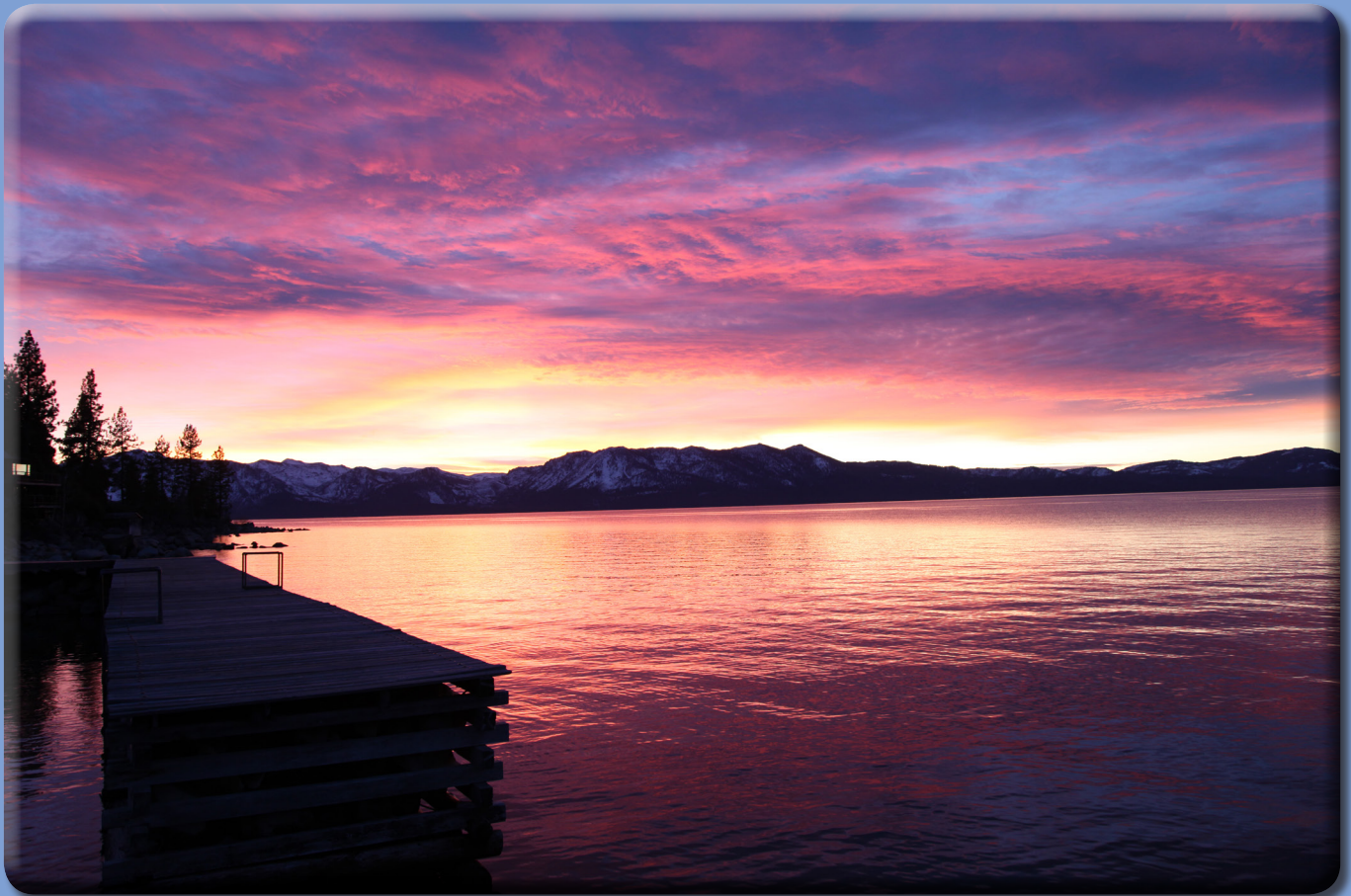


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PROTECTING NEVADA'S WATER RESOURCES

Directors Summary

It's a call to action to protect Nevada's environmental resources, for today and for future generations! Reducing potential water quality impacts from construction, maintenance and other roadway activities is a top priority for us at the Nevada Department of Transportation.

Working with the Environmental Protection Agency, the Nevada Governor's Office, the Nevada Division of Environmental Protection and others, we continually advance stormwater management programs and practices to minimize erosion and sedimentation and protect water resources. We've already had great success. One example: NDOT has revised temporary pollution control specifications on our contracted construction projects. Lake Tahoe-area stormwater projects are another example of the department's dedication to stormwater management. On U.S. 50 above the Clear Creek Watershed, we have committed millions to enhance U.S. 50 drainage into the watershed, with additional enhancement projects planned for future years. We also continue vital enhancements at Spooner Summit, on Kingsbury Grade and elsewhere throughout the region.

Additionally, NDOT has improved water quality systems at our Reno maintenance yard, helping to further prevent contaminants from entering groundwater and the nearby Truckee River. Other enhancements to the Reno facility, as well as NDOT maintenance facilities in Carson City, Elko and elsewhere, will be made next as an investment in vital stormwater enhancements. And to date, we've mapped over 90% of our drainage inlets and pipes and completed assessment of nearly 70%. NDOT also developed pollution prevention plans for all of its facilities, with millions of dollars in investments to come.

This momentum will be continued into the future. The Nevada Legislature has provided us enforcement authority of illicit discharge within our rights-of-way and a significant increase in funds for administering a robust stormwater program and maintaining our drainage infrastructure. Through the next two fiscal years, NDOT will utilize approximately \$16 million to fund 59 full-time stormwater management positions and provide them with the necessary resources and equipment. Following the environmental and policy expertise of executive and administrative stormwater staff, these stormwater experts will fan out across the state to further NDOT's efforts at improving our water quality program and ensure compliance with the Clean Water Act. The additional staff will identify and help eliminate illicit discharges to or from state highway right-of-way, manage stormwater and protect water quality on our state roads and facilities.

Specialized equipment will be a key component of stormwater program success. Additional street sweepers, specialized culvert-flushing trucks and more will be crucial in further ensuring stormwater compliance and environmental preservation.

As new stormwater experts and equipment are brought on-board, they will be augmented by existing NDOT staff already assisting with stormwater compliance. Nearly 850- that's approximately 90 percent of existing district stormwater-related staff-are already trained in new stormwater specifications and procedures. And we are working with the Associated General Contractors to educate our contract partners.

The public, as well, will be further educated and engaged. Our nevadadot.com stormwater management portal offers stormwater resources, alongside calls-to-action allowing the public to report

illicit discharges which can result in water pollution. We've reached more than 47,000 with stormwater-related social media posts. Meanwhile, media relations activities help further raise awareness by announcing stormwater-related initiatives and accomplishments. These efforts will be amplified with future campaigns engaging the public, individually and en masse, in stormwater efforts.

Stormwater management is a top priority for us, one that will help preserve water quality for Nevadans today and well into the future.

Sincerely,



Rudy Malfabon, P.E.

Director, Nevada Department of Transportation



BUDGET AMENDMENT

FY 2016 \$9,322,352 ~ FY 2017 \$6,379,840

In March of 2015, NDOT went before the Nevada Legislature and successfully amended its 2016-2017 biennial budget in the amount of approximately \$15.7 million, which will add a new Stormwater Division to the NDOT organization. The budget amendment included 59 new stormwater positions and \$7.6 million in new stormwater equipment, as well as additional funding for training, operations and travel.

The current recruitment status for the new stormwater positions is as follows: NDOT hired David Gaskin as the Deputy Director for the Stormwater Management Division. In addition, the Training Officer 2 position has been filled and the hiring process has been started for the following positions:

- IT Professional 3
- Business Process Analyst 3
- IT Manager 1
- Public Information Officer
- Administrative Asst. 3
- Manager 2, Project Development/Design
- Manager 2, Enforcement Manager
- Administrator 2, Chief of Stormwater Division
- Highway Maintenance Supervisor 2
- Highway Maintenance Manager
- Highway Maintenance Supervisor 1

Advertisements and job postings have been placed on NVAPPS, AASHTO, Indeed, LinkedIn, Facebook, Twitter, and the ACWA and Erosion Control Association websites.



From left, NDOT Director Rudy Malfabon and Deputy Director Bill Hoffman testify before the 2015 Nevada Legislature



David Gaskin
NDOT Deputy Director, Stormwater

STORMWATER DIVISION PERSONNEL

Administration

Executive Administration will apply advanced environmental science and policy, stormwater management and engineering principles, and techniques following established guidelines, policies, and procedures in performing environmental compliance program administration and program management best practices.

They will administer, coordinate and manage the National Pollutant Discharge Elimination System Compliance Program for NDOT; manage Compliance Strategies, Studies and Projects; develop and coordinate grant requests; develop and conduct internal training sessions and programs in coordination with training staff; and manage Transportation Board reports and presentations.

Information Technology

NDOT's Environmental Information Technology (IT) Section will implement and maintain an asset and maintenance management system to track and report on construction and maintenance activities related to NDOT's Municipal Separate Storm Sewer Systems permit and develop the system capabilities.

Program Development

The Program Development Section will produce and facilitate annual reporting; planning and design guide reporting; post-construction control measures and technical specifications; long-term operation and maintenance; verification; and operation and maintenance planning.

Administrative Services

The Administrative Services Section duties include maintaining a website and social media pages; developing an annual report; holding quarterly meetings; handling planning and design guide reporting; developing and disseminating community materials; and implementing an employee training program to include employee awareness training, specialized training for employees involved in the illicit discharge detection and elimination program, a construction site runoff program, a post-construction stormwater management program, and operation and maintenance of the MS4.

Enforcement

The Compliance and Enforcement Section will be responsible for developing and following NDOT's Enforcement Response Plan, as required by our stormwater permit. This includes a construction site runoff program, an illicit discharge detection and elimination program, an encroachment permit program, and enforcement and compliance.

Field Support

The Field Support Section will coordinate the Encroachment Permit Program, as well as the Operations and Maintenance Program.



I580 Southbound Reconstruction Project





BUDGET ADMENDMENT EQUIPMENT

New stormwater equipment was approved by the Transportation Board in August.

- **PM-10 Sweepers** 12@ \$300,000 each = \$3.6 million FY16
(three each district)



- **Culvert Flusher Trucks**.....3@ \$430,000 each = \$1.29 million each fiscal year
(one each district)



- **Radio Controlled Track Loaders**.....3@ \$100,000 each = \$300,000 FY16
(one each district)



- **Cars (2) for inspections and training of program staff.....2 @ \$17,111 each = \$34,222 FY16**



- **Camera Trucks.....3 @ \$165,000 each = \$495,000 FY17
(one each district)**



- **Crew Trucks.....20 @ \$50,000 each = \$1 million FY16.....10 @ \$50,000 = \$500,000 FY17
(20 statewide)**



STORMWATER IMPROVEMENT PROJECTS

A large majority of the projects produced by NDOT have a component that achieves a water quality benefit, even if that is not the primary focus of the project. These components may be:

- Energy dissipation to arrest erosion in the form of rip rap or structural dissipaters.
- Slope stabilization by revegetation or gravel mulch placement.
- Sediment removal by detention or retention as a secondary function.

Examples of major projects that have included these components, such as detention, that have been completed recently or are currently under construction include the Carson City Freeway and the I-15 Cactus Interchange. Both of these projects provide a significant water quality benefit.

Other projects that have been completed or are underway include:

- **Kingsbury Grade, State Route 207** **\$14,877,000**
Constructed water quality treatment facilities, improved channels and storm drain systems, reconstructed roadway, and widened shoulders.
- **Spooner Summit, US Highway 50** **\$5,000,000**
Constructed water quality treatment facilities along US 50 from Cave Rock to State Route 28.
- **Burke Creek** **\$2,170,000**
Improve the Burke Creek channel and surrounding areas to stabilize the existing channel and reduce sediment entering the creek.
- **Zephyr Cove** **\$750,000**
Construct water quality basins to treat runoff from US Highway 50 that drains to Lake Tahoe.
- **Clear Creek Erosion Control Program** **\$500,000 annually**
Stabilized about 70 percent of the approximately eight miles of drainages that have experienced erosion. It is expected that all of these erodible drainages will be stabilized by 2018.
- **Incline Green Streets Project** **\$189,000**
Construct six water quality basins in Incline Village.
- **Incline Village Pipe Rehab Project** **\$150,000**
Rehabilitation improvements on a double 60" CMP culvert crossing under State Route 28 that will extend the service life at least 50 years.
- **Reno Maintenance Yard** **\$1,612,802**
Work was initiated on the Reno Maintenance Yard in 2014 where new water quality vaults were installed, the entire yard was micro sealed, paved and other minor improvements were made.
- **Elko Maintenance Yard** **\$500,000**
Improvements were made to address drainage washpad and runoff issues at the Elko maintenance yard.

STORMWATER IMPROVEMENT PROJECTS CONT...

•	Sweeper Purchase (for use in Tahoe)	\$280,000
	Purchase of Best Available Technology (BAT) high efficiency sweeper to collect fine sediment from roadways.	
•	Sweeper Purchase (for use in Washoe County)	\$1,400,000
	Purchase of five Best Available Technology (BAT) high efficiency sweepers to collect sediment from roadways.	
•	E-Poke Purchase	\$300,000
	Purchase of three Best Available Technology (BAT) spreaders to reduce the amount of traction sand placed on the road.	
•	Pervious Concrete Research Project	\$138,000
	Research project to determine the feasibility of using pervious concrete to improve stormwater quality on roadways subject to winter driving conditions.	
•	Treatment Vault Research Project	\$154,000
	Research project to evaluate the efficiency and maintenance costs of advanced stormwater filtration vaults.	
•	Cut Slope Sediment Generation Research Project	\$60,000
	Research project to estimate the amount of sediment generated from roadway cut slopes.	
•	Elko, Wells, Ely Wash Pad Projects	\$660,000
	Various stages of completion.	
•	Elko Storm Drain Project	\$250,000
	Total:	\$28,990,802

Projects that will be started within the next three years include:

Maintenance Yard Drainage Improvements and Repaving Projects:

2015	Carson City Maintenance Yard	\$ 3,585,524
2015	Independence Valley Maintenance Yard	\$ 7 14,172
2015	Reno Maintenance Yard	\$ 1,367,986
2016	North Fork Maintenance, SR 225	\$ 1,000,000
2016	Ruby Valley Maintenance Yard, SR 229	\$ 1,000,000
2016	Tonopah Maintenance Yard	\$ 500,000
2016	Virginia City Maintenance Yard	\$ 2,500,000
2016	Ely Maintenance Yard	\$ 2,000,000
2016	Wells Maintenance Yard	\$ 1,000,000
2017	Las Vegas Maintenance Station	\$ 2,500,000
2017	Mina Maintenance Yard	\$ 500,000
2017	Searchlight Maintenance Station	\$ 500,000
2017	Lovelock Maintenance Yard	\$ 2,000,000
2017	Battle Mountain Maintenance Yard	\$ 500,000
2018	Goldfield Maintenance Yard	\$ 500,000
	Total:	\$20,167,682

STORMWATER IMPROVEMENT PROJECTS CONT...



Kingsbury Grade
SR 207



Spoooner Decant Facility



STORMWATER IMPROVEMENT PROJECTS CONT...



Clear Creek Watershed



Reno Maintenance Yard



ENFORCEMENT AUTHORITY

- Senate Bill 324 was passed by the Nevada State Senate and Assembly and signed by Governor Sandoval during the 2015 Legislative Session. It creates a new deputy director position at NDOT, and gives NDOT the legal enforcement authority to act on unauthorized discharges onto NDOT properties. It sets forth the authority of the director of NDOT to exercise several powers to enforce illicit discharges by a third party.



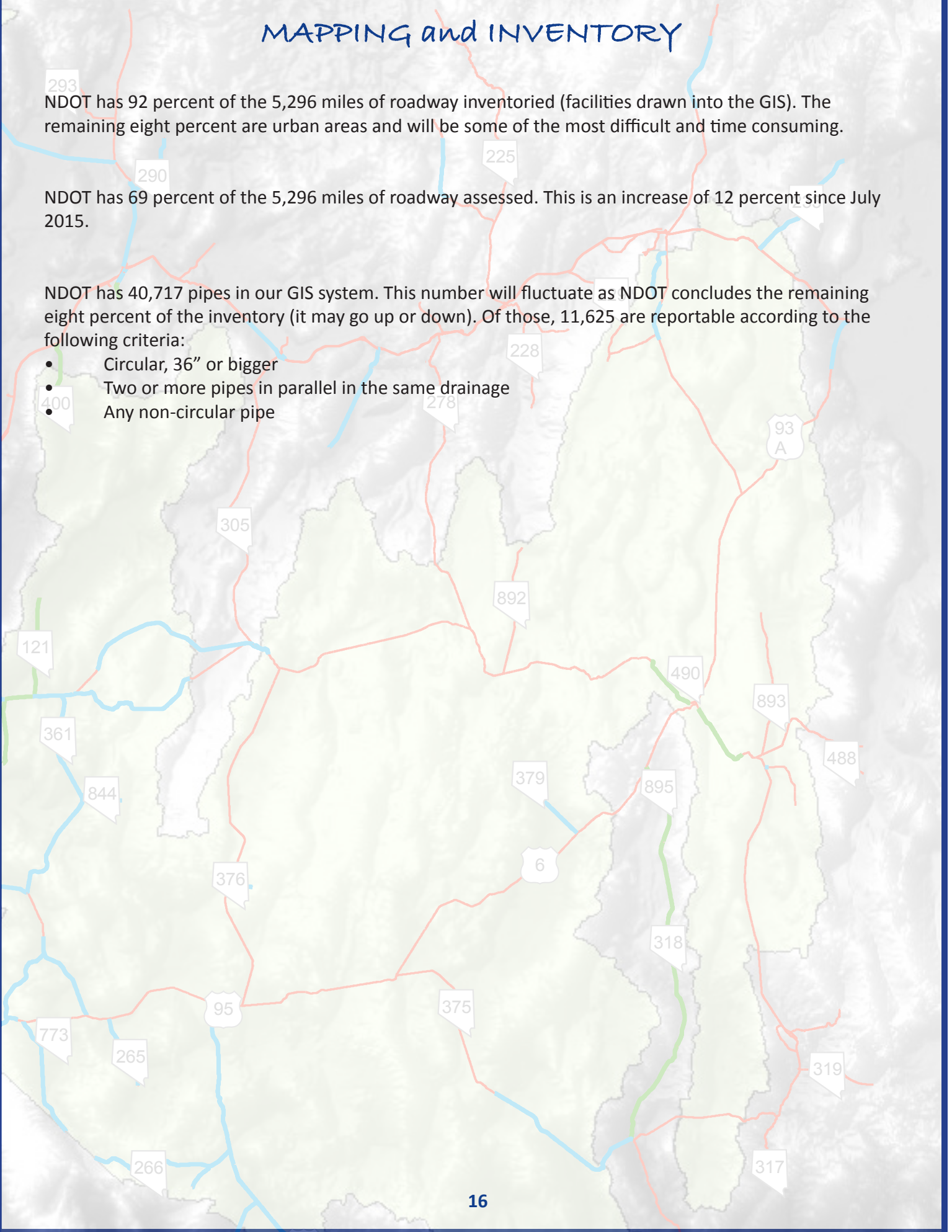
MAPPING and INVENTORY

NDOT has 92 percent of the 5,296 miles of roadway inventoried (facilities drawn into the GIS). The remaining eight percent are urban areas and will be some of the most difficult and time consuming.

NDOT has 69 percent of the 5,296 miles of roadway assessed. This is an increase of 12 percent since July 2015.

NDOT has 40,717 pipes in our GIS system. This number will fluctuate as NDOT concludes the remaining eight percent of the inventory (it may go up or down). Of those, 11,625 are reportable according to the following criteria:

- Circular, 36" or bigger
- Two or more pipes in parallel in the same drainage
- Any non-circular pipe



Discharges to Clear Creek Watershed

Accomplishments:

- Constructed 11,200 linear feet of stable channel
- Replaced 3,800 linear feet of deteriorated culvert
- Constructed 7 discharge energy dissipaters
- Constructed or improved 3 detention/sediment basins
- Conducted water quality monitoring
- Permanently blocked discharge from Spooner decant facility



Construction and Stabilization: Construction and related stabilization work in the Clear Creek watershed began in 2005 and is still ongoing. Over the years, numerous eroding channels have developed from roadway runoff which in turn has resulted in downstream impacts to roads and properties. Starting in 2005, a series of small stabilization projects were constructed targeting those channels which were the largest contributors of sediment to downstream properties. Since this effort began, impacts to downstream properties and channels has been dramatically reduced. This channel stabilization program is projected to continue into 2017.

Water Quality Monitoring: A joint USGS/NDOT water quality monitoring program has been in place since 2003. The focus of this effort is to establish baseline data to detect possible changes in water quality. Water quality monitoring has been ongoing and will assist NDOT with assessing erosion control and permanent BMP implementation success as they pertain to improvements in Clear Creek's water quality, most notably sediment yields.

Spooner Decant Facility: The Spooner Summit stormwater decant facility is used as a temporary holding area for stormwater vector truck waste collected in the Lake Tahoe basin. The outlet of the facility, which discharged into NDOT's MS4 (i.e. a stormwater conveyance alongside US-50), was constructed to facilitate snow melt stormwater drainage during the winter months. This configuration, however, was deemed unacceptable by the EPA as discharges from the decant facility into NDOT's MS4 (should the facility continued to be utilized as intended) were considered to be illicit. In November 2013, NDOT Maintenance personnel plugged the discharge pipe with cement as a way of permanently blocking flows out of the facility. Plugging the pipe proved to be ineffective, so NDOT removed the pipe and no flows are allowed outside of the decant facility. The facility continues to be utilized as a temporary holding area for vector truck stormwater waste (i.e. a retention basin/evaporation pond), but no longer discharges to the adjacent MS4.

TRAINING

NDOT conducted an eight-hour, stormwater general awareness training class in all three NDOT districts in fiscal year 2015 that more than 800 employees attended.

District 1 - 331 employees required with 326 trained = **98.5% trained.**

District 2 - 357 employees required with 339 trained = **95% trained.**

District 3 - 246 employees required with 174 trained = **71% trained.**

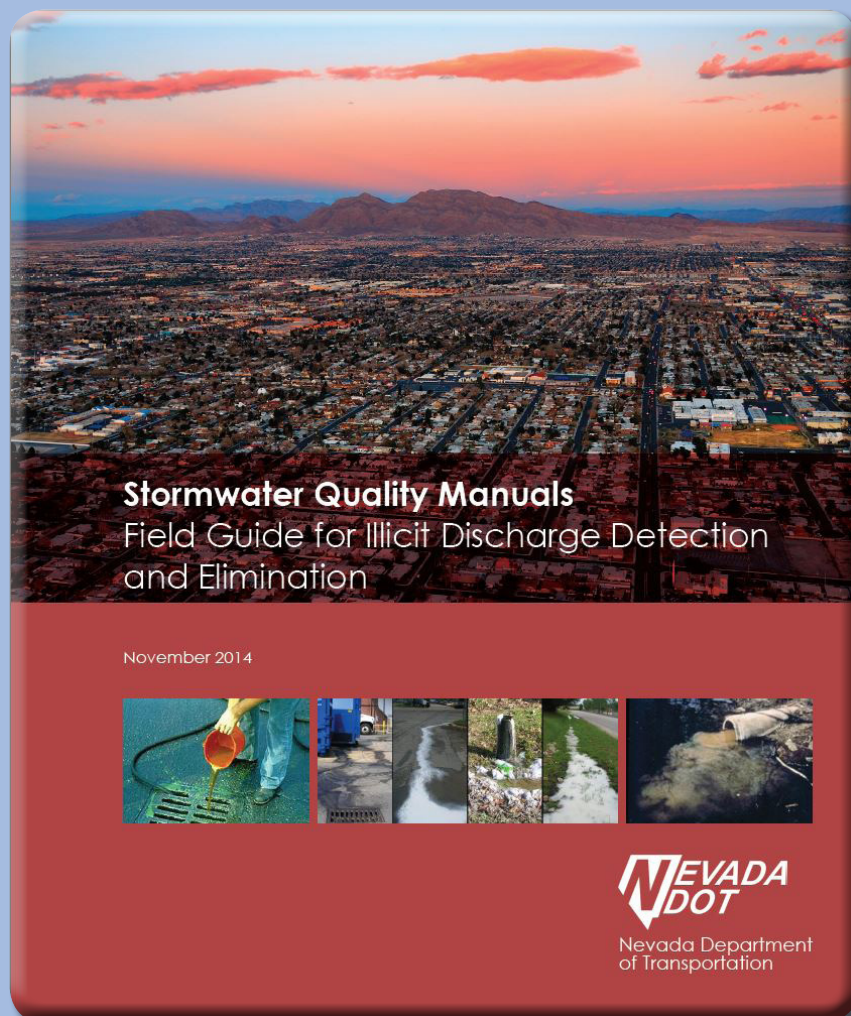
Total - 934 employees required and 839 trained = **89.8 % trained.**

Training for FY16 so far includes one class of eight new hires in Elko on July 14, 2015.



IDDE PROGRAM and FIELD GUIDE

The purpose of the field guide is to educate and inform NDOT employees of what an illicit discharge is and what to do if one is observed. This handbook was developed to help NDOT personnel to spot an illicit discharge, or anything that is not supposed to be going into the NDOT's Municipal Separate Storm Sewer System (MS4), and what you should do when you see one. The information and activities described in this document are intended to preserve and protect water quality in the State of Nevada.



STORMWATER ADVISORY TEAM

The Stormwater Advisory Team provides department-wide stormwater guidance with program implementation and problem solving. This group is comprised of senior level staff, meets quarterly to discuss and resolve water quality issues at all levels within NDOT with the goal of ensuring that the Stormwater Quality Program is uniformly and efficiently implemented across the state.

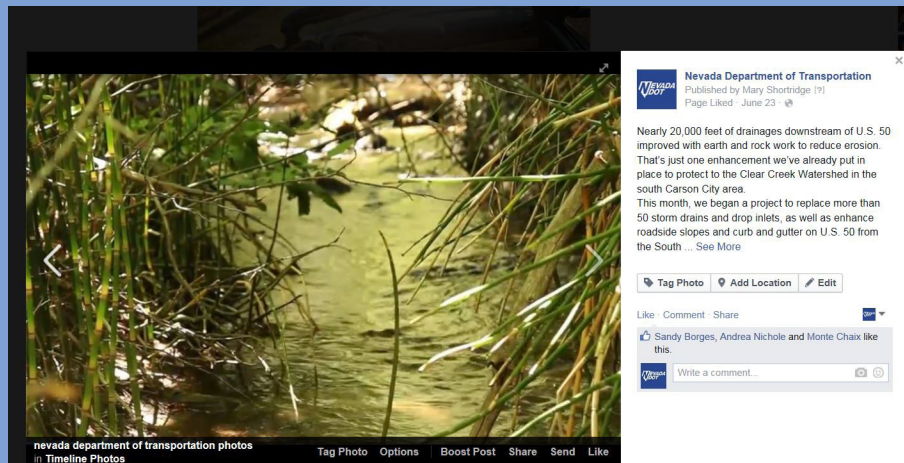
The Team is chaired by the Deputy Director and is supported with direct input from the Environmental Services Chief.

PUBLIC OUTREACH

Public Outreach

Social Media

- ✿ Since November 2014, the Department posted 19 Facebook entries about stormwater, water quality, illicit-discharge and erosion control with a total “reach” of 12,103, including likes and shares.
- ✿ The Department’s frequent Twitter social media posts regarding stormwater activities and projects have been retweeted to more than 35,000.



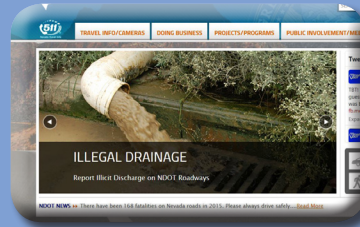
Videos

- ✿ NDOT produced five video productions to improve stormwater and IDDE education that have been shared on Facebook and YouTube.
 - 2015 Floodplain Management Forum
 - I-580 Southbound Reconstruction Project (mention erosion control)
 - Stormwater Drain Stenciling
 - Stormwater management (What is Illicit Discharge?)
 - 2014 End-of the Year highlights including stormwater initiatives



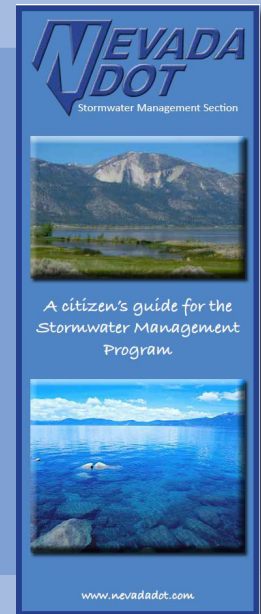
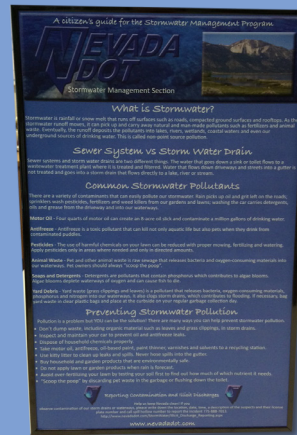
Website

- ❁ NDOT has a full, standalone web site dedicated to stormwater management. The web site is available at www.nevadadot.com/stormwater and is linked prominently from the [nevadadot.com](http://www.nevadadot.com) homepage. Features include:
 - Resources for water quality and stormwater management, permits, training, manuals, illicit discharge reporting, contact and other helpful information.
 - Homepage rotating banner allowing viewers to click directly to stormwater pages.



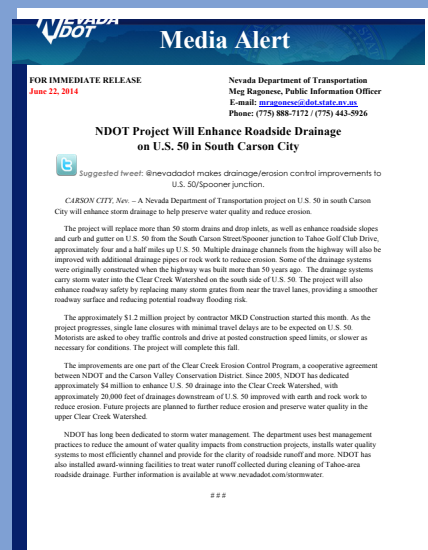
Brochure

- ❁ The Department published “A Citizen’s Guide for the Stormwater Management Program” brochure with an additional portable tabletop “sandwich board” set up at all public meetings.



Media Communications

- ❁ NDOT media relations activities help further raise awareness by announcing stormwater-related initiatives, projects and accomplishments such as U.S. 50 Clear Creek Watershed enhancement projects.



Community Events

- * The Department participated in community events and partnerships with Truckee Meadows Stormwater Permit Coordinating Committee. The “Keep Truckee Meadows Beautiful” event resulted in over 700 storm drains being stenciled in the Truckee Meadows regions in FY 2014/2015.



Internal Communications

- * NDOT created a Stormwater Advisory Team (SWAT) that helped set training requirements for employees.
- * The Department distributed Director’s Updates and newsletter articles highlighting the importance of NDOT’s stormwater management program.



Muffins with Malfabon

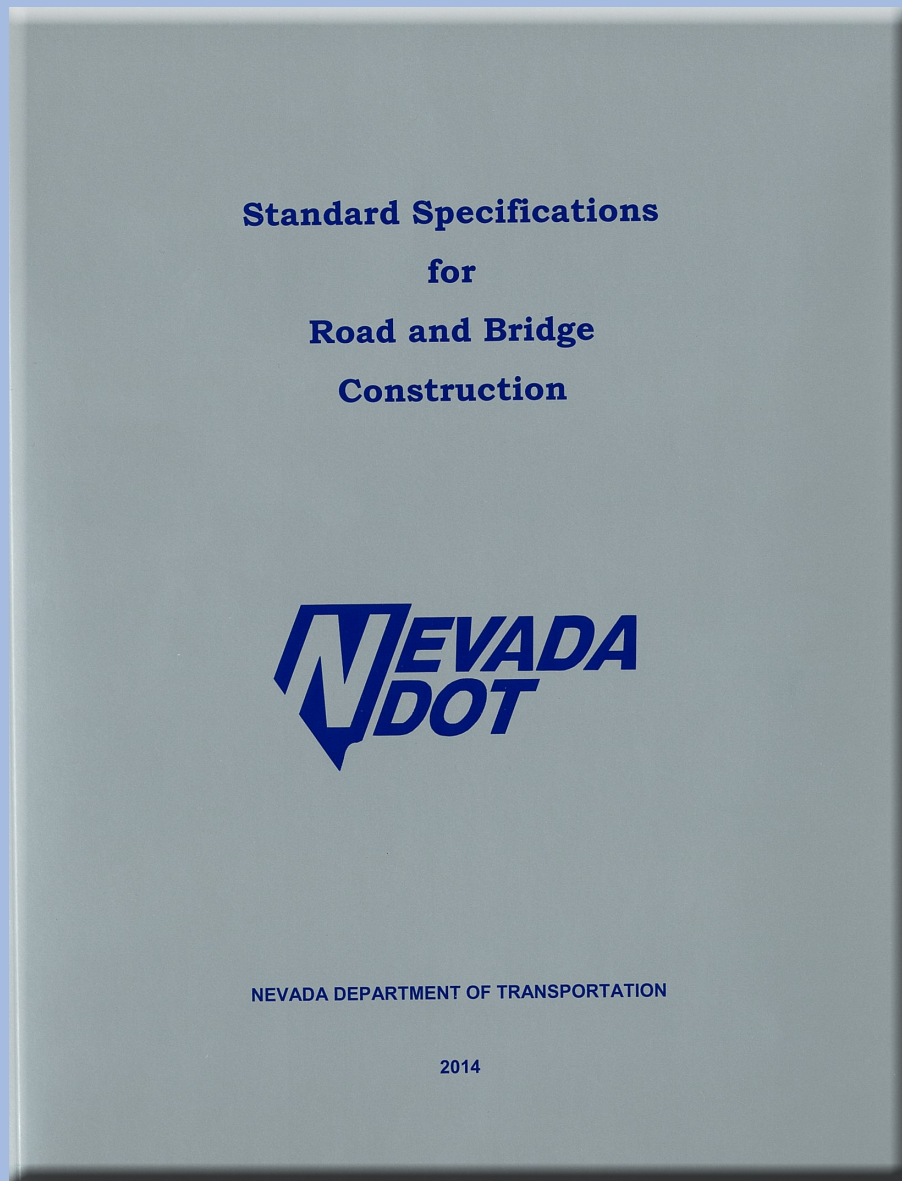
NDOT Director Rudy Malfabon routinely discusses stormwater management goals, practices and resources at quarterly meet and greet events open to all NDOT employees.



NEW CONSTRUCTION SPECIFICATIONS

NEW SPECIFICATIONS

NDOT has implemented revised specifications for temporary pollution control for use on all contracts. This has been discussed with the Associated General Contractors in the north and south, and is in accordance with regulations as defined by the United States Environmental Protection Agency's "Clean Water Act" for NDOT and the contracting community who perform work on NDOT contracts. The NDOT regards compliance with the Clean Water Act seriously and appreciates the cooperation by all contractors.



CONSULTANT TASK ORDER PROGRESS

Stantec Work Status

Task	Scope	Status
COMPLETED		
Task 1 – Development of Internal Stormwater Training Programs		Completed
Task 2 – Development of a Contractor Stormwater Training Program		Completed
Task 3 – Development of Website Stormwater Content		Completed
Task 4 – Development of a Public Outreach and Education Program		Completed
Task 9 – MS-4 Mapping Assistance		Completed
IN PROGRESS		
Task 5 – Develop NDOT’s Maintenance Facility Stormwater BMP Manual		In Progress (Due 8/7/15)
Task 6 – Analysis of MS-4 Discharges to Selected Impaired Waters		In Progress
Task 7 – Revise and Update NDOT’s Construction Site BMP Manual		In Progress (Due 10/15/15)
Task 8 – Revise and Update NDOT’s Planning and Design Guide Manual		In Progress (Due 11/15/15)
COMPLETED		
Task 11 – Vehicle Wash Pad Improvements		Completed
Task 12 – Illicit Discharge, Detection and Elimination Program (IDDE)		Completed
Program and Assist with the Development of a Statewide Vegetation Control Program		
SERVICES NOT REQUIRED		
Task 10 – Stormwater Inspector Support		Services not Required
Task 13 – Revise/Update the Herbicide, Pesticide and Fertilizer Application		Services not Required
Task 14 – Assistance in Preparing Facility Pollution Prevention Plans (FPPPs)		Services not Required
Task 15 – Stormwater Management Program Document Update		Services not Required
Task 16 – Annual Maintenance Facility Compliance Inspections		Services not Required
Task 17 – Assessment of BMP Appropriateness		Services not Required
IN PROGRESS		
Task 18 – Additional Unspecified Stormwater Related Services		In Progress



