REPORT OF MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) INSPECTION

AT

The U.S. Army Garrison, Fort Leonard Wood

8112 Nebraska Avenue, Building 11400

Fort Leonard Wood, Missouri 65473

NPDES Permit Number: MOR040088

BY

U.S. ENVIRONMENTAL PROTECTION AGENCY-REGION 7

ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION (ECAD)

WATER BRANCH / DRINKING WATER AND INSPECTIONS SECTION (WB/DWIS)

July 10, 11 and 13, 2023

INTRODUCTION

At the request of the Water Branch (WB), Enforcement and Compliance Assurance Division (ECAD), a Compliance Evaluation Inspection was conducted of the U.S. Army Garrison, Fort Leonard Wood' Municipal Separate Storm Sewer System (MS4) on July 10, 11, and 13, 2023. The inspection was conducted under the authority of Section 308 of the Clean Water Act, as amended. It was conducted in accordance with the U.S. Environmental Protection Agency (EPA) Region 7 Standard Operating Procedures for Compliance Inspections (ENST SOP No. 2332). This narrative report presents the findings of the inspection. All other documentation not included as an attachment to this report has been submitted directly to the Region 7 Records Center.

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FACILITY DESCRIPTION

The U.S. Army Garrison, Fort Leonard Wood (FLW) operates under two National Pollutant Discharge Elimination System (NPDES) permits issued by the State of Missouri Department of Natural Resources (MDNR) to prevent stormwater pollution. The two permits include the Phase II Small Municipal Separate Storm Sewer System (MS4) Number MOR040088 (Attachment 1) and the Industrial Activity general permit number MO0117251(Attachment 2). The basic requirement of the permits is for FLW to identify specific activities conducted on the installation that may impact water quality, and to develop and implement stormwater Best Management Practices (BMPs) that will minimize such impact.

Pollutants of concern on FLW installation include, but are not limited to, sediment, petroleum products, chemicals, nutrients, metals. Such pollutants can have direct impact on streams, ponds, rivers, and lakes when runoff occurs after a rainfall or snowmelt event and flows over impervious surfaces such as driveways, sidewalks, streets, parking lots, and roofs.

The Environmental Divison within the Directorate of Public Works (DPW) on FLW, has the responsibility to develop and implement such BMPs which apply to all personnel (commands, directorates, brigades, battalions, companies, tenant, government owned contractor operated, and contractor activities) and all facilities on the FLW installation.

The Environmental Division has developed the FLW BMP Manual (Attachment 3) to spread awareness and knowledge to all personnel on the installation. The manual includes six major BMPs for stormwater pollution prevention. Those are: 1) minimizing exposure to stormwater, 2) good housekeeping, 3) spill prevention and response procedures, 4) preventive maintenance, 5) routine inspections, and 6) personnel training.

The purpose of this inspection was to evaluate FLW's compliance with the requirements of the MS4 NPDES permit Number MOR040088, as well as the implementation status of the current Phase II MS4 Program, specifically the implementation of Minimum Control Measure (MCM) Number 6: Pollution Prevention/Good Housekeeping for Municipal Operations. Therefore, the inspection focused on record reviews and field visit to two of the Municipal Facilities: the DPW Compound (salt storage, fueling point, wash rack, motor pool) Area 2200 and US Marine Corp 900 Area Motor Pool.

FINDINGS AND OBSERVATIONS

All findings and observations of this inspection are based on my interviews with FLW personnel, my review of records provided by the FLW personnel, and my visual observations of the two sites I visited during the inspection. All observations were discussed in detail with FLW personnel throughout the inspection and during the formal exit meeting on July 13, 2023.
A Notice of Preliminary Findings (NOPF) (Attachment 4) was issued to the US Army Garrison, Fort Leonard Wood during the exit meeting. FLW sent a response to the July 13, 2023 NOPF via email (Attachment 5) on July 25, 2023.

According to the annual reports, the FLW Pollution Prevention and Good Housekeeping Program consists of an Operations and Maintenance Program (OMP) designed to ease pollutant runoff. The OMP includes street sweeping, building and grounds maintenance, salt storage, etc.

The FLW Stormwater Office works closely with the Base Maintenance Program to ensure that installation personnel are educated on the specific BMPs for activities conducted. In addition, inspections are conducted on an annual basis to ensure compliance with the permit. As mentioned in the Municipal Stormwater Plan (SWMP) (Attachment 6), the FLW Environmental Division has several different Environmental Programs that align with EPA regulatory requirements. These programs include Spill Prevention and Response, Solid Waste Program, Hazardous Waste Program, National Environmental Policy Act (NEPA) Program, and Air Program. All of these programs collaborate on a regular basis to ensure that each program complies with specific requirements associated with the regulatory regulations.

1. Per Section 4.6 of the MS4 NPDES permit, FLW is required to develop and implement an operation and maintenance program that include training, an updated list of all municipal operations/facilities, controls to reduce or eliminate floatables and pollutants into waters of the US, maintenance and inspection schedule, proper disposal procedures of floatables and pollutants, washing of vehicles, and assessing all flood management projects that may impact waters of the US. To achieve and comply with permit requirements, FLW has developed and implemented a SWMP (Attachment 6) that consists of the six MCMs. Each of the six MCMs include the following:

1. General summary;
2. Progress toward achieving the statutory goal of reducing the discharge of pollutants to the maximum extent practical (MEP);
3. Status of compliance;
4. Results of information collected or analyzed;
5. Summary of the stormwater activities the permittee plans to undertake during the next reporting cycle (including implementation schedules where applicable);
6. Assessment of the appropriateness of identified BMPs and corresponding. measurable goals for each MCM; and
7. Proposed changes to the SWMP document.

In addition, FLW developed and is implementing a Stormwater Pollution Prevention Plan (SWPPP) (Attachment 7) to satisfy the requirement of the Industrial Activity General permit number MO0117251 (Attachment 2). The SWMP and the SWPPP appeared comprehensive and complete.

2. Per Section 5.3 of the NPDES permit, FLW is required to submit an annual MS4 report that outlines FLW's activities achieving the requirements with the permit for the applicable year. FLW submitted the annual reports (Attachment 8) as required by the permit. The reports also included updates to the SWMP when necessary.

3. Per Section 4.6.A of the NPDES permit, FLW is required to conduct Pollution Prevention and Good Housekeeping (PPGH) training to target all installation personnel. There are an average of 80,000 people (uniform/civilian) that come through or reside on the installation that receive the training. According to the SWMP, the PPGH training is conducted at least annually, and it is evaluated by classroom surveys and inspections for its effectiveness. In 2022, the training was conducted on December 22, 2022, and documented on the Training,

Education and Outreach (TEO) Program tracking spreadsheet which is included as Attachment A-C of this document.

4. Per Section 4.6.B of the NPDES FLW identified the following 28 municipal operations under the Operation and Maintenance Program:

1. Street repair and maintenance
2. Storm drains maintenance
3. Park and landscape maintenance
4. Oil/water separator maintenance
5. Water treatment
6. Sanitary sewer overflow response
7. Wastewater treatment
8. Spill response
9. Recycling operations
10. School and church maintenance
11. Hazardous waste storage
12. Construction project maintenance
13. Salt storage
14. Hospital operations
15. Cinder storage
16. Museum operations
17. Street sweeping
18. Golf course operations
19. Snow and ice removal
20. Boiler plants
21. Commercial fueling
22. Equipment and vehicle maintenance
23. Commercial car washes
24. Airport operations
25. Equipment and vehicle storage
26. Commercial swimming pools
27. Stormwater feature maintenance
28. Fire Fighting Activities

5. Per Section 4.6.C of the NPDES permit, FLW is required to include a list of all facilities that are subject to NPDES permits for discharge of stormwater associated with industrial activities on FLW installation. FLW identified and listed twenty- eight facilities in Table 8.0 under Section 8.5 of the SWMP.

6. As part of the inspection, I conducted a field visit at two of the twenty-eight facilities.

6.1 *Directorate of Public Works (DPW) Compound (salt/ cinder storage, fueling point, wash rack, motor pool) at 2200 Area Compound.* Stormwater runoff from this facility, as identified by the NPDES permit, would flow into a tributary to Big Piney River via Outfall 25. Area 2200 is used by Tsay Professional Services Inc. (Government Contractor) to store salt and cinder, street sweepers, and collected debris as part of their street maintenance and sweeping operation. The area is also used by J2B Underground, another government contractor. During my visual inspection of the area used by J2B Underground, I noticed deficiencies that triggered issuing a NOPF.

NOPF #1 was issued due to improper storage of construction waste/debris and surplus used material and equipment at a sloped area along an unnamed stream. There were unprotected piles of construction debris/dirt mixed with used silt material that appeared to be there for an extended period of time, and a significant amount of material improperly stored with significant growth of natural vegetation (photos 14 through 21).

In the July 25, 2023, response to the NOPF (Attachment 5), FLW personnel stated that this finding is due to the contractor not following Fort Leonard Wood's established Best Management Practices of the NPDES Permit and Section 8.0 of the SWMP. The response

included the following corrective actions: This finding was corrected by removing debris from the rock piles and placing a silt fence around the rock piles to prevent any sediment runoff from the site to the tributary. The building materials have been recovered and staged in an orderly manner and all trash has been recovered and sent to the landfill and/or recycled. Furthermore, FLW implemented the following preventive actions: The contractor was reeducated on proper housekeeping concerning the storage of usable materials and the requirement to dispose of materials deemed to be trash. The contractor was also instructed to ensure that all dirt or gravel piles must have erosion controls.

6.2 *Motor Pool Area 900.* Stormwater runoff from this facility is identified, by the NPDES permit, to flow into Roubidoux Creek via Outfall 15. During my visual observation of the area, I pointed out to FLW personnel the following four deficiencies for which I issued under NOPF #2:

6.2.1 There was evidence of ground discoloration caused by leaking vehicles.
In the July 25, 2023, response to the NOPF, FLW personnel stated that the oil stain found on the asphalt was due to a leaking vehicle. This finding is the result of the oil spill not being cleaned in a timely manner. The response also included the following corrective action: Dry sweep was applied to the oil stain and worked in to remove as much residual oil as possible. The area was swept, and the dry sweep was recovered and FLW implemented the following preventive actions: Personnel were retrained to properly clean oil spills as they occur.

6.2.2 Evidence of materials leaving the site from unprotected outfall at the southeast section into the ditch of Alabama Avenue.
In the July 25, 2023, response to the NOPF, FLW personnel stated that this finding is the result of a spill that occurred several years in the past. There is evidence of a stain from a historical spill that left the site at an unprotected inlet leading to an outfall. The response included the following corrective action: A spill containment boom will now be placed in front of the inlet to protect the outfall while students practice fueling operations. While practicing fueling operations is conducted using water and not fuel, incorporating the spill containment boom into the training instruction will reinforce spill prevention during training exercises and real-world application.
The response also included the following preventive action: Site personnel have been trained to use a spill containment boom in front of the inlet which will allow personnel sufficient time to clean the spill before it enters the inlet.

6.2.3 Improper clearing and cleaning of stormwater inlets.
In the July 25, 2023, response to the NOPF, FLW personnel stated that this finding is the result of improper maintenance. Pine needles and sediment had accumulated at an inlet. The response included the following corrective action: Inlet has been swept and cleared of debris. The response also included the following preventive action: Personnel have been reeducated to inspect and clean the inlets as needed to prevent this situation from recurring.

6.2.4 Improper site inspection.

In the July 25, 2023, response to the NOPF, FLW personnel stated that this finding is due to the site not being properly inspected for oil spills, debris, and sediment accumulation at the inlets. The response included the following corrective action: The Environmental office has created a revised monthly inspection checklist (attached) that is being implemented across the Installation. The response also included the following preventive actions: All of Fort Leonard Wood's Environmental Compliance Officers are to receive training on the new inspection form and how the NPDES and SWMP require the monthly completion of the check list for each applicable operation on Fort Leonard Wood. Fort Leonard Wood will incorporate training on the new inspection form during the quarterly ECO training course. Additionally, training will be expanded to include the monthly inspection requirements outlined in the NPDES permit and SWMP.

7. Per Section 4.6.D of the NPDES permit, FLW shall develop/maintain controls for reducing or eliminating the discharge of floatables and pollutants from municipal parking lots, maintenance and storage yards, waste transfer station, fleet or maintenance shops with outdoor storage areas, salt/sand storage locations, snow disposal areas owned or operated by the permittee, or other locations expected to contribute floatables and/or pollutants.

Section 8.7.D of the SWMP document discusses the FLW Stormwater BMP Manual (Attachment 3). The BMP Manual was developed to include all BMPs for general as well as specific activities. The BMP Manual was included as an attachment to the SWMP document which was submitted to MDNR in February 2022. The BMP Manual is reviewed annually and updated as deemed necessary. The manual appeared adequate and comprehensive.

8. Per Section 4.6.E of the NPDES Permit, FLW shall maintain and apply maintenance procedures, maintenance schedules, and long-term inspection schedules for controls to reduce floatable and other pollutants to the permittee's regulated MS4.

Section 8.6 of the SWMP document describes the municipal operations covered under the OMP. This section explains that the DPW is responsible for the OMP and follows a master schedule which is a task list and implementation schedule for maintenance. Maintenance is conducted by installation uniform and civilian personnel as well as government contractors. In addition, routine inspections are conducted by DPW personnel.

9. Per Section 4.6.F of the NPDES permit, FLW shall utilize procedures for the proper disposal of waste removed from the separate storm sewers and areas of jurisdiction, including dredged material, accumulated sediments, floatables and other debris. BMP for this requirement is included under Section 8.4 describes the Supporting Environmental Programs which collaborate with the Stormwater Program to ensure compliance. The FLW Solid Waste Management Program has procedures to ensure the proper disposal of wastes.

10. Per Section 4.6.G of the NPDES permit, FLW shall utilize procedures for the washing of municipal vehicles and equipment: 1) Use of any soap or detergent shall only be where there is connection to sanitary sewer or equivalent; and 2) Any wash water that contains

pollutants such as salt, oils, grease, sediment, grass clippings, lawn chemicals or pesticides shall not be discharged to waters of the state or the MS4 system without appropriate treatment to ensure the discharged effluent is in compliance with Missouri Water Quality Standards. The FLW BMP Manual outlines specific activities, such as the washing of vehicles and equipment. The manual prohibits use of soaps or detergents unless washing area is connected to an Oil/Water Seperator (OWS). My inspection of the vehicle wash rack at the Motor Pool Area 900, indicates proper operation and implementation of this BMP.

11. Per Section 4.6.H, All paints, solvents, petroleum products and petroleum waste products (except fuels) under the control of the permittee shall be stored so that these materials are not exposed to stormwater. 1) Sufficient practices of spill prevention, control, and/or management shall be provided to prevent any spill of these pollutants from entering waters of the state, and 2) Any containment system used to implement this requirement shall be constructed of materials compatible with the substances contained and shall also prevent the contamination groundwater. Section 8.4 describes the Supporting Environmental Programs which collaborate with the Stormwater Program to ensure compliance. The Spill Prevention and Response Program includes procedures to educate personnel on spill prevention, controls, and response. All spills are required to be reported and are responded to and appropriately cleaned up and disposed of a spill database is maintained by the Stormwater Program. Those programs are:

1. FLW Hazardous Waste Management Program,
2. FLW Recycling Program,
3. FLW Land Disturbance Program,
4. FLW Solid waste Management Plan,
5. Industrial Stormwater Pollution Prevention Plan (Attachment 7), and
6. FLW Installation Wide Spill Prevention and Response Plan.

I located several spill kits throughout the municipal facilities that we visited during the inspection.

12. Per Section 4.6.I of the NPDES permit, if the permittee has new flood management projects (projects developed or designed to reduce flooding), the permittee shall utilize procedures to assess all flood management projects for impacts on water quality, and incorporating water quality protection devices or practices. Section 8.10 of the SWMP states that FLW does not currently have flood management projects, however, when they are identified, there are procedures in place to assess projects and ensure BMPS are in place to mitigate the impact to the MS4.

13. Tsay Professional Services Inc. personnel conduct a monthly self-assessment (Attachment 9) of facilities using a checklist that aligns with the requirements of the Stormwater Best Management Practices (BMPs) Manual.

14. Listed facilities under the MS4 are inspected annually by staff of the DPW Environmental Division contractor. Patricia A. Littleton provided me with the 2021 and 2022 inspection records (Attachment 10). Records appeared complete and well documented.

15. Tsay Professional Services Inc. is in charge of applying salt and street sweeping. They use both salt and cinders on the roads (Attachment 11). In addition, housing uses 10 to 15 tons of salt per year during the winter months, but they do not use cinders and they do not use a street sweeper, and they hand clean inlets when they have issues with debris or sediment at the inlets.

CONCLUSION

Overall, the FLW MS4 program is well administered and maintained. However, stormwater best management practice deficiencies can occur due to the size of the installation, approximately 80,000 personnel come through/reside on the installation annually and there are a number of contractors conducting business for the Army.

FLW's response to the July 13, NOPF is adequate and was submitted in a timely manner.

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Nicole Moran
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ATTACHMENTS

1. MS4 NPDES
2. ISW NPDES
3. FLW SWMP BMPs
4. NOPF
5. FLW Response to the NOPF
6. SWMP
7. SWPPP
8. Annual Reports
9. Self-Assessment reports
10. 2021 &2022 FLW Facility Inspections
11. Street sweeping Map an SNAIR MAPS
12. Site photo log
13. CBI Form