

GRANT APPLICATION FORM

- A. Project Title Pittman Terrace Water Quality Improvement Project
(Please refer to project name as listed in EIP)
- B. Environmental Improvement Program (EIP Project) # 01.01.01.17
- C. Project Location (Please provide map)
Pittman Terrace Community and adjacent NDOT right-of-way along Hwy 50, just north of Cave Rock, Douglas County, NV (Attachment A)
- D. Project Description: Please attach separately, and refer to Project Description Requirements (attached).
- E. Applicant's Name and Contact Information
Michael Pook
Nevada Tahoe Conservation District
400 Dorla Ct., PO box 915, Zephyr Cove, NV 89448
Phone: 775-586-1610 x34 Fax: 775-586-1612 Email mpook@ntcd.org
- F. Estimated Total Project Cost: \$496,768.04

Grant Amount Requested (Grant amounts requested from non-state agencies cannot exceed 75% of total cost of design & construction).
\$127,758.84

Sources and amounts of matching funds:
NDEP = \$127,000 ; NDOT (gas tax) = \$242,009.20

- G. Owner of Property(ies): NDOT; Douglas County; Private

If others hold any outstanding property rights (additional owners, public/private easements, etc.), attach explanation of how they will participate.
There is limited opportunity to treat all NDOT runoff within NDOT right-of-way. NTCD will explore whether NDOT treatment on private property within Pittman Terrace is feasible. NTCD will coordinate with NDOT and Douglas County to obtain permission for constructing and maintaining NDOT treatment in Douglas County right-of-way.

- H. On behalf of Nevada Tahoe Conservation District, I request this Application be considered for financial assistance with the Nevada Division of State Lands, Water Quality and Erosion Control Grants Program.

Michael Pook
(typed name)


Environmental Scientist Nov. 9, 2015

**STATE OF NEVADA
DIVISION OF STATE LANDS
LAKE TAHOE – ENVIRONMENTAL IMPROVEMENT PROJECT
WATER QUALITY AND EROSION CONTROL GRANTS PROGRAM
APPLICATION**

PITTMAN TERRACE WATER QUALITY IMPROVEMENT PROJECT

Project Description

Checklist:

1. PROJECT SCHEDULE
2. PROJECT PARTICIPANTS
3. PROJECT SUMMARY AND SITE PLAN
4. CONCEPTUAL PROJECT GOALS, OBJECTIVES AND ANTICIPATED RESULTS
5. OPERATIONS AND MAINTENANCE
6. COST ESTIMATE
7. EASEMENTS/ACQUISITION
8. CONFORMITY

GRANT APPLICATION
NEVADA DIVISION OF STATE LANDS
WATER QUALITY AND EROSION CONTROL FUNDS

PITTMAN TERRACE WATER QUALITY IMPROVEMENT PROJECT

1. PROJECT SCHEDULE

The *Pittman Terrace Water Quality Improvement Project* (hereafter Project) is a joint effort between Nevada Department of Transportation (NDOT), Douglas County and Pittman Terrace Homeowners. Nevada Tahoe Conservation District (NTCD) is coordinating project efforts on behalf of the jurisdictions and homeowners.

The engineering and design for the Project is proposed to take place from May 2016 to December 2016. Construction is proposed to take place during the 2017 construction season (May 1st to October 15th). The proposed schedule is dependent upon grant funding approval and documentation being executed by May 1, 2016. A more detailed schedule is provided in Table 1 and shows the Project tasks from the planning phase through construction.

Table 1: Proposed Schedule

Phase 1 Tasks	Dates
Project Scoping & Kickoff	January 2016
Easement Investigation	January 2016 – May 2016
PLRM Baseline, Field Verification & Alternatives Analysis	March 2016 – December 2016
Design	May 2016 – December 2016
<i>Utility Investigation</i>	February 2016 – June 2016
<i>Surveying & Mapping</i>	April 2016 – May 2016
<i>Geotechnical Work</i>	May 2016 – June 2016
<i>Regulatory Compliance & Permitting</i>	June 2016 – May 2017
<i>Design</i>	July 2016 – December 2016
<i>Estimate, 100% Design Plans & Specifications</i>	December 2016 – February 2017
<i>Advertise and Bid</i>	February 2017 – April 2017
Construction	June 2017 – October 2017
BMP RAM	October 2017

2. PROJECT PARTICIPANTS

The following table contains the project partners/participants and their respective roles.

Table 2: Key Project Participants

Entity	Role	Key Personnel
Nevada Tahoe Conservation District	Project Proponent	Michael Pook, Meghan Kelly, P.E., Monica Grammenos, P.E.
Nevada Department of Transportation	Funder, Property Owner	Matthew Nussbaumer, P.E.
Douglas County	Permittee, Property Owner	Eric Nilssen, P.E.
Nevada Division of State Lands	Funder	Holly Holwager
Tahoe Regional Planning Agency	Permittee, Regulator	Shannon Friedman
Nevada Division of Environmental Protection	Funder	Ed Skudlarek
Pittman Terrace Homeowners	Property Owner, Stakeholder	Joe Pohl, others

Key project proponent personnel have been identified. These are as follows:

1. Project Coordinator & Manager: Mr. Michael Pook of NTCDD has been selected as the prime manager and coordinator for the project. He will direct all tasks and consultant(s).
2. Project Engineers: Meghan Kelly, P.E. and Monica Grammenos, P.E. will serve as the Project Engineers. Their main tasks will be to work within the opportunity areas to develop stormwater treatment design and bid documents to meet the project goals. They will also oversee construction efforts.

3. PROJECT SUMMARY AND SITE PLAN

Setting

The Project area is comprised of PLRM catchments PT01 and 501, located just north of Cave Rock, NV (Attachment A). PT01 is roughly 12 acres and contains approximately 20 single family residences and lightly used residential roads. PT01 contains the community of Pittman Terrace. Catchment 501 is roughly 11.5 acres of Highway (HWY) 50 four-lane highway and right-of-way (ROW), which is owned and maintained by NDOT.

Pittman Terrace Issues

The Pittman Terrace community is bisected by two major stormwater conveyance systems (Attachment B). An unstable and eroding earth conveyance ditch conveys NDOT Highway 50 runoff along Pittman Terrace roads to Lake Tahoe (Figure 1). This conveyance system is denoted on the map as having an Outfall Connectivity Rapid Assessment Method (OCRAM) score of 5 and

appears like a five-tined pitch fork. The conveyance ditch is undersized as evidenced by the multiple areas where flow escapes. Undersized culverts at a driveway entrances lead to sedimentation upstream and erosion below the culverts. Some of the discharge points along the Highway 50 right-of-way have been armored to stabilize the conveyance, but these efforts were poorly engineered and likely done by the community in an effort to address the erosion problems (Figure 2). Some of these Highway 50 discharge points with OCRAM scores of 1 have been field verified to flow untreated directly to Lake Tahoe during a rain event on October 1, 2015 and should be given a higher connectivity score.

The other conveyance system through Pittman Terrace community is a corrugated metal half pipe down a steep slope which eventually flows along the property line between two homes before entering Lake Tahoe (Figure 3). It is labeled on the map as having an Outfall connectivity score of 3. The half pipe enters an open drop inlet to cross beneath Pittman Terrace Road and is then conveyed between two homes via a rock lined channel (Figure 4). The conveyance is stable, though it may be undersized. The open drop inlet is located on private property and prone to clogging with pine needles and debris, flooding the access road and adjacent private property. NDOT does not perform maintenance on the conveyance system located outside of the NDOT ROW.

Not shown on the map is the conveyance system within Pittman Terrace which conveys Pittman Terrace stormwater runoff. NTCD has no records of this system and suspects that the residents installed the system. NTCD suspects the system was not properly engineered, constructed or maintained as the drop inlet and conveyance system are no longer functioning and runoff from Pittman Terrace roads is directed into private driveway (Figure 5).



Figure 1. Unstable and eroding earth conveyance ditch conveys stormwater runoff.



Figure 2. Highway 50 discharge point with OCRM score of 1 directs runoff untreated to Lake Tahoe. Rock armored channel conveys the runoff down the slope from the culvert outfall to an earthen conveyance ditch adjacent the Pittman Terrace road.



Figure 3. Half pipe culvert conveys NDOT runoff down a steep slope before entering an open drop inlet to pass beneath Pittman Terrace road.



Figure 4. Rock lined channel conveys NDOT runoff from the half pipe culvert between two homes before entering Lake Tahoe.



Figure 5. Submerged drop inlet (adjacent to telephone pole) no longer functioning. Road runoff enters driveway and private property BMPs.

Proposed Improvements

The Project proposes to install stormwater treatment infrastructure to address HWY 50 runoff; stabilize eroding conveyance ditches; partner with Pittman Terrace community to install stormwater treatment infrastructure in conjunction with their road repaving project; and explore NDOT treatment opportunities on private property through grant of easement. These actions will improve water quality and conveyance.

Preliminary PLRM Modeling and Lake Clarity Credits

The Lake Tahoe Total Maximum Daily Load (TMDL) was approved in August 2011 and identified fine sediment particles (<16 µm), nitrogen and phosphorous as the pollutants of concern affecting the clarity of Lake Tahoe. The TMDL shifts pollutant control strategies from treatment of runoff *volume* from the 20 year, 1 hour storm event, to treatment of the sub 16 µm sediment, nitrogen and phosphorus *load*. The Nevada Tahoe TMDL Implementing Agencies Stormwater Load Reduction Plans Baseline and Existing Conditions Final Technical Documents (SLRP) has determined the baseline load produced for each jurisdictions catchments. Within Douglas County, catchment 501 produces enough fine sediment particles to be considered NDOT's highest priority catchment. The SLRP ranks it in the 60-80th percentile however due to the outfall connectivity scores. Field observation of these outfalls during storm events suggest these outfall connectivity scores are incorrect. Correct OCRAM scores would result in the reclassification of the catchment into the 80-100th percentile (highest pollutant load). Douglas County's catchment PT01 is comprised of the Pittman Terrace community and access roads. It is ranked in the 20-40th percentile in the SLRP, but again produces enough sediment particles to warrant a higher ranking save for the connectivity scores. Field observations of the outfalls during storm events suggest the outfalls are directly connected to Lake Tahoe, thus warrant higher scores.

NDOT is not currently planning to register that portion of HWY 50 (Catchment 501) for road operations, in part due to the absence of a Road RAM that takes into consideration the safety concerns of a four lane highway. Additionally, NDOT has expressed preference in working with the Pittman Terrace community to armor the stormwater flow paths and implement stormwater treatment where feasible. NDOT has expressed that Catchment 501 is a high priority treatment area for meeting their pollutant load reduction efforts in Lake Tahoe.

PT01 is not a priority for Douglas County and currently is not in the County's catchment registration plans. The County may reconsider in the future as the PLRM is refined and credits are needed to meet their load reduction milestones.

Based on preliminary PLRM modeling, the Project will result in Lake Clarity credits for NDOT and for Douglas County through treatment of directly connected stormwater runoff. Preliminary PLRM modeling indicates that the treatment of stormwater runoff may result in 31 potential Lake Clarity Credits (Table 3). Please note that refining the OCRAM scores may result in more credit potential than indicated.

Table 3: PLRM estimated credits available from stormwater runoff treatment.

SOURCE	CLARITY CREDITS	BENEFICIARY JURISDICTION
NDOT HWY 50 Right-of-Way (501)	30	NDOT
Pittman Terrace (PT01)	1	Douglas County

Project Tasks

NTCD will work to construct a stormwater treatment system that maximizes runoff treatment while dealing with site constraints (slopes, proximity to Lake). The Project will utilize a Technical Advisory Committee (TAC) to help guide and shape the project. The TAC is likely to include representatives from the following organizations: NDEP, NDSL, TRPA, NDOT, Pittman Terrace Homeowners, NTCD and Douglas County.

Project tasks include:

- A. **Grant Administration** — Reporting, Invoicing, Preparation of Final Project Report
 Submit monthly invoices and backup documentation, submit quarterly progress reports, coordinate with funders and partners, monitor, supervise and coordinate budgeting and scheduling to ensure project is completed within budget and on schedule.
Deliverables: Monthly invoices and backup documentation; Quarterly Progress Reports.

- B. **Workplan and Coordination**—TAC Meetings and Outreach
 Develop workplan with TAC input for 2017 construction of project. Schedule 3 TAC meetings at the conceptual design/kickoff, 50% design and 90% design. Produce agendas and minutes in support of TAC meetings. Public outreach will be performed in the form of TRPA notifications to homeowners within 300’ of a planned BMP installation and outreach to nearby properties to request irrigation assistance.
Deliverables: Workplan with schedule; TAC meeting agendas and minutes.

- C. **Pollutant Load Reduction Modeling**—PLRM and Catchment Registration
 Model potential treatment locations to estimate pollutant load reduction. Model completed project and complete catchment registration to obtain Lake Clarity Credits for NDOT.
Deliverables: PLRM outputs with estimated pollutant load reductions; Registered catchment and Lake Clarity Credits for NDOT.

- D. **Engineering and Design**
 - a. **Stormwater Treatment Selection**
 Coordinate with TAC, funders, partners, jurisdictions and utilities to identify potential treatment locations based on topography, utilities and existing/planned infrastructure, hydrology, and adjacent private lands. Identify stormwater treatment methods and technologies for those locations based on treatment effectiveness, costs, maintenance requirements and additional criteria as determined by TAC.

Deliverables: Stormwater treatment locations and methods selected for design in light of ranking criteria.

b. **Base Map Creation**

Utilize Tahoe Basin-wide LiDAR for development of base map in CAD. Obtain utility location maps. Determine if supplemental on-site survey and/or potholing is needed in the selected treatment locations. NDOT may offer assistance if additional ground survey and/or potholing information is needed. Construction survey to install staking will be required to construct project.

Deliverables: Base map for use in design.

c. **Design Plans & Estimates**

Generate Conceptual, 50%, 90% and 100% design plans with input from NDOT and the TAC. Develop Engineer's estimates at each design stage to determine costs of selected slope stabilization, revegetation, conveyance and stormwater treatment infrastructure.

Deliverables: Conceptual, 50%, 90% and 100% Design Plans and Engineer's estimates.

d. **Design Report**

Develop draft and final design report which describes all the data, calculation, and other factors used to shape the design. Comments from the draft design report and other changes to the design will be reflected in the final design report.

Deliverables: Draft and Final Design Report

e. **Bid Documents**—Specifications, Bid Schedule and Solicitation Documents

Develop Special Technical Specifications, Bid Schedule and Solicitation Documents for bidding the project on behalf of NDOT. NDOT will assist in development and review of the documents. The specifications will be developed coincident with the design report and final design plans.

Deliverables: Special Technical Specifications, Bid Schedule and Solicitation Documents.

E. **Permitting**

In partnership with NDOT and the Pittman Terrace Homeowners, apply for and obtain necessary permits for the project including TRPA EIP permit, NDOT encroachment permit and Douglas County site improvement permit. Work with NDOT and necessary agencies to secure any necessary special use permits or encroachments permits for stormwater treatment outside of the NDOT Right-of-Way.

Deliverables: Necessary permits to construct the project. Any necessary encroachment/special use permits for NDOT to maintain assets.

F. **Bid Project**

a. **Bid Project**

Advertise to invite qualified contractors to bid on the project. Because the construction budget is expected to exceed \$250,000 the project must be advertised for open bid.

Deliverables: Invitation to bid advertised in local paper, distributed at local builder's exchanges (Nevada Blue and Sierra Contractor's Source) and e-mailed to qualified contractors on file with NTCD.

- b. **Bid Support**
Provide bid support to technical and process questions from potential bidders including issuing any necessary addendums and clarifications.
Deliverables: Addendums and clarifications as necessary.
- c. **Award**
Open bids at specified time and place and award construction contract to the lowest qualified, responsive bidder
Deliverables: NTCD Board signed construction award.

G. Construction

- a. **Construction Staking**
NDOT may be able to provide in-kind survey assistance for construction staking depending on survey crew workload. If NDOT is unable to survey a Consultant will be hired to provide services.
Deliverables: Staking in support of Construction.
- b. **Construction Oversight**
Provide engineering oversight in partnership with NDOT for the construction of the project.
Deliverables: Successfully constructed project per design plans and specifications.
- c. **Material Testing**
Subcontract with material testing firm to ensure project construction per specifications.
Deliverables: Material Testing Reports as necessary to ensure confirmation to specifications.
- d. **Revegetation and Irrigation (dependant on design elements)**
Coordinate with Pittman Terrace Homeowners to obtain temporary irrigation water access. Install seed, mulch, erosion control blanket, and temporary irrigation system for revegetation of disturbed areas. Areas will be irrigated for 1 season following construction completion to achieve 65% vegetation cover.
Deliverables: Signed right of entries to allow irrigation access. 65% vegetation cover for seeded areas in the project area. Operational temporary irrigation system.
- e. **As-built Plans**
Generate as-built plans in light of change orders and field fitting.
Deliverables: Engineer stamped as-built plans.

H. Maintenance

In partnership with the Pittman Terrace Homeowners, maintain the revegetation and irrigation for one year following construction completion. NTCD will reimburse homeowners (if necessary) for supplied irrigation water in support of the project. NTCD will perform BMP RAM on key and essential stormwater treatment features following construction, after which NDOT will perform BMP RAM and maintain the stormwater treatment infrastructure.

Deliverables: 65% vegetation cover for seeded areas, no invasive weed establishment. BMP RAM baseline scores following construction.

4. CONCEPTUAL PROJECT GOALS & OBJECTIVES AND ANTICIPATED RESULTS

The goal of the project is to reduce stormwater pollutant loading to Lake Tahoe and garner Lake Clarity Credits for NDOT and possibly Douglas County by installing channel stabilization and stormwater treatment infrastructure in the NDOT right-of-way and Pittman Terrace community. PLRM v1.1 Baseline modeling indicates the NDOT HWY 50 catchment is a high priority catchment due to its being a high pollutant loading and directly connected catchment. PLRM v1.1 Baseline modeling suggests 30 possible credits for NDOT and 1 credit for Douglas County if the proposed project is implemented and registered in Credit Accounting Platform (CAP).

The objectives are as follows:

1. Stabilize the channels along Pittman Terrace roads to prevent treated stormwater from eroding downstream areas, collecting additional pollutants and transporting pollutants from unstable conveyance ditches to Lake Tahoe.
2. Enhance infiltration in conveyance features, construct infiltration features, and retrofit existing infrastructure to treat a portion of the stormwater runoff.
3. Partner with the Pittman Terrace Homeowners to install stormwater treatment infrastructure in conjuncture with their planned road repaving project.
4. Through PLRM modeling and catchment registration, garner Lake Clarity Credits for NDOT and possibly for Douglas County.

Anticipated Results

The project will result in channel stabilization and stormwater treatment infrastructure to treat stormwater runoff from NDOT HWY 50 and Pittman Terrace roads. The Project will improve the conveyance and treatment of directly connected stormwater runoff by stabilizing eroding conveyance ditches and implementing stormwater treatment. The stormwater treatment is expected to result in Lake Clarity Credits for NDOT and Douglas County.

5. OPERATIONS AND MAINTENANCE

NTCD will partner with the Pittman Terrace Homeowners to maintain any irrigation and revegetation for 1 season to achieve vegetation establishment of 65% plant cover (for seeded areas). NDOT will maintain structural stormwater infrastructure installed as part of the project that conveys or treats NDOT stormwater. Pittman Terrace Homeowners or Douglas County will maintain structural stormwater infrastructure that does not convey or treat NDOT runoff. After successful vegetation establishment, NDOT will assume maintenance responsibility for the vegetation if needed. The stormwater treatment infrastructure resultant of the project will be maintained for 20 years, similar to other implemented grant funded projects. NTCD will perform BMP RAM on the improvement the first year to ensure satisfactory operations for continued award of Clarity Credits. Thereafter, NDOT will perform BMP RAM as necessary to ensure continued satisfactory operation to obtain the clarity credits. Monitoring will ensure successful (65% vegetative cover) vegetation establishment for one year following construction.

6. COST ESTIMATE

A detailed cost estimate is provided in Table 4. This estimate provides a breakdown of design, construction, and construction management costs anticipated for the Project which has also been summarized below. A budget by task is shown in Table 5.

Table 4. Estimated Project costs

Pittman Terrace WQIP								
Category	Total Hours	Rate	NDSL	NDOT	NDEP 319	Total Cash Budget	In-Kind Contribution ¹	Total Budget
Professional Engineer	295	up to \$53.02	\$4,506.70	\$7,634.88	\$3,499.32	\$15,640.90		\$15,640.90
Professional Engineer	329	up to \$50.31	\$3,363.36	\$6,726.72	\$4,139.52	\$14,229.60		\$14,229.60
Environmental Scientist IV	112	up to \$59.28	\$1,482.00	\$3,675.36	\$1,482.00	\$6,639.36		\$6,639.36
Environmental Scientist III	295	up to \$47.51	\$3,753.60	\$6,334.20	\$3,753.60	\$13,841.40		\$13,841.40
Environmental Scientist III	230	up to \$47.51	\$2,455.75	\$5,358.00	\$2,455.75	\$10,269.50		\$10,269.50
Wages (salary and fringe)			\$15,561.41	\$29,729.16	\$15,330.19	\$60,620.76		\$60,620.76
Personnel Costs		17.96%	\$2,794.83	\$5,339.36	\$2,753.30	\$10,887.49		\$10,887.49
Travel (vehicle mileage)		Approved State Rate \$0.575		\$500.00	\$700.00	\$1,200.00		\$1,200.00
Equipment						\$0.00		\$0.00
Supplies and recurring costs				\$2,200.00	\$2,000.00	\$4,200.00		\$4,200.00
Pittman Terrace in-kind		Road repaving actual cost					\$25,000.00	\$25,000.00
Sub-total			\$18,356.24	\$37,768.52	\$20,783.49	\$76,908.25	\$25,000.00	\$101,908.25
Overhead & Administration		37.85%	\$6,947.84	\$14,295.39	\$7,866.56	\$29,109.79		\$29,109.79
Supplies			\$750.00			\$750.00		\$750.00
Permits			\$500.00			\$500.00		\$500.00
Contracts (Survey, Material Testing)			\$2,000.00	\$2,000.00	\$500.00	\$4,500.00		\$4,500.00
Construction (including materials)			\$99,204.76	\$187,945.29	\$97,849.95	\$385,000.00		\$385,000.00
TOTAL			\$127,758.84	\$242,009.20	\$127,000.00	\$496,768.04	\$25,000.00	\$521,768.04

Table 5. Budget by task.

Expenses by task	NTCD	Subcontractor	In-Kind	TOTAL
1. Project Management	\$6,533.58	\$0.00		\$6,533.58
2. Workplan and Coordination	\$5,562.48	\$0.00		\$5,562.48
3. PLRM	\$4,356.27	\$0.00		\$4,356.27
4. Engineering and Design	\$0.00	\$0.00		\$0.00
Site Selection	\$2,344.97	\$0.00		\$2,344.97
Base Map Creation	\$2,333.29	\$0.00		\$2,333.29
Design Plans & Estimates	\$30,876.81	\$0.00		\$30,876.81
Design Report	\$6,863.61	\$0.00		\$6,863.61
Bid Documents	\$4,164.85	\$0.00		\$4,164.85
5. Permitting	\$8,598.65	\$0.00		\$8,598.65
6. Bid Project	\$0.00	\$0.00		\$0.00
Bid Project	\$421.67	\$0.00		\$421.67
Bid Support	\$1,063.83	\$0.00		\$1,063.83
Award	\$690.24	\$0.00		\$690.24
7. Construction	\$0.00	\$385,000.00	\$25,000.00	\$410,000.00
Staking	\$1,792.99	\$2,000.00		\$3,792.99
Construction Oversight	\$13,667.10	\$0.00		\$13,667.10
Material Testing	\$994.90	\$2,500.00		\$3,494.90
Reveg and Irrigation	\$8,048.98	\$0.00	\$0.00	\$8,048.98
As-Built Plans	\$2,515.34	\$0.00		\$2,515.34
8. Maintenance	\$6,438.48	\$0.00	\$0.00	\$6,438.48
Total	\$106,018.04	\$389,500.00	\$25,000.00	\$521,768.04

NDOT has committed \$242,009.20 of non-federal monies to the proposed project (see Letter of Support).

NDEP has awarded \$127,000 of 319(h) funds toward the proposed project.

Pittman Terrace Homeowners have pledged support for the project and offered \$25,000 of in-kind expenses to the project. This in-kind will likely be realized through road repaving. Pittman Terrace Homeowners are also committed to exploring easements to enable additional treatment options for NDOT stormwater runoff.

7. **EASEMENTS/ACQUISITION**

Some form of easement or land acquisition may be necessary to implement the most effective project. NDOT has limited opportunity within its existing right-of-way to treat the stormwater runoff generated in catchment 501. Adjacent public lands owned by Douglas County and NDSL may provide opportunity sites for NDOT stormwater treatment. Additionally, private property within the Pittman Terrace community may afford opportunity for NDOT stormwater treatment.

The Project involves the cooperation of several entities including Douglas County, NDOT, Pittman Terrace Homeowners and NDSL. NDOT will explore easement options on private property within the Pittman Terrace community and present those options to NDOT and the Project TAC for review. The existing Project schedule may not accommodate a private property easement process. Additionally, NDOT will coordinate with Douglas County and NDSL to explore obtaining grant of easement for NDOT stormwater infrastructure on their property and how that process affects the project schedule. Douglas County owns the roads and an easement to the Lake along one of the flow paths that has potential for treatment options. NDSL has property on a sensitive lot within Pittman Terrace. A portion of that lot has impacted shoulder area adjacent to the Pittman Terrace access road. This impacted shoulder area will be explored to determine if a suitable stormwater treatment option is viable.

8. **CONFORMITY**

NDOT Stormwater Load Reduction Plan

The Project addresses stormwater treatment on behalf of NDOT in a highly prioritized catchment within Douglas County. The Project has potential to assist NDOT complying with the Lake Tahoe TMDL and meeting their 2021 pollutant load reduction milestone.

Draft Tahoe Douglas Area Plan Accordance

The Project is located within the portion of Douglas County addressed in the Draft Area Plan. The Project is in accordance with the Environmental Improvement Program and Stormwater Load Reduction Plan sections of the Draft Area Plan.

TRPA Lake Tahoe Environmental Improvement Program (EIP) Accordance

The environmental goals of the Lake Tahoe EIP are defined using thresholds that were established to protect the natural environment and maintain public health and safety within the basin. The

applicable threshold category for this project is that of water quality. The Water Quality Element of the Environmental Improvement Program includes Water Quality Research, Programs, and Projects, all of which are interrelated and programmed to accelerate meeting TRPA's Water Quality Environmental Thresholds. Ultimately, the EIP Water Quality Element aims to meet non-degradation water quality objectives, and a winter Secchi depth reading of 33.4 meters. This will be achieved by an application of this knowledge to the planning, design, and implementation of EIP Water Quality Programs and Projects.

The key objective of the majority of water quality projects in the EIP is to eliminate or reduce the sources of eutrophication, reduce contamination of water, and to properly convey and treat stormwater runoff that has been negatively impacted principally by urbanization and roadway networks (land use and transportation). Criteria relates to the ability to meet TRPA water quality goals, policies, and objectives. The following thresholds are applicable toward the BCCRP:

1. The project reduces loads of sediments and nutrients delivered to and through tributary, runoff, urban runoff, groundwater, and Lake Tahoe;
2. The project includes the installation of BMPs in the project area; and
3. The project includes an Operations and Maintenance commitment to insure effectiveness of compliance measures over time.

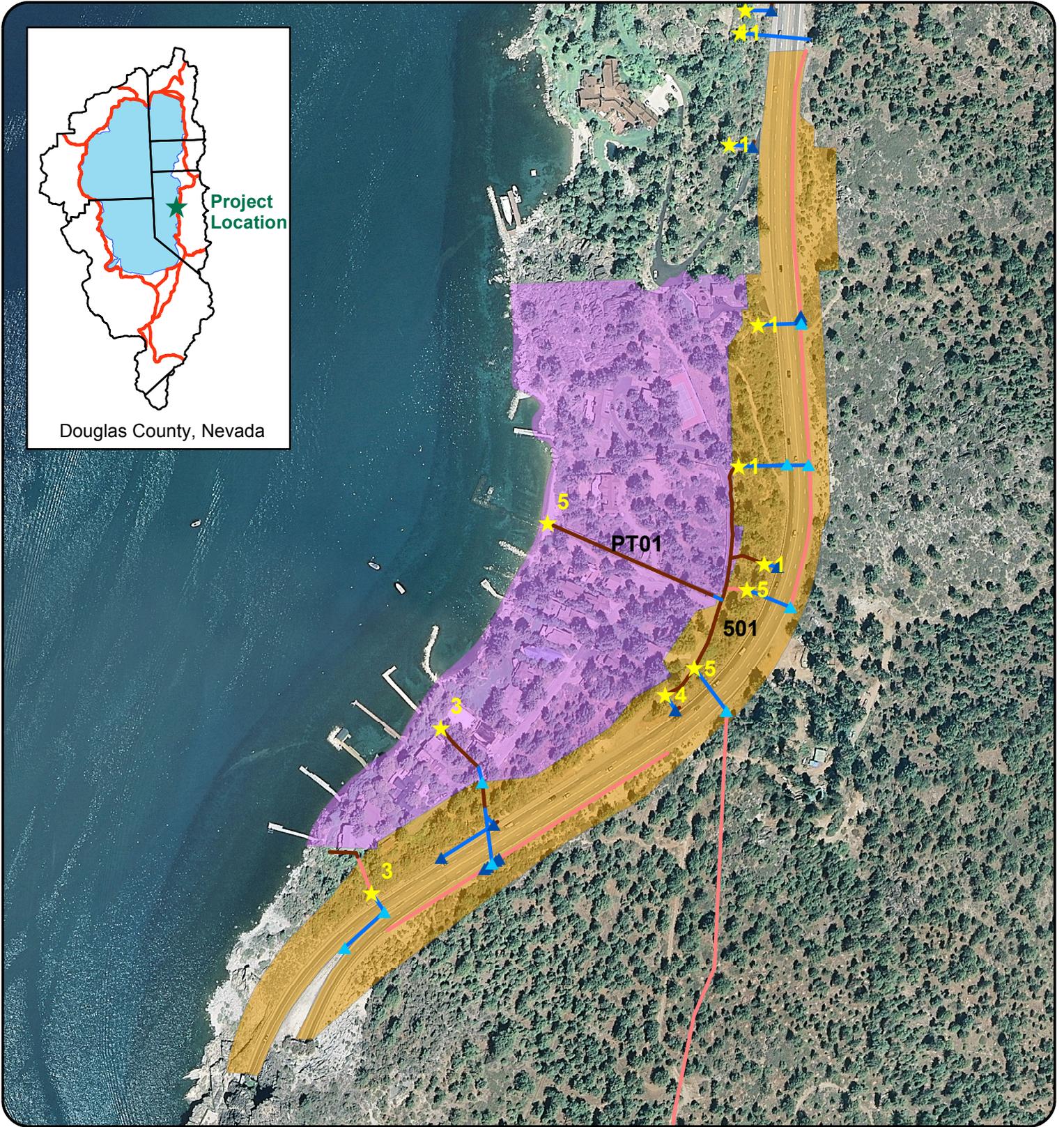
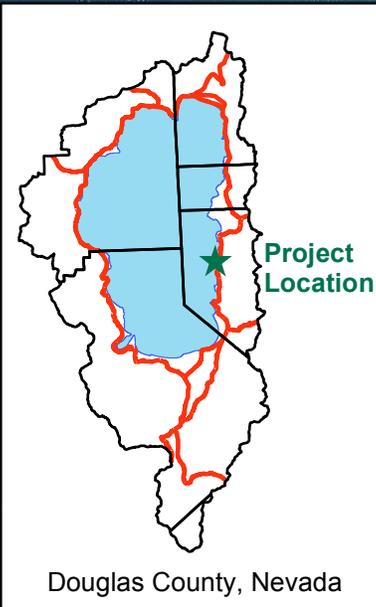
Lake Tahoe Restoration Act Accordance

Once constructed, this project will meet the following purposes of the *"Lake Tahoe Restoration Act"*:

1. Make annual payments to governing bodies for erosion control and water quality. This grant is being requested by NTCDC for other proponents like Douglas County and NDOT. The County and NDOT are extensions of Nevada governance. The funds will be used for erosion control and water quality;
2. Governing body (political sub-division) will submit priority list annually to be eligible. Douglas County and NDOT have submitted this list and are therefore eligible;
3. Implement projects that are a part of TRPA's EIP program and meets TRPA's thresholds. This project is a numbered EIP for TRPA. The thresholds met are provided above;
4. Reduce the threat to the Lake by land use and transportation;
5. Inhibit the loss of clarity of the Lake; and
6. Reduce the transport of FSP, N and P to the Lake.

All of the above-mentioned purposes are met by the Pittman Terrace Water Quality Improvement Project. These actions are consistent with the grant program guidelines by proposing a project all the way through construction. The Project is on the list of priority projects and is an implementable project.

ATTACHMENT A – Existing Stormwater Infrastructure Map



- Drainage Inlet
- Sediment Trap
- Outfall (Ocrum Score)
- Conveyance Pipe
- Conveyance Ditch
- Flow Path

- Catchments**
- NDOT 501
 - DC Pittman Terrace

**Pittman Terrace WQIP
Existing Stormwater Infrastructure**



UTM Zone 10N	NAD 83	horiz. units: meter
Prepared by NTCD		August 2015



ATTACHMENT B – Water Quality Problem Areas Map

No Stormwater Treatment For Runoff in either Conveyance System

Project Location

Directly Connected Stormwater Outfall

Directly Connected Stormwater Outfall OCRAM Score should be 5

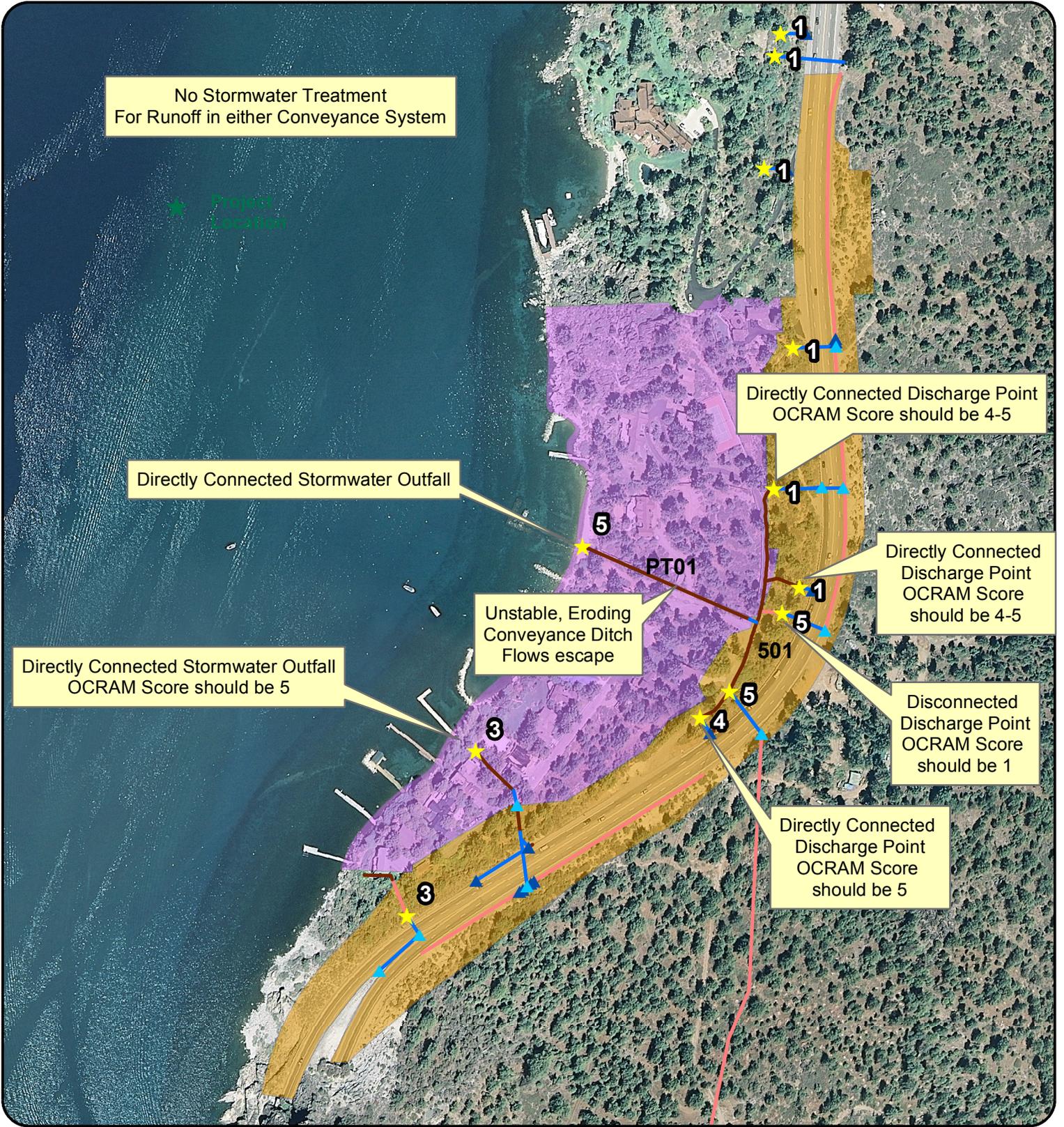
Unstable, Eroding Conveyance Ditch Flows escape

Directly Connected Discharge Point OCRAM Score should be 4-5

Directly Connected Discharge Point OCRAM Score should be 4-5

Disconnected Discharge Point OCRAM Score should be 1

Directly Connected Discharge Point OCRAM Score should be 5

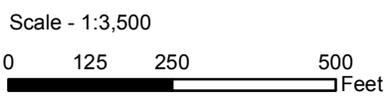


- ▲ Drainage Inlet
- ▲ Sediment Trap
- ★ Outfall (Ocram Score)
- Conveyance Pipe
- Conveyance Ditch
- Flow Path

Catchments

- NDOT 501
- DC Pittman Terrace

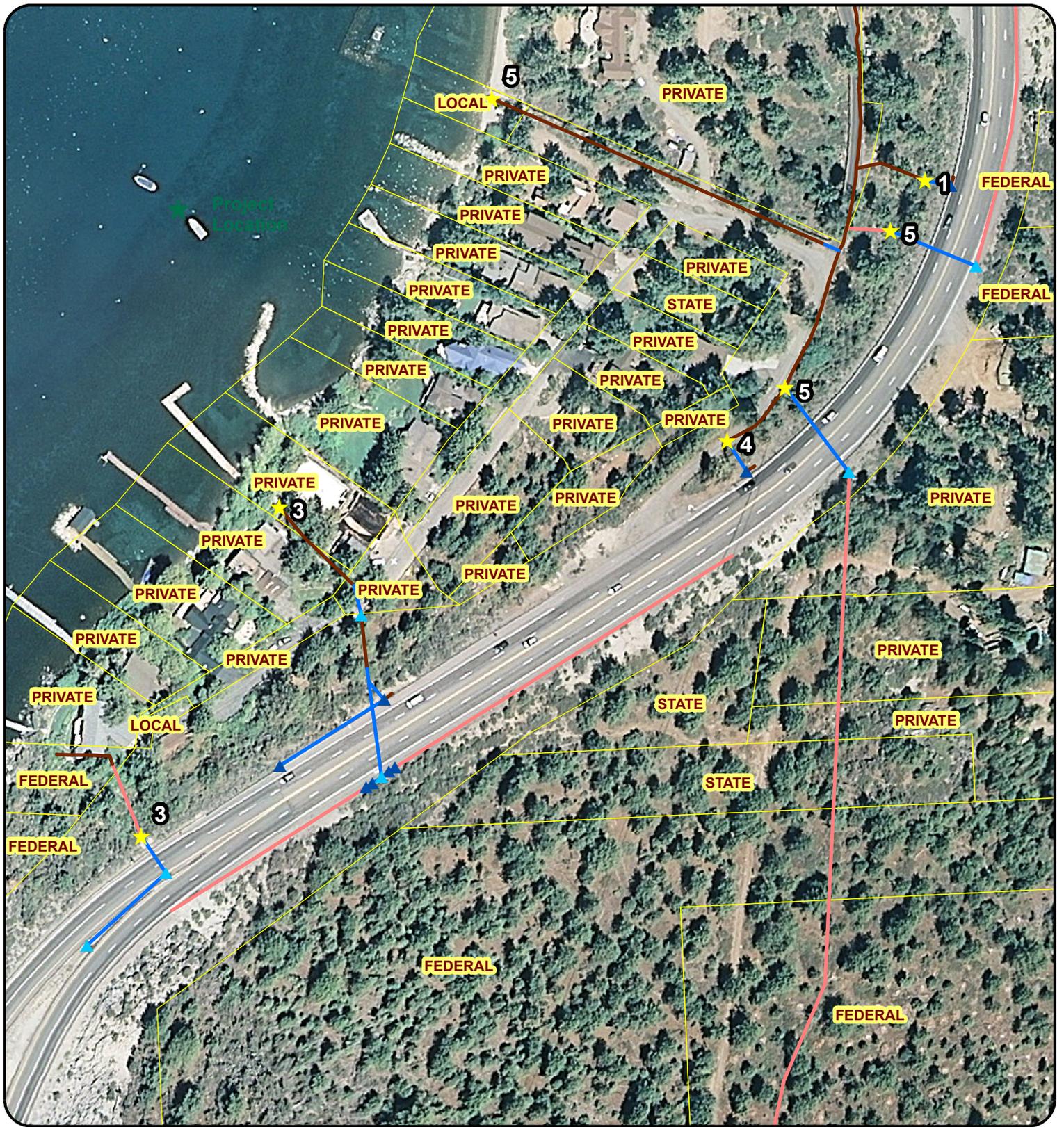
**Pittman Terrace WQIP
Water Quality Problem Areas**



UTM Zone 10N	NAD 83	horiz. units: meter
Prepared by NTCD		November 2015



ATTACHMENT C – Land Ownership Map



- ▲ Drainage Inlet
- ▲ Sediment Trap
- ★ Outfall (Ocrum Score)
- Conveyance Pipe
- Conveyance Ditch
- Flow Path
- Parcels

Pittman Terrace WQIP Land Ownership

Scale - 1:1,750
 0 62.5 125 250
 Feet



UTM Zone 10N	NAD 83	horiz. units: meter
Prepared by NTCD		November 2015

ATTACHMENT D—Letters of Support



COMMUNITY DEVELOPMENT

1594 Esmeralda Avenue, Minden, Nevada 89423

Erik Nilssen, P.E.
COUNTY ENGINEER

775-782-9063
CELL: 775-790-7975 • FAX: 775-782-6297
website: www.douglascountynv.gov

Planning Division
Engineering Division
Building Division
Code Enforcement

November 6, 2015

Holly Holwager
Nevada Division of State Lands
901 S. Stewart St., Ste 5003
Carson City, Nevada 89701

RE: Support for Pittman Terrace Water Quality Improvement Project NDSL Water Quality and Erosion Control Grant Proposal

Dear Ms. Holwager:

I would like to express Douglas County support for the Pittman Terrace Water Quality Improvement Project. With the Pittman Terrace Homeowners preparing to repave their roads next year, the timing is right for a joint project to improve the water quality of both Highway 50 and Pittman Terrace. Pittman Terrace consists of lightly used residential roads and does not produce enough pollutants to help the County achieve our TMDL milestones. I understand that the proposed project will reduce pollutants to aid NDOT in achieving their TMDL milestones. For this reason, the County does not anticipate a financial contribution to the project, but does recognize and support the project as a benefit to Lake Tahoe and NDOT with regards to pollutant reduction. Douglas County will play a role in the project as a permit issuing agency.

Partnering with Nevada Tahoe Conservation District, Pittman Terrace Homeowners, and Nevada Department of Transportation on this project allows for coordination and cooperation among the various project stakeholders. Douglas County looks forward to once again collaborating with NTCD on the implementation of this project.

Sincerely,

Erik Nilssen

November 6, 2015

Holly Holwager
Nevada Division of State Lands
901 S. Stewart St., Ste 5003
Carson City, Nevada 89701

RE: Support for Pittman Terrace Water Quality Improvement Project NDSL Water Quality and Erosion Control Grant Proposal

Dear Ms. Holwager:

The Pittman Terrace Homeowners are pleased to express support for the Pittman Terrace Water Quality Improvement Project. As we prepare to repave our roads next year, implementing a water quality improvement project is perfectly timed and much anticipated. Benefits to the Homeowners from this project include upgraded stormwater infrastructure and a decrease in the amount of stormwater runoff conveyed through the neighborhood resulting in a reduction of pollutants reaching Lake Tahoe.

Partnering with Nevada Tahoe Conservation District, Nevada Department of Transportation, and Douglas County on this project also allows for coordination and cooperation among the various project stakeholders. The Pittman Terrace Homeowners are committed to participate, coordinate and potentially provide a financial contribution of non-federal monies or in-kind match toward the implementation of this project.

Regards,


Pittman Terrace Homeowners

1444 PITTMAN TERRACE
GLENBROOK NV 89413

September 9, 2015

Birgit Widegren
Nevada Division of Environmental Protection
901 S. Stewart St., Ste 4001
Carson City, Nevada 89701

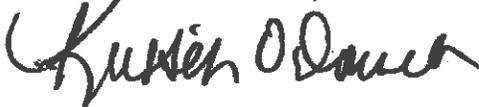
RE: Support for Pittman Terrace Water Quality Improvement Project NDEP 319(h) Grant Proposal

Dear Ms. Widegren:

The Pittman Terrace Homeowners are pleased to express support for the Pittman Terrace Water Quality Improvement Project. As we prepare to repave our roads next year, implementing a water quality improvement project is perfectly timed and much anticipated. Benefits to the Homeowners from this project include upgraded stormwater infrastructure and a decrease in the amount of stormwater runoff conveyed through the neighborhood resulting in a reduction of pollutants reaching Lake Tahoe.

Partnering with Nevada Tahoe Conservation District, Nevada Department of Transportation, and Douglas County on this project also allows for coordination and cooperation among the various project stakeholders. The Pittman Terrace Homeowners are committed to participate, coordinate and potentially provide a financial contribution of non-federal monies or in-kind match toward the implementation of this project.

Regards,



Pittman Terrace Homeowners

September 14, 2015

Birgit Widegren
Nevada Division of Environmental Protection
901 S. Stewart St., Ste 4001
Carson City, Nevada 89701

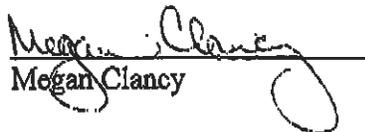
RE: Support for Pittman Terrace Water Quality Improvement Project NDEP 319(h) Grant Proposal

Dear Ms. Widegren:

The Pittman Terrace Homeowners are pleased to express support for the Pittman Terrace Water Quality Improvement Project. As we prepare to repave our roads next year, implementing a water quality improvement project is perfectly timed and much anticipated. Benefits to the Homeowners from this project include upgraded stormwater infrastructure and a decrease in the amount of stormwater runoff conveyed through the neighborhood resulting in a reduction of pollutants reaching Lake Tahoe.

Partnering with Nevada Tahoe Conservation District, Nevada Department of Transportation, and Douglas County on this project also allows for coordination and cooperation among the various project stakeholders. The Pittman Terrace Homeowners are committed to participate, coordinate and potentially provide a financial contribution of non-federal monies or in-kind match toward the implementation of this project.

Regards,


Megan Clancy


Joseph Pohl

Pittman Terrace Homeowners



STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION
1263 S. Stewart Street
Carson City, Nevada 89712

BRIAN SANDOVAL
Governor

RUDY MALFABON, P.E., *Director*

In Reply Refer to:

November 10, 2015

Holly Holwager
Nevada Division of State Lands
901 S. Stewart St., Suite 5003
Carson City, Nevada 89701

RE: Support for Pittman Terrace Water Quality Improvement Project NDSL Water Quality and Erosion Control Grant Proposal

Dear Ms. Holwager:

The Nevada Department of Transportation (NDOT) is pleased to express support for the Pittman Terrace Water Quality Improvement Project. Benefits to the Department from this project include, a significant decrease in the amount of stormwater runoff and pollutants reaching Lake Tahoe, which are currently conveyed through existing non-stabilized conveyance structures from the Highway 50 right-of-way. Preliminary estimates of up to 31 Lake Clarity Credits can be achieved through this project. Because of the potential load reduction, this project is a high priority in Douglas County for NDOT.

Partnering with Nevada Tahoe Conservation District, Pittman Terrace Homeowners, and Douglas County on this project also allows for coordination and cooperation among the various project stakeholders. NDOT is committed to participate with staff resources and a financial contribution of non-federal monies toward the implementation of this project.

Best Regards,

A handwritten signature in blue ink, appearing to read "Matthew L. Nussbaumer".

Matthew L. Nussbaumer, P.E.
Principal Hydraulic Engineer

c: Jason Brand, NTCD Project and District Manager (email copy)

ATTACHMENT E—Assurances



PO Box 915
400 Dorla Court
Zephyr Cove, NV 89448
Phone (775) 586-1610
Fax (775) 586-1612
www.ntcd.org

November 10, 2015

Holly Holwager
Nevada Division of State Lands
901 S. Stewart St. Suite 5003
Carson City, NV 89701-5246

Re: Assurances Document for Pittman Terrace Water Quality Improvement Project

Dear Ms. Holwager,

This letter is to address the Assurances document required for the Nevada Division of State Lands (NDSL) Lake Tahoe Water Quality Grant Program. The Nevada Tahoe Conservation District (NTCD) is planning to address the document at the next regularly scheduled Board Meeting. Before the NTCD Board can sign the document, NTCD needs commitments from the Nevada Department of Transportation (NDOT) and/or Douglas County taking responsibility for maintenance of the project for the minimum of 20 years. These commitments will likely be in form of an MOU between NTCD and NDOT/Douglas County.

Once the NTCD Board acts on the Assurances Document, we plan to submit signed documents to NDSL.

If you have any further questions about the Pittman Terrace Water Quality Improvement Project or this letter, please call or email.

Sincerely,

A handwritten signature in blue ink, appearing to read "Michael Pook", is written over a white background.

Michael Pook
Environmental Scientist
Nevada Tahoe Conservation District

ASSURANCES

State of Nevada, Division of State Lands Lake Tahoe Water Quality Grant Program

The Applicant hereby assures and certifies that they will comply with the regulations, policies, guidelines and requirements of the Division of State Lands (the "DIVISION"). Also, the Applicant gives assurance and certifies with respect to the grant that:

- A. The Applicant possesses legal authority to apply for the grant, along with the ability to finance and construct the proposed facilities.
- B. The Applicant gives assurance that a resolution, motion, statute, authority or similar action has been duly adopted or passed as an official act of the applicant's governing body, authorizing the filing of the application, including all understandings and assurances contained therein, and directing and authorizing the person identified as the official representative of the applicant to act in connection with the application and to provide such additional information as may be required.
- C. The Applicant will have sufficient funds available to meet the non-Bond Act share of the costs (match) with the understanding that Grant payments are on a reimbursement basis only. The non-Bond Act share of costs claimed as match will be documented to the same standards as expenditures reimbursed by Bond-Act funds.
- D. The Applicant will have sufficient funds available when construction is completed to assure effective operation and maintenance of the facilities for at least 20 (twenty) years after project completion for the purposes constructed. The Applicant will not dispose of or encumber its title or other interests in the site and facilities for 20 years without state approval. The applicant will maintain the project and associated infrastructure for a minimum of 20 years.
- E. To the fullest extent permitted by law, the applicant will agree to indemnify, hold harmless and defend the State of Nevada, its officers, employees, agents and invitees from and against all liabilities, claims, actions, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of any alleged negligent or willful acts or omissions of the Applicant, its officers, employees and agents.
- F. The Applicant will furnish progress reports and such other information as the DIVISION may require. At a minimum the DIVISION and the Nevada Tahoe Conservation District (the "DISTRICT") will be notified and given the opportunity to review the project design and construction at multiple project milestones:
 - Project Initiation after grant award
 - Completion of 25, 50, and 90 percent of the Project design
 - Final design prior to advertisement and award of contract
 - Preconstruction Meeting

- Completion of 25, 50 and 75% of construction
 - Project completion prior to release of contractor
- G. The Applicant will provide and maintain competent and adequate engineering supervision and inspection at the construction site to insure that completed work conforms to the approved plans and specifications.
- H. The Applicant will operate and maintain the work done in accordance with the minimum standards as may be required or prescribed by the applicable state and local agencies.
- I. The Applicant will obtain all permits, easements and other private and governmental agency approvals required for the project prior to the commencement of construction.
- J. The Applicant must receive notice to proceed from the DIVISION prior to advertisement of bids and commencement of construction.
- K. The Applicant will give the DIVISION or its designate, access to and the right to audit project records.
- L. The Applicant will cause work on the project to be commenced within a reasonable time after receipt of notification from the approving state agency that funds have been approved and that the project will be prosecuted to completion with reasonable diligence.
- M. The Applicant will comply with Title IV of the Civil Rights Act of 1964 (P. O. 88-352).
- N. The Applicant will establish safeguards to prohibit employees from using their positions for a purpose that is or gives the appearance of being motivated by a desire for private gain for themselves or others, particularly those with whom they have family, business, or other ties.
- O. The Applicant will comply with the provisions of the Hatch Act which limit the political activity of employees.
- P. The applicant understands that competitive opening bidding is required as outlined in Nevada Revised Statutes Chapter 338.

Name Glen Smith

Signature _____ Date: XX MONTH 20XX

BOARD RESOLUTION

Resolution of the *Nevada Tahoe Conservation District* approving the application for State of Nevada Lake Tahoe Water Quality and Stream Environment Zone Grant Funds.

Project: Pittman Terrace Water Quality Improvement Project

WHEREAS, the *Nevada Tahoe Conservation District* is submitting an application to the Division of State Lands (the “Division”) for financial assistance; and,

WHEREAS, the Nevada Tahoe Conservation District has been assigned to assist the administration of the program and development of procedures governing the program; and,

WHEREAS, the adopted procedures established by the Division require that the applicant must certify by resolution the approval of proposed project, application, including all understanding and assurances contained therein, and availability of matching funds prior to submission of said applications to the Division.

NOW THEREFORE, BE IT RESOLVED that the proposed *Pittman Terrace Water Quality Improvement Project* is approved for implementation;

BE IT FURTHER RESOLVED that the *District* does hereby certify that said agency can finance 100% of their share of the project.

BE IT FURTHER RESOLVED that the *District* does hereby appoint *Jason Brand* as agent of the *District Board* to conduct all negotiations, execute and submit all documents including applications, agreements, billing statements, and so on which may be necessary for the completion of the above project.

Introduced, passed and approved **this XXth day of MONTH 20XX.**

Glen Smith

Chairman

Title

Attest:

Name

Title