

**NEVADA DEPARTMENT OF
TRANSPORTATION**

**STORM WATER
MANAGEMENT PROGRAM**

January 2005

**Nevada Department of Transportation
1263 S. Stewart Street
Carson City, Nevada 89712**

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This Storm Water Management Program was prepared by Brown and Caldwell, under the Nevada Department of Transportation (NDOT) Agreement P 154-03-013 administered by Mr. Christopher Ennes, Water Quality Specialist, Environmental Services Division.

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It has been Brown and Caldwell's pleasure to develop this Storm Water Management Program for NDOT. The development of this program will allow NDOT to implement measures to minimize the impacts of storm water runoff and to meet the regulatory requirements from local, State and Federal agencies.

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List of Acronyms

AASHTO	American Association of State Highway and Transportation Officials
ADFS	Alternatives Design Field Study
AGC	Association of General Contractors
BAT	Best Available Technology
BCT	Best Conventional Technology
BMP	Best Management Practices
BOD	Biological Oxygen Demand
Caltrans	California Department of Transportation
CWA	Clean Water Act
DBE	Disadvantaged Business Enterprise
EIP	Environmental Improvement Program
FHWA	Federal Highway Administration
FPPP	Facility Pollution Prevention Plan
GPS	Global Positioning System
IDDP	Illicit Discharge Detection Program
ISTEA	Inter-modal Surface Transportation Efficiency Act
MMS	Maintenance Management System
MEP	Maximum Extent Practicable
MS4	Municipal Separate Storm Sewer System
NDEP	Nevada Division of Environmental Protection
NDOT	Nevada Department of Transportation

List of Acronyms – Continued

NEPA	National Environmental Policy Act
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
NRS	Nevada Revised Statutes
NURP	Nationwide Urban Runoff Program
PDFS	Preliminary Design Field Study
PDG	Planning and Design Guide
PS&E	Plans, Specifications, and Estimates
QPL	Qualified Product List
RE	Resident Engineer
SWMP	Storm Water Management Program
SWPPP	Storm Water Pollution Prevention Plan
TDS	Total Dissolved Solids
TMDL	Total Maximum Daily Load
TN	Total Nitrogen
TP	Total Phosphorus
TRPA	Tahoe Regional Planning Agency
TSS	Total Suspended Solids
UNR	University of Nevada, Reno
U.S. EPA	United States Environmental Protection Agency

List of Acronyms – Continued

WQESC Water Quality Erosion Sediment Control

WQS Water Quality Specialist

EXECUTIVE SUMMARY

In response to the Nevada Department of Transportation's (NDOT's) request for a single National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit for storm water discharges from all NDOT properties, facilities, and activities, the Nevada Division of Environmental Protection (NDEP) issued to NDOT a statewide NPDES MS4 Permit (NV0023329) (Permit). NDOT has developed this Storm Water Management Program (SWMP) to comply with the Permit requirements and address storm water pollution related to highway planning, design, construction, and maintenance activities throughout the State.

Through the development and implementation of this SWMP, NDOT will create a comprehensive storm water program throughout the state. NDOT has organized this SWMP by the major program elements including a separate storm water management program specific to the Clear Creek watershed located in Appendix D. Section 1.0 Program Management identifies the storm water regulations applicable to NDOT and the roles and responsibilities of staff within NDOT that will implement the minimum practices and procedures to reduce the discharge of pollutants from NDOT's storm drain system. NDOT's functions are divided between Headquarters and three Districts. NDOT Headquarters issues directives to the Divisions and Districts to implement programs. This section describes the responsible parties within the organization associated with this SWMP. This section also discusses the prospective partnering with other MS4s, NDOT's legal authority necessary to implement the SWMP, and the source identification requirement of the Permit.

Section 2.0 discusses the Permit requirement associated with discharges to impaired water bodies. NDOT has created a series of maps to identify NDOT facilities and proximities to Nevada's 2002-303(d) listed waters. The approved Total Maximum Daily Loads (TMDL) for 2002-303(d) listed waters are not currently associated with storm water runoff from NDOT discharges. Therefore, NDOT will continue to emphasize Best Management Practices (BMPs) including good housekeeping measures to mitigate storm water runoff from NDOT highways and highways facilities to protect the receiving waters.

Section 3.0 Best Management Practices Identification and Implementation introduces BMPs. The goal in employing BMPs is to achieve pollutant reduction to the Maximum Extent Practicable (MEP). This section defines the BMP categories, Permanent and Temporary BMPs, and introduces NDOT's BMP selection and implementation process. NDOT's Storm Water Quality Manuals further describe the NDOT-approved BMPs and provide selection and implementation guidance for NDOT personnel and contractors.

Section 4.0 Project Design Storm Water Management Program addresses the processes, procedures, and responsibilities for incorporating selected BMPs into the planning, design, and construction activities. To implement this SWMP, NDOT has incorporated storm water management into the project design process. This section outlines the project design process and

briefly describes the permanent BMPs approved by NDOT for use in NDOT projects including new or redevelopment and retrofit projects.

Section 5.0 Construction Site BMP Program discusses the NDOT project construction process including applicable regulatory requirements for NDOT and the contractor. This section also describes the temporary (construction) BMPs and provides guidance for selecting individual BMPs. The Construction Site BMP Program section also describes the contractor's inspection requirements and NDOT managed inspections including the recently developed Construction Site BMP Field Manual.

Section 6.0 Maintenance BMP Program discusses the staff roles and responsibilities within NDOT's Maintenance Division. NDOT's maintenance activities include practices that are applicable to storm water management including storm water drainage facilities, erosion controls, snow and ice removal controls, vegetative controls, and hazardous materials control. NDOT will develop within the life of the Permit a separate manual specific to storm water management for NDOT's Maintenance Program and Facility Pollution Prevention Plans (FPPPs) to address storm water management at individual maintenance facilities.

Section 7.0 Illicit Discharge and Detection Program (IDDP) addresses illicit discharges that are detected through routine maintenance activities. The IDDP will train maintenance personnel to recognize and report illicit discharges. This section also describes NDOT's spill prevention procedures. The public reporting element of the IDDP is intended to educate the public on illicit discharges and the importance of reporting these discharges to the proper authorities. The public reporting aspect of the IDDP is included in the public outreach and education element of this SWMP.

Section 8.0 Public Outreach and Education element of NDOT's SWMP discusses employee training, contractor outreach, and general public outreach. NDOT will train NDOT employees in storm water issues and introduce this SWMP. Contractor outreach will be developed as part of the Construction Site BMP element of this SWMP. The contractor outreach seeks to increase the contractors' awareness of storm water and regulatory requirements. The general public outreach will provide storm water education and include information addressing IDDP reporting. NDOT will coordinate with other MS4s and collectively participate in public education and outreach.

Section 9.0 Monitoring Program explains NDOT's intent to develop the Monitoring Program within the life of the Permit. NDOT will monitor compliance with SWMP implementation by evaluating the status of the measurable goals. NDOT will coordinate with other MS4s to develop a Monitoring Program to meet the protocols outlined in the Permit.

Section 10.0 Industrial Facilities Monitoring and Control. This Permit requirement does not apply to NDOT because NDOT does not own or operate any industrial facilities. This is confirmed by a letter from NDEP located in Appendix B.

Section 11.0 Sanitary Sewers responds to the Permit requirement requiring NDOT to establish whether NDOT has any connections into a sanitary sewer system. NDOT has contacted each

District and established one positive connection from NDOT's system into the Virginia City Wastewater Treatment Facility in District II. This connection has been authorized and the authorizing document is located in Appendix B.

Section 12.0 Reporting explains that NDOT, per the Permit requirements, will submit an Annual Report which will discuss NDOT's annual review of SWMP implementation. The Annual Report will also describe any or all modifications to be made to the SWMP.

Section 13.0 Program Schedule is the implementation schedule for future SWMP activities and includes measurable goals and the associated implementation schedule for each activity.

NDOT's SWMP presents a comprehensive program intended to meet each Permit requirement. The SWMP has been organized by restating each Permit requirement in italics at the beginning of each subsection where it is addressed. A copy of the Permit is provided in Appendix C.

SECTION 1.0

PROGRAM MANAGEMENT

The Nevada Department of Transportation's (NDOT's) Storm Water Management Program (SWMP) has been organized to provide a cohesive and structured program which clearly addresses each National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer Systems (MS4s) Permit (NV0023329) (Permit) requirement. The organization of this SWMP differs from the organization within the Permit issued by Nevada Division of Environmental Protection (NDEP). NDOT has clearly identified the Permit requirements by quoting and italicizing the Permit requirement at the beginning of the subsection in which it is addressed in this SWMP. A copy of the Permit is provided in Appendix C and the separate Clear Creek Storm Water Management Program is located in Appendix D.

1.1 Overview

[4.1 General Requirements: Develop, implement, and enforce a SWMP designed to reduce the discharge of pollutants from NDOT's MS4 to the maximum extent practicable (MEP) to protect water quality, and to satisfy the appropriate water quality requirements of the CWA]

[4.1.1 Submit the SWMP to NDEP no later than one (1) year after the effective date of this permit; and]

[4.1.2 Fully implement the SWMP within five (5) years of the authorization date of this permit; and]

[4.1.10 Proposed management programs shall describe priorities for implementing controls and shall be based on Public Outreach and Education; Illicit Discharge and Detection; Industrial Facility Monitoring and Control; and a Construction Site BMP Program; and]

[4.1.11 Implement other BMPs identified in this permit; and]

[4.1.12 Pending submittal of the SWMP, NDOT shall continue to implement current BMPs.]

[4.13 Responsibility for Stormwater Management Program Implementation:]

[4.13.1 NDOT must implement the SWMP on all new areas added to NDOT's portion of the MS4 (or for which NDOT become responsible for implementation of stormwater quality controls) not later than one year from addition of the new areas.]

[4.13.2 Information on all new annexed areas and any resulting updates required to the SWMP must be included in the annual report.]

NDOT developed this SWMP to describe the minimum measures NDOT will take to reduce the discharge of polluted storm water from its owned and operated storm drain system. This SWMP addresses storm water pollution and prevention associated with NDOT's highway planning, design, construction, and maintenance. This section of the SWMP describes the organizational structure of NDOT with regard to storm water management. This section is organized as follows:

- Section 1.2 describes the storm water regulations and application to NDOT.
- Section 1.3 explains NDOT's organization and the responsibilities of individuals and groups with respect to storm water quality management.
- Section 1.4 describes how NDOT may coordinate with other municipal storm water permittees (e.g., cities and counties) who also have responsibilities for managing discharges from their storm water drainage systems.
- Section 1.5 describes the legal authority supporting the implementation of NDOT's SWMP.
- Section 1.6 describes the source identification requirement of the Permit.

1.2 Storm Water Regulations and NDOT

Storm water regulations are designed to mitigate storm water runoff before it negatively impacts the downstream environment. Storm water flows off the land and impervious surfaces into the storm drain conveyance system or directly into receiving waters. The increase of impervious surfaces from urbanization increases the amount and velocity of runoff as well as the potential pollutant load in the runoff. The pollutants in storm water runoff as well as the increased flows can negatively impact the water quality of the receiving waters. Studies of urban storm water including the United States Environmental Protection Agency's (U.S. EPA) Nationwide Urban Runoff Program (NURP) 1983 study have motivated the U.S. EPA to regulate storm water runoff and define storm water pollution as the leading cause of impairment to the nation's waters.

In 1987, Congress amended the Clean Water Act (CWA) to include regulating municipal and industrial discharges through the NPDES program. The U.S. EPA issued the final regulations for NPDES permitting for storm water discharges in 1990. The NPDES program was implemented in two phases. Phase I addressed storm water runoff from medium and large MS4s with populations greater than 100,000, construction activity disturbing more than 5 acres, and industrial activities. Phase II expanded the program to include storm water discharges from small MS4s and construction site activity disturbing more than 1 acre.

During Phase I, NDOT was defined as the co-permittee on large MS4s permits for Clark and Washoe Counties. In the wake of Phase II, NDOT was faced with co-permittee responsibilities for all regulated small MS4 areas as well as the individual permit for the Lake Tahoe basin. NDOT requested a single statewide NPDES permit from NDEP to fulfill the large and small MS4 requirements as well as the Lake Tahoe permit. In February 2004, NDOT was issued the NPDES MS4 Permit (NV0023329) (Permit) by NDEP. In September 2004, NDOT received a letter from NDEP confirming acceptance of NDOT's request to cancel the discharge permit NV0023205 for NDOT discharges within the Lake Tahoe basin. Correspondence on this matter is contained in Appendix B.

NDOT, however, continues to be regulated under a specific NPDES Permit authorizing storm water discharges from U.S. Highway 50 to a central storm water treatment unit, which in turn flows to the Edgewood Creek watershed in South Lake Tahoe. NDOT is a co-permittee with several private entities and Douglas County (collectively the Stateline Storm Water Association), who share operation and maintenance responsibilities for the common facilities of the storm water treatment system.

This stateline permit uses numerical water quality criteria developed by the Tahoe Regional Planning Agency (TRPA) for surface and groundwater discharges. For reasons that are described in the stateline permit, the groundwater discharge criteria are applied as limits, and surface water discharge criteria are applied as goals, with the requirement to attempt improvements should exceedances persist. This stateline permit requires implementation of a Monitoring Plan, an Operation and Maintenance Plan, and submission of annual reports that include plans to improve the system performance if exceedances persist or if reasonable improvements can be made. At the present time (2004), a consultant retained by the Stateline Storm Water Association is implementing the Monitoring Plan and managing the operation and maintenance requirements including reporting.

NDOT's Permit requires NDOT to address the discharge of pollutants from NDOT's storm water drainage systems by developing a SWMP. All NDOT facilities and activities will be covered in

the SWMP, including NDOT highways and right-of-ways, highway-related facilities, and construction activities in the highway right-of-ways statewide. NDOT will implement the SWMP on any and all newly acquired areas to NDOT's storm drain system no later than one year after acquisition and will include information pertaining to new areas in the Annual Report.

The issuance of the Permit has initiated the development of NDOT's comprehensive program for storm water management throughout the state. The Permit requires the SWMP to include the following principle program elements: Public Outreach and Education, Maintenance, including Illicit Discharge and Detection, Construction Site BMPs, Monitoring, and Reporting. The SWMP outlines the Best Management Practices (BMPs) to achieve pollution prevention to the Maximum Extent Practicable (MEP), thereby protecting water quality and satisfying the appropriate requirements of the CWA. Table 1-1 describes which sections of the SWMP address which requirements in the Permit.

Permit Requirement	NDOT SWMP Organization
3.1 Discharges to Water Quality Impaired Waters	Section 2.0
3.2 Discharges to Clear Creek	Appendix D
3.3 Discharges into Sanitary Sewer Systems	Section 11.0
4.1 Storm Water Management Program	Section 4.0
4.2 Adequate Legal Authority	Section 1.0
4.3 Source Identification	Section 1.0, Appendix A
4.4 Characterization Data	Section 9.0
4.5 Public Outreach and Education	Section 8.0
4.6 Best Management Practices	Section 3.0, Section 4.0
4.7 Illicit Discharge and Detection	Section 7.0
4.8 Industrial Facility and Monitoring and Control	Section 10.0
4.9 Construction Site BMP Program	Section 5.0
4.10 Sharing Responsibility	Section 1.0
4.11 Reviewing and Updating Storm Water Management Program	Section 12.0
4.13 Responsibility for Storm Water Management Program Implementation	Section 1.0
4.14 Maintenance Program Management	Section 6.0
5.1 Monitoring	Section 9.0
5.2 Record Keeping	Section 9.0
5.3 Reporting	Section 12.0

(1) The following Permit sections do not require text in the SWMP: Section 1, 2, 14.12, 6 and 7.

1.3 NDOT Storm Water Management Responsibilities and Resources

[4.1.7 The management program shall include a description of staff and resources available to implement the program elements]

[4.1.9 Proposed programs may impose controls on a system wide basis, a watershed basis, a jurisdiction basis, or on individual outfalls; and,]

NDOT's mission is to efficiently plan, design, construct, and maintain a safe and effective transportation system for Nevada's motoring public, taking into consideration the environment, economic and social needs, and inter-modal transportation opportunities. NDOT is responsible for the planning, construction, operation, and maintenance of over 5,400 miles of highways and over 1,000 bridges that make up the state's highway system.

NDOT is divided into three Districts (Figure 1-1). District I covers southern Nevada, with headquarters in Las Vegas, and a major maintenance station in Tonopah. District I has three Assistant District Engineers; two in Las Vegas and one in Tonopah. The Assistant District Engineer in Tonopah is responsible for both construction and operations. In Las Vegas, one Assistant District Engineer is responsible for construction and one is responsible for operations. District II covers northwest Nevada, with headquarters in Reno. In District II there are two Assistant District Engineers, one responsible for construction and one responsible for operations. District III covers northeast Nevada, with headquarters in Elko, and major maintenance stations in Winnemucca and Ely. District III has three Assistant District Engineers, one in Elko, one in Ely, and one in Winnemucca, who are responsible for both construction and operations.

NDOT's central headquarters are located in Carson City. The functions of NDOT are divided between Headquarters and the three Districts. Headquarters is managed by the Director and Deputy Director with general functional management being delegated to the Assistant Directors and Division Chiefs. Both District II and District III report to the Deputy Director at Headquarters. In District I, the District Engineer reports to the Southern Nevada Deputy Director. Divisions are typically broken into Sections managed by each respective Division Chief. NDOT Headquarters consists of four major Divisions:

- Operations
- Engineering
- Planning
- Administration

The Assistant Director for Operations provides operational support for NDOT's Division Chief's management of the Architecture, Headquarters Maintenance, Materials, Construction, and Equipment Divisions.

The Assistant Director for Engineering is responsible for the pre-construction engineering duties excluding planning activities. The Assistant Director for Engineering oversees the Division Chiefs' management of the Roadway Design (including Hydraulics and Specifications), Structural Design (Bridge), Safety and Traffic, Location, Right-of-Way, and Environmental Services Divisions.

The Assistant Director for Planning provides the program planning and statistical support for NDOT's engineering, maintenance, and construction activities. The Assistant Director for Planning oversees the Division Chiefs' management of the Transportation Planning, Research, Operations Analysis, Roadway Information Systems, Inter-modal Planning (Program Development), and Traffic Information Systems Divisions.

The Assistant Director for Administration supports administrative activities for NDOT's engineering, maintenance, and construction activities. The Assistant Director for Administration

oversees the Division Chiefs' management of the Accounting, Financial Forecasting, Flight Operations, Data Processing and Telecommunications (Information Services), Financial Management, and Administrative Services Divisions.

Nevada is divided into three Districts to effectively direct NDOT's program locally. Each District is managed by the District Engineer. The main responsibility for the District Engineer is to manage NDOT's construction and maintenance (operations) programs.

In District I, one of the Assistant District Engineers in Las Vegas and the Assistant District Engineer in Tonopah is responsible for construction. One of the two Assistant District Engineers in District II is responsible for construction and each of the three Assistant District Engineers in District III is responsible for construction in their area. Each Assistant District Engineer supervises the construction operations with the Resident Construction Engineer who implements construction contracts.

For maintenance, the Headquarters Maintenance Division establishes the policies and procedures to be implemented by each District and maintains the Maintenance Management System (MMS). In District I, one of the Assistant District Engineers for Las Vegas and the Assistant District Engineer in Tonopah is responsible for maintenance. One of the Assistant District Engineers in District II and each of the three Assistant District Engineers in District III are responsible for maintenance in their designated areas. Each Assistant District Engineer is supported by the Maintenance Manager who is primarily responsible for the maintenance of the road system.

NDOT Headquarters initiates directives to implement the SWMP. The Environmental Services Division's Water Quality Specialist (WQS) manages and coordinates Permit compliance and oversees the development and implementation of the SWMP. NDOT has created a Water Quality Erosion Sediment Control (WQESC) Implementation Team and Steering Committee to develop and implement the WQESC program. The program encompasses more than NPDES regulations of storm water discharges from a MS4, however the Implementation Team/ Steering Committee is an appropriate forum to create policies and procedures promulgated by the Permit.

The WQESC Implementation Team is comprised of grass root technical staff chosen by the committee representatives. The Implementation Team is the backbone of the WQESC program and tasked to ensure elements of the program are reviewed and implemented including specific actions, performance measures, targets, and milestones for meeting each program objective. The Implementation Team meets monthly.

The WQESC Steering Committee is comprised of Division heads, Assistant Directors, and Assistant District staff. They take corrective action based on the Implementation Team's input. The Implementation Team is responsible for providing guidance and implementing/changing policies and procedures. The Steering Committee identifies and prioritizes the Implementation Team's actions, performance measures, targets, and milestones. The Steering Committee authorizes additional or continued resources, as needed, to maintain or enhance program objectives. The Steering Committee meets quarterly.

The WQESC Implementation Team/Steering Committee includes a representative member from each of the following Divisions or Sections:

- Environmental Services
- Hydraulics
- Construction
- Specifications
- Roadway Design
- Materials
- Headquarters Maintenance
- District II representing all three Districts
- Assistant Directors for Engineering and Operations
- Federal Highway Administration (FWHA)

The relationship between Headquarters and the WQESC Implementation Team is described in Figure 1-2 and is followed by a description of roles and responsibilities within each Division or Section.

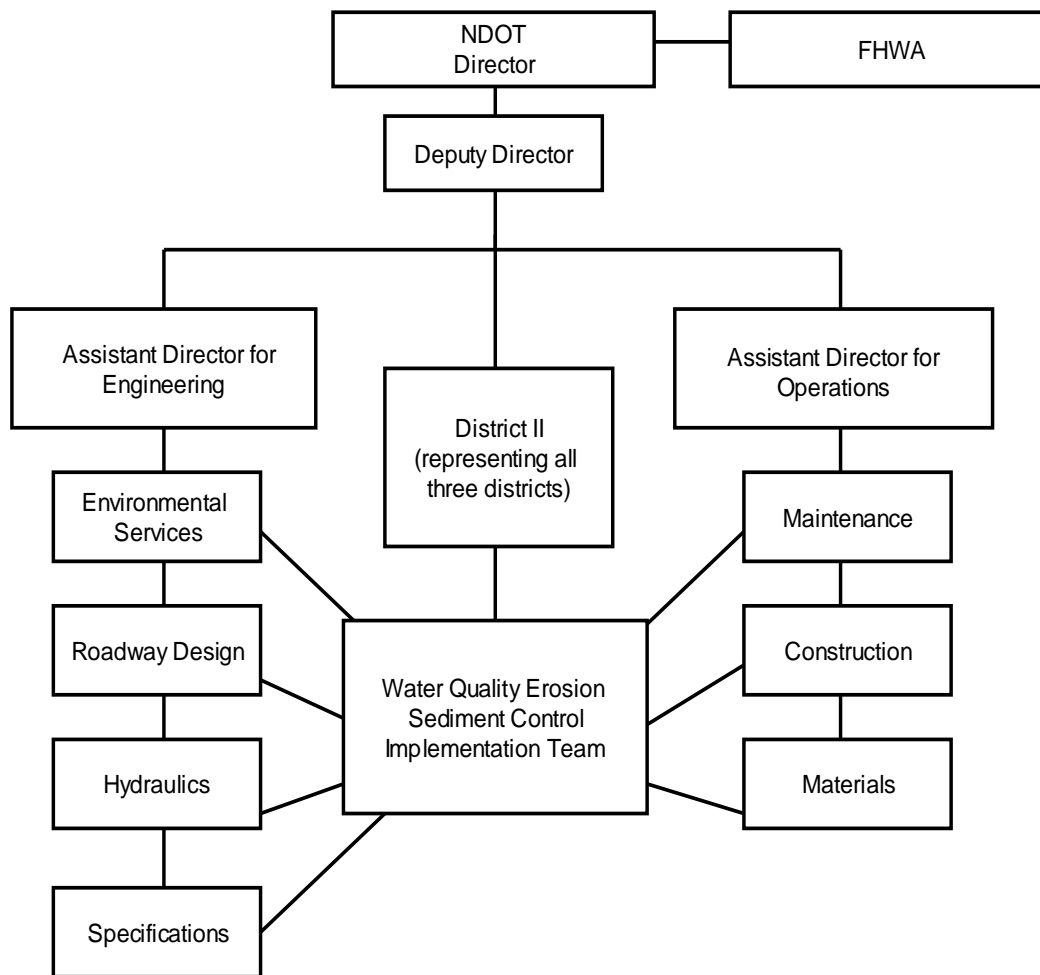


Figure 1-2 NDOT WQESC Organizational Chart

The **Environmental Services Division** is responsible for securing and/or providing oversight of all regulatory permits relative to water quality with the exception of the TRPA Construction Permit and Dust Control Permits. The Division incorporates specific regulations and procedures into NDOT’s Standard Specifications and project Special Provisions. Environmental Services often works with Hydraulics to identify and resolve potential regulatory, construction, and maintenance issues. This includes updating the Storm Water Quality manuals and standards, as

well as performing the necessary environmental monitoring for projects. Environmental Services is specifically responsible for all non-structural temporary BMPs and associated specifications and works with the Specifications Division to incorporate temporary BMP details into the contractual documents where applicable. The Environmental Services' WQS is the primary contact for regulatory compliance particularly with the SWMP and construction issues associated with the General Permit for Storm Water Discharges Associated with Construction Activity (General Permit). The WQS oversees development of Storm Water Pollution Prevention Plans (SWPPPs) and Temporary Working in Waterway/Discharge Permit BMP Plans for NDOT maintenance projects and is the primary contact for maintenance regulatory compliance issues.

The **Hydraulics Section** is mainly responsible for establishing water flows and drainage structure sizes, and analyzing impacts to floodways and flood plains. Hydraulics also reviews road surface water treatment, slope conditions, and renovations. For projects categorized as medium impact projects Hydraulics establishes minimum standards and the appropriate lump sum range for the project. For projects categorized as having a high potential for environmental impacts, Hydraulics designs or provides consultant oversight of a comprehensive erosion control plan to be included in the project Plans, Specifications, and Estimates (PS&Es). Hydraulics has designated an engineer as the Lake Tahoe Environmental Improvement Program (EIP) coordinator responsible for securing TRPA construction permits. Senior Hydraulic Engineers provide technical support to the Environmental Services Division to identify and resolve potential regulatory, construction, or maintenance concerns. Hydraulics is responsible for BMP design, specifications, and research associated with temporary and permanent structural BMPs. The cooperative effort between Hydraulics and Environmental Services resulted in the development and continued maintenance of the Storm Water Quality Manuals, guidelines, and specifications.

The **Construction Division** is responsible for developing and maintaining an operational plan and structure that promotes effective administration and management of the statewide construction program and all of its essential elements. Construction oversees projects from

inception to completion through the coordination of the four Sections within the Division. The Constructibility Section is responsible for the constructability review of the plans and specifications, claim support and review, contract closeout and critique, and change order/letter of authorization monitoring and tracking. The Quality Assurance/Quality Control Section is responsible for independent assurance testing and inspection oversight of contracts during construction, providing training for the Construction Crews field personnel, field review and project scoping of the NDOT's 3R program and oversight of the nuclear density gauges used throughout NDOT. The Administration Section responsibilities include contractor payment, change order processing, documentation oversight/contract closeouts, global oversight of Stewardship projects, and consultant coordination. The Contract Compliance Section is responsible for external Equal Employment Opportunities, the Disadvantaged Business Enterprise (DBE) program, monitoring and enforcing the prevailing wage requirements, and ensuring issues regarding subcontractors are administered within NRS and NDOT guidelines. For NDOT construction projects, the Construction Division is responsible for inspection and enforcement of both temporary structural and non-structural BMPs.

Roadway Design Division is responsible for preparing the highway construction plans and specifications. Roadway Design categorizes the potential environmental impacts of each project by completing the Project Categorization Score Sheet. The Project Categorization Score Sheet categorizes projects by no, low, medium, or high impacts relative to water quality. For projects that fall in the no and low impact Roadway Design Division will include 637 0003 Temporary Pollution Control (Lump Sum) in the amount of \$5,000 in the project estimate. For medium and high impacts Hydraulics calculates the cost and bid items for the PS&Es.

Specifications Division is responsible for general specifications development and review. The specifications in the Storm Water Quality Manuals are reviewed and updated by Specifications as necessary.

Materials Division is responsible for supporting the WQESC program. Specifically, the Division incorporates NDOT's Standard Specifications and Storm Water Quality Manuals

guidance into practices such as geotechnical exploration, bituminous/pavement/aggregates analysis, and structural and chemical testing procedures.

District Maintenance in each District is responsible for the upkeep and maintenance of the highway system according to the NDOT Maintenance Manual and associated protocols. Maintenance plays a significant role in NDOT construction projects. Upon District's acceptance of a completed contract the contractor will submit the Notice of Termination (NOT) to the NDEP. The NOT submission ends the contractor's responsibilities with respect to General Permit compliance. If final stabilization has not yet been achieved per NDEP requirements, coverage is transferred to NDOT until 70% re-vegetation or other stabilization is established. This requires written notification to NDEP from NDOT at the time the contractor submits the NOT to formally transfer control of the General Permit designating NDOT as the permittee.

The project is then turned over to District Maintenance who, under the Environmental Services Division's direction, will be responsible for additional seeding, irrigation, or performing other necessary activities to fulfill the 70% re-vegetation requirement or achieve sufficient site stabilization. During this time, all of the requirements of the General Permit still apply to the project including inspecting and maintaining the appropriate temporary BMPs. After final site stabilization has been completed, District Maintenance will remove the temporary BMPs and file the NOT, which will release NDOT from General Permit coverage. An outside contractor may also be hired to perform the final stabilization work.

Maintenance also maintains permanent BMPs that are constructed by NDOT. NDOT Maintenance projects include coordination between District Maintenance, Hydraulics, and Environmental Services.

The **Districts** are represented in the WQESC Implementation Team by District II. Each District is responsible for supporting the WQESC program and implementation of the SWMP as directed by NDOT Headquarters.

The WQESC Implementation Team is responsible for developing and implementing the Storm Water Quality Manuals in accordance with the Inter-modal Surface Transportation Efficiency Act (ISTEA). The ISTEA requires the Federal Highway Administration (FHWA) to develop guidelines for sediment and erosion control for highway projects using federal funding. To comply with the ISTEA, the FHWA adopted the American Association of State Highway and Transportation Officials (AASHTO) drainage guidelines. The FHWA requires states to either apply the AASHTO guidelines or develop their own standards and practices of erosion control. To comply with the requirements, NDOT developed the two Storm Water Quality Manuals: the Planning and Design Guide (PDG) and the Construction Site BMPs Manual (BMP Manual). The PDG is a guidance tool for NDOT projects. It provides guidance in policy and regulatory requirements to incorporate permanent BMPs into new project planning. The BMP Manual is designed to support NDOT staff and contractors with detailed guidance on regulatory requirements concerning construction site activity, including temporary BMPs.

This SWMP contains the programmatic details of NDOT's program and general guidance for implementation. The following NDOT manuals provide the detailed guidance necessary to fulfill the Permit requirements and are referenced in this SWMP:

- Storm Water Quality Manuals
 - Planning and Design Guide (PDG)
 - Construction Site BMP Manual (BMP Manual)
- NDOT Standards and Specifications
- NDOT Draft Drainage Manual
- NDOT Road Design Division Policy and Procedures
- NDOT Maintenance Manual

NDOT's WQS and the WQESC program promote coordination between NDOT's functional programs and the Districts to provide guidance for Permit compliance. This guidance consists of Permit and SWMP implementation information, including schedules, reporting, legal authorities, budget assistance, and other information required for implementation. NDOT will maintain adequate fiscal resources to comply with the Permit and develop and implement an effective SWMP.

1.4 Municipal Storm Water Permittees Coordination

[2.4.1 NDOT may partner with other MS4s to develop and implement NDOT's SWMP. The description of NDOT's SWMP must clearly describe permittees are responsible for implementing each of the control measures]

[4.1.8 Separate proposed programs, or one or more joint programs, may be submitted by NDOT]

[4.1.9 Proposed programs may impose controls on a system wide basis, a watershed basis, a jurisdiction basis, or on individual outfalls]

[4.10.1 NDOT may either share responsibility or assign responsibility to one or more regulated MS4s, and may implement BMPs individually, as a group, or through consultants. The SWMP shall include a description of how responsibility is being shared or assigned.]

NDOT may elect to coordinate with other municipalities to develop and implement portions of NDOT's SWMP. NDOT is responsible to clearly define the roles each permittee will assume in fulfilling the Permit requirements. The Annual Report will record the coordination between NDOT and other MS4s as it is established throughout the Permit period. Additionally, the Annual Report will identify how responsibilities will be shared between the MS4s specific to the individual Permit requirements.

1.5 Legal Authority

[4.2.1 The SWMP shall provide a description of NDOT's legal authority, established by statute, regulation, ordinance or series of contracts, which authorizes or enables the applicant to:]

[4.2.1.1 Prohibit through regulation, ordinance, order, or similar means, illicit discharges to the municipal separate storm sewer;]

[4.2.1.2 Control through regulation, ordinance, order, or similar means the discharge to a municipal separate storm sewer from spills, dumping or disposal of materials other than stormwater]

[4.2.1.3 Require compliance with conditions in regulation, ordinances, permits, contracts or orders]

[4.2.1.4 Carry out all inspection, surveillance, and monitoring procedures necessary to determine compliance and noncompliance with the prohibition of illicit discharges to the MS4s.]

[4.2.2 NDOT shall provide written notice to NDEP of any formal proposal to modify regulation or ordinances regulating storm water discharges into the municipal storm sewers. Before any regulation or ordinance is modified, NDEP shall have an opportunity to comment on the proposed modification.]

NDOT's jurisdiction to administer the transportation program is authorized by the Nevada Legislature through the enactment of the Nevada Revised Statutes (NRS). The NRS authorizes NDOT to design, build, and maintain the Nevada Highway System. The NRS chapter 408.285 states "...the Department is responsible for their [state highways] construction, reconstruction, improvement, and maintenance". The legal authority of NDOT enables the department to not only administer the program but specifically address either dumping or material spills and illicit

discharges that may impact the storm drain system. The complete listing of the NRS is available through the Nevada Law Library.

NDOT has legal authority to address illicit connections through NRS 408.210 which addresses encroachments. NRS 408.050 defines encroachment as “...any tower, pole, pole line, wire, pipe, pipeline, fence, billboard, approach road, driveway, stand or building, crop or crops, flora, or any structure which is placed in, upon, under, or over any portion of highway rights-of-way”. The department has the authority (NRS 408.210) to remove the encroachment if the owner has not commenced to remove the encroachment five days after issuance of notice.

NDOT’s legal authority also addresses dumping or disposal of materials on highways which could enter NDOT’s storm drain system in NRS 202.185 which reads “...it is unlawful for any person to throw or deposit or cause to be thrown or deposited on any public highway within the State of Nevada, or within a distance of 1,000 feet from the center of any public highway, any dead animal, dirt, garbage, or rubbish as defines in subsection 1.” Any person who violates the provisions of this section is guilty of a misdemeanor.

NDOT also complies with the NDOT 2001 Standard Specifications for Road and Bridge Construction. The following Standard Specifications are relevant to storm water quality during NDOT construction projects: Standard Specification Sections 106.08, 106.2, 107.01, 107.07, 107.12, 107.14, 211, 212, 637, and 726.

NDOT will provide written notice to NDEP of any formal proposal to modify regulations or ordinances regulating storm water discharges into municipal storm sewers. Before any regulation or ordinance is modified, NDEP will have an opportunity to comment on the proposed modification.

1.6 Source Identification

[4.3.1 The SWMP shall provide, at a minimum: maps of NDOT’s MS4, including the location of any major outfall that discharges to waters of the United States.]

NDOT has developed maps to identify their owned or operated MS4s discharging to Waters of the United States. The District maps and associated lists of NDOT facilities are located in Appendix A.

SECTION 2.0

DISCHARGES TO WATER QUALITY IMPAIRED WATERS

[3.1.1 Applicability: Based upon the year 2002-303(d) list and subsequent updates, the Permittees must evaluate whether stormwater discharge from any part of the MS4 significantly contributes directly or indirectly to the listing of a waterbody on the 303(d) list (i.e., impaired waterbody). If Permittees have discharges meeting this criterion, the Permittees must comply with Part 3.1.2; if the Permittees do not have discharges meeting this criterion, Part 3.1 does not apply]

NDOT has developed a series of maps which identify NDOT's highways and facilities and Nevada's 2002-303(d) listed waters. The maps will be employed in evaluating whether NDOT discharges contribute to individual waterbodies being listed on the 303(d) impaired waters list. The maps are located in Appendix A.

[3.1.2 If the Permittees have "303(d)" discharges described above, the Permittees must also determine whether a TMDL has been developed and approved by NDEP for the listed waterbody. If there is a TMDL, the Permittees must comply with Part 3.1.3; if no TMDL has been approved, the Permittees must comply with Part 3.1.4]

The following table is adapted from NDEP's Nevada's 2002-303(d) Impaired Waters List and lists the established Total Maximum Daily Loads (TMDLs) for the Nevada 2002-303(d) listed waters:

Waterbody	Parameters
Carson River	BOD (biological oxygen demand), nitrate, orthophosphates, TDS (total dissolved solids)
Humboldt River	TDS, TP (total phosphorus), TSS (total suspended solids)
Las Vegas Wash/Bay	TP, total ammonia
Truckee River	TDS, TN (total nitrogen), TP
Walker River	TSS

[3.1.3 When a TMDL has been established as described in paragraph 3.1.2, the Permittees must notify NDEP if the TMDL includes a wasteload allocation applicable to stormwater discharges covered by this permit.]

A wasteload or load allocation for urban storm water runoff has not been developed in Nevada. Therefore, Permit Sections 3.1.3.1-3.1.3.1.7 do not apply to NDOT at this time. The Permit does not include numeric effluent limitations for storm water runoff because storm water runoff from highways and highway facilities is highly variable. To address highway runoff, the NPDES

program has emphasized implementation of BMPs and monitoring. This SWMP describes NDOT's program to employ permanent and temporary BMPs and implement a monitoring plan within the life of the Permit.

[3.1.4 When a TMDL has not been established as described in paragraph 3.1.2, NDOT must include a section in the annual report describing the condition for which the water has been listed, evaluating possible BMPs that might practicably be implemented, examining whether these BMPs would have a substantial effect on achieving compliance, and identifying any BMPs that are selected for implementation]

[3.1.5 The SWMP shall identify additional BMPs, if appropriate, to help achieve the TMDL for waters of the U.S. and shall be submitted in accordance with Section 4.1.2]

[3.1.6 A report of the findings in this section shall be included in the SWMP and shall be submitted to the Division for approval no later than one (1) year after the effective date of this permit]

NDOT will submit within the context of the Annual Report a summary of the 303(d) listed waters and associated TMDLs, when applicable to storm water. NDOT will implement the BMPs described in this SWMP to protect receiving waters to the MEP.

SECTION 3.0

BEST MANAGEMENT PRACTICE IDENTIFICATION AND IMPLEMENTATION PROGRAM

3.1 Overview

[4.1.3 Identify the best management practices (BMPs) that NDOT or another entity will implement]

BMPs are designed and implemented to reduce the discharge of pollutants from storm drain conveyance systems to the MEP. This section describes how NDOT identifies and applies the BMPs to their owned or operated storm drain system. This section is organized as follows:

- Section 3.2 introduces BMPs and the BMP categories.
- Section 3.3 describes NDOT's selection rationale for BMPs.
- Section 3.4 explains the general BMP implementation procedures.

3.2 BMPs

3.2.1 BMP Background

BMPs are any measure, practice, or control implemented to protect water quality and reduce the pollutant content in storm water runoff. NDOT is required to define and implement a selection of BMPs to reduce the discharge of pollutants from their storm drain system to the MEP. This Permit requirement is applicable to both permanent and temporary (construction) BMPs. Additionally, the BMPs may be applied to special circumstance sites where, for example, there is a direct discharge into impaired receiving water with an established TMDL. Permit Section 3.1, Discharges to Water Quality Impaired Waters, addresses the TMDL requirements of the Permit.

3.2.2 BMP Categories

The general categories of BMPs are:

1. **Permanent BMPs:** Permanent controls designed to control erosion and sediment after construction and fulfill the MEP requirements in the Permit. Permanent BMPs are either designed to control the pollution at the source or treat storm water runoff by removing contaminants. The two types of permanent BMPs are:

- a. Source Control Measures or Soil Stabilization BMPs: measures of control to prevent pollutants from being entrained in runoff, thereby curtailing pollution at the source. The PDG refers to these BMPs as Soil Stabilization BMPs.
- b. Treatment Control Measures: Control measures to treat storm water runoff and remove pollutants of concern before discharging into conveyance systems or receiving waters.

2. **Temporary BMPs:** Temporary or construction BMPs are the Best Conventional Technology/Best Available Technology (BCT/BAT) based BMPs and are consistent with the BMPs required under the General Permit. Temporary BMPs are discussed in detail in Section 5.0, Construction Site BMP Program.

The specific BMPs employed by NDOT are described in detail in the Storm Water Quality Manuals, the PDG and the BMP Manual. As storm water pollution mitigation technology advances and innovative BMPs are introduced, NDOT may choose to adopt additional BMPs. The Annual Report will detail any additions or omissions from the BMPs listed in this SWMP.

3.3 BMP Selection

[4.1.5 Provide a rationale for how and why NDOT selected each of the BMPs and measurable goals for the SWMP]

NDOT's project planning storm water quality objective is to identify and minimize potential environmental impacts and insure the application of selected BMPs fits within the project constraints of right-of-way and budget. This includes the selection process of temporary BMPs and/or permanent BMPs required to mitigate the project impacts to the MEP. The BMPs listed in the PDG and the BMP Manual have been approved by NDOT for use on NDOT highway and highway-related projects including architectural projects. The WQESC Implementation Team and Steering Committee approved the BMPs in this document and the Storm Water Quality Manuals. NDOT selected the BMPs through sound engineering judgment, past experience with BMPs, and published BMP studies including the California Department of Transportation (Caltrans) Storm Water manuals, TRPA Code of Ordinances, and NDEP resources. The pollutant load reduction goal of each BMP application is to reduce the potential for water quality impacts to the MEP.

3.4 BMP Implementation

[4.1.6 Implementation of best management practices consistent with the provisions of the stormwater management program as required by this permit constitutes compliance with the standard of reducing pollutants to the “maximum extent practicable”]

Environmental Services and Hydraulics have the primary responsibility for water quality planning with support and input from the Roadway Design, Construction, and Maintenance Divisions. Guidance for the selection and implementation of the individual BMPs is located in the Storm Water Quality Manuals. Permanent BMPs are considered for NDOT projects including new development and redevelopment projects or possible retrofit opportunities to mitigate the potential storm water pollution impacts post construction. The BMPs are implemented through the project design process described in Section 4.0, Project Design Storm Water Management Program. The temporary (construction) BMPs are discussed in Section 5.0, Construction Site BMP Program. The guidance provided in the Storm Water Quality Manuals allows the Engineer to make informed BMP selections for individual applications to reduce pollutants to the MEP.

SECTION 4.0

PROJECT DESIGN STORM WATER MANAGEMENT PROGRAM

4.1 Overview

This section describes how NDOT complies with the Permit requirements by incorporating storm water management into NDOT's project planning process. The SWMP's project design process includes NDOT's activities for planning, design, and construction. This section is organized as follows:

- Section 4.2 explains NDOT's Project Design Process.
- Section 4.3 describes Permanent BMPs.
- Section 4.4 describes BMPs for New Development and Redevelopment.
- Section 4.5 describes BMPs for Retrofit Opportunities.
- Section 4.6 describes Flood Management Design associated with the Permit.

4.2 Project Design Process

[4.1.6 Implementation of best management practices consistent with the provisions of the stormwater management program as required by this permit constitutes compliance with the standard of reducing pollutants to the "maximum extent practicable"]

[4.1.11 Implement other BMPs identified in this permit; and]

NDOT considers storm water management during the project design process. NDOT's project development and design process includes a planning and evaluation phase, preliminary design phase, and final design phase. This section provides a brief description of the project design process and associated storm water management considerations.

The process begins with the planning and evaluation phase. This phase may develop a reasonable number of project alternatives. The proposed alternatives are presented in the Alternatives Design Field Study (ADFS) report. The engineering studies follow the ADFS report and compare project particulars such as alignments and associated impacts. The ADFS allows the project designs to advantageously use existing land and waterways to avoid or minimize environmental impacts.

After the alternative designs are selected, the Preliminary Design Field Study (PDFS) is conducted to refine the project scope. Various NDOT Divisions participate in the PDFS to recommend improvements to the major design features of the project.

After the PDFS is approved, the Roadway Design Division develops the 30%, 60%, 90%, 100%, and final PS&E. The Roadway Design Division receives input from other NDOT Divisions during this process. Specifically, Hydraulics, Environmental Services, Construction, Maintenance, Materials, Safety-Traffic, and other NDOT Divisions perform a detailed review usually at the 60% or 100% design submittals. New projects may include permanent BMPs in the design to prevent storm water pollution after construction. The design phase incorporates the specific BMPs into the project plans, no later than the 60% design stage. The Hydraulics Section, with support from other Divisions is responsible for incorporating the permanent BMPs into the PS&E. The Roadway Design Division then compiles a structures list including the quantities list that will be shown on the plans. Coordination is also required with the Specifications Section to present a PS&E package that will clearly define the project and provide clear instruction to the Contractor and Resident Engineer. The NDOT's Roadway Design Policy and Procedures Manual describes the design process in further detail.

Each planning phase requires attention to the storm water quality aspects of the project. NDOT has defined the storm water quality objectives in the project planning and scoping phase to:

- Identify potential impacts from storm water runoff.
- Develop alternatives to mitigate potential impacts.
- Determine if NDOT's right-of-way and budget will accommodate control measures.
- Identify and select the temporary and/or permanent BMPs.

The responsibility of storm water quality planning within the project design process is shared between Hydraulics and Environmental Services with input and support from Roadway Design, Construction, and Maintenance. The following list describes the project design activities necessary to meet the aforementioned storm water quality objectives:

- Determine the potential impacts on water quality from the project and evaluate the available options to mitigate the impacts.
- Establish which BMPs; permanent and/or temporary, will be required either by project studies or regulatory requirements.
- If applicable, determine the specifics of the permanent BMPs selected for the project, (e.g. size, location, and cost).
- Develop planning costs for the temporary BMPs selected.
- Include all findings into the final or scoping report.

The project design process within NDOT may vary from project to project as conditions differ. All projects address storm water mitigation practices, with either temporary or permanent BMPs, depending on the individual components of the project. Through inclusion of storm water management into the design process, NDOT will fulfill Permit requirements and protect the downstream environment.

The construction element in the project design process includes the selection of temporary BMPs to be included in the PS&Es. The selection process of temporary BMPs is managed by NDOT policy, the Project Categorization Score Sheet, local regulatory guidance, and/or specific requirements critical to the selection of BMPs. The Construction Program developed in this SWMP is detailed in Section 5.0, Construction Site BMP Program.

4.3 Permanent BMPs

[4.6.1 A description of structural and source control measures expected to reduce pollutants from runoff from commercial and residential areas that are discharged from the municipal storm sewer system that are to be implemented during the life of the permit, accompanied with a discussion of the basis for the expected reduction of pollutant loads and a proposed schedule for implementing such controls.]

Permanent BMPs are the control measures employed to protect the downstream environment after construction activity is completed. The permanent BMPs selected to achieve pollutant load reduction from NDOT's MS4 discharges to the MEP are listed in the following tables. NDOT has selected these BMPs through sound engineering judgment, published BMP studies, and experience with other MS4s' storm water programs. The permanent BMPs are categorized as Soil Stabilization (Source Control) BMPs and Treatment Control BMPs. The complete description and design details of the permanent BMPs are in NDOT's PDG.

Permanent Soil Stabilization BMPs are implemented to control the pollution at the source, thereby protecting the downstream environment from pollutants in storm water runoff. Table 4-1 identifies the approved Permanent Soil Stabilization BMPs.

Table 4-1. Permanent Soil Stabilization BMPs	
Soil Stabilization BMP	BMP Description
Consideration of Downstream Effects Related to Potentially Increased Flow (SS-1)	The planning and design elements that may be considered to protect the downstream environment from increased flows.
Preservation of Existing Vegetation (SS-2)	The planning consideration and rationale to preserve as much of the existing vegetation as possible.
Ditches, Berms, Dikes, and Swales (SS-3)	Conveyance structures used to intercept and redirect runoff to prevent erosion.
Slope Down Drains (SS-4)	Pipes, flumes, or paved spillway to convey surface runoff downslopes preventing erosion.
Flared Culvert End Sections (SS-5)	Flared end sections placed at the inlet or outlet of pipes and channels to enhance hydraulic operation and prevent scour and erosion.
Outlet Protection/Velocity Dissipation Devices (SS-6)	Energy dissipators to protect the outlet from scour and erosion due to the high velocity of the storm water flows.
Vegetated Surfaces (SS-7)	Vegetative surfaces installed in disturbed areas to minimize erosion and promote infiltration.
Mulching (SS-8)	The application of loose bulk material to disturbed soils to prevent wind and water erosion.
Slope Roughening/Terracing/Rounding (SS-9)	Techniques to create uneven surfaces to reduce the erosive potential by decreasing the velocity of the runoff, trapping sediment, and allowing infiltration into the soil.
Hard Surfaces (SS-10)	Hard surfaces are introduced when vegetation techniques will not provide adequate erosion control.
Retaining Walls (SS-11)	Retaining walls used to stabilize slope surfaces and reduce slope length preventing scour and erosion.

Treatment Control BMPs are measures to treat storm water runoff before releasing it into the receiving waters. Treatment Control BMPs are often referred to as structural controls. Table 4-2 lists the approved Permanent Treatment Control BMPs.

Treatment Control BMP	BMP Description
Biofiltration Swales and Strips (TC-1)	Intended to reduce the pollutant load by slowing flows allowing pollutants to settle, as well as promoting biological uptake and infiltration.
Infiltration Basins (TC-2)	Designed to capture and hold runoff allowing infiltration, promoting pollutant removal, and reducing runoff volumes.
Detention Basins (TC-3)	Used to capture and detain storm water runoff promoting pollutant removal.
Traction Sand Traps (TC-4)	Allows traction sand to settle out of highway runoff before discharged into receiving waters.
Gross Solids Removal Devices (TC-5)	Designed to remove trash and solids from storm water runoff through physical and mechanical means.

4.4 BMPs for New Development and Redevelopment

[4.6.1.2 A description of planning procedures including a plan to reduce the discharge of pollutants from MS4s which receive discharges from areas of new development and significant redevelopment]

NDOT's project design process may incorporate a selection of permanent BMPs described in this SWMP for all proposed new or redevelopment projects. New and redevelopment projects will follow the preceding project design process of planning and scoping, preliminary design, and final design incorporating the approved and appropriate permanent BMPs through coordination between NDOT Divisions.

4.5 Retrofit Opportunities

[4.14.1.1.1.1 Identify priority and watershed pollutant reduction opportunities (e.g., improvements to existing urban runoff control structures).]

NDOT, during the scoping and PDFS phase, investigates the existing storm drainage system for opportunities for water quality improvements and watershed pollutant reduction.

4.6 Flood Management Design

[4.6.1.4 A description of procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies and that existing structural flood control devices have been evaluated to determine if retrofitting the device to provide additional pollutant removal from stormwater is feasible]

NDOT's Hydraulics Section is responsible for planning and design of roadway drainage as well as incorporating erosion control elements into the design process. The procedures NDOT has adopted are described in the NDOT Draft Drainage Design Manual.

This specific Permit requirement does not apply to NDOT because NDOT does not own or operate any flood management projects within the NDOT highway system.

SECTION 5.0

CONSTRUCTION SITE BMP PROGRAM

5.1 Overview

Construction sites have been identified as a leading source of sedimentation and require specific temporary BMPs to mitigate the impacts of storm water pollution. The NDOT Storm Water Quality Manuals, the PDG and the BMP Manual provide details and support for the Permit Construction Site BMP Program requirement. This section describes the general program elements, control methods, and practices NDOT employs at construction sites. This section is organized as follows:

- Section 5.2 provides an overview of Construction Project Process.
- Section 5.3 identifies the Construction Site BMPs.
- Section 5.4 describes the Construction Site Inspection Program.
- Section 5.5 describes the Contractor Education and Training Program.

5.2 NDOT Construction Project Process

[4.9.1 A description of a program to implement and maintain structural and nonstructural best management practices to reduce pollutants in stormwater runoff from construction sites to the municipal storm sewer system, which shall include:]

[4.9.1.1 A program to control all construction in the rights-of-way. This includes both construction by NDOT, construction done under contract for NDOT, and construction done by local government agencies or other third parties on NDOT or nonNDOT projects. The program must include:]

[4.9.1.2 The program must be implemented year round on all construction projects in all parts of the State. The SWMP must be revised to address these requirements and have a program and a schedule for inspections.]

[4.9.1.3 The Construction Management Program shall be in compliance with requirements of the NPDES General Permit for Construction Activities (Stormwater General Permit for Construction Activities).]

[4.9.1.1.2 Implementation and Maintenance of structural and nonstructural BMPs;]

The Construction Site BMP Program is intended to provide NDOT construction projects with the necessary tools to protect the receiving waters from sediment-laden discharge leaving construction sites. This SWMP outlines the Construction Site BMP Program and the Storm Water Quality Manuals provide the necessary details for successful implementation of storm water management at NDOT's construction sites. NDOT construction projects may be subject to the requirements in NDOT's Standard Specifications, the General Permit requirements, and/or

TRPA construction permits. NDOT maintains authority over NDOT construction projects and works on a project-by-project basis when construction projects include encroachment and right-of-way issues.

NDOT Standard Specifications direct the contractor to obtain all necessary water pollution control permits from NDEP. NDOT's Standard Specifications, Section 637 requires projects to employ temporary pollution control and erosion control measures to protect the downstream waters. Prior to work in or near Waters of the United States, a BMP Plan must be developed as part of the Temporary Working in Waterways/ Discharge Permit and submitted to NDEP for their review and approval.

When NDOT projects require coverage under the General Permit, NDOT's contractor will be the permittee and will comply with the General Permit requirements. NDOT recognizes that as the owner, NDOT is ultimately responsible and liable for storm water discharges from construction sites and therefore has developed the Construction Site BMP Program in this SWMP. The General Permit requires contractors to develop and implement a SWPPP that must remain on site at all times and be updated weekly. The contractor is also responsible for the submission of the Notice of Intent (NOI) and Notice of Termination (NOT) per the General Permit requirements.

For projects in the Lake Tahoe area, the TRPA issues construction permits to NDOT for individual projects and generally applies more rigorous requirements to minimize the environmental impacts of new projects. For NDOT projects in the Lake Tahoe area, the Lake Tahoe EIP coordinator handles the permitting process.

The Construction Division handles the policies, procedures, personnel, and equipment for NDOT construction projects. The Resident Engineer (RE) is responsible for managing the construction contracts and will work closely with the contractor to insure the regulatory obligations and contractual elements are met.

The development of the SWPPP or Temporary Working in Waterway/Discharge Permit BMP Plan requires analysis of potential project impacts. NDOT has developed a categorization system to classify projects according to the potential for water quality impacts. The Project Categorization Score Sheet is included in the PDG. The categories are no, low, medium, or high water quality impacts, as described below:

- **No impacts** are projects with less than one acre of soil or ground disturbance and no discharge to Waters of the United States. The estimate will include a lump sum bid item, 637 0003 Temporary Pollution Control, in the amount of \$5,000.
- **Low impacts** are projects with low potential for sediment discharge into Waters of the United States and minimal soil/ground disturbance. The estimate will include a lump sum bid item, 637 0003 Temporary Pollution Control, in the amount of \$5,000.
- **Medium impacts** are construction projects with potential for discharge of sediment into Waters of the United States and construction lasting less than 2 years with simple phasing and moderate amount of soil/ground disturbance. The estimate will include a lump sum bid item, 637 0003 Temporary Pollution Control. The Hydraulics Section establishes minimum standards and a range for the appropriate lump sum amount for these projects.
- **High impacts** are projects with major soil/ground disturbance with high potential for discharge of sediment into Waters of the United States. Typically, these projects have complex staging and last more than two years. Additionally, all projects in the Lake Tahoe basin are considered High Impact projects. NDOT's Hydraulic Section may develop temporary erosion control plans for one possible construction phase and include temporary structural control BMPs bid items in the final PS&E document. Additionally, include 637 0000 Temporary Pollution Control (Force Account) in the amount of \$10,000.

The contractor develops, implements, and maintains the SWPPP for projects that fall into the no, low, or medium impacts. For the high impact projects, temporary BMPs which require sizing must be designed and/or reviewed and approved by a Professional Civil Engineer, registered in the State of Nevada. Additionally, for the high impact projects, NDOT may design the temporary erosion control plans for one possible construction phase scenario. NDOT may also specify temporary BMPs when specific temporary BMPs are required by NDEP, TRPA, other environmental requirements, National Environmental Policy Act (NEPA) mitigation, identified sensitive waters, and site-specific concerns not adequately addressed in the SWPPP or Temporary Working in Waterway/Discharge Permit BMP Plan.

The contractor is responsible for fulfilling every aspect of the construction contract per plans, specifications, and applicable permits. The contractor is responsible for regulatory compliance, including the timely submission of the NOI, NOT, and preparation of the SWPPP or Temporary Working in Waterway/Discharge Permit BMP Plan. The SWPPP must be complete before the NOI is submitted. The NOI must be submitted and approved two days prior to the start of construction. The contractor is responsible for installing, inspecting, and maintaining the BMPs defined in the SWPPP. The working details in the BMP Manual describe individual temporary BMPs including application, inspection, and maintenance. The contractor is also responsible for final stabilization of the site. Final stabilization is defined in the General Permit as reestablishment of 70% of the original vegetation or other appropriate measures. The NOT must be completed to release the contractor from General Permit coverage of the project. If final stabilization is not achieved per NDEP's standards, the General Permit coverage will be transferred to NDOT until final stabilization is achieved, as discussed in Section 1.3, Storm Water Management Responsibilities and Resources. NDOT has included templates of the NOI, SWPPP, and NOT in the Storm Water Quality Manuals.

5.2.1 Construction Site BMP Considerations

The BMP Manual addresses Soil Stabilization, Sediment Control, Tracking Controls, Non-Storm Water Management and Waste Management and Pollution Controls. The selection and implementation of individual BMPs is project specific and dependent upon water quality objectives, site conditions, and applicability of use.

NDOT has defined the *Minimum Requirements* of BMPs for construction projects. All NDOT construction projects are required to implement the minimum required BMPs as described in Table 5-1. The BMPs are grouped to show selection opportunities or possible combinations of BMPs for enhanced protection. Additional BMPs may be implemented at particular projects depending on the project assessment by NDOT and the contractor.

Table 5-1. Construction Site BMPs Minimum Requirements ⁽¹⁾

Best Management Practice	Required	Option
SEDIMENT CONTROL (In addition to all required BMPs employ at least one BMP option)		
Scheduling (SS-1)	X	
Preservation of Existing Vegetation (SS-2)	X	
Street Sweeping and Vacuuming (SC-7)	X	
Storm Drain Inlet Protection (SC-8)	X	
Temporary Stream Crossing (NS-4) ⁽²⁾	X	
Silt Fence (SC-1)		X
Sediment Basin (SC-2)		X
Sediment Trap (SC-3)		X
Fiber Rolls (SC-5)		X
Gravel Bag Berm (SC-6)		X
NON-STORM WATER MANAGEMENT		
Water Conservation Practices (NS-1)	X	
Vehicle and Equipment Cleaning (NS-8)	X	
Vehicle and Equipment Fueling (NS-9)	X	
WASTE MANAGEMENT AND MATERIAL POLLUTION CONTROL		
Stabilized Construction Entrance/Exit (TC-1)	X	
Stockpile Management (WM-3)	X	
Spill Prevention and Control (WM-4)	X	
Construction Debris and Litter Management (WM-5)	X	
SLOPE PROTECTION (Employ at least one BMP)		
Geotextiles, Plastic Covers, & Erosion Control Blankets/Mats (SS-7)		X
Earth Dikes/Drainage Swales & Lined Ditches (SS-9)		X
Slope Drains (SS-11)		X
Fiber Rolls (SC-5)		X
Gravel Bag Berm (SC-6)		X
STABILIZE DISTURBED AREAS (Employ at least one BMP)		
Wind Erosion Control (SS-13)	X	
Soil Stabilizer (SS-5)		X
Hydraulic/Straw/Wood Mulch (SS-3) (SS-6) (SS-8)		X
Geotextiles, Plastic Covers, & Erosion Control Blankets/Mats (SS-7)		X
Hydroseeding (SS-4)	X	X

(1) Reference the BMP Manual for application specifics and selection and implementation guidance.

(2) When specified

NDOT has established criteria to evaluate the appropriateness for soil stabilization controls. Soil stabilization methods are numerous and variable. The criteria matrix in the BMP Manual assists

in selecting the appropriate soil stabilization methods. The following list is the criteria used to develop the matrix:

- Antecedent moisture
- Availability
- Ease of clean-up
- Installed cost
- Effectiveness
- Degradability
- Length of drying time (when applicable)
- Time of effectiveness
- Longevity
- Application mode
- Residual impact
- Native materials
- Effect of runoff

The implementation guidance for soil stabilization and sediment control BMPs is grouped by preventative measures and management measures for disturbed areas. Preventative measures seek to prevent erosion at the site or source while the management measures are selected to mitigate the erosive activity at the site. The following table lists the preventative and management measures which are further defined in the BMP Manual.

Table 5-2. Soil Stabilization and Sediment Control Implementation Guidance	
Preventative Measures	Management Measures
Scheduling	Disturbed Soil Area Management <ul style="list-style-type: none"> • Rainfall patterns • Seasons • Soil types • Slope inclinations and lengths
Preservation of Existing Vegetation	
Storm Water Run-on and Concentrated Flows	Basins

To address implementation guidance for the Tracking Controls BMPs, Non-Storm Water Management BMPs, and Waste Management and Material Pollution Control BMPs, NDOT has

provided implementation direction in the working details for these year-round activities located in the BMP Manual.

5.3 Construction Site BMPs

[4.9.1.4 A description of nonstructural and structural best management practices for construction sites; and]

NDOT and/or the contractor selects BMPs at construction sites to reduce pollutants in storm water to the MEP. The NDOT BMP Manual introduces the regulatory requirements, describes the selection and implementation of temporary BMPs, and details the structural and nonstructural temporary BMPs approved by NDOT. The construction BMPs are categorized as Temporary Soil Stabilization, Temporary Sediment Control, Tracking Control, Non-Storm Water Management, and Waste Management and Materials Pollution Control BMPs.

Temporary Soil Stabilization BMPs are used to stabilize the disturbed soil areas at construction sites. The criteria for applying the soil stabilization BMPs at construction sites are presented in Section 2, Selecting and Implementing Construction Site BMPs of the BMP Manual. Table 5-3 provides a descriptive list of the NDOT-approved Temporary Soil Stabilization BMPs.

Table 5-3. Temporary Soil Stabilization BMPs	
Temporary Soil Stabilization BMP	BMP Description
Scheduling (SS-1)	Scheduling construction activities in conjunction with construction site BMPs to reduce the impact on the site and surrounding area.
Preservation of Existing Vegetation (SS-2)	Identifying and protecting the vegetation at the site to provide erosion and sediment control.
Hydraulic Mulch (SS-3)	Applying fiber mixture and tackifier with hydromulching equipment to protect soil from erosion.
Hydroseeding (SS-4)	Applying a mixture of wood fiber, seed, fertilizer, and stabilizing emulsion with hydromulch equipment to minimize erosion.
Table 5-3. Temporary Soil Stabilization BMPs - Continued	
Temporary Soil Stabilization BMP	BMP Description

Soil Stabilizer (SS-5)	Applying soil stabilizer to exposed soils to temporarily protect soils from erosion.
Straw Mulch (SS-6)	Incorporating a uniform layer of straw by roller or stabilizing emulsion to protect disturbed soils.
Geotextiles, Plastic Covers, & Erosion Control Blankets/Mats (SS-7)	Temporarily stabilizing disturbed soils by placing mats, covers, or erosion control blankets on soil.
Wood Mulching (SS-8)	Applying wood mulch to minimize erosion, increase infiltration, and reduce surface runoff.
Earth Dikes/Drainage Swales & Lined Ditches (SS-9)	Structures designed to divert and convey runoff away from sensitive areas.
Outlet Protection/Velocity Dissipation Devices (SS-10)	Techniques to reduce erosion and scour at outlet by reducing velocity of runoff.
Slope Drains (SS-11)	Conveying surface runoff away from slopes and into stabilized areas to prevent erosion.
Streambank Stabilization (SS-12)	Employing any number of BMPs in the stream zone to protect the stream.
Wind Erosion Control (SS-13)	Applying water or soil stabilizers to minimize dust or wind erosion.

Temporary sediment controls are employed at construction sites to manage disturbed areas. Sediment controls mitigate storm water runoff by intercepting the flow, detaining the water temporarily, and capturing the sediment. The BMP Manual contains the basic criteria for selecting and implementing the sediment controls. The Temporary Sediment Control BMPs are identified in Table 5-4.

Temporary Sediment Control BMP	BMP Description
Silt Fence (SC-1)	Sediment barrier made of permeable fabric designed to slow runoff and intercept sediment before leaving the construction site.
Sediment Basin (SC-2)	Temporary basin to capture and detain runoff, allowing sediments to settle out before water is discharged.
Sediment Trap (SC-3)	Temporary containment to settle out sediment before infiltration or discharge.
Check Dam (SC-4)	Rock, gravel bags, or fiber rolls placed across a channel to reduce flow velocity and scour in the channel or drainage ditch.
Fiber Rolls (SC-5)	Rolls or wood excelsior, rice, straw or coconut fibers bound and placed at toes and along the face of slopes to intercept runoff, reduce slope length, and remove sediment.
Gravel Bag Berm (SC-6)	Single row of gravel bags placed across a slope to intercept runoff and provide sediment removal.
Street Sweeping and Vacuuming (SC-7)	Removal of tracked sediment to prevent sediment from entering conveyance systems or receiving waters.
Storm Drain Inlet Protection (SC-8)	Protection of storm drain inlets from construction site sediment-laden runoff.

Tracking controls for construction sites are applied to vehicles and roadways to prevent sediment from leaving the site and entering the storm drain system. The Tracking Control BMPs are described in the following table.

Tracking Control BMP	BMP Description
Stabilized Construction Entrance/Exit (TC-1)	Stabilizing the entrance and exit of construction sites to reduce tracking sediment onto public roads.
Stabilized Construction Roadway (TC-2)	Stabilizing construction roads to limit erosion or dust from vehicle traffic.
Entrance/Outlet Tire Wash (TC-3)	Tire wash stations to clean tires and undercarriage to prevent sediment from being transported onto public roads.

Non-Storm Water Management BMPs are source control practices. These controls are daily operations commonly known as good housekeeping practices and are generally part of the

contractor's responsibilities. The BMP Manual's working details include a description of the practical applications of these BMPs. Table 5-6 identifies the Non-Storm Water Management BMPs.

Table 5-6. Non-Storm Water Management BMPs	
Non-Storm Water Management BMP	BMP Description
Water Conservation Practices (NS-1)	Activities using water conservatively to avoid causing erosion or transporting sediments off the site.
Dewatering Operations (NS-2)	Managing non-storm water and accumulated storm water and removing the water from the site.
Paving and Grinding Operation (NS-3)	Practices to minimize the release of pollutants associated with these activities into the storm drain system.
Temporary Stream Crossing (NS-4)	Temporary stream crossing during construction projects to minimize the impact to the waterway.
Clear Water Diversion (NS-5)	Practices to isolate the construction site from live water by diverting waters around the site and limiting the impact the construction activity has on the waterway.
Illicit Connection/Illegal Discharge Detection and Reporting (NS-6)	Activities which identify and report illicit discharges or illegally dumped materials at construction sites.
Potable Water/Irrigation (NS-7)	Practices to manage discharges from irrigation activities, discharges from potable water, water line flushing, and hydrant flushing.
Vehicle and Equipment Cleaning (NS-8)	Procedures to protect the downstream environment from discharges associated with vehicle cleaning.
Vehicle and Equipment Fueling (NS-9)	Procedures to prevent fuel spills and leaks into the storm drain system and receiving waters.
Vehicle and Equipment Maintenance (NS-10)	Vehicle and equipment maintenance procedures to prevent the discharge of pollutants into the storm drain system.
Pile Driving and Drilling Operation (NS-11)	Controls to reduce the discharge of pollutants during pile driving operations.
Concrete and Pavement Curing (NS-12)	Practices to control the potential pollutants from the chemical and water methods used in concrete curing.
Material and Equipment Use Over Water (NS-13)	Procedures on barges or boats to properly store, use, and dispose of materials to prevent discharge of pollutants into the waterways.
Concrete Finishing (NS-14)	Activities to minimize the runoff from concrete finishing methods and employ site protection methods to prevent runoff from impacting receiving waters.
Structure Demolition/Removal Over or Adjacent to Water (NS-15)	Demolition and removal control practices to reduce the potential for wastes and debris entering the waterways.
Temporary Batch Plants (NS-16)	BMPs presented to assist compliance as temporary batch plants must comply with the General Permit requirements.

The Waste Management and Materials Pollution Control BMPs are also source control BMPs implemented to prevent potential pollutants from entering storm water. These BMPs include the good housekeeping practices of daily operations and are the contractor's responsibility. The following table lists the Waste Management and Materials Pollution Control BMPs.

Table 5-7. Waste Management and Materials Pollution Control BMPs	
Waste Management and Materials Pollution Control BMP	BMP Description
Material Delivery and Storage (WM-1)	Descriptions of the proper handling and storage of materials to minimize discharges into the receiving waters.
Material Use (WM-2)	Practices for using materials to protect the downstream environment from potential discharges.
Stockpile Management (WM-3)	Management procedures to reduce the potential for discharges from stockpiles of soil and paving materials.
Spill Prevention and Control (WM-4)	Methods to prevent spills and procedures for managing and reporting spills.
Construction Debris and Litter Management (WM-5)	Managing stockpiles and construction site wastes to prevent impacting the downstream environment.
Concrete Waste Management (WM-6)	Concrete waste practices to prevent the waste materials from entering the storm drain system.
Sanitary/Septic Waste Management (WM-7)	Proper placement and maintenance of sanitary/septic waste materials to prevent discharge into the storm drain system.
Liquid Waste Management (WM-8)	Management practices to control non-hazardous liquid materials at construction sites.

5.4 Construction Site Inspection Program

[4.9.1.1.1 Review of construction site plans;]

[4.9.1.1.3 Site inspections and enforcement; and]

[4.9.1.5 A description of procedures for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality; and]

[4.9.1.3 The Construction Management Program shall be in compliance with requirements of the NPDES General Permit for Construction Activities (Stormwater General Permit for Construction Activities).]

[4.9.1.1.2 Implementation and Maintenance of structural and nonstructural BMPs;]

NDOT's project design process includes construction activities associated with the project. All projects from the 30% to 100% design phase are reviewed by all NDOT Divisions as outlined in the PDG. NDOT construction sites are managed by the RE and inspections follow the protocol outlined in the General Permit. The contractor is responsible for the construction site including site inspections and inspection reports as defined in the General Permit. NDOT construction projects are inspected by the contractors according to the following:

- Within 24 hours of the end of a storm event greater than 0.5 inches of rainfall,
- At the minimum of once every seven calendar days,
- As specified in the SWPPP and/or Special Provision, and/or
- As directed by the RE.

NDOT personnel also perform inspections of construction sites. NDOT has created the Weekly Construction Site Discharge Inspection Checklist for NDOT inspectors. The checklist provides assistance with inspection criteria and the proper course of action once the inspection is completed. The RE works with the contractor to correct any problems immediately or schedules an approved alternative time. The BMP Manual may be employed during inspections because it provides details for installation, application, and maintenance for each temporary BMP. The Construction Site Discharge Inspection Checklist is located in Appendix B of this SWMP.

Repairs and/or replacement of temporary pollution control BMPs shall begin within 24 hours of notification and shall be completed within 7 days. Should this restriction be exceeded, work may be immediately suspended and no other items of work shall be performed until the repairs are completed. Working days will continue to be assessed during the suspension period and partial payments as set forth under Subsection 109.06 of the Standard Specifications may not be forthcoming until said repairs are completed.

5.4.1 NDOT Construction Site BMP Field Manual

NDOT has created the Construction Site BMP Field Manual (BMP Field Manual) for NDOT inspectors. The BMP Field Manual presents guidance for installing, maintaining, and troubleshooting BMPs. The BMP Field Manual details the appropriate applications and the key points for BMP selection, installation, and maintenance. The BMP Field Manual is intended to

assist NDOT inspectors in construction site inspections. The BMP Field Manual will allow NDOT inspectors to evaluate the implementation and maintenance of individual BMPs and communicate to the contractor the required corrective measure(s).

5.5 Contractor Education and Training Program

[4.9.1.1.4 Education of construction site operators.]

[4.9.1.6 A description of appropriate educational and training measures for construction site operators.]

NDOT provides outreach to contractors through information exchange forums. Informational exchanges within the project process between NDOT and the contractor include pre-bid meetings and pre-construction meetings where the contractor is informed of the regulatory requirements. These requirements include:

- Permit acquisition
- SWPPP or Temporary Working in Waterway/Discharge Permit BMP Plan development
- BMP selection and implementation
- Site inspections

NDOT works regularly with contractors through the Associated General Contractors (AGC) organization that offers a variety of contractor training opportunities. NDOT also supports information sharing with contractors through announcements in the Weekly Construction Bulletins and information posted on NDOT's website at www.nevadadot.com. NDOT has developed the PDG and BMP Manual to support NDOT staff and contractors in the project design process, SWPPP development, and implementation of the SWMP elements. NDOT will, in the life of this Permit, develop a more detailed outreach program to train NDOT contractors.

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.

SECTION 7.0

ILLICIT DISCHARGE AND DETECTION PROGRAM

7.1 Overview

[4.7.1 A description of a program, including a Illicit Discharge and Detection Program (IDDP), including a schedule, to detect and remove illicit discharges and improper disposal into the MS4. The proposed program shall include:]

[4.7.1.2 A description of procedures to conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens.]

[4.7.1.7 An assessment of whether the procedures otherwise implemented in response to this paragraph are sufficient to identify instances of exfiltration from the sanitary sewer to the storm sewers, and if not a description of additional activities to be undertaken to control exfiltration.]

Illicit discharges of non-storm water into MS4s negatively impact the water quality in the receiving waters. The role of an Illicit Discharge and Detection Program (IDDP) is to prevent non-storm water discharges through investigation, public awareness, and reporting. Since NDOT is not a typical MS4, it is unlikely a discharger would have access to the NDOT storm drain system to complete an illegal connection. Additionally, it is implausible that a routine field-screening program could be practically attained because of the size of NDOT's system. However, NDOT will develop an IDDP to meet the applicable Permit requirements. NDOT's Maintenance District will incorporate the IDDP into routine maintenance activities. NDOT's legal authority as discussed in Section 1.5 of this SWMP will provide regulations to control illicit discharges.

This section describes the elements of the IDDP to be developed to effectively detect and prevent illicit discharges. The section is organized as follows:

- Section 7.2 introduces the Investigative Procedures for Illicit Discharges.
- Section 7.3 defines Conditionally Exempt Discharges.
- Section 7.4 explains the Spill Prevention and Response Procedures.
- Section 7.5 describes Public Reporting.

7.2 Investigative Procedures

[4.2.1.4 Carry out all inspection, surveillance, and monitoring procedures necessary to determine compliance and noncompliance with the prohibition of illicit discharges to the MS4s.]

[4.7.1.3 A description of procedures to be followed to investigate portions of the separate storm sewer system that, based on the results of the field screen, or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources of non-stormwater]

[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 Maintenance activities include routine inspections of drainage structures. To investigate and control illicit discharges NDOT will train their maintenance personnel to recognize illicit discharges during routine inspections and report such occurrences for further investigation. The Illicit Connection/Illicit Discharge Detection and Reporting BMP describes the procedure for identifying and reporting non-storm water discharges and is detailed in the BMP Manual. Illicit discharges are reported to the Maintenance Supervisor II and Environmental Services who will notify the appropriate agencies. Additionally, NDOT will depend on cooperation with other MS4s and their authorities to control discharges from the small MS4s into NDOT's storm drain system.

7.3 Conditionally Exempt Discharges

[4.7.1.1 "A description of a program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the MS4. This program description shall address all types of illicit discharges, however the following category of non-stormwater discharges or flows shall only be addressed where such discharges are identified by NDOT as sources of pollutants to waters of the United States:]

The IDDP will address all types of illicit discharges with the exemption of the following list of conditionally exempt discharges, which shall be addressed when identified by NDOT as pollutant sources to the Waters of the United States:

- water line flushing
- landscape irrigation
- diverted stream flows
- rising ground waters
- uncontaminated ground water infiltration to separate sewers

- uncontaminated pumped ground water
- discharges from potable water sources
- foundation drains
- air conditioning condensation
- irrigation water
- springs
- water from crawl space pumps
- footing drains
- lawn watering
- individual residential car washing
- flows from riparian habitats and wetlands
- dechlorinated swimming pool discharges
- street wash water

7.4 Spill Prevention and Response Procedures

[4.7.1.4 A description of procedures to prevent, contain, and respond to spills that may discharge into the municipal separate storm sewer;]

Spill prevention, containment, and response are important elements in protecting the storm drain system and receiving waters from hazardous discharges. NDOT's Transportation Policies and Procedures Manual outlines the official NDOT policies addressing hazardous waste. It is NDOT's policy to educate employees in hazardous waste management. NDOT's Environmental Services provides assistance and guidance, when requested, to NDOT's maintenance staff in addressing hazardous waste management issues.

NDOT also addresses spill prevention and control at NDOT construction projects. The BMP Manual details the Spill Prevention and Control BMP in the Waste Management and Materials Pollution Control BMPs section. The working detail of the BMP describes the procedures to prevent and control spills and protect receiving waters from containments. The Spill Prevention and Control BMP is directed toward construction sites however the description of handling hazardous waste is consistent with NDOT's policies.

Spills are defined as any pollutant, hazardous material, or contaminant spilled, leaked, pumped, poured, emitted, emptied, discharged, injected, escaped, leached, dumped, or disposed of into the

environment. Procedures for classification, clean-up, and storage are described in the working details of the BMP. NDOT employees are trained to identify the “reportable” and “non-reportable” spills and recognize the potential hazards to humans and the environment from spills. NDOT’s policy is to report spills of any quantity that affect a waterway in the state. Reportable spills are reported to NDEP and NDOT’s Environmental Services Division as follows:

- NDOT’s Environmental Services Division -775.888.7013
- NDEP -1.888.331.NDEP (6337)

NDOT is evaluating maintenance stations for spill prevention, control, and countermeasure requirements. Based on the evaluation, site specific plans will be prepared as necessary.

7.5 Public Reporting

[4.7.1.5 A description of a program to facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges from MS4s;]

Public reporting of illicit discharges is described in the Public Outreach and Education element of this SWMP. The Public Outreach and Education element will educate the public of illicit discharge indicators and provide the necessary contact information to facilitate public reporting. NDOT’s previous participation with the other MS4s’ storm water management programs included a public outreach effort specific to illicit discharges. NDOT will coordinate with other MS4s to develop this outreach element.

SECTION 8.0

PUBLIC OUTREACH AND EDUCATION

8.1 Overview

[4.5.1 The management program covering the duration of the permit shall include a section which involves public outreach and education, and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable using management practices control techniques and system, design and engineering methods, and such other provisions which are appropriate]

[4.5.2 In areas where NDOT is participating in an area wide Public Education Program, NDOT shall continue participation. The Public Education Program shall address the three main audiences that impact NDOT stormwater discharges. The three audiences are: NDOT's employees; NDOT's construction contractors, and the general public. The program shall contain the following elements for each of these groups:]

The Public Outreach and Education element of this SWMP is designed to increase awareness of water quality issues, storm water pollution, and NDOT's role in storm water management. The educational materials and outreach programs will assist NDOT in informing the public of NDOT's efforts to mitigate storm water runoff from their highways and facilities. NDOT, in recent years, has been a co-permittee with other MS4s in the state. As a co-permittee NDOT has successfully participated in the public outreach element of the Las Vegas Valley and Truckee Meadows Storm Water Management Programs. NDOT will again take a regional approach to fulfill this Permit requirement in addressing the general public education element. NDOT will address the employee and contractor training elements internally. This section is organized as follows:

- Section 8.2 outlines the Employee Training Program.
- Section 8.3 identifies Construction Contractor Outreach.
- Section 8.4 describes the Public Education SWMP element

8.2 Employee Training

[4.5.2.1 NDOT employees]

[4.5.2.1.1 NDOT shall implement the program specified in the SWMP.]

[4.5.2.1.2 NDOT shall provide frequent educational reminders to employees to reinforce the training.]

NDOT's policy is to facilitate employee education and training to ensure all employees have the necessary understanding to competently perform their assigned duties. NDOT will develop the

necessary training sessions to implement the SWMP. The basic framework of the sessions will include the following:

- Introduce storm water characteristics and water quality.
- Outline the roles and responsibilities within NDOT to support the implementation of the SWMP.
- Introduce the elements of the SWMP.
- Introduce and train employees how to use Storm Water Quality Manuals and train NDOT inspectors to use the Construction Site BMP Field Manuals.

NDOT has initiated employee training in storm water with the training sessions introducing the Storm Water Quality Manuals held in each District. Staff from the following Divisions or Sections attended the meetings: Hydraulics, Roadway Design, Specifications, Structural Design (Bridge), Structural Design (Bridge Maintenance), Project Management, Construction, Maintenance, Right of Way Permits, Right of Way Utilities, Architecture, Environmental Services, Materials, and members of Construction and Maintenance crews from each District. The training sessions were aimed to educate employees in storm water quality, BMPs, and how to include BMPs in the project design process and construction sites projects. As the WQESC program continues and the SWMP is developed NDOT anticipates a series of trainings to insure NDOT employees gain working knowledge of this SWMP.

8.3 Construction Contractor Outreach

[4.5.2.2.1 NDOT shall implement the program specified in the SWMP.]

[4.5.2.2.2 NDOT shall provide outreach to contractors to raise their awareness of the problems and causes of stormwater pollution and to reinforce their training.]

The Construction Site Program developed in this SWMP is detailed in Section 5.0, Construction Site BMP Program. The contractor outreach program will include contractor trainings focused on the appropriate SWMP elements and the BMP Manual. NDOT contractors will be able to access the BMP Manual for instruction and reference. NDOT may also work with the AGC to host General Permit informative trainings for contractors.

8.4 Public Education Programs

[4.5.2.3.1 Plan for development and implementation of a public education program: NDOT shall submit a plan for approval by NDEP within 180 days of adoption of this NPDES permit for development and implementation of a Public Education Program that includes education of the general public and commercial and industrial entities whose actions may impair stormwater quality discharged from NDOT's properties, facilities and activities. In areas where NDOT is already part of a Public Education Program with other MS4, NDOT must continue with their participation in the program.]

[4.5.2.3.2.1 Research--A plan for conducting research on public behavior that affects the quality of NDOT's runoff. The information gathered will form the foundation for all the public education conducted.]

[4.5.2.3.2.2 Public Education Strategy--Develop a three-year public education strategy. The strategy should be based on the research conducted and must include goals and objectives to be achieved regarding changing behaviors.]

[4.5.2.3.2.3 Mass Media Advertising--Develop and conduct an advertising campaign as a focal point of the public education strategy. The campaign should focus on the behaviors of concern and should be designed to motivate the public to change those behaviors. The public education campaigns may be done as a cooperative effort with other MS4 or NDEP.]

NDOT will develop and implement a program to address public education as detailed in Section 13.0, Program Schedule, of this SWMP. NDOT recognizes that the first recommendation in EPA's Phase II Final Rule for developing public education/outreach and public participation/involvement programs is to form state or regional partnerships with Phase I and Phase II governmental entities (EPA Fact Sheet 2.3, January 2000). Regional programs are generally considered to be more cost-effective because they utilize shared resources and existing educational and outreach materials. This may reduce the public outreach burden on individual entities.

Public education is an important element in preventing water quality impacts from storm water pollution. NDOT currently operates the Adopt-A-Highway program that serves as a public education tool. The Adopt-A-Highway program informs the public of storm water issues by targeting litter and debris along the roadside. Volunteers contribute to the community by adopting and maintaining a section of highway. NDOT posts signs acknowledging the volunteers and their efforts, thereby increasing public awareness. The program demonstrates the commitment of the public to clean highways and compliments the storm water management program.

NDOT has developed the Water Quality website. This website is an effective public outreach element. NDOT posts information describing the Storm Water Quality Manuals on this website. The website also provides direction on purchasing the BMP Manual and obtaining the required templates to fulfill regulatory obligations, i.e. SWPPP Template. The website address is http://nevadadot.com/reports_pubs/Water_Quality/. NDOT will expand the website to include additional storm water information during the life of the Permit.

NDOT will develop and implement a public outreach plan that will synthesis NDOT's previous experience with other MS4s in the state. The goal of the Public Outreach and Education element is to inform the public of storm water pollution and change the behaviors that may negatively impact the environment. The public outreach will also address illicit discharge reporting to supplement the IDDP. The public education plan will include research, strategy, and mass media advertising. The plan will be developed and implemented during the life of the Permit with coordination with other MS4s and detailed in the Annual Report.

SECTION 9.0

MONITORING PROGRAM

9.1 Overview

[5.1.1 NDOT shall submit to NDEP a stormwater monitoring plan for the following year on or before October 1 each year. In developing the plan, NDOT must evaluate and update as necessary how monitoring may assist in making decisions about program compliance, the appropriateness of identified best management practices, and progress toward achieving identified measurable goals. Pending submittal of the annual monitoring plan, NDOT shall continue to implement the existing monitoring plan.]

[4.4.1 The SWMP shall evaluate whether existing data collection programs should be modified to improve characterization of stormwater discharges, effects of BMPs, or ambient water quality. This information shall be submitted for approval as part of the annual monitoring plan required in section 5.1.1.]

This section describes NDOT's approach to the monitoring requirement of the Permit. In the past, NDOT has participated in both the Las Vegas Valley Storm Water Program and the Truckee Meadows Storm Water Program. In developing this SWMP, NDOT has reviewed the experience with other MS4s and determined that the regional approach of partnering with other MS4s will prove most beneficial. NDOT does not currently have data collection programs for storm water discharges and water quality to evaluate. NDOT's monitoring program will include a plan to evaluate the effectiveness of the program by evaluating the measurable goals as well as storm water quality monitoring. This section includes the following:

- Section 9.2 describes the Monitoring Program.
- Section 9.3 explains the reporting required for the Monitoring Program.

9.2 Monitoring Program

[5.1.2 When NDOT conduct monitoring at NDOT's permitted MS4, NDOT is required to comply with the following:]

[5.1.2.1 Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. This requirement does not prevent NDOT from analyzing or reporting samples that are representative of a limited situation (e.g. concentration at peak flow).]

[5.1.2.2 Test procedures for the analysis of pollutants shall conform to regulations (40 CFR, Part 136) published pursuant to Section 304(h) of the Act, unless other procedures are approved by NDEP.]

[5.1.3 Records of monitoring information shall include:]

[5.1.3.1 The date, exact place, and time of sampling or measurements;]

[5.1.3.2 The names) of the individuals) who performed the sampling or measurements;]

[5.1.3.3 The date(s) analyses were performed;]

[5.1.3.4 The names of the individuals who performed the analyses;]

[5.1.3.5 The analytical techniques or methods used; and]

[5.1.3.6 The results of such analyses.]

[5.1.4 Analyses shall be performed by a State of Nevada certified laboratory. Laboratory reports shall be provided if requested by NDEP.]

[5.1.5 If NDOT perform stormwater monitoring more frequently than required by the stormwater monitoring plan the results of such monitoring shall be reported.]

NDOT will partner with other MS4s throughout the state to create a comprehensive monitoring approach to storm water and storm water related issues. NDOT may elect to partner with other MS4s, namely, Elko, Carson City, Las Vegas, and Truckee Meadows. The water bodies most likely to be monitored are the Humboldt River, Carson River, Las Vegas Wash, and Truckee River. NDOT recognizes that the first recommendation in EPA's Phase II is partnerships with Phase I and Phase II governmental entities (EPA Fact Sheet 2.3, January 2000). Regional programs are generally considered to be more cost effective because they utilize shared resources and existing education and outreach materials. NDOT's Environmental Services will be responsible for submitting the monitoring plan as part of the Annual Report to NDEP.

The monitoring plan will act as a tool for NDOT to review the program's compliance with the Permit, evaluate the appropriateness of the BMPs, and assess the program's progress in achieving the measurable goals. NDOT's storm water quality monitoring element will follow the protocols listed in the Permit. The Permit requires the samples and measurements taken to be representative of the discharge in nature and volume. The analysis test procedures will conform to 40 CFR, Part 136 regulations pursuant to Section 304(h) of the CWA unless other procedures are approved by NDEP. The monitoring record shall include the following details of the sampling and analysis:

- The date, exact place, and time of sampling or measurements
- The name(s) of the individual(s) who performed the sampling or measurements
- The date(s) analyses were performed
- The names of the individuals who performed the analyses
- The analytical techniques or methods used
- The result from the analyses

Additionally, all analyses shall be performed by a State of Nevada certified laboratory. Laboratory reports shall be provided if requested by NDEP.

9.3 Monitoring Record Keeping

[5.2.1 NDOT must retain records of all monitoring information, including, all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, a copy of the NPDES permit, and records of all data used to complete the application for this permit, for a period of at least three (3) years from the termination date of this permit. This period may be extended at the direction of NDEP at any time.]

[5.2.2 NDOT must submit the records to NDEP upon request. NDOT must retain a copy of the SWMP required by this permit (including a copy of the permit language) at a location accessible to NDEP. NDOT must make the records, including a copy of the SWMP, available to the public if requested to do so in writing.]

[5.2.3 For public requests of records, NDOT may impose a reasonable fee for personnel time and copying expenses].

NDOT's Environmental Services will organize and retain records of all monitoring information. The records will include all information from the monitoring equipment, including calibration and maintenance records. The records will be accessible to NDEP upon request. Per the Permit requirements NDOT will retain a copy of the NPDES Permit, application data required in this Permit, and this SWMP for the life of the Permit.

SECTION 10.0**INDUSTRIAL FACILITIES MONITORING AND CONTROL**

[4.3.2 NDOT shall develop a list of industrial facilities subject to stormwater permitting requirements within their control]

[4.8.1 A description of a program to monitor and control pollutants in stormwater discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading to the municipal storm sewer system. The program shall:]

[4.8.1.1 Identify priorities and procedures for inspections and establishing and implementing control measures for such discharges; and]

[4.8.1.2 Describe a monitoring program for stormwater discharges associated with the industrial facilities identified in this section, to be implemented during the term of the permit in accordance with the monitoring programs defined in section 5.1.1.]

[4.6.1.5 A description of a program to evaluate and as necessary monitor pollutants in runoff from operating or closed municipal landfills or other treatment, storage or disposal facilities for municipal waste.]

The regulations of the U.S. EPA have formed 11 categories of industrial facilities which apply to the storm water permitting requirements in 40 CFR 122.26(b)(14)(i)-(xi). Discussions with NDOT and NDEP have determined that the maintenance yards operated by NDOT do not fall within any of the eleven industrial categories. Therefore, NDOT does not own or operate any industrial facilities and will not address Permit requirements associated with owned or operated industrial facilities. The letter from NDEP Bureau of Water Pollution Control reporting this finding is located in Appendix B.

To address industrial facilities that may be discharging into NDOT owned and operated storm drain system, NDOT will evaluate the discharges when discovered and follow the established reporting procedures.

SECTION 11.0

SANITARY SEWERS

[3.3.1 For discharges into facilities treating domestic sewage, used in storage, treatment, recycling, and reclamation, of municipal or domestic sewage, that are not owned or operated by NDOT, the following shall be provided:]

[3.3.1.1 Written and signed confirmation from each facility authorizing the discharge of pollutants into the facility system; and,]

[3.3.1.2 A report of all authorizations is submitted to NDEP, no later than one (1) year after the effective date of this permit.]

NDOT has contacted each District to determine if there are any existing connections from NDOT's storm drain systems to facilities treating domestic sewage.

District I –Tonopah reported no connections. The September 2, 2004 email to the Environmental Services WQS from District I – Tonopah addressing this issue is located in Appendix B.

District I- Las Vegas reported no connections. District I confirmed no connections in an email to the Environmental Services WQS. The referenced email is located in Appendix B.

District II reports one connection from NDOT's storm drain system to the Virginia City Wastewater Treatment Facility. NDOT has obtained a letter from Storey County Public Works authorizing the connection. The letter is located in Appendix B.

District III reports no connections. The email from District III to the Environmental Services WQS is located in Appendix B.

SECTION 12.0

REPORTING

12.1 Overview

This section describes how NDOT will report to NDEP as required in the Permit. The section is organized as follows:

- Section 12.2 introduces NDOT's SWMP review process.
- Section 12.3 describes the Annual Report.

12.2 Reviewing and Updating Storm Water Management Program

[4.11.1 NDOT must complete an annual review of the SWMP in conjunction with preparation of the annual report.

[5.3.2 Each year, NDOT shall review the program defined under section 4 of this permit, and report to NDEP on the status of the program, whether NDOT has identified any modifications, and the plans for implementing those modifications.]

[4.11.2 NDOT may change the SWMP during the life of the permit in accordance with the following procedures:

[4.11.2.1 Changes adding (but not subtracting or replacing) components, controls, or requirements to the SWMP may be made at any time upon written notification to NDEP.

[4.11.2.2 Requests for changes replacing an ineffective, unfeasible, or inappropriate BMP specifically identified in the SWMP with an alternate BMP may be submitted to NDEP for approval at any time. If request is denied, NDEP will send NDOT a written response giving a reason for the decision NDOT's modification requests must include the following:]

[4.11.2.2.1 An analysis of why the BMP is ineffective, infeasible (including cost prohibitive), or otherwise should be revised or replaced, and]

[4.11.2.2.2 An analysis of why the replacement BMP is expected to be more effective, feasible, or appropriate than the BMP to be replaced.]

The review of the storm water program is an important element in the SWMP. NDOT will review the SWMP annually. The review will evaluate the program elements and implementation status of the measurable goals. Additionally, the review will evaluate the appropriateness and effectiveness of BMPs. Should NDOT seek to replace an ineffective BMP, NDOT will provide an analysis of both the ineffective BMP and replacement BMP. Prior to BMP replacement NDOT must acquire NDEP approval. Other changes (excluding subtractions or replacements) can be made at any time provided NDOT has submitted written notification to NDEP. NDOT will identify and document any modifications to the SWMP. The review will facilitate the compilation of the Annual Report which will be submitted to NDEP per the Permit requirements.

12.3 Annual Report

[5.3.1 Beginning one year after the submission of the SWMP, NDOT must submit annual reports to NDEP by October 1 of each year of the permit term. Each annual report shall cover the period beginning July of the previous year through June of the current year.]

[4.5.2.3.3 Upon approval of the submitted plan, NDOT shall implement the plan to develop a Public Education Program. The Public Education Program Progress Report on the progress made on the public education program development will be made as part of the Annual Report each year. A proposed Public Education Program will be submitted with the Annual Report. The Public Education Program shall be submitted with the Annual Report.]

[3.1.4 When a TMDL has not been established as described in paragraph 3.1.2, NDOT must include a section in the annual report describing the condition for which the water has been listed, evaluating possible BMPs that might practicably be implemented, examining whether these BMPs would have a substantial effect on achieving compliance, and identifying any BMPs that are selected for implementation]

[5.3.3 At a minimum the Annual Report shall include:]

[5.3.3.1 Status of NDOT's compliance with permit conditions;]

[5.3.3.2 An assessment of the appropriateness of the identified BMPs, and revisions to previous assessments, if appropriate;]

[5.3.3.3 Progress towards achieving the statutory goal of reducing the discharge of pollutants to the MEP;]

[5.3.3.4 Status of the achievement of measurable goals;]

[5.3.3.5 Results of information collected and analyzed, if any, during the reporting period, including monitoring data used to assess the success of the program at reducing the discharge of pollutants to the MEP, a description of any identified improvements to or degradation in water quality attributable to the program, and a description of any identified effects on attainment of water quality standards attributable to the program;]

[5.3.3.6 A summary of the stormwater activities NDOT plans to undertake during the next reporting cycle (including an implementation schedule and a fiscal analysis);]

[5.3.3.7 Changes to the SWMP, including changes to any BMPs or any identified measurable goals that apply to the program elements;]

[5.3.3.8 Notice that NDOT is relying on another government entity to satisfy some of the permit obligations, as applicable; and]

[5.3.3.9 Estimated reductions in loadings of pollutants from discharges of municipal storm sewer constituents from municipal storm sewer systems expected as the result of the municipal stormwater quality management program. The assessment shall also identify known impacts of stormwater controls on ground water.]

[5.3.4 A summary of inspections performed and enforcement activity taken during the report cycle.]

[5.3.5 A summary of public education and outreach activity performed during the report cycle.]

[5.3.6 Annual expenditures for the reporting period, with a breakdown for the major elements of the Stormwater Management Program, and the budget for the year following each annual report.]

[5.3.7 An original signed copy of all reports and plans required herein shall be submitted to the NDEP]

The Annual Report is a tool for evaluating the implementation progress of the SWMP. The Annual Report will effectively review the SWMP, evaluate the required elements, and identify any necessary modifications. The Annual Report will include the following:

- Permit compliance status
- Evaluation of selected BMPs appropriateness
- Progress towards reducing pollutant to the MEP
- Achievement status of measurable goals
- Monitoring data review
- NDOT storm water activities for next reporting cycle
- Modifications to this SWMP

- NDOT's coordination with other MS4s
- Expected pollutant load reduction resulting from the SWMP
- Inspection and enforcement summary
- Summary of public outreach and education activities
- Annual expenditures for reporting period
- Original signed copy of all report and plans required by the Permit submitted to NDEP

NDOT's Environmental Services will be responsible for submitting an Annual Report to NDEP by October 1 of each year of the Permit term one year after the submission of this SWMP.

**SECTION 13.0
PROGRAM SCHEDULE**

[4.1.4 Identify the measurable goals for BMPs, as appropriate, including the months and years in which NDOT will undertake required actions].

[4.1.5 Provide a rationale for how and why NDOT selected each of the BMPs and measurable goals for the SWMP; and]

NDOT will implement the SWMP as scheduled to comply with the Permit requirements and assimilate into NDOT’s fiscal planning within the next five years. NDOT has identified the measurable goals and associated schedules for the SWMP. These measurable goals will allow NDOT to evaluate the implementation of the SWMP. The following table lists the program element, associated measurable goal, and scheduled implementation year.

Table 13-1. Implementation Schedule					
Program Elements	Year				
	2004-05	2005-06	2006-07	2007-08	2008-09
Discharges to Water Quality Impaired Waters					
Investigate NDOT facilities and 303(d) listed waters					
Maintenance					
Develop a maintenance manual specific to storm water management					
Establish frequency schedule for cleaning storm water facilities and street sweeping by District					
Establish tracking and reporting procedures for cleaning storm water facilities and street sweeping by District					
Develop testing program for abrasives and deicing materials					
Develop and implement FPPPs					
Public Outreach and Education					
Develop and implement public education program					
Monitoring					
Coordinate with other MS4s for storm water quality monitoring					

SECTION 14.0

REFERENCES

Carson City, *MS4 Storm Water Management Plan*, September 2003.

Clear Creek Erosion Assessment Final Report, January 29, 2003.

Douglas County, Carson Area Metropolitan Planning Organization, *Clear Creek Stormwater Management Plan*, September 10, 2003.

Environmental Protection Agency, *Fact Sheet 2.3*, January 2000.

Project Proposal for Water Quality Appraisal of Clear Creek, West-Central Nevada NDOT and USGS, September 2003.

Mapping Ecosystems Along Nevada Highways and the Development of Specifications and Vegetation Remediation, UNR, 2002.

Nevada's 2002-303(d) Impaired Waters List NDEP Bureau of Water Quality Planning, October 2002.

NDOT, *Draft Drainage Design Manual*, August 1998.

NDOT, *Maintenance Manual*, June 1993.

NDOT, *Road Design Division Policy and Procedures Draft*, 2003.

NDOT, *Standard Specifications for Road and Bridge Construction*, 2001.

NDOT, *Standard Plans for Road and Bridge Construction*, 2003.

NDOT, *Standard Plans for Road and Bridge Construction (metric)* 2003.

NDOT Storm Water Quality Manuals:

Construction Site Best Management Practices (BMPs) Manual, May 2004.

Planning and Design Guide, May 2004.

NDOT, *Transportation Policies and Procedures Manual*, 1997.

Nevada Best Management Practices (BMP) Manual, 1994.

Truckee Meadows Regional Stormwater Quality Management Program, December 2001.