

SECTION 6.0

MAINTENANCE PROGRAM

6.1 Overview

[4.14.1.1.1 Develop and implement runoff management programs and systems for existing road; highways, and bridges to reduce runoff pollutant concentrations and volumes entering surface waters]

[4.14.1.1.1.2 Establish schedules for implementing appropriate controls.]

NDOT's Maintenance Division is responsible for the general care and upkeep of the state's highways and highway-related facilities. NDOT's existing Maintenance Program includes practices that are sensitive to the downstream environment. Within the life of this Permit, NDOT will develop a specific maintenance manual to address storm water management. This section describes NDOT's existing Maintenance Program and identifies the maintenance activities that address storm water mitigation as required by the Permit. This section is organized as follows:

- Section 6.2 provides an overview for the Maintenance Program.
- Section 6.3 introduces the Maintenance BMPs.
- Section 6.4 describes the Maintenance Facility Pollution Prevention Plans.

6.2 Maintenance Program Overview

NDOT's Maintenance Headquarters works cooperatively with the Districts' Maintenance Divisions to maintain the state's highway system. General maintenance activities include practices that mitigate storm water runoff and protect the receiving waters. The Maintenance Program element of this SWMP is the mechanism for identifying and/or incorporating storm water activities and BMPs into NDOT's maintenance activities.

NDOT's Maintenance Program is implemented by the following parties:

- **Assistant District Engineer:** Assistant District Engineers for Maintenance are responsible for all activities and all personnel, including compliance with the SWMP. The Assistant District Engineers assist and advise the District Engineer. Specifically, the Assistant District Engineer directs the Maintenance Program for the District or the major maintenance station including the storm water maintenance element. In District I, one of the two Assistant District Engineers in Las Vegas is responsible for maintenance (operations) and the Assistant District Engineer in Tonopah is responsible for both construction and maintenance. In District II, one of the two Assistant District Engineers is responsible for maintenance. In District III, each of the three Assistant District Engineers in Elko, Ely, and Winnemucca are responsible for both construction and maintenance.
- **Maintenance Manager:** The Maintenance Manager is responsible for the organization, direction, and monitoring of maintenance activities within the program. The Managers are also responsible for insuring implementation of maintenance BMPs.
- **Maintenance Supervisor II:** The Maintenance Supervisor II is responsible for personnel and maintenance activities including overseeing the Maintenance Supervisor I.
- **Maintenance Supervisor I:** The Maintenance Supervisor I has the field responsibility for on-site BMP implementation.

Each District's Maintenance Division will be responsible for implementation of the Maintenance Program element of the SWMP and will be supported by Headquarters Maintenance, Environmental Services, and Hydraulics.

6.3 Maintenance BMPs

[4.6.1.1 A description of maintenance activities and a maintenance schedule to reduce pollutants in discharges from MS4s]

[4.6.1.3 A description of practices for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems]

NDOT's Maintenance Manual describes the variety of activities and duties required by the Maintenance Division to maintain the state's highway system. The operation and maintenance of NDOT's owned or operated highways or highway-related facilities include typical maintenance practices such as street sweeping and clearing of debris in drainage structures. Several of these practices are effective storm water control measures and reduce the impact to receiving waters. The Maintenance Program element of this SWMP identifies the storm water BMPs associated with maintenance activities. The implementation of these maintenance BMPs

is the responsibility of District Maintenance with support from Headquarters Maintenance, Environmental Services, and Hydraulics. This section of the SWMP describes the maintenance activities that address the specific Permit requirements. The maintenance schedule will be developed in accordance with Section 13.0, Program Schedule.

6.3.1 Storm Water Drainage System Facilities Maintenance Activities

[4.14.1.5.1 NDOT shall remove all waste from those inlets that pose a significant threat to water quality on an annual basis prior to the winter season each year. All waste removed from drain inlets shall be managed in accordance with all applicable laws and regulations.]

[4.14.1.5.2 Drain inlets which contain significant materials must be considered for an Illicit Discharge and Detection Program (IDDP) investigation and considered for an enhanced BMP program focused on reducing the sources of the material found in the inlet.]

NDOT's Roadside Maintenance Program inspects culverts and drop inlets for silt, debris, or blockage annually and after major storm events. The facilities found to be obstructed are cleaned out either immediately or prioritized depending on the measured severity. The waste material is disposed in accordance with adopted maintenance practices or with direction from Environmental Services. All the drainage structures in the Lake Tahoe area are maintained annually. Waste material from maintenance projects in the Lake Tahoe basin must be hauled out of the basin. NDOT maintenance personnel will be trained to be aware of the indicators of illicit discharges and follow associated procedures for reporting illicit discharges. All activities in the Roadside Maintenance Program are documented in NDOT's MMS. The Program Schedule, Section 13.0 of this SWMP, describes the anticipated schedule to develop the frequency schedule for these maintenance activities.

6.3.2 Erosion Control BMPs

[4.14.1.1.1.3 Identify road segments with slopes that are prone to erosion and discharge of sediments and stabilize these slopes to the extent possible.]

NDOT's Roadside Maintenance Program identifies and repairs damaged slopes. Slopes are inspected periodically for overall condition and stability or propensity for erosion. The Maintenance Division works with Environmental Services and Hydraulics to address slope maintenance when there are potential water quality impacts.

NDOT's Maintenance Division may also access the Storm Water Quality Manuals for assistance in employing soil stabilization and sediment controls. The BMPs for slope control are discussed in the detail in the PDG.

6.3.3 Snow Removal and Ice Control

[4.14.1.2 Snow and Ice Control: Where abrasives and/or de-icing agents are used on highways, the following shall be recorded:]

[4.14.1.2.1 Location of the source of abrasives materials.]

[4.14.1.2.3 Volume of abrasives and deicing agents used on individual highway's segments.]

[4.14.1.2.3 Type and chemistry of abrasives with the gradation and percent organic matter. Gradation and percent organic matter shall be determined from composite samples. The composite samples shall be taken from one stockpile that represents all deliveries from the originating source. Composite samples shall be taken from every new delivery from a new originating source.]

[4.14.1.2.2 Types and chemistry of de-icing agents.]

[4.14.1.2.2.1 Deicing salt shall be analyzed for: total phosphorus, total nitrogen, iron, and percent NaCl; and,]

[4.14.1.2.2.2 Alternative deicers shall be analyzed for: total nitrogen, and total phosphorus.]

[4.14.1.2.4 Abrasives shall be analyzed for: volatile solids, iron, total nitrogen, total phosphorus, and total reactive phosphorus.]

The Maintenance Division's Snow and Ice Control Program in the NDOT Maintenance Manual outlines the methods and procedures associated with typical snow and ice removal along NDOT's highway system. NDOT has outlined the plans to address three levels of controls; statewide plan, district plans, and individual crew plans.

The Snow and Ice Program addresses abrasives or deicing agents in Section D, Chapter 11, Snow Removal: Plowing, Blading, Application of Abrasive and Chemical (Activity No. 151.01) of the Maintenance Manual. The activities in this section of the Snow and Ice Control Program are documented in the MMS.

The Maintenance Manager prepares a list of stockpile locations and quantities of abrasives and deicing materials each May to facilitate ordering. The storage of abrasives and/or deicing materials is critical to snow removal operations and all the storage locations have been documented in NDOT's Global Positioning System (GPS). NDOT stores abrasives and/or salts on impervious surfaces to prevent impacts to the environment from releases. NDOT has invested in covered structures to store materials in Washoe Valley, Reno, Spooner Summit, and

Incline Village. The Snow and Ice Control Program applies deicing and/or abrasive materials at the most beneficial time and with the minimum amount of materials to maximize effectiveness.

Sand is the abrasive typically used by NDOT for snow and ice control. In some areas it is more economical to use cinders. The specifications for sand and cinders may vary depending upon location. The sand/cinders are sampled and tested to insure conformance with the standards upon delivery. Currently, sand/cinders are tested for gradation and moisture content.

NDOT currently uses deicing and anti-icing agents in snow and ice removal projects. Alternative deicers may be tested and used after approval is granted by the Assistant Director of Operations. Salt or approved alternative deicers are sampled and tested upon delivery to insure conformance with the NDOT's specifications.

To address the specific testing requirements of the Permit, NDOT will develop a program to analyze the abrasives and deicing materials used to maintain NDOT's highway system, within the life of the Permit.

6.3.4 Vegetated Treatment Control

[4.14.1.4.1 Enhancement of the use of appropriate native and adapted vegetation throughout all the permittees rights-of way for the purpose of preventing erosion and removing pollutants in storm water and non-storm water runoff.]

[4.14.1.4.4 In places where NDOT has already developed vegetation control management plans, NDOT shall continue to implement these plans and integrate them into their overall statewide plan, in instances where elements of these plans are to be changed or dropped, NDOT shall discuss the changes in the Annual Report.]

NDOT's Maintenance Vegetation Control Program is enveloped within the standard procedures of the Maintenance Program. General maintenance practices of vegetation control seek to contain and maintain the existing vegetation. NDOT, in 2002, sponsored a study performed by the University of Nevada, Reno (UNR) Department of Environmental and Resources Sciences entitled Mapping Ecosystems Along Nevada Highways and the Development of Specifications and Vegetation Remediation. The goal of this study was to provide NDOT with appropriate prescriptions to remediate disturbed sites along NDOT's highways by inventorying the vegetation and soils. The study is a useful tool for NDOT's roadside vegetation projects and

compliments this SWMP by promoting native erosion control re-vegetation practices. NDOT also has approved the Landscape and Aesthetics Master Plan for the Nevada State Highway System. The Master Plan uses the data from the UNR study to develop guidelines and standards for revegetating the roadsides with native plants which will draw out the beauty of the landscape and provide effective erosion control.

NDOT has included BMPs to address erosion control through vegetation practices in the Storm Water Quality Manuals. The Vegetated Surfaces BMP and the Preservation of Native Vegetation BMP address planting native vegetation and preserving existing vegetation to promote growth and limit erosive activity. NDOT's Maintenance Program includes these BMPs in the Vegetation Control Program.

6.3.4.1 Pesticide, Herbicide, and Fertilizer Management BMPs

[4.6.1.6 A description of a program to evaluate and as necessary reduce pollutants in discharges from MS4s associated with the application of pesticides, herbicides, and fertilizer.]

[4.14.1.4.2 Application of herbicides in a manner that minimizes or eliminates the discharge of herbicides to receiving waters. Factors to be considered include timing in relation to expected precipitation events, proximity to water bodies, and the effects of using combinations of chemicals.]

[4.14.1.4.3 If application of nutrients is required, the application shall be at rates necessary to establish and maintain vegetation without causing significant nutrient runoff to surface water.]

The use of pesticides, herbicides, or fertilizers is included in the vegetation control portion of the Maintenance Program. NDOT's Maintenance Division recognizes that chemical applications must consider the timing of applications in relation to precipitation events, the distance between applications and receiving waters, and the potential detrimental effects of certain chemical combinations. Additionally, NDOT has developed the Qualified Product List (QPL) program. The QPL includes NDOT-approved pesticides, herbicides, and fertilizers. The application of insecticides in close proximity to receiving waters requires special application and precautions and is reviewed by the Environmental Services Division.

6.3.5 Hazardous Materials Management BMPs

[4.7.1.6 A description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials; and]

NDOT's recent participation with other MS4s included public outreach for storm water pollution as well as the proper disposal of oils, paints, and other toxins to prevent downstream degradation. The public outreach elements have included storm drain stenciling and annual community education activities. NDOT will continue to fund such public outreach through intergovernmental coordination, to be developed during the life of the Permit, as part of the Public Outreach and Education element of this SWMP.

6.4 Maintenance Facility Pollution Prevention Plans

[4.14.1.6.1 The permittee shall prepare a Maintenance Facility Pollution Prevention Program Plans (FPPPs) for all maintenance facilities. Because these facilities are considered municipal activities rather than industrial activities, these FPPPs must have BMP programs that reduce pollutants to MEP.]

[4.14.1.6.2 Generic FPPP elements can be used for activities that are performed at more than one maintenance facility; however, each site must be evaluated separately and provided with appropriate site specific BMPs.]

[4.14.1.6.3 NDEP staff has the authority to require the submittal of a FPPP at any time, require changes to a FPPP, and to require the implementation of the Provisions of a FPPP.]

In addition to NDOT's maintenance activities, the Maintenance Division will continue to reduce the potential for pollution by developing and implementing Facility Pollution Prevention Plans (FPPPs). The FPPPs will be developed for each NDOT maintenance facility. The FPPPs will describe the facility including general and site-specific BMPs. All activities and practices intended to reduce the discharge of pollutants in storm water runoff will be recorded. NDOT will develop and implement the FPPPs according to the implementation schedule in Section 13.0, Program Schedule, of this SWMP.