

Nevada Department of Transportation

MS4 Audit Report

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NPDES Permit NV0023329

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Audit Performed by:

United States Environmental Protection Agency, Region 9

Audit Dates: August 9-12, 2011

Report Date: May 10, 2012



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I. Executive Summary

The U.S. Environmental Protection Agency (EPA) conducted, from August 9 through 12, 2011, an audit of the Nevada Department of Transportation (NDOT) Municipal Separate Storm Sewer System (MS4) Program. The audit assessed compliance with the *National Pollutant Discharge Elimination System (NPDES) Permit for Discharges from Nevada Department of Transportation Municipal Separate Storm Sewer System (NV0023329)* (2010 Permit) and evaluated NDOT's implementation of its 2005 statewide Storm Water Management Plan (SWMP), as required by the previous permit, issued in 2004. The 2004 and 2010 Permits prescribe specific requirements for SWMP elements and timelines for implementation. The 2005 SWMP details practices and procedures NDOT uses to control the discharge of pollutants in storm water.

EPA reviewed documents, met and interviewed staff to gather information on overall program management, and conducted field inspections at NDOT construction sites and maintenance facilities. Nevada Division of Environmental Protection (NDEP) accompanied EPA throughout the audit. At the conclusion of the audit, EPA shared an initial assessment with the NDOT representatives.

This report includes background information and presents audit findings which are separated into four categories: noteworthy program elements; recommendations for improvements; program deficiencies; and potential permit violations. Although this report describes potential permit violations, this is not a formal finding of violation.

EPA found the following elements of NDOT's current program noteworthy. Specifically, NDOT:

- collaborates with local conservation districts to implement sediment reduction measures beyond NDOT rights-of-way in the Clear Creek Watershed; and
- uses its Roadway Information System to reduce the amount of salt/brine applied to roadways, decreasing the potential for pollutant discharge.

EPA also found potential permit violations. Most significantly, NDOT failed to:

- fully implement the 2005 SWMP;
- develop required pollution prevention plans for all maintenance facilities;
- fully implement an employee training program; and
- implement an illicit discharge, detection and elimination program.

II. Background

A. MS4 Program Audits

Storm water runoff, generated when precipitation flows over land or impervious surfaces accumulates pollutants which can adversely affect water quality. Storm water collected by a publicly-owned conveyance or system of conveyances and discharged to a water of the United States requires NPDES permit authorization. Such discharges are regulated through Municipal Separate Storm Sewer (MS4) permits. The pipes, roadways and other storm water conveyances operated by the Nevada Department of Transportation constitute an MS4. In general, NPDES permits require MS4s to develop and implement a storm water management plan (SWMP) to address the following program elements:

- mapping storm water features, including major outfalls;
- public education and outreach;
- illicit discharge detection and elimination;
- construction site runoff control;
- post-construction site runoff control; and
- pollution prevention/good housekeeping at municipal facilities

Audits of MS4s are being conducted nationwide to determine compliance with permit requirements and to evaluate the overall effectiveness of the nation's MS4 programs. EPA Region 9 is conducting audits of MS4s throughout the Pacific Southwest and has performed more than 50 audits over the last 10 years. EPA has performed MS4 audits of Arizona, California and Hawaii state transportation agencies located within Region 9. The audit reports are available on EPA's website at: <http://www.epa.gov/region9/water/npdes/ms4audits.html>.

B. NDOT's Storm Water Program

NDOT administers over 5,400 miles of roads, 1,000 bridges and operates 49 maintenance facilities. It is organized into four functional divisions (Administration, Engineering, Operations and Planning) and three geographic districts. Each district is managed by a district engineer with the principal responsibility for construction and maintenance programs.

NDEP issued a state-wide MS4 permit to NDOT on February 23, 2004 (2004 Permit). Section 4.1.1 of the 2004 Permit required NDOT to submit a Storm Water Management Plan (SWMP) within one year of Permit issuance while Section 4.1.2 required full implementation of the SWMP within five years of Permit issuance. NDOT submitted the SWMP in January 2005 (2005 SWMP). NDEP re-issued the *NPDES Permit for Discharges from Nevada Department of Transportation Municipal Separate Storm Sewer System (NV0023329)* (2010 Permit) on July 7, 2010. Among other requirements, the 2010 Permit requires NDOT to review, revise and submit an updated SWMP to NDEP by January 7, 2012 and to continue to implement and maintain current BMPs detailed in NDOT's current (2005) SWMP until the new SWMP is submitted. This audit report therefore refers to the 2004 and 2010 Permits, and the 2005 SWMP.

C. Audit Organization

EPA Region 9, represented by David Wampler, Luis Garcia-Bakarich, and John Tinger, conducted the audit between August 9th and August 12th, 2011. Steve McGoff, Joe Maez, Chris Gravenstein, and Michele Reid from NDEP participated in the audit. The audit consisted of file

reviews, interviews with NDOT staff and management and a number of site-visits at select NDOT maintenance facilities and construction sites. The following program areas were evaluated during the audit:

- program management;
- storm water education for staff, contractors, and the public;
- construction operations;
- illicit discharge detection and elimination;
- maintenance program; and
- monitoring and reporting

III. Audit Findings

This section is organized to generally follow the structure of the 2010 Permit. For each section in our report, we identify, where appropriate, noteworthy aspects of NDOT's storm water program implementation, recommendations for improvement, program deficiencies, and potential permit violations. Our findings are supported by interviews, observations and photographic evidence gathered during the audit as well as documentation obtained before, during or after the audit. Documents provided by NDOT are listed in Appendix A. An itinerary of the audit and EPA's site visit reports, including photos, photo logs, and aerial reference images, are provided in Appendix B.

A. Program Management

The Water Quality Section of the Environmental Services Division (ESD), within the Engineering Division, is responsible for statewide management of NDOT's storm water program. Although overall storm water management resides within the ESD, other internal programs (e.g., Hydraulics, Construction, and Maintenance) regularly coordinate with ESD. Throughout the audit, EPA met with members of these groups to discuss their role in implementation of the storm water requirements. Prior to the 2005 SWMP, NDOT created the Water Quality Erosion Sediment Control (WQESC) Implementation Team and Steering Committee, made up of numerous divisions or sections, to assist in SWMP development. The WQESC no longer meets, but NDOT indicated it intends to reinstitute it.

A.1. Storm Water Management Plan

The 2004 Permit required NDOT to implement its 2005 SWMP within five years of the effective date of the permit. The 2005 SWMP included a phased schedule for the implementation of specific BMPs. The 2010 Permit requires NDOT to continue implementing the 2005 SWMP until a revised SWMP is submitted, establishes a deadline for submittal of an updated SWMP, and requires that the revised SWMP be implemented within two years of NDEP's approval.

Potential Permit Violation

NDOT has failed to fully implement the SWMP within five years of the authorization date of the 2004 Permit. [2004 Permit Section 4.1.2]

The 2005 SWMP should have been fully implemented by February 23, 2009. For example, NDOT has not developed and implemented Facility Pollution Prevention Plans for maintenance facilities. Other examples of NDOT's failure to fully implement the 2005 SWMP are described in detail later in this report.

Potential Permit Violation

The 2005 SWMP does not include maps of NDOT's storm sewer system, including the location of any major outfall discharging to waters of the U.S. [2004 Permit Section 4.3.1, and 2010 Permit Section III.C.1]

NDOT provided district facility maps to EPA prior to our audit. While these maps contain the location of various waterbodies and maintenance facilities, they do not include the location of any MS4 features such as drainage pipes, culverts, or major outfalls discharging to waters of the U.S.

A.2. Clear Creek Master Storm Water Management Plan

Section 3.2 of the 2004 Permit and Section III.D of the 2010 Permit require implementation of a separate Storm Water Management Plan for the Clear Creek Watershed (CCSWMP). The 2005 CCSWMP was developed by NDOT to reduce discharge of pollutants to Clear Creek from NDOT activities in the watershed. The CCSWMP describes BMPs and implementation schedules.

EPA, NDEP, and NDOT viewed several sites in the Clear Creek Watershed where NDOT has installed soil stabilization and treatment control BMPs. While some of the sediment projects were located within NDOT's right-of-way, others were on private property, down-slope from U.S. Hwy 50. NDOT's representatives described the difficulties associated with controlling sediment but showed several successful projects in their right-of-way and on private property (field report, Appendix B.2).

Noteworthy Program Element

NDOT has partnered with the local conservation district to install or fund projects that fall outside of its right-of-way.

NDOT has designed and implemented retrofit projects intended to reduce storm water runoff velocity and sediment transport from U.S. Hwy 50 into Clear Creek. U.S. Hwy 50 between Spooner Summit and Carson City is aligned on a hillside composed of decomposed granite substrate which is highly erosive, and the highway's cuts and benches contribute volumes of sediment to Clear Creek. In some cases, where the project required work beyond NDOT's right-of-way, NDOT has partnered with the local conservation district to implement these projects.

Potential Permit Violation

The Clear Creek Storm Water Management Plan does not describe control techniques used at the Spooner Summit decant facility to ensure no illicit discharge of pollutants into Clear Creek. [2004 Permit Section 3.2.1.3 and 2010 Permit Section III.D.1.c]

The NDOT Spooner Summit decant facility is located at the summit of Hwy 50 between Carson City and Lake Tahoe. EPA visited the Spooner Summit facility with NDOT and NDEP (field report, Appendix B.3). NDOT stated the Spooner Summit Decant facility and a similar one in Incline Village were constructed to accept accumulated sediment from storm drain features (e.g., vault boxes, drop inlets) within the Tahoe Basin. NDOT must update the CCSWMP to include a description of the controls at the Spooner Summit decant facility. At the facility, NDOT vector trucks unload their accumulated wastes into a settling basin where sediment settles out, and the water either evaporates, infiltrates, or discharges through a culvert drain leading to a tributary of

Clear Creek. Although the basin was dry at the time of the audit, EPA observed evidence of potential discharges, including an open drain and floatable plastics at the top of the containment berm (field report Appendix, B.3).

B. Storm Water Education Program

Section 4.5 of the 2004 Permit and Section III.F of the 2010 Permit requires NDOT to develop and implement a storm water outreach and education program to address the three main audiences that impact NDOT's storm water discharges: NDOT employees, construction contractors, and the public.

B.1. Employee Training

Section 4.5.2.1 of the 2004 Permit and Sections III.F.2 through 5.h of the 2010 Permit describe requirements for employee training. The 2004 Permit requires NDOT to implement the program specified in the 2005 SWMP and provides frequent reminders to reinforce the training. NDOT's 2005 SWMP states NDOT will develop training to introduce staff to water quality principles, NDOT's roles and responsibilities to support SWMP implementation, introduce the SWMP, and train employees to use specific manuals. The 2010 Permit requires NDOT to provide specific training (e.g., to identify illicit discharges/connections, perform construction site inspections and identify non-storm water discharges) to employees identified in the Permit within twelve months of the effective date of the Permit. During the audit, EPA interviewed NDOT employees, reviewed paperwork and asked to see a copy of the employee training program. EPA observed NDOT does not have a formal process for training and that its current approach to training is inconsistent. For example, NDOT did provide a list of employees who recently had taken a 40-hour construction site inspector training which included a module on construction site storm water BMPs. However, based on discussions with individuals at NDOT maintenance stations, and review of annual reports, NDOT maintenance employees typically have not had any storm water training other than construction BMP training.

Potential Permit Violation

NDOT has not implemented an Employee Storm Water Training Program within one year of permit issuance. [2010 Permit Section III.F.2]

NDOT was unable to demonstrate all employees identified by the 2010 Permit had received initial training within twelve months of the effective date of the Permit (see Sections III.F.2 and III.F.5 of the 2010 Permit for a list of employees identified by the Permit).

B.2. Construction Contractor Training

Section 4.5.2.2 of the 2004 Permit requires NDOT to implement the program specified in the 2005 SWMP and provide outreach to contractors to raise awareness of the problems and causes of storm water pollution and to reinforce their training. In Section 5.5 of the 2005 SWMP, NDOT committed to develop a more detailed outreach program to train NDOT contractors. However, based on discussions with NDOT representatives and review of annual reports, the program consists of sporadic workshops for potential contractors and informal, on-site or pre-project meetings.

Recommendation for Improvement

NDOT's revised SWMP should include contractor-specific training requirements to ensure consistent implementation by all contractors. To comply with the 2010 Permit, the training

should ensure contractors have adequate training to: understand BMP selection, installation and maintenance requirements; recognize activities that may impact storm water quality; and understand the procedures in place to prevent or report illicit discharges or illicit connections to the MS4.

B.3. Public Education Program

Section 4.5.1 of the 2004 Permit requires NDOT to include a Public Outreach and Education Program to reduce the discharge of pollutants to the maximum extent practicable and submit a plan to develop and implement a public education program within 180 days of adoption. In the 2005 SWMP, NDOT commits to develop a public outreach plan to address illicit discharge reporting, and include research and mass media advertising. Section III.F.5.i of the 2010 Permit requires NDOT to continue to implement the Public Education/Outreach Program and adds new program elements.

Based on conversations with staff and a review of recent annual reports, NDOT has an Adopt-A-Highway program, attends Truckee River Festival events as a member of the Truckee Meadows Storm Water Committee, and participates in public meetings or workshops to inform the public about erosion control methods to improve the quality of storm water discharge. The annual reports also describe NDOT's contributions to the Water Wise program. While the most recent reports state the Water Wise Program had ceased they also indicate archived material is as still available at the following website: <http://krmv.envirocast.net/>. When EPA attempted to access this website recently, we found it was no longer functioning.

Program Deficiency

NDOT should improve the current Public Education/Outreach Program to ensure its public outreach program is effective. For instance, NDOT could highlight innovative projects or programs throughout the state to reduce storm water pollution.

C. Construction Program

The 2004 and 2010 Permits require NDOT to develop and implement a construction site BMP program including structural and non-structural BMPs to reduce pollutants in storm water runoff from construction sites in their right-of-way. The program applies to NDOT, its contractors, local government agencies, or third parties on NDOT or non-NDOT projects. During the audit, EPA met with NDOT representatives from hydraulics (Engineering Division) and construction (Operations Division) who described NDOT's process for controlling pollutants in storm water at construction sites, from the pre-planning phase to the completion of the project and final transfer to the maintenance and asset management group within NDOT.

C.1. Project Planning and Design

In general, during the planning phase, NDOT utilizes internal expertise to evaluate a project's potential threat to water quality, the constructability of certain storm water controls, including post-construction BMPs, and expected storm water protection effectiveness. Prior to construction, NDOT meets with the contractor to review project specifications and, depending on the project, discuss storm water requirements.

According to the 2005 SWMP and discussion with NDOT staff, NDOT staff evaluate all new projects using a Project Categorization Score Sheet to categorize the potential impact to water

quality into one of four categories: no impact, low, medium, and high potential impact. This evaluation helps NDOT prioritize projects and anticipate water quality protection measures when developing contract solicitations. For example, NDOT develops a project-specific lump sum range for Temporary Pollution Control for projects with medium impacts (defined as simple projects with potential to discharge sediment into waters of the U.S., lasting less than two years). For projects with high impacts (complex projects with a high potential for sediment discharge, lasting longer than two years, as well as all projects in the Tahoe Basin), NDOT may condition the project to include specific structural BMP requirements. For all projects, the Project Categorization Score Sheet gives estimated costs for storm water controls to be considered in bid estimates.

Recommendation for Improvement

NDOT should consider using the Project Categorization Sheets to ensure adequate BMP implementation and maintenance during the life of the project and to validate cost estimates at the project's completion. Inclusion of specific fixed costs in requests for proposal ensures contractors dedicate the proper resources to storm water controls and ensures a level playing field to evaluate proposals.

C.2. Contractor Oversight

Section 4.9 of the 2004 Permit and Section III.G.1 of the 2010 Permit require NDOT to control all construction in the rights-of-way through a program to review construction site plans, implement and maintain structural and non-structural BMPs, conduct site inspections with follow-up enforcement, and to educate construction site operators on construction site storm water requirements. As explained during the audit and discussed in the 2005 SWMP, one of the ways in which NDOT oversees its contractors is by performing weekly oversight inspections. NDOT also described various enforcement tools they can use against contractors, including: withholding payment; shutting down activities; pursuing corrective measures at cost to the contractor; or requesting assistance from NDEP.

NDOT discussed its use of "Partnering" which facilitates communication between the construction contractor and the NDOT Resident Engineer on certain construction projects. Partnering is a process required by the Federal Highways Administration on many NDOT construction projects where NDOT and its contractor(s) discuss project implementation issues, including storm water and erosion controls, early in the project to resolve issues before they escalate. NDOT construction managers and contractors spoke very highly of this arrangement as a way to inform contractors of their storm water obligations and to ensure storm water requirements are met.

Program Deficiency

The Weekly Construction Site Discharge Inspection Checklist created by NDOT for oversight inspections does not contain sufficient detail to assess construction general permit compliance. NDOT should revise the Checklist to include more specificity on inspection criteria such as condition of BMPs, timeframes for corrective actions to be taken in response to deficiencies found during inspections, and information about current weather conditions and recent precipitation events.

Potential Permit Violation

NDOT has failed to establish a program to control all construction in the rights-of-way. [2004 Permit Section 4.9.1.1 and 2010 Permit Section III.G.1.a]

Section 5.2 of the 2005 SWMP describes NDOT Standard Specifications directing construction contractors to obtain all necessary water pollution control permits from NDEP; however, NDOT's rights-of-way also extend into tribal lands where NDEP is not the permitting authority. In such instances, NDOT or the construction contractor should file an application for permit coverage under the EPA Construction General Permit. The revised SWMP should make this explicitly clear. For example, in 2011, NDOT engaged in construction within their right-of-way on lands of the Pyramid Lake Paiute Tribe; however, no permit application had been filed with EPA.

Potential Permit Violation

NDOT has failed to include a description of procedures for identifying priorities for inspecting sites and enforcing control measures which consider the nature of construction activity, topography, and the characteristics of soils and receiving water quality. [2004 Permit Section 4.9.1.5]

Section 5.4 of the 2005 SWMP discusses NDOT's construction oversight program. While the SWMP references the Weekly Construction Site Discharge Inspection Checklist, it does not discuss priorities for inspection and enforcement taking into account the criteria listed in the Permit. For example, EPA observed that NDOT is conducting monthly and rain-triggered inspections at the I-580 project due to the size of the project.

D. Illicit Discharge Detection and Elimination Program

Section 4.7 of the 2004 Permit and Section III.J of the 2010 Permit require NDOT to develop an Illicit Discharge Detection and Elimination (IDDE) program to detect and remove illicit discharges and improper disposal into the MS4, including inspections to implement and enforce an ordinance or other means to prevent illicit discharges into the MS4. Additionally, NDOT must conduct field-screening activities, respond to spills, facilitate public reporting, and create a program to educate the public about proper disposal of used oil and other toxic materials.

Section 7 of the 2005 SWMP discusses the IDDE program, implemented through the maintenance program. Typically, this consists of maintenance personnel responding to spill cleanup and illegal dumping on the roadway. NDOT maintains a hotline and has posted information on its website with a phone number for the public to report dumping and spills.

Potential Permit Violation

NDOT failed to describe procedures to conduct on-going field screening activities to detect illicit discharges during the life of the permit, including areas or locations that will be evaluated by such field screens. [2004 Permit Section 4.7.1.2 and 2010 Permit Section III.J.1.b]

Section 7.0 of the 2005 SWMP states NDOT will conduct routine inspections of drainage structures as a way to detect illicit discharges. Based on review of the annual reports and discussion with NDOT representatives, EPA found no evidence that these inspections had occurred or were currently being performed. Based on EPA review of the BMP manuals provided by NDOT, procedures for detecting illicit discharges were not identified. Further, the 2005 SWMP, Section 7.2, states maintenance personnel will be trained to recognize illicit discharges. Interviews with district maintenance personnel during the audit, however, demonstrated NDOT staff had minimal awareness of illicit discharge detection and reporting beyond spill response and illegal dumping of solid waste. Maintenance field staff noted training in spill reporting and response, but was limited to traffic accidents and illegal dumping. NDOT staff indicated that they had not seen dry weather flows within the MS4 system; however, the EPA audit team observed several instances where non-storm water discharges were occurring at NDOT maintenance facilities. (For example, see Appendix B.7 - Site Report of the Reno/Sparks Maintenance Facility).

E. Maintenance Program

Section 4.14 of the 2004 Permit and Sections III.L through S of the 2010 Permit describe the required elements for NDOT's maintenance program. NDOT is required to develop practices to address runoff from highway maintenance facilities, and from various maintenance activities, including snow and ice control, vegetation control, and maintenance of the drainage system.

E.1. Snow and Ice Control

Sections 4.14.1.2 and 4.14.1.3 of the 2004 Permit and Section III.P.1.b of the 2010 Permit describe NDOT's pollution control requirements for snow and ice control where abrasives and/or de-icing agents are used on highways.

Noteworthy Program Element

The Road Weather Information System (RWIS) enables NDOT to more precisely apply salt/brine/sand on the highway while optimizing the use of equipment and staff. The RWIS consists of seventy meteorological stations strategically located alongside highways. The system allows NDOT to anticipate freezing and snowy conditions that can pose hazardous driving conditions. This system has helped reduce the amount of salt and sand applied to its roadways by 70% since 1990. By reducing the amount of de-icing material on the roadway, NDOT reduces the potential impact to water quality and reduces later maintenance work to clean out sediment from vaults and dispose of the waste material.

E.2. Drainage System Maintenance Activities

Section 4.14.1.5 of the 2004 Permit requires NDOT to remove all waste from inlets that pose a significant threat to water quality on an annual basis prior to the winter season. For those inlets that contain significant materials the Permit requires NDOT to consider investigating them under NDOT's illicit discharge program to determine whether enhanced BMPs are required. The 2005 SWMP states that NDOT would establish a cleaning schedule as well as tracking and reporting procedures for the drainage system by 2006. Section III.P through Q of the 2010 Permit requires

NDOT to implement specific BMPs to minimize discharges to and from the storm sewer system, and to report the amount of waste removed from the system.

NDOT staff indicated its maintenance crews clean all drop inlets and interceptors within the Tahoe Basin annually, and half of all culverts annually within Las Vegas. NDOT utilizes a Maintenance Management System (MMS) database to track all of NDOT's maintenance activities, including maintenance of the drainage system. The audit team observed a demonstration of MMS where NDOT explained that it uses information from the system to identify geographic areas that may lead to public safety hazards. For example, NDOT uses MMS to track the amount of debris removed from various locations to prevent flooding. However, the MMS only tracks geographic location and general information about their storm system (e.g., culverts); the MMS does not contain specific information about individual storm water features, such as inlets, outfalls, or other elements of the drainage system. NDOT should expand the existing database to add major outfalls and other storm water system attributes to improve how they track the amount of debris removed from the drainage system, schedule maintenance and form programmatic decisions (e.g., whether enhanced BMPs are required).

Potential Permit Violation

NDOT has failed to identify inlets that pose a significant threat to water quality. [2004 Permit Section 4.14.1.5.1]

NDOT has not determined which, if any, inlets pose a significant threat to water quality. Further, while NDOT has a schedule for cleaning drop inlets and interceptors in the Tahoe Basin and Las Vegas, NDOT has not developed a plan to identify those that pose a significant threat to water quality for other areas of the state. NDOT does summarize in their annual report the amount of wastes removed from certain storm features in certain portions of the state, but does not detail whether the amounts removed are significant or could warrant additional BMPs.

E.3. Maintenance Facilities

Section 4.14.1.6 of the 2004 Permit and Sections III.L through N and III.S describe NDOT's requirements for maintenance facilities.

NDOT operates 49 maintenance facilities statewide. NDOT staff at larger maintenance facilities performs major repair work of its fleet, while staff at smaller facilities performs minor maintenance of vehicles such as oil and antifreeze changes. Many facilities have capacity to store salt/brine and sand and have wash racks to clean vehicles and equipment. NDOT is in the process of building storage facilities at all maintenance yards to store salt/sand indoors, which will reduce the amount of brine/salt contaminants that may enter the on-site storm drains. NDOT reported that fifteen salt and sand storage sites at maintenance facilities have been covered in the last year alone. EPA observed an uncovered salt/sand storage pile at the intersection of U.S. 95 and S.R. 795 north of Winnemucca, NV. The pile is within Nevada's right-of-way for the highways, and no BMPs were noted at the location. As it continues to address salt and sand storage, NDOT should assess its staging locations, developing site-specific BMPs as needed.

The EPA audit team visited several maintenance facilities in all three districts. EPA observed compliance issues at several maintenance facilities including active unauthorized non-storm

water discharges, improper storage of batteries and oily equipment, and evidence of spills. Facility-specific observations are reported in Appendix B of this report.

During field visits, EPA discussed material mining sites with NDOT representatives. NDOT indicated they have over 3,000 such locations throughout Nevada. NDOT should analyze whether specific mining facilities within their control are industrial facilities subject to storm water permitting requirements.

Potential Permit Violation

NDOT has failed to develop Storm Water/Facility Pollution Prevention Plans for all maintenance facilities. [2004 Permit Section 4.14.1.6.1, and 2010 Permit Section III.S]
During the audit EPA requested Facility Pollution Prevention Plans (FPPPs) from NDOT for every maintenance facility visited, but NDOT staff indicated FPPPs had not been developed for any of their maintenance facilities.

F. Monitoring, Recordkeeping and Reporting

Section 5 of 2004 Permit and Section IV of the 2010 Permit describes monitoring, record keeping, and reporting requirements. NDOT is required to submit an annual monitoring plan to NDEP no later than October 1 of each year. In developing the plan, NDOT shall evaluate and update as necessary how monitoring may assist in making decisions about program compliance.

Based on interviews with staff and a review of the annual reports and other materials, NDOT is conducting monitoring at the following locations:

- Lake Tahoe – precipitation events have been sampled since 2005 as part of the EIP Phase III Master Plan for highway runoff characterization, BMP effectiveness, and operation monitoring. Twenty three interceptor and pre-treatment vaults in the Lake Tahoe Basin are sampled for a variety of parameters.
- Clear Creek – NDOT partnered with USGS to conduct in-stream turbidity monitoring.
- Carson City Bypass – NDOT monitors grab samples for general characterization and discharge quality of the wetland BMP.
- I-580 - NDOT conducts Water Quality and BMPs effectiveness monitoring at several creeks and at 15 BMP effectiveness monitoring sites.

Potential Permit Violation

NDOT failed to submit a storm water monitoring plan for 2010 and 2011 which evaluated how monitoring may assist in making decisions about program compliance, the appropriateness of indentified BMPs, and progress toward achieving identified measurable goals. [2004 Permit Section 5.1.1 and 2010 Permit Section IV.A.1]

When EPA requested a copy of the two most recent monitoring plans, NDOT staff indicated they had not created monitoring plans for 2010 or 2011. Further, the 2009 monitoring plan failed to include an evaluation of how monitoring may assist in making decisions about program compliance, the appropriateness of identified BMPs, and progress towards achieving measureable goals.

Appendix A

Catalog of Materials Supplied by NDOT

Materials listed in this appendix are not included in submission of this audit report to NDOT. Copies of materials noted below are maintained as cataloged in U.S. EPA Region 9 records and can be made available upon request. These materials were not generated by U.S. EPA.

- A.1 – 2004 NPDES Permit NV0023329
- A.2 – 2010 NPDES Permit NV0023329
- A.3 – 2005 Storm Water Management Plan
- A.4 – 2005 Clear Creek Storm Water Management Plan
- A.5 – Planning and Design Guide
- A.6 – Construction Site BMP Manual
- A.7 – Inventory of Active Material Sites
- A.8 – USGS Water Quality Report For Clear Creek “Sediment Loads and Yield and Selected Water-Quality Parameters in Clear Creek, Carson City, and Douglas County, NV, Water Years 2004-2007” 2009
- A.9 – Kingsbury Grade, SR 207, SWPPP
- A.10 – TRPA Permit for Kingsbury Grade Project
- A.11 – Training Log
- A.12 – Training Power Point Presentation for NDOT Construction Inspectors
- A.13 – Painted Rock SWPPP
- A.14 – Painted Rock Weekly Inspection Reports
- A.15 – I-580 SWPPP
- A.16 – I-580 Construction Inspection Report 6.24.2011
- A.17 – I-580 Temporary Working in Waters Permit # TNEV2007475, May, 2007
- A.18 – I-580 Notice of SWPPP Renewal / CGP NOI
- A.19 – I-580 U.S. ACE §404 Permit #199825095
- A.20 – I-580 BMP Installation Decision Making Process
- A.21 – I-580 Turbidity Data (Galena Creek Bridge)
- A.22 – I-580 Detention Basin Sand/Oil Interceptor Volumes
- A.23 – I-580 Narrative/Photo Documenting the 8.12.11 BMP Corrective Actions near Ophir Creek
- A.24 – Lake Tahoe Storm Water Monitoring Report (2005-2010) Compact Disk
- A.25 – NDOT Organizational Chart
- A.26 – Nevada Contractors Field Guide for Construction Site BMPs
- A.27 – Construction Site BMP Field Manual
- A.28 – NDOT Silver Book Storm Water BMP Specification “Pull Sheets”
- A.29 – I-15 Design Build Inspection Reports
- A.30 – Wellington Maintenance Station Best Management Plan
- A.31 – Mountain Springs Best Management Plan
- A.32 – Checklist for maintenance facility inspections
- A.33 – Blank Weekly Construction Site Discharge Inspection Checklist for NDOT Inspectors
- A.34 – Materials from Winnemucca Maintenance Station Inspection
- A.35 – Sign-In Sheets for Kick-Off and Close-Out Conferences
- A.36 – 2008, 2009, and 2010 Annual Reports

Appendix B

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Summary of Audit Schedule

The following summarizes the site visits performed by EPA's during the four-day Storm Water Audit of NDOT's MS4 Permit. Specific Reports generated by EPA during the site visits are listed below:

- Tuesday, August 9th – Office interview NDOT Headquarters, Environmental Services Division
- Wednesday, August 10th – Carson City Maintenance Facility, erosion control retro-fit projects and the Spooner Summit Decant Facility in the Clear Creek Watershed, and the Kingsbury Grade Sediment Control Project in the Lake Tahoe Basin
- Thursday, August 11th – District maintenance facilities and construction sites:
District 1 – Maintenance Facilities – Mountain Springs and Las Vegas South
District 1 – Construction Sites – 160 Lane Widening and Las Vegas design-build
District 2 – Maintenance Facility – Reno/Sparks
District 2 – Construction Sites – I-580 and I-80 at Fernley
District 3 – Maintenance Facility – Winnemucca
- Friday, August 12th – Close-out conference

Reports of Site Inspections / Visits Performed by U.S. EPA

- B.1 – Carson Maintenance Station
- B.2 – Clear Creek Watershed
- B.3 – Spooner Summit
- B.4 – I-80 Painted Rock Project
- B.5 – I-580 Project
- B.6 – District 1 Materials: I-15 Design-Build, 160 Road Widening, South Maintenance Facility, and Mountain Springs Maintenance Facility
- B.7 – Reno Sparks Maintenance Facility
- B.8 – Winnemucca Maintenance Facility
- B.9 – Material Extraction Pit