



NEVADA DEPARTMENT OF TRANSPORTATION
LAKE TAHOE TMDL

ANNUAL REPORT FOR WATER YEAR 2025
OCTOBER 1, 2024 through SEPTEMBER 30, 2025

Nevada Department of Transportation
Hydraulics Division
1263 South Stewart Street
Carson City, NV 89712

Submitted:
May 12, 2026
Revised May 15, 2026

Contents

| | |
|---|----|
| LIST OF ACRONYMS..... | 3 |
| 1.0 BACKGROUND..... | 4 |
| 2.0 ACCOMPLISHMENTS SUMMARY..... | 4 |
| 2.1 Credit Declaration and Award..... | 4 |
| 2.2 Progress Towards 2025 Target..... | 5 |
| 2.3 Road Operations Implementation Summary..... | 6 |
| 2.4 BMP Implementation Summary..... | 7 |
| 3.0 STORMWATER LOAD REDUCTION PLAN..... | 7 |
| 3.1 Progress Toward Future Milestones..... | 7 |
| 4.0 FISCAL ANALYSIS | 10 |
| 4.1 Budget..... | 10 |
| 4.2 Finance Plan | 10 |
| 5.0 BARRIERS..... | 11 |
| 6.0 BASELINE DISCREPANCIES | 11 |
| 7.0 CONCLUSION..... | 12 |

LIST OF ACRONYMS

| | |
|----------|--|
| BAT | Best Available Technology |
| BMP | Best Management Practices |
| BMP RAM | Best Management Practices Rapid Assessment Methodology |
| EC | Erosion Control |
| FSP | Fine Sediment Particles |
| FY | State Fiscal Year (July 1 through June 30) |
| GIS | Geographic Information System |
| GID | General Improvement District |
| ILA | Interlocal Agreement |
| LCC | Lake Clarity Credit |
| LCCP | Lake Clarity Crediting Program |
| MP | Mile Post |
| NDEP | Nevada Division of Environmental Protection |
| NDOT | Nevada Department of Transportation |
| PLRM | Pollutant Load Reduction Model |
| RAM | Rapid Assessment Methodology |
| Road RAM | Road Rapid Assessment Methodology |
| SR | State Route |
| SNPLMA | Southern Nevada Public Lands Management Act |
| TMDL | Total Maximum Daily Load |
| TN | Total Nitrogen |
| TP | Total Phosphorous |
| TSS | Total Suspended Solids |
| UPC | Urban Planning Catchment |
| WQ | Water Quality |
| WQIP | Water Quality Improvement Project |
| WY | Water Year (October 1 – September 30) |
| US | United States Route |
| ZCGID | Zephyr Cove General Improvement District |

1.0 BACKGROUND

The purpose of this report is to comply with Section IV of the Interlocal Agreement (ILA) to Implement the Lake Tahoe Total Maximum Daily Load (TMDL), dated November 2021, between the Nevada Department of Transportation (NDOT) and the Nevada Division of Environmental Protection (NDEP). This report summarizes NDOT’s load reduction activities undertaken during water year (WY) 2025 (October 1, 2024 through September 30, 2025) in an effort to meet the credit targets and milestones established in the ILA.

An updated Interlocal Agreement (ILA) to Implement the Lake Tahoe Total Maximum Daily Load (TMDL) Water Years 2022-2026, between NDOT and NDEP was finalized in November of 2021. Credit milestones and intermediate targets within this agreement were revised from the previous agreement based on baseline credit discrepancies. The new credit milestones and intermediate targets are shown in *Table 1*.

Table 1. NDOT credit milestones established in the 2021 NDOT-NDEP ILA

| Water Year | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|
| FSP Load Reduction | 21% | 24% | 26% | 29% | 31% | 34% | 34% | 35% | 36% | 37% | 38% |
| Credit Target/ Milestone | 215 | 244 | 264 | 295 | 315 | 345 | 345 | 356 | 366 | 376 | 386 |

2.0 ACCOMPLISHMENTS SUMMARY

NDOT continuously endeavors to fulfill the obligations and commitments established in the Lake Tahoe TMDL ILA through strategic initiatives in road operations, capital improvement projects, Best Management Practices (BMP) installations, and comprehensive maintenance of stormwater facilities across the basin. In WY 2025, efforts were concentrated on road operations and maintenance activities, including the implementation of Road RAM for registered road segments, ongoing maintenance of existing BMPs, staff training, and the design and construction of new Water Quality Improvement Projects (WQIP). **For WY 2025, NDOT was awarded 331 credits, surpassing the target of 315 credits.**

2.1 Credit Declaration and Award

The credits declared and awarded for Water Year (WY) 2025 are derived from one road registration and one Best Management Practice (BMP) registration. To qualify for credit awards, these facilities must undergo inspections at specified intervals throughout the year. During each inspection, performance and condition assessments are conducted to ensure compliance with the expected standards outlined in the registration. To achieve these standards, NDOT has implemented enhanced maintenance measures for both roads and BMPs. As a result of these efforts, NDOT has successfully met the required conditions and has been awarded the full allocation of planned credits for WY 2025.

Key achievements include:

- **Road Registration:** NDOT continued a roadway registration for WY 2025 which included SR 28 from MP 5.1 to 11.0 in Washoe County, SR 431 from MP 0.0 to 3.0 in Washoe County and US 50 from MP 5.1 to 9.1 in Douglas County. NDOT performed another full year of road operations and maintenance, including the collection of Road RAM scores. This road registration resulted in 315 credits awarded to NDOT.
- **BMP Registration:** The “New Kahle Wet Basin” registration, executed in collaboration with Douglas County, resulted in 16 credits awarded to NDOT.

Collectively, these efforts not only met but exceeded the established credit target, thereby positioning NDOT favorably for future credit targets and milestones. A summary of the annual credit target, expected credits, declared credits, and awarded credits is provided in Table 2.

Table 2. NDOT credits expected, declared and awarded

| Water Year | Annual Credit Target | Lake Clarity Credits Expected | Lake Clarity Credits Declared | Lake Clarity Credits Awarded |
|----------------------|----------------------|-------------------------------|-------------------------------|------------------------------|
| Oct 2024 – Sept 2025 | 315 | 331 | 331 | 331 |

The following water quality projects have been registered but were not declared during WY 2025 due to additional expenditures associated with maintenance, BMP RAM, and the related reporting processes:

- Pittman Terrace Water Quality and Erosion Control Project – 8 Credits
- Zephyr Cove Water Quality Improvement Project (ZC WQIP) – 30 credits

2.2 Progress Towards 2025 Target

Prior to and during the first five-year milestone, NDOT successfully implemented multiple WQIPs along Nevada State Routes 28, 431, 207, 760, and U.S. Route 50 within the basin.

During Water Year (WY) 2025, NDOT's primary focus was on roadway operations and maintenance activities, including the collection of Road Rapid Assessment Methodology (Road RAM) scores for the registered road sections on SR 28, SR 431, and US 50. The registered and declared road segments and BMPs for WY 2025 are shown in Table 3.

Table 3. Declared catchments showing expected vs. actual condition scores

| Urban Planning Catchment (UPC) | Catchment Description | Pollutant Controls | Expected Condition Score (RoadRAM) | Actual Condition Score for WY2023 (RoadRAM) | Lake Clarity Credits (PLRM v2.1) |
|--------------------------------|--|---|------------------------------------|---|----------------------------------|
| 431_WA_0.0-3.0 | State Route 431 Road Operations | Improved road operations through advanced abrasive application & sweeping | 2.5 | 2.8 | 115 |
| 28_WA_5.12-11.0 | State Route 28 Crystal Bay to Mt. Rose Road Operations | Improved road operations through advanced abrasive application & sweeping | 2.6 | 3.1 | 126 |
| 50_DO_5.05-9.06 | US Route 50 Skyland GID to Glenbrook Road Operations | Improved road operations through advanced abrasive application & sweeping | 2.5 | 2.8 | 74 |
| Douglas County* | New Kahle Wet Basin | Wet Basin | n/a | n/a | 16 |

* Refer to Douglas County's Annual Report

The condition scores that NDOT achieved in WY 2025 reflects our ongoing commitment to evaluating maintenance needs, practices, and associated costs to ensure compliance with LCCP requirements and minimizing the transport of fine sediment and other pollutants into Lake Tahoe.

In collaboration with Douglas County, NDOT was also awarded 16 credits for the jointly managed New Kahle Wet Basin project that is located outside the NDOT ROW. NDOT funded the construction of this BMP and there is an agreement with Douglas County to maintain it. Douglas County is responsible for registering and declaring this BMP and transferring 16 credits to NDOT on an annual basis.

2.3 Road Operations Implementation Summary

NDOT has continued the implementation of a comprehensive Road Operations Plan across the basin. This initiative encompasses staff training, procurement and utilization of Best Available Technology (BAT) equipment, and a strategic approach aimed at reducing the application of abrasives while minimizing their residence time on roadways.

The Road Operations Plan for the three designated roadway segments was updated for WY 2025. Full credits were awarded as a result of the effective execution and maintenance of Road Operations within the registered road network.

In WY 2025, NDOT continued efforts to identify additional roadway segments for future registration to achieve upcoming credit milestones. The selection process for registration considers multiple factors beyond credit allocation, including safety and the feasibility of conducting Road RAM.

2.4 BMP Implementation Summary

NDOT and Douglas County partnered on the construction and maintenance of the New Kahle Wet Basin. NDOT funded the construction of the basin and Douglas County agreed to register the basins with the LCCP and maintain it at a level adequate to receive credits. In WY 2025 Douglas County met the requirements needed to receive credits for the basin and transferred 16 credits to NDOT.

Since 2004, NDOT has implemented numerous Water Quality Improvement Projects (WQIPs) throughout the Tahoe Basin and continues to identify and construct BMPs to improve lake clarity. Although some of these past projects qualify for registration under the LCCP, NDOT has opted not to pursue registration at this time due to the associated costs of administration, enhanced maintenance, monitoring, inspections, and reporting.

The following water quality projects are registered but were not declared in WY 2025:

- Pittman Terrace Water Quality and Erosion Control Project – 8 credits
- Zephyr Cove Water Quality Improvement Project (ZC WQIP) – 30 credits

As annual credit targets continue to rise, NDOT anticipates the need to register additional existing qualifying projects and to develop new projects. To maximize efficiency in achieving load reductions, NDOT is also actively exploring partnership opportunities with other agencies.

3.0 STORMWATER LOAD REDUCTION PLAN

NDOT has implemented a comprehensive stormwater load reduction plan (SLRP) that encompasses a variety of BMPs and enhanced road operations and maintenance along major state routes. These projects are instrumental in reducing fine sediment and pollutant runoff into Lake Tahoe.

3.1 Progress Toward Future Milestones

In anticipation of the 2026 milestone credit increase to 345 Lake Clarity Credits (LCCs), NDOT's 2026-2030 Road Registration registered an additional road section on US 50 from Kahle Drive (MP 0.9) to the previous registration limit near Skyland GID's Tahoe Drive (MP 5.1). The road condition score will be adjusted to a 2.5 from a 1.4. This registration was recently approved and adds a potential 79 LCCs, for a total of 394 potential LCCs from road operations. Adding to this the 16 potential LCCs from the "New Kahle Wet Basin" BMP registration, NDOT could potentially be awarded 410 LCCs in WY 2026, exceeding the requirements of the 2026 milestone. The following five-year milestone in 2031 has a credit requirement of 386, therefore, these registrations are anticipated to meet credit obligations for both the 2026 and 2031 milestones.

In addition to the 17.1 road miles now registered, there is an additional 18.7 miles of NDOT owned roads in the Lake Tahoe basin that could be registered. Although the potential LCCs have not been determined for these additional road sections they provide an opportunity for registration to meet future credit requirements. The additional road sections are:

- US Hwy 50 MP 0.0 to 0.9, MP 9.1 to 13.1 (4.9 miles)
- SR 28 MP DO 0.0 to 1.0, MP CC 0.0 to 4.0, MP WA 0.0 to 5.1 (10.1 miles)
- SR 207 MP 0.0 to 3.2 (3.2 miles)
- SR 760 MP 0.0 to 0.5 (0.5 miles)

NDOT also has several self-funded and collaborative multi-agency projects that have been previously constructed or are currently being designed and are progressing towards implementation. These projects are potentially eligible for future registration and are summarized in *Table 5*.

Table 5: Capital Improvement Projects Available or Anticipated to be Available for Registration to Achieve Future Milestones

| Project Description | Project Implementation Year | Expected BMP Lake Clarity Credits |
|---|-----------------------------|-----------------------------------|
| US 50 Zephyr Cove WQ and EC Project * | 2017 | 30 |
| US 50 Pittman Terrace WQ and EC Project * | 2018 | 8 |
| US 50 WQ and EC Project (Cave Rock to Glenbrook) | 2006/2016 | TBD |
| US 50 WQ and EC Project (Glenbrook Canyon) | 2006/2016 | TBD |
| SR 207 WQ and EC Project | 2015 | TBD |
| Burke Creek Stream Restoration and Erosion Control | 2016 | TBD |
| SR 28 Bike Path, WQ and EC Project | 2018 | TBD |
| SR 28 (Crystal Bay to east Lakeshore Blvd.) WQ and EC Project in Conjunction with Pavement Rehabilitation | 2022 | TBD |
| SR 431 WQ and EC Project in Conjunction with Pavement Rehabilitation | 2022 | TBD |
| SR 28 WQ and EC Project @ Marlette Creek | 2024 | TBD |
| US 50 WQ and EC Project @ Skyland GID | 2024 | TBD |
| US 50 Bourne Meadows Basins WQ and EC Project in Conjunction Douglas County | 2025/26 | 10 |
| US 50 WQ and EC Project in Conjunction with Pavement Rehabilitation | 2025/26 | TBD |
| Potential Future Credits: | | 48 |
| WY 2025 Awarded Credits: | | 331 |
| 2026-2030 Road Registration | | 79 |
| Total Potential Future Credits: | | 458 |

* Registered but not Declared.
TBD – To Be Determined

In the fall of 2025, the basins portion of the US 50 Bourne Meadows project was constructed. The upstream storm drain improvements will be constructed in the 2026 construction season, along with the pavement rehabilitation project in the same area. Douglas County will maintain and register this project

for credits. It is anticipated through our agreement with them that Douglas County will be able to award 10 potential credits to NDOT for this registration.

NDOT will register and/or declare additional roadway sections or projects from Table 5, as needed to meet or exceed future credit milestones. Table 5 outlines that the WY 2025 award of 331 credits, the additional 79 credits in the 2026-2030 Road Registration, and the additional 48 potential future credits, sum to a projected total potential of 458 future credits. Further, the total potential future credits do not include additional sections for Roadway Registration or the projects in Table 5 that have not had their potential credits determined.

During WY 2026, NDOT will continue planning and researching long-term credit registration strategies for both roadways and BMP projects to meet future credit targets and milestones. Table 6 outlines the predicted credit target/milestones established in the current ILA compared to the estimated potential credits from existing NDOT registrations: the 2026-2030 Road Registration and the “New Kahle Wet Basin” BMP Registration through Water Years 2036. The actual credits declared in future years will meet targets but may be lower than what is shown in Table 6 due to available resources.

Table 6. NDOT estimated credits for BMP and roadway registrations.

| Water Year | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2036 |
|--|------|------|------|------|------|------|------|
| Credit Target/Milestone | 345 | 345 | 356 | 366 | 376 | 386 | 436 |
| Projected Credits Available for Registration | 410 | 410 | 410 | 410 | 410 | 410 | 410 |

While NDOT is expected to meet short-term credit targets and milestones, long-term success depends on the availability of maintenance personnel and reliable equipment. NDOT has initiated an evaluation of the long-term sustainability of its existing maintenance equipment fleet. This assessment aims to identify any deficiencies and inform leadership on future equipment needs.

In WY 2023, an inventory of the current maintenance equipment fleet was conducted and compared against manufacturer-recommended lifespans. The findings were presented to upper leadership and have now been incorporated into NDOT’s current strategic plan. Cost-benefit analyses continue to be performed to explore options for acquiring the necessary equipment through purchase or leasing to effectively support program goals.

4.0 FISCAL ANALYSIS

4.1 Budget

NDOT's Lake Tahoe program is primarily funded through state gas tax revenues. Budgeted amounts are based on average expenditures during previous water years. Currently budgeted amounts are sufficient, and the Department is confident in continuing to meet the load reduction targets and milestones in the current NDOT/NDEP ILA. *Table 7* summarizes NDOT's expenditures in State Fiscal Year (FY) 2025 as well as the FY 2026 budget areas of interest.

Table 7: NDOT Expenditures and Budget for FY 2025 and FY 2026 respectively.

| Program Area and/or Project Description | Funding Source | State Fiscal Year 2025 NDOT Expenditures | State Fiscal Year 2026 Annual Budgeted Amount |
|---|-----------------------------|--|---|
| Program Support and Implementation ⁽¹⁾ | State Gas Tax | \$146,999 | \$200,000 |
| Stormwater Monitoring contracts with TRCD | State Gas Tax | \$75,623 | \$75,000 |
| Stormwater Operations and Maintenance ⁽²⁾ | State Gas Tax | \$358,700 | \$500,000 |
| Road Operations and Maintenance ⁽³⁾ | State Gas Tax | \$874,613 | \$1,300,000 ⁽⁴⁾ |
| Lake Tahoe TMDL LCCP Assistance Contract ⁽⁵⁾ | State Gas Tax | \$28,749 | \$40,000 |
| Trash Pickup Contract with Clean Tahoe | State Gas Tax | \$110,000 | \$110,000 |
| Total: | | \$1,594,684 | \$2,225,000 |
| Capital Improvement Projects | | | |
| Bourne Meadows Basins WQ and EC | State Gas Tax | \$420,000 | \$2,466,817 |
| US 50 3R Preservation Contract | Federal-aid Highway Program | \$25,455,410 | \$31,067,629 |
| SR 28 Marlette Creek WQ and EC | State Gas Tax | \$160,000 | \$ 0 |
| SR28 Spooner Mobility Hub | Federal Highway Fund | \$63,757 | \$15,897,710 |
| Total: | | \$26,099,167 | \$49,432,156 |

(1) – Includes planning, coordination, monitoring and reporting.

(2) – This includes BMP maintenance, the overall sweeping program, and the contract with private vendor for treatment vault and drop inlet cleaning.

(3) – This includes pothole repairs, shoulder repair, sand and salt operations and is a total of personnel, material and equipment costs.

(4) – Costs vary greatly depending on winter precipitation types/amounts and overall winter severity.

(5) – Department's contract with NTCDC for assistance with Lake Clarity Crediting Program (LCCP) compliance

(6) – State Fiscal Year is July 1 through June 30

4.2 Finance Plan

NDOT will continue to explore external funding opportunities for implementation of the water quality improvements and enhanced roadway operation and maintenance. To date, the Nevada state gas tax has sufficiently covered the overall costs associated with the program's implementation. However, the state gas tax fund is currently experiencing shortfalls in availability compared to previous years. Basic program costs will continue to be funded in order to meet NDOT's obligations under the ILA with NDEP

and NDOT’s MS4 permit. Nevertheless, securing funding for new Water Quality Improvement Projects (WQIPs) and for the acquisition of updated or enhanced maintenance equipment will likely be a challenge in the foreseeable future.

5.0 BARRIERS

The major challenges NDOT faces in implementing the Lake Tahoe TMDL are:

- 1) Funding is increasingly becoming a more significant barrier for NDOT. State gas tax fund is currently experiencing shortfalls in availability compared to previous years.
- 2) NDOT’s declarations remain heavily weighted towards Road Operations which in turn is heavily dependent on maintenance. The inherent barriers resulting are as follows:
 - a. Weather with seasonal and annual variability
 - b. Maintenance priorities and overall workload
 - c. Maintenance crew staffing, recruiting and retention difficulties and crew inexperience
 - d. Equipment availability, functionality and reliability. Coordination with the Equipment and Maintenance Divisions will continue to occur to address any equipment related issues and shortcomings. Equipment reliability and availability for SR 431 continues to be a challenge. The relatively short lifespan of sweepers paired with steeper terrain, which precludes the use of many sweepers, has led to frequent shortage of available sweepers.

6.0 BASELINE DISCREPANCIES

The baseline load estimate developed in the 2016 Baseline Report has the potential to be refined with each LCCP registration in the Stormwater Tools. Baseline load estimates were refined during the registration process for Pittman Terrace WQIP, ZC WQIP and Kahle Basin WQIP. Table 8 summarizes these discrepancies.

Table 8. Baseline Load Discrepancies

| Registration Name | 2016 Jurisdictional Baseline Report Estimated FSP load (lb/yr) | Registration Baseline Refined FSP load (lb/yr) | Baseline Difference (lb/yr) |
|---|--|--|-----------------------------|
| Pittman Terrace BMP | 4,352 | 4,423 | 71 |
| Zephyr Cove Water Quality Improvement Project | 9,271 | 6,646 | -2,625 |
| New Kahle Wet Basin | 5,355 | 5,956 | 601 |
| WY2021-2022 Road Registration | 112,587 | 117,173 | 4,586 |

Table 9 provides NDOT baseline load refinements for FSP, Total Nitrogen (TN) and Total Phosphorous (TP) at various points in time through the history of the LCCP. Values presented are for the originally determined estimates from the 2016 Jurisdictional Baseline Report; the refined values from Table 2 of the current ILA (WY 2022-2026); and refinements for this WY2025 Annual Report.

Table 9. Jurisdictional Baseline Load

| Pollutants of Concern | Originally Determined 2016 Jurisdictional Baseline Report Load (lb/yr) | ILA WY 2022-2026 WY2021 Refined Baseline Load (lb/yr) | WY2025 Refined Baseline Load (lb/yr) |
|-----------------------|--|---|--------------------------------------|
| FSP ^{SP} | 205,006 | 202,243 | 221,499 |
| TP | 564 | 560 | 609 |
| TN | 1,704 | 1,690 | 1,845 |

7.0 CONCLUSION

The Nevada Department of Transportation TMDL Annual Report for Water Year 2025 underscores NDOT’s strong commitment to enhancing water quality in the Lake Tahoe Basin. The successful implementation of road operations and BMP registrations has met and advanced the objectives set forth in the ILA with NDEP. This is demonstrated by the 331 awarded credits that met the WY 2025 target as well as the new road registration, extensive capital projects list, consistent expenditures, and continued budgeting for program needs. These achievements reflect the effective integration of advanced maintenance practices, effective BMP implementation, strategic planning, and collaboration with other agencies and stakeholders.

While the program’s success is evident, the report also highlights critical challenges. Funding availability from state gas tax revenues, equipment reliability issues, and workforce constraints present ongoing barriers that require innovative solutions and continued inter-agency collaboration.

Moving forward, NDOT is well-positioned to achieve future credit milestones through expanded implementation of enhanced maintenance practices, registration of existing and new BMPs, and strategic partnerships with local agencies. The progress made in WY 2025 establishes a solid path for fulfilling future TMDL requirements and ensuring that Lake Tahoe’s ecosystem remains resilient and protected for generations to come.