follow-up action?	

Notes:

SW-103: Malmstrom AFB Plan Review Procedures

These procedures will be used to ensure storm water issues are adequately addressed in projects submitted for review.

1. Any project or work that occurs on base requires the customer to submit a service request via the TRIRIGA system. This system tracks all work that happens at Malmstrom AFB.

2. 341 CES/CEIE reviews each service request to determine the extent of the work and what impact the work will have on storm water. If a concern is identified, 341 CES/CEIE makes a comment in the TRIRIGA system to notify the customer and whoever is doing the work that there is a concern.

3. Malmstrom AFB must also comply with all National Environmental Policy Act (NEPA) requirements. Each service request must have a categorical exclusion (CATEX) assigned to it before approval. If there are additional environmental concerns, an AF Form 813 must be completed by the customer. If the concerns are unknown, an environmental assessment (EA) or environmental impact statement (EIS) must be completed before the project can start.

4. Typically if the project is anything more than infrastructure maintenance, CE will request funds to have a contractor design and complete the work.

    a. If the work requires design, the project goes through a series of design reviews (Type A, Type B 50%, and Type B 100%). 341 CES/CEIE receives each design iteration to ensure the design team implements construction and post-construction requirements. 341 CES/CEIE also ensures that the latest Environmental Specification section is included in the design package.

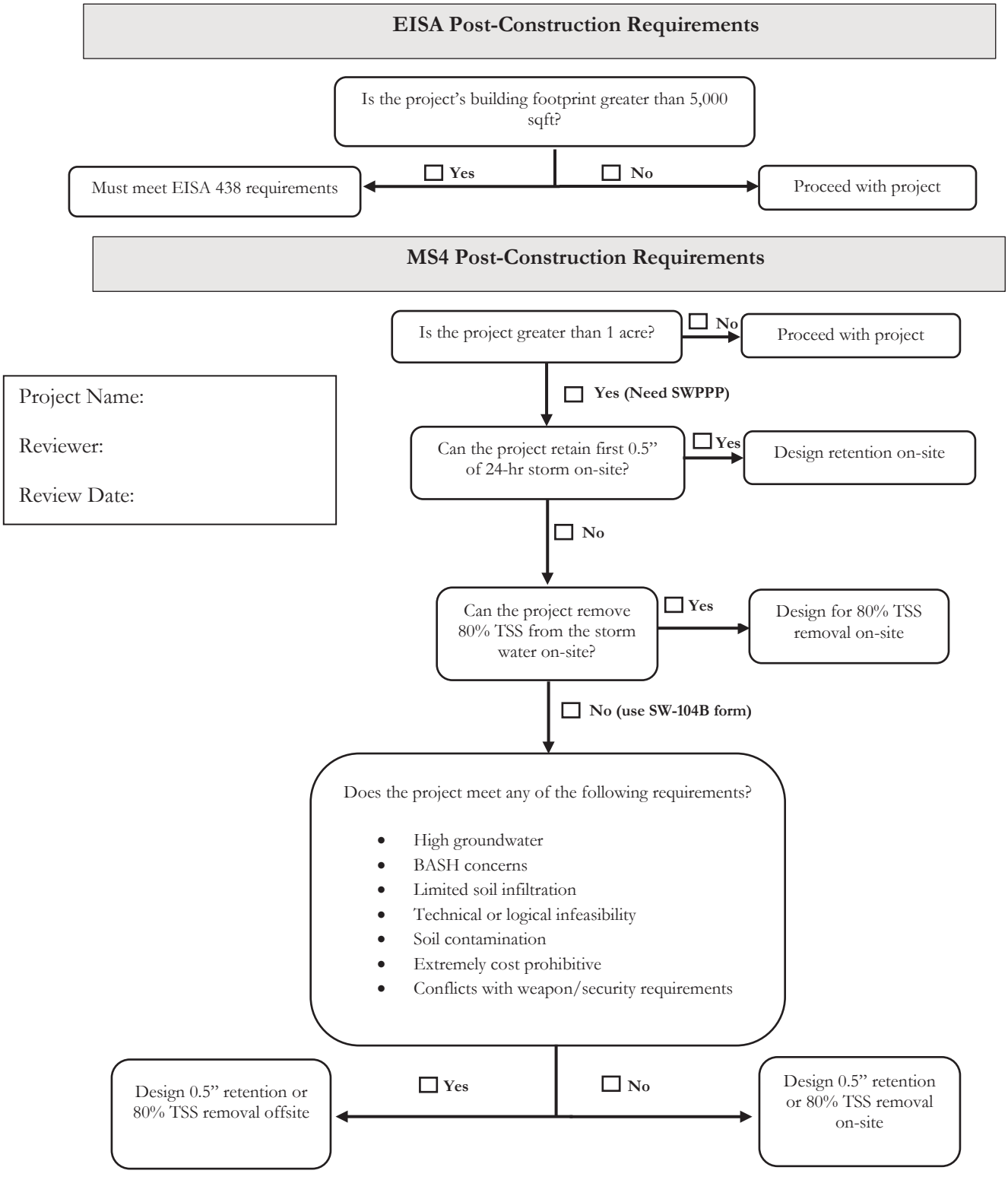
    b. 341 CES/CEIE ensures that both MS4 and EISA 438 requirements are met. If the project is expected to disturb an area greater than 1 acre, the construction entity is required to obtain coverage under the Construction Storm Water General Permit.

5. Any project that disturbs any amount of ground must submit an AF Form 103, Dig Permit. 341 CES/CEIE is required to identify any final concerns and sign the form before work can begin.

6. For more information, use SW-104, SW-104B, and the associated guidance to determine what retention requirements apply.

7. For construction projects that require a SWPPP, 341 CES/CEIE will use SW-101 for plan review and inspection checklists. Use the Construction Inspection Frequency Worksheet to determine how often to inspect a construction site.

SW-104A: POST-CONSTRUCTION STORM WATER REQUIREMENTS FLOWCHART & OFFSITE TREATMENT EVALUATION



Description of how project will meet requirements:

SW-104B: POST-CONSTRUCTION STORM WATER OFFSITE TREATMENT CRITERIA

Directions: Use this form to determine if post-construction storm water runoff can be treated offsite. Use in conjunction with the post-construction flowchart to determine what requirements apply. This form shall be used if offsite treatment of storm water is desire.

Project Information					
Project Name:					
Description of work:					
Site area (acres):		Impervious surface created or altered (acres):			
Project classification (check all that apply): ❑ New Development ❑ Redevelopment ❑ Residential ❑ Commercial					
Preferred treatment method: ❑ Retention offsite ❑ 80% Total suspended solids (TSS) removal offsite					
EISA applies? ❑ Yes ❑ No					
Regional Facility Considerations					
Regional treatment facility to be utilized:					
Design capacity of regional treatment facility:					
Does the regional treatment facility have adequate capacity? ❑Yes ❑No					
Technical Considerations (Reasons must be explained in Additional Information section)					
High groundwater	❑Yes	❑No	Extremely cost prohibitive	❑Yes	❑No
Bird Airstrike Hazard	❑Yes	❑No	Conflicts with weapon/security	❑Yes	❑No
Soil infiltration limited	❑Yes	❑No	Technical/logical infeasibility	❑Yes	❑No
Contaminated soils	❑Yes	❑No	Other (explain)	❑Yes	❑No
Additional Information					

SW-105: MALMSTROM POST-CONSTRUCTION FEATURE ANNUAL INSPECTION CHECKLIST

Site Name/ Location		Type of Feature	
Date		Time	
Inspector Name		Signature	

Date of Last Inspection		Current Temp (F)	
Storm water discharging to site?	❑ Yes ❑ No	Current Weather (Rain, Cloudy, etc)	
Storm water discharging from site?	❑ Yes ❑ No	Preceding Precipitation (inches)	
Non-storm water discharges present?	❑ Yes ❑ No If yes, describe:		

Detailed Feature Checklist		
Description	Response	Details/Corrective Actions Needed
1. Excessive sediment deposition	❑ Yes ❑ No	
2. Slopes are stabilized	❑ Yes ❑ No	
3. Inlets/Outlets clear of sediment, trash, and debris	❑ Yes ❑ No	
4. Inlet/Outlet structures are in good condition (no cracking, erosion)	❑ Yes ❑ No	
5. Feature is free of trash and debris	❑ Yes ❑ No	
6. Feature is adequately vegetated	❑ Yes ❑ No	
7. Feature is functioning as designed and intended	❑ Yes ❑ No	
8. Additional storm water control are necessary	❑ Yes ❑ No	
Additional notes		

Appendix E: Enforcement Response Plan

ENFORCEMENT RESPONSE PLAN

Malmstrom Air Force Base (AFB) has developed this Enforcement Response Plan (ERP) to document Base authorities and enforcement actions aimed at eliminating and abating illicit discharges to storm water conveyances during everyday operations, and for construction projects and post-construction efforts. This ERP complies with General Permit:

- Part II.A.3.d.iv for illicit discharges;
- Part II.A.3.f.i for illicit discharge investigation and correction actions;
- Part II.A.4.a.iii for construction storm water management on regulated projects; and
- Part II.A.5.a.iii for installation, operation, and maintenance for post-construction storm water management controls on regulated projects.

Illicit discharges (whether from daily Base activities or construction-related projects) can be categorized as any discharge of a material or substance that can negatively impact the environment. While the Base has several plans that target discharge control for official operations, this ERP targets potential discharges from other non-regulated entities on the installation (e.g., base housing, construction, visitors). The Storm Water Management Program (SWMP) (of which this ERP is an Attachment) identified illicit discharges in Table 4-2. This list is not all inclusive and other potential illicit discharges can occur. Note also, that Table 4-3 presents a list of exempt non-storm water discharges that are not covered by this plan.

The public programs detailed in SWMP Minimum Control Measures (MCM) 1 and 2 provide training and education for non-operations personnel on Base. These materials provide a basis for the public to be aware and understand what constitutes an illicit discharge and the impacts to the environment. Non-operations personnel are educated to understand how to recognize an illicit discharge and what to do in the event one is identified.

Base Personnel are educated through the training programs, base website, and newspaper articles to identify potential illicit discharges. Personnel are instructed on what to look for to identify a potential illicit discharge (e.g., oily substances, sheen on storm water, etc.).

The Malmstrom AFB Storm Water Management Coordinator (SWMC) or designee will confirm that contractors understand illicit discharges and storm water management prior to being allowed to begin operations on the Base.

ERP.1 ERP Authority

This ERP outlines the legal authorities under the SWMP and/or other Base programs, as well as the judicial response measures that are available to address illicit discharges. This includes discharges from daily Base living and operations, and/or releases from construction/post-construction activities to storm water. As a US military base, Malmstrom AFB has legal authority to manage potential illicit discharges and storm water management. However, the Base lacks ordinances, regulatory processes, and judicial authority for such matters. Therefore, these activities will be managed through enforcement of State regulations and/or

requirements and Base policy. The Base policies are governed by Base Leadership and as directed under programs defined by Malmstrom AFB plans (Storm Water Management Program [SWMP] and Spill Prevention Control and Countermeasures Plan [SPCC]) that are developed by responsible Base personnel and approved by Base Leadership. Base personnel will be trained to the plan specifics as defined within each approved document.

ERP.2 Enforcement Authority Staff

Personnel covered by this ERP are identified in the following table. The table also provides the enforcement authority identified for each personnel category.

Covered Personnel	Enforcement Authority
Personnel living on or visiting the Base but not involved with operations	Storm Water Management Coordinator (SWMC) Balfour-Beatty Communities (BBC)
Base operational personnel	Supervisor
On-site contractors	Contracting Officer/Contracting Officer Representative (COR)/SWMC/ Base Designated Inspector

Malmstrom AFB does not have any legal authority to provide formal notices of violation, set in place formal actions (e.g., administrative orders, show-cause actions, and/or monetary penalties), or provide for legal judicial responses (e.g., injunctive relief, consent decree, and/or criminal penalties). However, for Base personnel and contractors, a variety of actions are available. The following outline covers the process for enforcement response.

ERP.3 Illicit Discharge Response Schedule

As noted previously, Malmstrom AFB does not discharge to any neighboring MS4 entities. The Base will manage any illicit discharges. If an illicit discharge is identified, it will be immediately managed to eliminate any potential storm water threat in accordance with response actions described in Base plans (SPCC, SWMP).

After it is determined that a threat to storm water no longer exists, the SWMC will investigate the potential illicit discharge within seven days of notification or discovery (see Section ERP.5). The SWMC must document any circumstances that prevents the beginning of investigation within this time frame.

After an investigation is completed, the goal for the SWMC is to start the corrective actions process within 30 days (see Section ERP.5). Malmstrom AFB has specified that any illicit discharge will be eliminated within six months after discovery. The SWMC must document any circumstances that prevents the elimination of such discharges within the time frame.

ERP.4 Investigation and Corrective Action Plan

This section of the ERP contains an Investigation and Corrective Action Plan that provides guidance for identifying, investigating, and implementing corrective action in the event of an illicit discharge. Note that currently, Malmstrom AFB does not discharge to neighboring MS4 entities. This meets the MS4 General Permit requirements under Part II.A.3.f.

ERP.4.1 Discharge Detection and Reporting

If a potential discharge is noted, the following process should be followed:

1. Stop any work or actions in the area.
2. Identify material discharged if possible.
3. Identify the process that created the discharge if possible (accident or process problem).
4. Identify if the material is coming from a continuous source (e.g., tank leak) or is a "slug discharge" (e.g., spilled container of oil).
5. Estimate the discharge material amount or volume.
6. Note the area that may be impacted (street address) and where material is or may be flowing.
7. For potential operation discharges, note surrounding Base shops, etc.
8. Once identified, the discharge must be reported to the proper authorities. Please provide the information collected as noted above.

    - For non-operations or on-Base personnel, please dial 911 to report the discharge
    - Base personnel should contact the site (i.e., shop) Supervisor
    - Shop Supervisors should contact the specific entities defined within the SWMP and/or SPCC (including outside agencies)
    - On-site contractors should contact their designated storm water inspector, the SWMC, or the COR

9. The SWMC or designee will investigate any dry-weather flows to evaluate if they could be an immediate threat to human health or the environment. If any such flows are considered a potential threat, they will be immediately reported to Montana Department of Environmental Quality.

ERP.4.2 Discharge Investigation

As noted, each illicit discharge will be investigated within seven days of discovery. In the event more than one discharge is identified, the SWMC will prioritize them for investigation. Non-storm water discharges suspected of containing significant potential contamination will be given top priority.

The SWMC will ensure that each investigation is carried out in a responsible manner as required in the MS4 General Permit. The designated investigator will review the discharge reporting information; interview personnel involved and any other potential witnesses; assess the incident; and provide a written report to the SWMC. The SWMC will review the report and determine a path forward. The SWMC will determine what corrective action is required and document that in the project file.

Files will be maintained to demonstrate that a good faith investigation was completed to find the discharge source. Each investigation step will be documented in writing by the investigation team. These files will be maintained at Malmstrom AFB. Illicit Discharge and Corrective Actions are tracked and recorded in the database tracking spreadsheet located on the Base J-drive.

ERP.4.3 Corrective Action

After the discharge has been identified and reported, corrective actions can be implemented. As noted previously, the goal is to complete corrective action within six months from the time of discovery. Base (or contractor as needed) spill response personnel will address the discharge through final remedy. The SWMC will develop a Corrective Action Memorandum to complete the process.

Note that non-Base or non-trained personnel are not expected to implement any measures to clean up a discharge if it is unsafe or if the doing so may cause an unsafe condition. However, should the person believe that they can SAFELY contain or cleanup up a discharge, such measures can reduce potential impacts to the environment. If any such measures are implemented, please provide this information to spill response personnel.

After the discharge has been addressed, Base personnel and on-site contractors should complete the following process to identify corrective action to reduce the likelihood of future discharges:

Base Entity Personnel

- Meet with shop and/or personal Supervisor
- SWMC and/or Base Leadership can be included in meeting as necessary
- Review the discharge events and discuss what happened and what processes were involved (copies of incident file can be obtained from SWMC as needed)
- Identify if a process change should be considered to prevent future discharges
- If a process change is needed or suggested, identify if the change requires engineering or administrative controls or both
- Implement disciplinary action as needed

Contractor Personnel

- Prepare an event writeup and submit to the Base inspector or COR
- Meet with inspector and other entities (SWMC and/or Base Leadership) to discuss event
- Review the discharge events and discuss what happened and what processes were involved
- Identify if a process change should be considered to prevent future discharges
- If a process change is needed or suggested, identify if the change requires engineering or administrative controls or both
- Implement disciplinary action as needed

If the responsible party is not part of Base operations or a contractor, the SWMC should reach out to the person to discuss the event and possibly use it as a teaching tool for future MCM 1/2 informational session(s).

ERP.5 Construction Storm Water Management Compliance

Storm water management is a key element of any construction project. Malmstrom AFB will utilize this ERP to ensure that illegal construction-related discharges to storm water are eliminated and abated.

Malmstrom AFB will assign a storm water inspector for each construction project on the Base. The inspector will be responsible to ensure that the construction contractor understands the storm water requirements applicable to the project. Construction projects must comply with MS4 Permit and Construction Storm Water Permit requirements. The contractor work plans must show compliance with the Non-Numeric Technology-Based Effluent Limits; provide for proper BMPs for erosion, sediment, and other pollutants; and avoid unnecessary damage to Base infrastructure.

The inspector will establish an inspection program for each construction project using this ERP as a guide along with other Base documents such as SWMP and SPCC. The inspection frequency will be determined utilizing the calculation sheet provided in Attachment 4 of the SWMP.

Should an illegal storm water discharge occur, all contractors will be instructed to immediately contact their inspector. Failure to do so could result in loss of the contract. Construction-related storm water discharges will be managed by the contractor in accordance with their approved work plan documents. If the contractor is unable to manage a given discharge, the Base will assume responsibility and it will be managed in the same manner as any other illicit discharge per this ERP and the Base response plans.

ERP.6 Post-Construction Storm Water Management Compliance

Post-Construction storm water management will be managed like construction project compliance. Malmstrom AFB will utilize this ERP to ensure that illegal post-construction-related discharges to storm water are eliminated and abated.

The Malmstrom AFB storm water inspector for each construction project will continue with that role for post-construction activities. The inspector will be responsible to ensure that the post-construction procedures are applicable to the project and will review all storm water related plans and specifications to make sure they comply with Base or regulatory requirements. Post-construction projects must comply with the MS4 Permit and the Energy Independence and Security Act, Section 438, governing storm water runoff requirements for federal projects. The post-construction plans must show compliance with the storm water retention and total suspended solid discharge requirements; while the project design must demonstrate measures to ensure predevelopment hydrology in the area is maintained. No project will be allowed to proceed until all plans and specifications have been approved.

Post-construction, the inspector will establish an inspection program commensurate with the project complexity to ensure that the storm water management design elements are functioning as planned.

The Base storm water team will develop a project-specific schedule to track the effectiveness of these design elements and for final approval of the construction project. Should the SWMC decide that the final design

elements are not adequate to control storm water, the Base will work with the contractor to address any concerns.

After final approval of the design elements and construction, Malmstrom AFB will assume control of the post-construction storm water infrastructure. At that time, any storm water issues will be managed under this ERP according to the procedures laid out for Base Personnel.

ERP.7 Enforcement Authority Actions

ERP.7.1 Personnel Living on or Visiting the Base

Malmstrom AFB has limited authority with regards to personnel living or visiting the Base. However, for such personnel involved in an illicit discharge (per Part II.A.3.d.iv), the following informal actions can be implemented:

1. SWMC will contact the person to review the Base policy regarding such events. These contacts can be via email, telephone, or in person. The SWMC will work with the Malmstrom Housing Office to resolve any issues.
2. The person will be encouraged to participate in the Base awareness program under MCMs 1 and2.
3. The person will be asked if interested in participating in the MCM programs and possibly provide first-hand experience in how to successfully respond to a potential illicit discharge.
4. All aspects of the discharge (incident report and any follow up actions) will be documented and maintained by the SWMC in a project file.

Should enforcement actions need to be escalated, the following options can be considered:

1. A letter noting the event and reminding personnel about the potential harm from illicit discharges can be sent to each involved party.
2. A non-monetary citation from the Malmstrom Housing Office.
3. Notification to member's leadership on the violation.
4. The Base Leadership can consider limiting Base access for repeat offenders.

ERP.7.2 Base Operations Personnel

Malmstrom AFB has authority over Base operation personnel via their employment. For operational personnel involved in an illicit discharge (per Part II.A.3.d.iv), the following can be implemented:

1. The person's supervisor will be contacted and made aware of the event.
2. The situation will be reviewed to determine if the occurrence was a one-time event or is part of a continuing pattern.

    - The Supervisor will speak with the employee either in person or via telephone.
    - The Supervisor will review the Base policy regarding such events with the employee.

- This contact will be considered an informal response.

3. If the situation is considered more serious or repeated actions are being noted, enforcement can be escalated within a more formal process:

    - The Supervisor or SWMC can stipulate that a formal Environmental Compliance Assessment Management Program (ECAMP) write-up be implemented.
    - This process will require a mandatory meeting with the person's supervisor and the SWMC.
    - The ECAMP process will identify any formal response requirements to be completed by the employee. All aspects of the discharge (incident report and any follow up actions) will be documented and maintained by the SWMC in a project file.
    - Malmstrom AFB can consider various punishments to address serious and/or repeat offenders such as work restrictions, suspensions, and/or termination.
    - The Supervisor and/or SWMC can consider elevating the action to Base Leadership in the event of a serious infraction and/or repeat significant offenses.

ERP.7.3 On-site Contractors

Malmstrom AFB has authority over contractors performing activities on the Base. For contractors involved in an illicit discharge (per Part II.A.3.d.iv) or discharges during construction or post-construction (per Part II.A.4.a.iii and II.A.5.a.iii), the following informal actions can be implemented:

1. The contractor's Base storm water inspector will be contacted and made aware of the event.
2. The Base SWMC and Team will consider if a stop-work order must be issued for the given construction project.
3. The situation will be reviewed to determine the magnitude of the discharge and if the occurrence was a one-time event or is part of a continuing pattern. If the situation is considered minor and a one-time occurrence, the following will occur.

    - The inspector will speak with the contractor either in person or via telephone.
    - The inspector will review the Base policy regarding such events with the contractor.
    - This contact will be considered an informal response.

4. If the situation is considered more serious or repeated actions are being noted, enforcement can be escalated with a more formal process:

    - A mandatory meeting with the contractor's inspector and the SWMC will be required.
    - The SWMC will decide whether the contactor operations should be temporarily stopped.
    - The inspector and/or SWMC can consider elevating the action to Base Leadership personnel depending on the severity and/or if a repeat offense.
    - All aspects of the discharge (incident report and any follow up actions) will be documented and maintained by the SWMC in a project file.

- Malmstrom AFB Base Leadership can consider multiple penalty options if elected such as stop-work order while work plans are rewritten to ensure no future discharges; implementing and/or increasing bonding requirements; or terminating a contractor for discharge offenses.

The AF can consider seeking monetary damages to cover the cost of any actions the Base takes to address any given discharge.

Appendix F: Storm Water Policy Letter

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 341ST MISSILE WING (AFGSC)

30 Sep 2024

MEMORANDUM FOR ALL INDIVIDUALS ON MALMSTROM AFB

FROM: 341 MW/CC

SUBJECT: Malmstrom AFB Storm Water Policy

1. All individuals and companies that work, live on or visit Malmstrom AFB must comply with environmental standards. Therefore, to conform with the requirements of the Montana Department of Environmental Quality Municipal Separate Storm Sewer System (MS4) Permit issued to Malmstrom AFB, this policy memorandum addresses prohibited discharges into the storm water system.

2. All individuals on Malmstrom AFB shall prevent and eliminate any illicit discharge from entering the storm sewer system to the maximum extent possible. These illicit discharges include, but are not limited to, petroleum products, vehicle fluids, sediment, and trash.

3. All construction site personnel shall prevent and eliminate the release of fuel, chemicals, concrete washout, and sediment from entering the storm sewer system to the maximum extent possible.

4. All federal facility projects with a footprint of more than 5,000 square feet must comply with Energy Independence and Security Act (EISA) Section 438 to the maximum extent technically feasible. All projects that disturb more than 1 acre must comply with the MS4 post-construction requirements.

5. Failure to comply with standards related to illicit discharge, construction, or post-construction related storm water discharge may result in adverse action. United States Armed Forces personnel (Active Duty and Reserve Component) are subject to adverse action, including actions under the Uniform Code of Military Justice, Article 92. U.S. Government Civilian Employees may be disciplined in accordance with appropriate civilian personnel processes or law. Contractors shall abide by all storm water specifications in their applicable contract. Non-DoD civilian personnel (e.g. dependents, visitors, etc.) are subject to penalties authorized by law or regulation.

6. For more information or questions, contact Mr. Shannon Chouinard, 341 CES/CEIE at (406)731-7148 or shannon.chouinard@us.af.mil.

DANIEL J. VOORHIES, Colonel, USAF
Commander