

County of Placer

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# Tahoe Basin Stormwater Management Plan Program Years 2012-2016

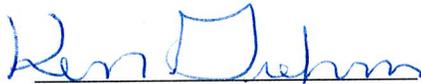


Prepared for Regional Water Quality Control Board, Lahontan  
Municipal Stormwater Program  
Permit No. CAG616001 & Board Order No. R6T-2011-0101A1

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October 1, 2013

**Certification:**

*I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*



Signature



Date Signed

Ken Grehm

Name (Printed)

Public Works Director

Title

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## **CHAPTER 1. INTRODUCTION**

### **Purpose**

The Placer County Tahoe Basin Stormwater Management Plan (“SWMP” or “Plan”) describes the Placer County stormwater quality improvement program to be implemented in compliance with the National Pollutant Discharge Elimination System (NPDES) Phase I Municipal Permit No. CAG616001 Lahontan Regional Water Quality Control Board Order No. R6T-2011-0101A1 (“Permit”), for the Lake Tahoe Basin. The Permit requires Placer County to submit a stormwater management plan which details the planned actions by the County for meeting the Permit requirements by October 1, 2013.

The SWMP proposes activities and goals for the program years 2012-2016, and includes information to provide readers with an understanding of the program history and the status of Placer County stormwater management activities in the Tahoe Basin. The Plan’s intention is to communicate the required commitment to each of the planned actions, outline the intended results, and guide staff towards desired outcomes. Details of program achievements will be provided in the annual reports required by the NPDES permit. New information developed subsequent to adoption of the Plan will be provided with annual reports. Revisions to the Plan are not anticipated prior to renewal of the NPDES permit in 2016, unless significant issues obligate substantial updating.

### **Plan Organization**

This Plan is organized into six chapters:

**Chapter 1, Introduction:** Describes the purpose and organization of the Plan.

**Chapter 2, Program Overview and History:** Presents a stormwater quality program overview, including a discussion of the permit area and history, program organization, regulatory setting, integration with Placer County’s NPDES Phase II permits, pollutants present in Lake Tahoe, relationship with El Dorado County and the City of South Lake Tahoe, and a summary of stormwater quality improvement program accomplishments to date.

**Chapter 3, Program Management:** Describes program management, including goals, priorities, exclusions, intra-agency coordination, inter-agency coordination, Placer County organization, departments and responsibilities, County facilities within the Tahoe Basin, and annual planning and reporting activities.

**Chapter 4, Legal Authority:** Describes Placer County’s existing legal authority to implement the stormwater quality program.

Chapter 5, Program Implementation: This is the core of the Plan, describing implementation of program activities, and addressing the program elements as described in Permit Section III. Each SWMP section describes proposed tasks, activities and measurable goals to address the elements of the permit Section III, and a table that summarizes the tasks, the implementing department(s), timing, and activities. In addition, Permit Section IV, Lake Tahoe Total Maximum Daily Load (TMDL) Implementation-Pollutant Load Reduction Requirements and Section V, Receiving Water Limitations are described in SWMP Chapters 6 and 7 respectively.

Chapter 6, Pollutant Load Reduction Plan (PLRP): Explains the compliance requirements of the TMDL and how the County will meet the reduction of pollutants, specifically fine sediment, phosphorous, and nitrogen

Chapter 7, Receiving Water Limitations: Explains the compliance requirements of timely implementation of control measures and other actions necessary to reduce pollutants in discharges.

Chapter 8, Water Quality Monitoring Requirements: Describes the program for water quality monitoring being completed at a regional level.

Chapter 9, Monitoring and Reporting: Describes the information to be tracked and reported to the Lahontan Regional Water Quality Control Board (LRWQCB) with the annual reports. Also included is a chart detailing time schedule and implementation milestones

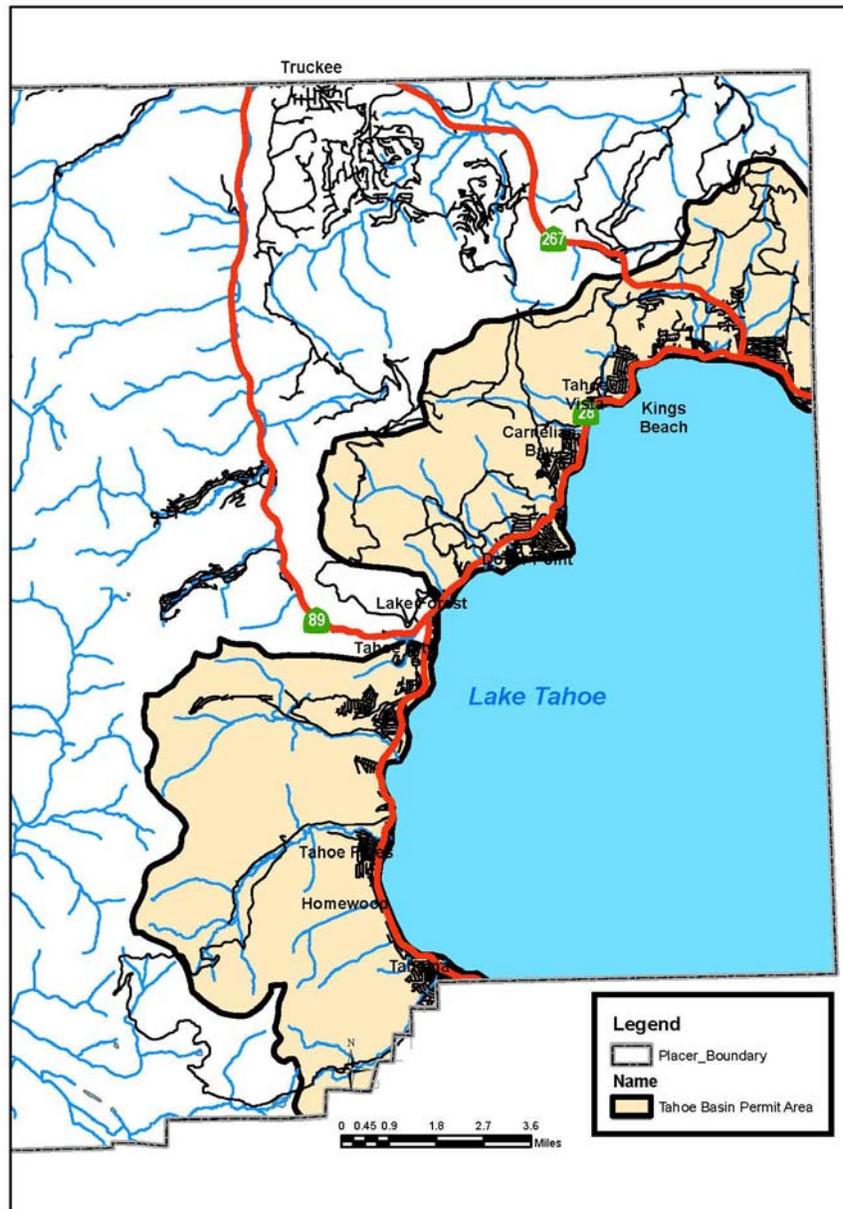
## **CHAPTER 2. PROGRAM OVERVIEW AND HISTORY**

### Permit Area

The Phase I permit area includes the Placer County portion of the Lake Tahoe watershed area as shown in Figure 2-1

### **Placer County Tahoe Basin**

#### Phase I Permit Area



## Program Outline

The Placer County Tahoe Basin stormwater quality improvement program has been developed to address the necessary program components per Permit Section III.B (1-8), as well as Sections IV and V. The following nomenclature is used in the Placer County program to identify each component of the program:

- 5-A Construction (Sect III.B.1)
- 5-B Commercial, Industrial, Municipal and Residential (Sect III.B.2)
- 5-C Storm Water Facilities Inspection (Sect III.B.3)
- 5-D Illicit Discharge Detection & Elimination (Sect III.B.4)
- 5-E New Development and Redevelopment (Sect III.B.5)
- 5-F Public Education (Sect III.B.6)
- 5-G Municipal Personnel Training and Education (Sect III.B.7)
- 5-H Fiscal Analysis (Sect III.B.8)
- 5-I TMDL Pollutant Load Reduction Requirements (Sect IV)

Each of the program components contain multiple tasks, as detailed in Chapter 5.

## Regulatory Setting

Placer County's Current Tahoe Phase I Permit was issued on October 10, 2012 by the California Regional Water Quality Control Board, Lahontan Region (LRWQCB), the State agency responsible for the protection of water quality within the Lahontan region, which extends from the Oregon border to the northern Mojave Desert and includes all of California east of the Sierra Nevada crest, including the California portion of the Tahoe Basin. The LRWQCB answers to the State Water Resources Control Board, which sets statewide policy for the implementation of state and federal laws and regulations.

The Tahoe Phase 1 permit area is also within the jurisdiction of the Tahoe Regional Planning Agency (TRPA). TRPA is a unique bi-state regional environmental planning agency charged with protecting the environment of the Tahoe Basin for the benefit of current and future generations. The TRPA oversees all development and environmental improvement projects in the Tahoe Basin, and issues construction permits for private and public works projects. TRPA is also a participating agency with a key role in the development and implementation of the Environmental Improvement Program (EIP), a plan to preserve, restore and enhance the unique natural and human environment of the Lake Tahoe Region. The EIP program defines restoration needs for attaining environmental goals or thresholds. There are nine identified threshold categories, including water quality. Through the EIP, many water quality improvement

projects have been constructed Basin-wide to improve the quality of stormwater runoff and help attain this threshold.

### Permit History

Lake Tahoe was first designated as an "Outstanding Natural Resource Water" (ONRW) by the State Water Resources Control Board in 1980. The ONRWs are subject to a non-degradation objective, the highest level of protection under the Federal Clean Water Act. In 1984, the LRWQCB issued Order 6-85-F6, establishing waste discharge requirements for Placer County. In 1987, TRPA issued a Regional Plan, including the Water Quality Management Plan (the "208 Plan"). The NPDES Phase I stormwater regulations were issued nationwide in 1990; in 1992, the LRWQCB issued Board Order 6-92-02, which rescinded the waste discharge requirements and established the Phase I permit.

Prior to issuance of this Permit, storm water discharges from the City of South Lake Tahoe, El Dorado County, and Placer County were covered under Order No. R6T-2005-0026, adopted by the Water Board on October 12, 2005 and expired in March 2010. The updated permit adopted October 10, 2012 is Order No. R6T-2001-101A1 and NPDES Permit No. CAG616001.

### Integration with the West Placer County and Truckee River Phase II Permits

Western Placer County and the Truckee River Watershed area of the County were designated for permit coverage under Phase II of the NPDES Municipal Stormwater Program for small municipalities (MS4s) in 2003 and 2007, respectively. On February 5, 2013, the State Water Board approved an updated Phase II Statewide General Municipal permit. The unincorporated urbanized areas of western Placer County and the Truckee River Watershed are permitted under this revised order No. 2013-0001-DWQ.

By necessity the western Placer County, Truckee, and Tahoe Basin programs share some elements and resources; however, there are substantial enough differences between the Phase I and Phase II permits, physical environments, and regulatory requirements that the programs must be considered separately.

### Pollutants of Concern

Lake Tahoe is an alpine lake situated on the California-Nevada border. Section 303(d) of the Clean Water Act requires states to compile a list of impaired water bodies that do not meet water quality standards. The Clean Water Act also requires states to establish total maximum daily loads (TMDLs) for such waters. The deep water transparency standard for Lake Tahoe has not been met since the standard was adoption in 1975. The ongoing decline in Lake Tahoe's deep water transparency is a result of light scatter from fine sediment particles

(primarily particles less than 16 micrometers in diameter) and light absorption by phytoplankton. The addition of nitrogen and phosphorus to Lake Tahoe contributes to phytoplankton growth. Fine sediment particles are the most dominant pollutant contributing to the impairment of the lake's deep water transparency. Because these three pollutants are responsible for Lake Tahoe's deep water transparency loss, Lake Tahoe is listed under Section 303(d) as impaired by input of nitrogen, phosphorus, and sediment. The goal of the Lake Tahoe TMDL is to set forth a plan to restore Lake Tahoe's historic deep water transparency.

The Lake Tahoe TMDLs identified options for reducing pollutant inputs to Lake Tahoe from the four largest pollutant sources: urban upland runoff, atmospheric deposition, forested upland runoff, and stream channel erosion.

Implementation actions are required to achieve needed load reductions from each of the four major pollutant source categories. The Lake Tahoe TMDL implementation plan emphasizes ongoing implementation of known technologies while encouraging more advanced and innovative operations, maintenance, and capital improvement efforts to address urban stormwater pollution. Ongoing land management practices and policies are expected to achieve necessary fine sediment particle, nitrogen, and phosphorus load reductions from forested areas. Stream restoration projects will address stream channel bank and bed erosion sources. Measures to reduce dust from paved and unpaved roadways, parking areas, construction sites, and other disturbed lands will reduce fine sediment particle and phosphorus loading from the atmosphere.

The County's Lake Tahoe stormwater quality program is designed primarily to reduce fine sediment, nitrogen, and phosphorus in wet weather stormwater flows and to reduce non-stormwater discharges in general.

### Monitoring Requirements

Permit Attachment C, Section III, Water Quality Monitoring Requirements, stipulates that Placer County must conduct monitoring to measure best management practice effectiveness and outfall water quality conditions. To satisfy these requirements, the County is participating in the collaborative monitoring group, which includes all of Lake Tahoe jurisdictions, effort known as the Regional Stormwater Monitoring Program (RSWMP). As described in the Implementers' Monitoring Plan (Appendix A), the Tahoe Resource Conservation District will conduct monitoring, analysis, and prepare annual monitoring reports on behalf of the implementing jurisdictions.

## Relationship with El Dorado and South Lake Tahoe

Placer County, El Dorado County, and the City of South Lake Tahoe share a common Phase I permit promulgated by the LRWQCB. Although each agency operates its program independently from the others, personnel from the three jurisdictions regularly interact to coordinate common program elements and needs. Additional information regarding coordination activities is available in Chapter 3, Program Management. In addition to the Tahoe Basin Permit, Placer County is also subject to NPDES Phase II permits for portions of the western county area and the Truckee River watershed. Appendix B includes a map of all permits areas.

## Summary of Past Accomplishments

Since LRWQCB waste discharge requirements were established in 1984, Placer County has completed numerous water quality projects and participated in many activities with the goal of helping to improve the quality of stormwater runoff. From 1984 to 2012, 64 water quality improvement projects were constructed throughout the County's Tahoe permit area. Currently, there are six new water quality improvement projects planned for construction between 2013 and 2016.

Placer County has been committed, and will continue its commitment, to water quality improvement in the Tahoe Basin as evidenced by completed and planned water quality improvement projects. In addition to the County has been diligent in performing activities detailed in their stormwater management plan since 2006. Activities include:

- **Public Education and Outreach:** Provided through educational materials, activities and training events. Brochures are available through the County website and at the County libraries, materials are distributed through mailings and as hand outs at public events and trainings. There are water quality messages posted in the Tahoe Area Transit Buses and a video feature presented on a continuing basis at the Tahoe City Transit Center. County staff also participates in community events focused on environmental impacts, such as stormwater and erosion control.
- **Construction and Post Construction:** The County requires best management practices (BMPs) be included during construction and grading activities. The County inspects and enforces BMP requirements. Post Construction measures are required through development approval processes to treat and eliminate stormwater runoff, and inspections are conducted at commercial and industrial facilities to address maintenance and housekeeping practices.

- **Illicit Discharge and Detection:** Commercial and Industrial sites are inspected on a regular basis to ensure compliance with the County Stormwater Quality Ordinance. The public can contact the Stormwater Quality program staff by email, phone or an online complaint to identify any noncompliant sites or potential violations. Complaints are responded to as they are received, often within the same day.
- **Municipal Operations:** The County municipal operations and facilities staff receive regular training and have implemented procedures to prevent water quality problems. Staff annually vector sediments from catch basins and regularly sweep roads after winter sanding activities. Staff track and quantify roadway abrasives use and recovery, and the County uses a preferred sand product to minimize contribution of pollutants of concern..
- **Monitoring:** To date, monitoring activities conducted by the County have typically included annual visual inspection of water quality improvement projects condition and BMP maintenance needs. However, some limited BMP effectiveness monitoring has also been conducted. .

### **CHAPTER 3. PROGRAM MANAGEMENT**

#### **Introduction**

The Phase I Permit contains requirements that inherently define management of the program, such as the need to prepare annual reports, administer construction projects in a defined manner, and prepare monitoring and inspection reports. Goals and priorities for program management are explained below.

#### **Management Goals**

The primary goals of the program are to achieve compliance with the Phase I Permit and meet specified TMDL requirements, which in turn are intended to comply with the Clean Water Act and other federal and state water quality regulations. This Plan outlines how Placer County approaches the stormwater quality program and guides staff toward these desired outcomes. The overall intent is to maintain a flexibly managed program that identifies and addresses local stormwater pollution prevention issues while responding to the needs of the communities and environment.

In order to achieve this primary goal, secondary goals for this permit term are as follows:

- Continue elevating public awareness of the effects of their activities upon water quality through public education

- Continue to promote staff effectiveness by providing training to all involved personnel
- Continue to promote business, industrial, and residential compliance with the stormwater quality program by offering workshops and other educational opportunities to audiences within the community
- Improving program strength by creating a stable funding plan

### Program Priorities

In the past, the emphasis of the Placer County stormwater quality program has been the construction of water quality improvement projects, including obtaining grant funding, project design, construction oversight, and monitoring after construction. The program, through the prior NPDES permit terms, has expanded to include construction, commercial, industrial and residential site controls, coupled with a facility inspection program. The County will continue to pursue water quality improvement projects to reduce the potential of fine sediment from reaching the lake. It will also focus on implementation of the PLRP, including maintenance and monitoring activities, to achieve TMDL goals.

The County will continue to provide training to Placer County personnel and targeted residential or business groups to influence behaviors that will reduce pollution potential and assist with program implementation. The County will also continue to enforce its Stormwater Quality Ordinance.

The implementation tasks selected to address each Plan component in Chapter 5 will consider the following criteria:

- Placer County resources
- Potential for successful execution
- Expected effect upon water quality
- Economic impact
- Adaptability to future program changes

### Exclusions

The Illicit Discharge Detection and Elimination component (Section 5-D) includes measures to control illicit discharges and improper disposal of wastes into stormwater. In the execution of this Plan element, Placer County will exclude the non-stormwater discharges that are not required to be addressed by the State, which include the following, but subject to limitation (See Permit Section I, Non-Storm Water Discharges):

1. Waterline flushing
2. Landscape irrigation
3. Diverted stream flows
4. Rising groundwater
5. Uncontaminated groundwater infiltration [as defined by 40 CFR35.2005(20)]
6. Uncontaminated pumped groundwater
7. Discharges from potable water sources
8. Fountain drains
9. Air conditioning condensation
10. Irrigation water
11. Springs
12. Water from crawl space pumps
13. Footing drains
14. Lawn watering
15. Individual residential car washing
16. Flows from riparian habitats and wetlands
17. Dechlorinated swimming pool and spa discharges

#### Inter-agency Coordination

Placer County regularly cooperates with or relies upon external agencies for completion or assistance with various stormwater program activities.

The Phase I permit is shared with the County of El Dorado and the City of South Lake Tahoe. The three co-permittees have established semi-annual coordination meetings to discuss matters of common concern. In addition to meeting regularly with LRWQCB staff via the 'NPDES coordination meetings', information is shared regularly among the jurisdictions through informal emails and telephone calls with staff members. In addition to the co-permittees, the County coordinates efforts with:

- Nevada Department of Transportation (NDOT)
- Tahoe Regional Planning Agency (TRPA)
- California Tahoe Conservancy (CTC)
- United States Forest Service (USFS)
- Lahontan Regional Water Quality Control Board (LRWQCB)
- Tahoe Resource Conservation District (TRCD)
- Stormwater Quality Improvement Committee (SWQIC)
- California Department of Transportation (Caltrans)
- Lake Tahoe Interagency Monitoring Program (LTIMP)
- Lake Tahoe Environmental Education Coalition (LTEEC)

#### Annual Planning and Reporting Activities

As required by the Phase I permit, an annual report detailing the previous year's stormwater quality program activities is regularly submitted to the LRWQCB. The

renewed Phase I permit cycle commenced on October 10, 2012. The permit cycle runs for five years, with the next renewal due in October, 2016. Reports are due annually on March 15<sup>th</sup> starting in 2014. Each annual report will detail information on program implementation for the previous calendar year.

Information to characterize the year's activities as well as progress on achieving TMDL goals will be collected by staff throughout the year and evaluated for each October 1 through September 30. The RSWMP Implementer's monitoring report will also be included in the annual report.

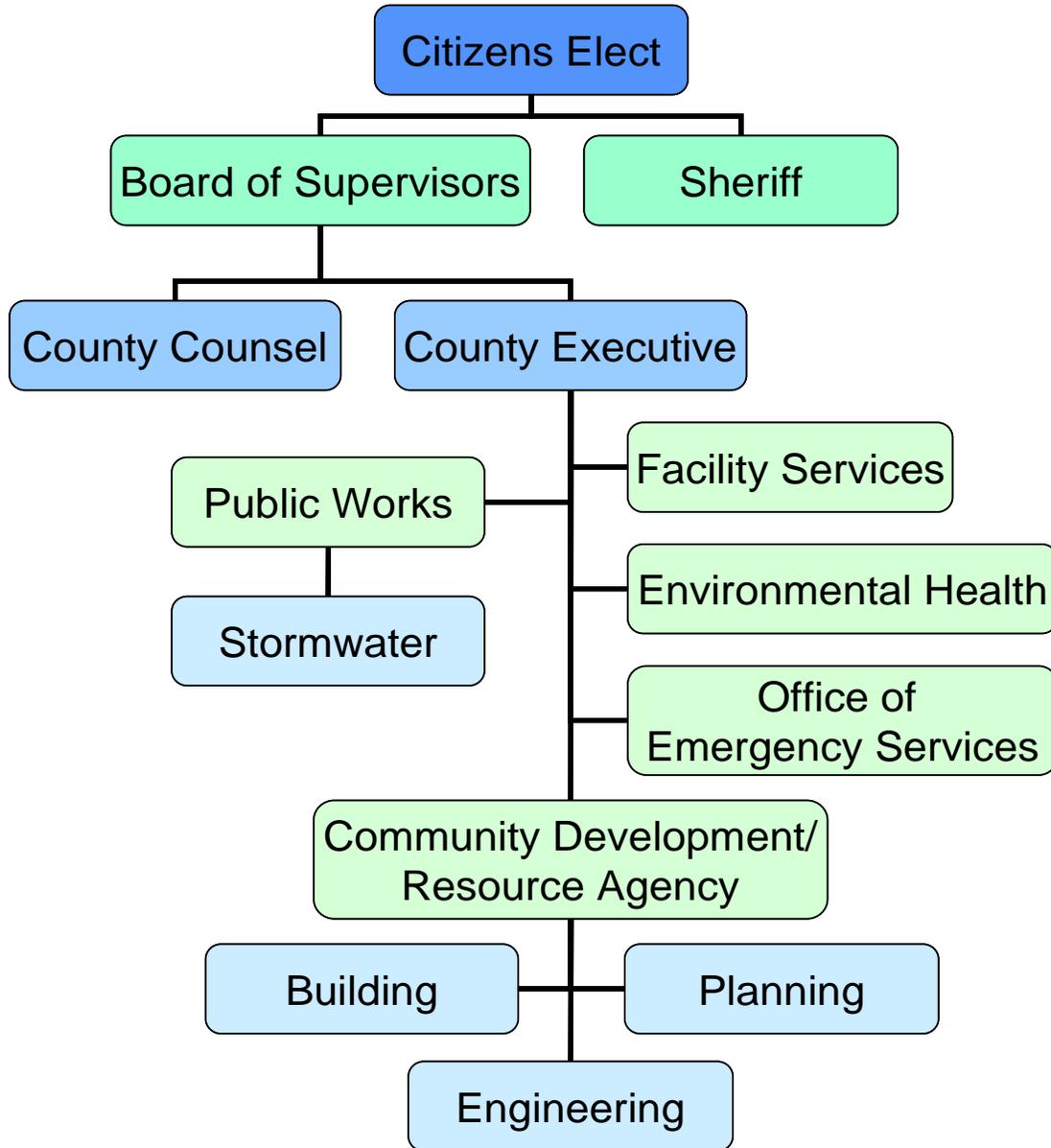
### Intra-agency Coordination

The Placer County stormwater quality program is put into action by personnel in multiple departments (or sections of departments) including:

- Public Works
- Community Development Resources Agency (CDRA) that includes Planning, Building, and Engineering Services Departments
- Environmental Health
- Air Pollution
- Office of Emergency Services
- Facility Services
- Sheriff
- County Executive Office
- County Counsel

The Public Works Department leads the overall program coordination and management with substantial assistance and input from other departments as depicted in this Plan. Consultants are used as needed for specialized technical tasks such as monitoring and some project design. The Community Development Resources Agency, or 'CDRA,' oversees all development-related functions and acts as the umbrella agency for the Building, Planning, and Engineering Land Development section, titled 'Engineering Services'. The Department of Public Works performs road maintenance, fleet management, traffic engineering, roadway capital improvements, water quality improvement projects, and the stormwater program. Departmental reporting relationships for purposes of the stormwater program are shown in Figure 3-1.

STORMWATER PROGRAM REPORTING RELATIONSHIPS  
FIGURE 3-1



Placer County has established an internal Stormwater Task Force made up of upper management representatives from participating departments. The task force is convened on an as-needed basis to meet and discuss stormwater quality program issues. Responsible program contacts are shown in Table 3-1 below.

Placer County Department Contacts  
Table 3-1

Department	Responsible Contact	Telephone
Facility Services	Director	(530) 886-4900
Community Development Resources Agency	Director	(530) 745-3197
Engineering Services	Director	(530) 745-3110
Public Works	Director	(530) 745-7500
Environmental Health	Client Services Director	(530) 745-2300
Building	Chief Building Official	(530) 745-3010
Planning	Director	(530) 745-3000
County Counsel	County Counsel	(530) 889-4044
County Executive	County Executive Officer	(530) 889-4030
Emergency Services	Deputy County Executive Officer	(530) 886-5300
Air Pollution Control	Air Pollution Control Officer	(530) 745-2330

The County Executive Office is responsible for oversight of all Placer County business and for maintaining communication with the Board of Supervisors.

The Community Development Resources Agency is the umbrella agency overseeing all development related functions, including Building, Planning and Engineering Services.

The Building Department is responsible for oversight of private structure construction and will assist with construction site stormwater compliance of private projects, particularly with residential construction. The Code Enforcement Section personnel investigate reports of noncompliance with land use policies and provide support for stormwater quality violations.

The Planning Department oversees the creation and implementation of land use policies, including general and area plans. The processing of development projects up to the point of approval are completed by the Planning Commission or other decision maker/making body.

The Engineering Services Department assists Planning with placing conditions on proposed projects, and processes development projects after approval including improvement plan checking, map review, and inspection services. Construction inspection personnel will assist with construction site stormwater compliance, particularly with commercial and industrial projects.

The Public Works Department coordinates the day-to-day activities and administration of the stormwater quality program with substantial assistance and input from other departments. The Public Works Department is responsible for public roadway maintenance, fleet management, traffic engineering functions, roadway capital improvement projects, water quality improvement projects, and stormwater program management.

The Facility Services Department is responsible for operation and maintenance of Placer County parks and County-owned buildings and grounds, including all non-roadway capital construction projects such as buildings and parks. Facility Services will assist the stormwater quality program by applying appropriate stormwater management principles to new Placer County building construction projects, parks management, and facility maintenance.

The Environmental Health Division of the Department of Health and Human Services is in charge of well and septic systems, food facility inspections, hazardous material business plans, kennels, and commercial pools. The Division assists with applying stormwater quality BMPs and in enforcement of stormwater quality requirements such as identifying, responding to, and mitigating illicit and non-stormwater discharges.

The Office of County Counsel assists with legal matters on an as-needed basis, including the development of legal authority documents and review of materials presented to the Board of Supervisors for approval.

The Office of Emergency Services is responsible for coordination of emergency response within Placer County, including hazardous materials spill response coordination by multiple agencies.

The Placer County Sheriff's Office has responsibility for administering the after-hours reporting line and for enforcement of illegal and criminal activity, within the scope of their responsibilities.

The Air Pollution Control District is a special district that enforces local, state and federal air pollution regulations. The District regulates air pollution from stationary sources of air pollution in Placer County, monitors air quality, works with the State and local agencies to maintain and improve air quality, and administers the burn day program.

As was shown in Figure 2-1, the stormwater quality program is applicable to that portion of Placer County situated within the Lake Tahoe watershed. Within this area Placer County owns, operates, and maintains a number of facilities. Table 3-2 shows County facilities within the permit area and each facility's functions. In addition, Table 3-2 shows the locations of other County facilities outside the Basin intricate to managing and implementing the Tahoe Basin SWMP.

Placer County Facilities in the Tahoe Basin  
Table 3-2

County Facility	Address	Department	Section	Services
Tahoe Office 775 North Lake Blvd., Tahoe City		Community Development Resources Agency		Reviews private development plans. Issues development permits Inspects private development construction.
		Planning	Land Use	Creates planning documents (general plan, community plans, and other policy documents). Provides planning information to public. Processes planning applications.
		Assessor		Maintains and provides property valuation information Completes property tax assessments.
		Auburn Code Enforcement	Code Enforcement	Investigates reports of land use and code violations.
		Health and Human Services	Environmental Health	Inspects food facilities. Inspects septic systems. Inspects public pool facilities. Manages hazardous materials program. Manages underground storage tank program.
		Building		Reviews building plans. Issues building permits. Inspects building permits.
Carnelian Bay Office	5225 North Lake Boulevard, Tahoe City	Child Support Services		Locates parents and collects child support payments.
		Health and Human Services	Various divisions	Provides various medical and mental health services, plus animal control, public health laboratories.
		Health and Human Services	Environmental Health	Inspects food facilities. Inspects septic systems. Inspects public pool facilities. Manages hazardous materials program. Manages underground storage tank program.

County Facility	Address	Department	Section	Services
Cabin Creek	870 Cabin Creek Road Truckee	Public Works	Road and Fleet Maintenance	Main road and fleet maintenance facility
Burton Creek	2501 North Lake Boulevard, Tahoe City	Public Works	Road Maintenance	Provides road maintenance support through materials and equipment staging.
		District Attorney		Superior Court and Tahoe City Court. Provides criminal justice system services.
		Sheriff		Provides law enforcement services.
Mental Health Services	2969 Lake Forest Road Suite 202, Tahoe City	Health and Human Services	Mental Health	Provides adult mental health and substance abuse services.
Community Clinic	8665 Salmon Avenue, Kings Beach	Health and Human Services		Provides outpatient medical, dental, and pharmacy care to adults and children.
Animal Shelter	849 Shelter Road, Tahoe Vista	Health and Human Services	Animal Control	Provides animal control services and maintains the animal shelter.
Library	301 Secline, Kings Beach	Library		Provides library services.
Library	740 North Lake Boulevard, Tahoe City	Library		Provides library services.
Stormwater	3091 County Center Drive, Auburn	Public Works	NPDES Division	Overall lead for Tahoe Basin stormwater program, delegating tasks to other departments and divisions of County, and clearinghouse for data and reports to be delivered to Lahontan as required by Tahoe SWMP.
Design & Engineering	7717 North Lake Blvd., Kings Beach	Public Works	Tahoe Engineering Division	Coordinates with NPDES Division – DPW personnel for implementation of delivering EIP erosion control projects, collection of stormwater outfall data, performing BMP monitoring and maintenance prioritizing, and facilitating other data collection for Tahoe SWMP.

## Budget and Staffing

Placer County dedicates 10 full-time staff positions in the Department of Public Works, Tahoe Engineering Division for water quality improvement projects: an Assistant Director, two Senior Engineers, one Associate Civil Engineer, three Assistant/Junior Engineers, two Engineering Technicians, and an Administrative Secretary.

The proposed 2013-14 Fiscal Year budget for the Tahoe Engineering Division of the Department of Public Works for EIP water quality projects and/or projects related to improving water and air quality is \$16.37 million in the Tahoe Basin. Of this, \$2.30 million is engineering design, project management and construction management by County labor, \$0.475 million is right-of-way acquisition cost, \$11.56 million is project contract construction, and \$1.54 million is design, permitting and construction management costs by professional consultants. A small portion of the 2013-14 Fiscal Year budget of the Tahoe Engineering staff labor is directly dedicated to NPDES compliance activities and field tasks associated with the Tahoe SWMP. These activities are mainly supported by TRPA mitigation funds, as well as Placer County's General Fund and Road Fund.

Through the large financial commitment to the EIP and water quality projects, Placer County continues to emphasize construction of water quality improvement projects as a high priority toward improving the overall quality of stormwater runoff and compliance with the adopted TMDL. It should be noted that through the planning of various water quality projects, field observations are made and data collected to support other Tahoe SWMP tasks as detailed in Chapter 5.

Water quality improvement projects are typically funded through grants from the USFS (which include funds from SNPLMA), CTC, and TRPA mitigation funds. Administrative overhead for water quality improvement projects is generally not eligible for grant reimbursement, and is therefore funded through Placer County's General Fund or Road Fund. Placer County DPW's Tahoe Road Maintenance Division also commits an estimated one full-time equivalent position on maintenance activities associated with stormwater quality facilities, which is funded by Road Funds.

Public Works personnel in Auburn, California, coordinate and manage the County's stormwater quality program. They include a Deputy Director, an Associate Engineer, Staff Services Analyst II, and an Engineering Technician. Personnel in other departments (see Figure 3-1) also assist the stormwater quality program with numerous un-quantified labor contributions to the Tahoe program.

A commitment to perform an annual fiscal analysis of the activities needed to support the Plan and to identify funding for ongoing Plan activities is contained in Section 5-H (Fiscal Analysis component).

## **CHAPTER 4. LEGAL AUTHORITY**

Placer County demonstrated adequate legal authority to enforce the provisions of the Phase I permit and this Plan through the legal authority statement provided to the Regional Board on March 15, 2013 (Appendix C). In addition to the authority provided by the Federal Clean Water Act and State Porter Cologne Water Quality Act controlling discharges of pollutants to waterways, there are a number of existing Placer County codes, ordinances, and policies that provide authority for enforcement of the Phase I permit requirements.

Enforcement is administered as described in Placer County's legal authority statement. The County Stormwater Quality Ordinance (Appendix D) includes an extensive section on enforcement actions, giving the County numerous administrative options with which to remedy violations. The County has authority under the Grading Ordinance (Appendix D) and other County Code sections to issue stop work notices, to deny future discretionary permits and to abate nuisance conditions.

The Stormwater Quality Ordinance states its purpose (Section 8.28.020) as:

*“Prohibiting illicit discharges to the storm drain system; Establishing authority to adopt requirements for stormwater management, including source control requirements, to reduce pollution to the Maximum Extent Practicable; Establishing authority to adopt requirements for development projects to reduce stormwater pollution and erosion both during construction and after the project is complete, and; Establishing authority that will enable the County to implement and enforce any stormwater management plan adopted by the County.”*

This ordinance is applied county-wide and allows for enforcement of pollutant discharges from residential, construction, industrial, and commercial sites. In addition it prohibits any illicit discharges and connections and gives the County authority to enter and inspect a site.

## **CHAPTER 5. PROGRAM IMPLEMENTATION**

### **General**

Chapter 5 depicts the task and subtask activities of each component of the stormwater quality program. For ease of orientation, the Plan components presented below are organized and titled to align with the October 2012 NPDES permit (Sections III, IV, V and Attachment C) issued by the LRWQCB. The components include:

- 5-A Construction (Permit Section III.B.1)
- 5-B Commercial, Industrial, Municipal and Residential (Permit Section III.B.2)
- 5-C Storm Water Facilities Inspection (Permit Section III.B.3)
- 5-D Illicit Discharge Detection & Elimination (IDDE) (Permit Section III.B.4)
- 5-E New Development and Redevelopment (Permit Section III.B.5)
- 5-F Public Education (Permit Section III.B.6)
- 5-G Municipal Personnel Training and Education (Permit Section III.B.7)
- 5-H Fiscal Analysis (Permit Section III.B.8)

The tasks for each Plan component are detailed in the following sections. Each includes an introductory statement, a description of current county practices and description of any proposed new actions or activities, and a table summarizing the performance practices. The tables provide the following for each performance practice:

- Performance Practices – Objectives to accomplish the task
- Type of Practice – Indicates if the activity is new, a continuation of current practices, or an enhancement on current practices
- Implementation Schedule – The time and frequency of the standard
- Implementing Responsibility - Identification of entity responsible for carrying out the Standard
- Measurable Goal - Measures to be used for determining completion/success of the task

Each component, where applicable, will include best management practices (BMPs) as specified in the Municipal Permit Section as noted.

### **5-A CONSTRUCTION COMPONENT**

The municipal permit Section III.B.1 requires that *“Each Permittee shall implement a Construction Component of its SWMP to reduce pollutants in runoff from construction sites that involve more than three cubic yards of soil disturbance during all construction phases. The SWMP shall include a description of procedures for identifying inspection priorities and enforcing control measures. At a minimum the construction component plan shall address the following:”*

This permit component requires the County to develop and implement a program to address construction sites disturbing more than three cubic yards of soil through the following control measures:

- Construction Site Inventory
- Construction Site Outreach
- Construction Site Prioritization and Inspection
- Construction Site Enforcement
- Oversight by Others

### **5-A(i) Construction Site Inventory**

The municipal permit Section III.B.1.a requires that “*Permittees shall develop and update, at least annually, a complete inventory of construction sites within its jurisdiction that involve more than three cubic yards of soil disturbance. This requirement is applicable to all construction sites regardless of whether the construction site is subject to the General Construction Permit (Order R6T-2011-0019)*”.

#### Current Practices

The County uses an automated permit tracking program known as PLUS to track project status, processing and approval information, including information concerning all construction and grading permits. All development-related permits are tracked through the County PLUS database. From this database the County is able to create a list of current construction sites. The County requires grading permits on all sites involving disturbance of more than three cubic yards of soil. The PLUS system is updated throughout the permitting and construction phases and reports can be automatically generated based on desired information. The construction site inventory is actively managed through the PLUS database as permits are issued and finalized. An updated inventory list will be provided with the 1<sup>st</sup> annual report due on March 15, 2014 and annually thereafter.

#### Proposed Activity

The County will continue to track and maintain a construction site and grading permit database for sites that disturb over three cubic yards of soil. These sites will also be mapped in GIS.

### **5-A(ii) Construction Site Outreach**

The permit Section III.B.1.b requires that “*Permittees shall conduct construction site outreach efforts that include, at a minimum, measures to educate construction site*

*operators about local ordinances and other regulatory requirements and applicable enforcement mechanisms prior to construction commencement.”*

### Current Practices

The County currently holds three to five construction/municipal training workshops each year at various locations. These include training for construction site operators, staff, contractors, developers, property owners, and other responsible parties. The training includes class room instruction as well as site visits for hands-on instruction. Additional details for the construction education program are described in Section 5-F (Education component) of this Plan. In addition, the County has informational materials about water quality protection requirements that are provided to all permit applicants, and provides relevant information on the County Stormwater Quality Web site at <http://www.placer.ca.gov/stormwater> (Appendix E). Target groups such as contractors and construction-related business owners have also been sent direct mailings for stormwater quality education (Appendix F). All construction sites that disturb more than three cubic yards of soil must obtain a county grading permit or construction plan approval. During the permitting process, best management practices for construction sites are evaluated, county standards are applied, and permittees are informed about site inspections and enforcement. The education process is continued throughout construction as inspections occur and any noted deficiencies are addressed.

### Proposed Activity

The County will continue to hold annual trainings and workshops (3-5 per year) for construction site operators, internal staff, and external parties.. In addition, the County will continue to provide printed educational materials (Appendix F) with each permit application and will maintain the stormwater quality web site. The County will continue to inspect and enforce construction site water quality requirements, which includes on-going contractor education as issues are discovered and corrected.

### **5-A(iii) Construction Site Prioritization and Inspection**

*The permit Section III.B.1.c requires that “Permittees shall develop a prioritization process for its watershed-based inventory (developed pursuant to III.B.1a above) by threat to water quality. Each construction site shall be classified as a high, medium, or low threat to water quality. In evaluating threat to water quality each Permittee should consider (1) the magnitude of fine sediment particle discharge potential; (2) site slope; (3) project size and type; (4) stage of construction; (5) proximity and connectivity to receiving water bodies; and (6) any other factors the Permittee deems relevant.*

*Each Permittee shall conduct construction site inspections for compliance with its ordinances (grading, storm water, etc.), permits (construction, grading, etc.), and discharge prohibitions contained in this Permit in accordance with Section II.B of the*

*Monitoring and Reporting Program (Attachment C). Inspections shall include review of site erosion control and BMP implementation plans. Inspection frequencies and priorities shall be determined by the threat to water quality prioritization.*

*During the construction season (May 1 through October 15 of each year), each Permittee shall inspect each high priority construction site and all construction projects overseen by the Permittee (e.g. erosion control and storm water treatment projects) at least once per week. Each Permittee shall inspect medium and low priority construction sites at a frequency sufficient to ensure that sediment and other pollutants are controlled and that unauthorized non-stormwater discharges are prevented.”*

### Current Practices

The County currently considers Improvement Plan Projects as high priority, as these are generally larger scale projects (more than an acre) and are deemed to pose greater risk to water quality. These projects are usually inspected daily due to the extent and complexity of the site work. Building permit only projects are inspected less frequently, as they typically pose lower risk to water quality. For these projects inspections are completed on an on-call basis (i.e., builder calls for a framing inspection), and whenever a complaint is received. Grading permits are issued for all sites involving soil disturbance of 3 cubic yards or more. Usually, these are associated with building construction and are inspected as noted above. The County has a different inspection protocol for the different permit types. Generally, there are three categories:

- Improvement plan projects (which includes County initiated public works projects, and private industrial, commercial and multi-family residential projects)
- Single family residential projects
- Grading (only) projects

Improvement plan projects, because of their typically larger size and scope, generally have the greatest potential for erosion and pollutant discharge. These projects are usually subjected to an extensive environmental review process and are permitted subject to numerous conditions of approval. County inspections are continuous throughout the active construction period and are performed by County staff and/or professional consultants, who are on-site daily in most cases. Written inspection reports are prepared and maintained in the project files. These inspection reports note any problems, issues, and actions taken to correct those matters. The inspection reports also indicate the inspector’s name, date, weather and project identification.

Single family residential construction and remodel work is permitted and inspected by the County’s Building Department. Inspection records for these construction projects include the number of inspections, BMP discrepancies and BMP compliance actions. In addition, new single family residences are inspected with the

cooperation and coordination of the Tahoe Regional Planning Agency (TRPA). The TRPA/County relationship and associated responsibilities are defined in several Memoranda of Understanding (MOUs) as shown in Appendix G. Placer County performs specific BMP inspections at these new residential sites such as pre-grading inspections, regular compliance inspections, and an additional inspection after completion of the project to ensure the completion of post-construction BMPs.

Grading permits (3 cubic yards or more ground disturbance) are generally associated with either residential construction or improvement projects. Very few, if any, grading permits are for grading activity only, though minor utility work may be the most often encountered example. Grading-only projects are typically inspected intermittently as staff perform their usual duties, unless regular inspection has been deemed necessary when the permit is issued, and when complaints are received. The County's Building Department staff inspects residential grading activity on their numerous site visits and notes any comments on the inspection records and in the PLUS database.

### Proposed Activity

Construction sites will be prioritized as outlined in the construction prioritization plan (Appendix H) for stormwater compliance at all construction sites under permit with the County. Each site will be classified as high, medium or low risk based on the following factors:

- Potential for site to discharge sediment
- Site slope
- Project size and type
- Stage of construction
- Proximity and connectivity to receiving waters
- Past performance

Physical site inspections may be necessary to confirm information and evaluate the risk to water quality. If the site has high potential to discharge sediment due to project type, site slope or proximity to water then it will be given a "High" priority. All others will be rated as medium or low based on threat to water quality. During the permit review or during actual construction/grading activities the priority may change. The construction site prioritization criteria and process is outlined in Appendix H. Tracking of site inspection is maintained in the County PLUS permitting system under a specific water quality code.

During the construction season (May 1 through October 15) inspections will be conducted according to this site priority designation. High priority sites will be inspected at least weekly and low and medium priority sites will be inspected at a frequency sufficient to ensure that sediment and other pollutants are controlled and that unauthorized non-storm water discharges are prevented. Inspection findings will be maintained in a database of construction sites with the following information:

- Inspector's name
- Date and time of inspection
- Field and weather conditions at the time of the inspection
- Inspection location
- Observed facility conditions

In addition, the construction site database will include the following information about the site characteristics and construction stage:

- Potential for site to discharge sediment
- Site slope
- Project size and type
- Stage of construction
- Proximity and connectivity to receiving waters

### **5-A(iv) Construction Site Enforcement**

The permit Section III.B.1.d requires that *“Permittees shall enforce their storm water ordinances and other regulatory mechanisms for all construction sites to maintain compliance with local ordinances and discharge prohibitions contained in this permit. Permittees shall document any non-compliance with Permit or ordinance requirements and report identified compliance issues as part of their Annual Report as described under Section IV.C of the Monitoring and Reporting Program (Attachment C).*

*Each Permittee shall follow up on identified compliance issues and take actions necessary for construction sites to comply with Permit requirements”*

#### Current Practices

As discussed in Section 5-A(iii), County inspection frequencies vary by the type of construction activity and the permits issued. However, in all cases where water quality violations or issues are noted either through inspections or reporting by others, County staff will respond to address the matter and enforce applicable standards and ordinances.

The County has several ordinances that support enforcement (grading, stormwater, building and development, etc) at construction sites. For enforcement compliance, all construction sites with stormwater quality issues the project proponent, agent, or contractor is notified, given a timeframe for required corrections, and scheduled for a re-inspection as appropriate. Enforcement mechanisms are included within the current County permits and codes. Placer County's stormwater quality ordinance (Appendix D) was enacted on October 22, 2006 and is the primary reference for enforcement. Construction site compliance is administered by the site inspector or stormwater staff according to the processes described in Chapter 4 of this SWMP. Inspectors keep records on site inspections and give notice to violators with a check

list form (Appendix H). Notes are made as to deficiencies and necessary follow up actions. The Stormwater Quality Office is then informed of issues and proposed follow up actions. For permitted project activities, inspectors have the ability to issue stop work orders until site compliance is achieved. The County can also modify or revoke approvals and use project securities to gain site compliance, if such actions are necessary.

#### Proposed Activity

The County will continue with its current practices and use of the BMP inspection/compliance checklist (Appendix H) to note any water quality issues and follow up actions. This data will be entered into the database of active construction sites for tracking purposes. The County will also continue to track and monitor grading only activities to ensure these permittees are meeting the stormwater quality program requirements. The County will continue to enforce through the stormwater quality ordinance and follow up with appropriate actions until compliance is achieved. For all permitted projects, the County has the additional ability to enforce through stop work orders, modified or revoked approvals, and to use any required cash securities to gain compliance.

#### **5-A(v) Oversight by Others**

The municipal permit Section III.B.1.e requires that *“Permittees may make use of construction site outreach, inspection, and enforcement actions taken by other responsible agencies (such as the Tahoe Regional Planning Agency (TRPA) or the Water Board). If a Permittee chooses to use the efforts of other agencies to meet Permit requirements, Permittees must provide detailed documentation of the outreach, inspection, and/or enforcement action taken by others.”*

#### Current Practices

The County works cooperatively with other regional responsible agencies to support implementation of the municipal permit and documents all work associated with that support. Such efforts have included public outreach and education, site inspections and enforcement actions, though these agency efforts have not been relied upon to meet municipal permit requirements.

#### Proposed Activity

The County will continue to work cooperatively with responsible agencies in the Tahoe basin to support permit implementation, and to document such actions. In the event the County relies on the actions of those agencies to meet municipal permit requirements, detailed documentation will be prepared and maintained as necessary.



## **5-B COMMERCIAL, INDUSTRIAL, MUNICIPAL, AND RESIDENTIAL COMPONENT**

Permit Section III.B.2 states *“Each Permittee shall implement SWMP elements to reduce, to the maximum extent practicable, pollutants in runoff from commercial, industrial, municipal, and residential properties within its jurisdiction. The purpose of this Component is to identify potential pollutant sources, prioritize existing or potential water quality threats associated with different land uses, and provide outreach, education, and enforcement measures to reduce and/or eliminate storm water pollution from these sources”*

### **5-B(i) Commercial, Industrial, and Municipal Site Inventory and Prioritization**

The municipal permit Section III.B.2.a requires that *“Each Permittee shall develop and annually update an inventory of high priority commercial, industrial, and municipal activities and pollutant sources. The high priority commercial, industrial, and municipal site inventory shall consider including the following business types and activities:*

- 1. Automobile mechanical repair, maintenance, or cleaning*
- 2. Automobile and other vehicle body repair or painting*
- 3. Retail or wholesale fueling*
- 4. Eating or drinking establishments*
- 5. Mobile carpet, drape or furniture cleaning*
- 6. Concrete mixing or cutting*
- 7. Painting and coating*
- 8. Mobile pool and spa cleaning*
- 9. Snow removal and storage activities*
- 10. Parking areas with more than 30 parking spaces*
- 11. Off-pavement parking and storage yards*
- 12. Municipal maintenance yards”*

### **Current Practices**

The County currently maintains an inventory of all commercial, industrial, and municipal facilities in the Tahoe basin (Appendix I). The inventory was created from the County GIS parcel database combined with land use designations. Each site was visited to validate land use and for setting priority (high, medium, low). Stormwater Office inspection staff are responsible for establishing priorities based on the type of business, proximity to water body, potential for discharge and site topography. Additionally, the County business license database was reviewed to capture mobile businesses such as carpet cleaners, painting contractors, and pool and spa cleaners, etc. Each identified property was mapped in GIS with color designation based on priority (Appendix I) The database is reviewed on an annual basis and changes are made as necessary.

### Proposed Activity

The county will continue to maintain a prioritized database using GIS mapping for the commercial, industrial and municipal facilities. The existing database will be expanded to capturing any larger parking and storage areas that may not be associated with sites and businesses already included. The County will continue to add to the database based upon business license information and field identification of new commercial, industrial, and municipal facilities. In evaluating priorities assigned for these sites and activities, the County will consider the potential high priorities listed in the permit.

### **5-B (ii) Commercial, Industrial, and Municipal Site Outreach**

The permit Section III.B.2.b requires that: *“Permittee outreach efforts shall include, at a minimum, educating commercial, industrial, and municipal site operators about local ordinances and other regulatory measures and associated tiered enforcement mechanisms applicable to commercial, industrial, or municipal site runoff problems.”*

### Current Practices

The County currently informs new and changing commercial and industrial activity permit applicants about the stormwater quality program, stormwater ordinance, and appropriate water quality protection practices through the development review and approval processes. Stormwater quality educational materials and enforcement information is provided by the stormwater inspector during facility inspections. Additionally, the County’s municipal personnel (road crews, health inspectors, bus drivers, etc) receive on-going training regarding municipal facilities best management practices, stormwater quality protection and detection of illicit discharges. The Stormwater Quality office is notified by these departments if issues are discovered. In addition, the general public, especially in the Tahoe Basin, has a heightened sense of awareness concerning these issues and will frequently notify the Stormwater Quality office of water quality issues via a dedicated phone line or through the County web site. Responding staff will provide owners and operators information about applicable regulations and enforcement, best management practices, and will provide educational references and materials as appropriate.

### Proposed Activity

The County will continue to conduct inspections, and to distribute information about the stormwater quality ordinance, best management practices, and enforcement actions to high priority commercial, industrial, and municipal owners, operators and contractors to stress the importance of stormwater runoff control and stormwater pollution prevention. The Placer County Environmental Health Department will continue to provide information such as the enforcement compliance check lists to commercial food facilities. County personnel will continue to be trained in best management practices, regulatory requirements and enforcement mechanisms of the municipal stormwater

programs. Industrial operators and owners will also be reminded of the requirement to file with the State for the Industrial Permit, where applicable.

### **5-B(iii) COMMERCIAL, INDUSTRIAL, AND MUNICIPAL SITE INSPECTIONS**

The permit Section III.B.2.c requires that: *“Each Permittee shall implement a program to inspect high priority commercial, industrial, and municipal sites at least once per year in accordance with Section II.C of the Monitoring and Reporting Program (Attachment C).”*

#### Current Practices

The County inspects high priority commercial and industrial sites, as identified on the commercial and industrial database, annually. The County uses an inspection checklist (Appendix J) to document site inspections. Any violations noted during inspections are discussed with the owner or operator, if available. All inspection records are maintained in the database including any noted violations. The need for follow up actions is tracked in the database to ensure any noted violations are corrected and the site brought into compliance. Off pavement parking and snow storage activities are also considered during site inspections.

The Environmental Health Department inspects restaurant and hazmat sites annually. They use an inspection check list that specifies stormwater quality compliance items. Any stormwater issue are addressed initially by the Environmental Health inspector and then reported to the Stormwater Quality office. The Stormwater Quality office will then perform a more detailed inspection with notice and recommendations given to the property owner. Follow-up inspections (with appropriate action) are performed as appropriate. If corrective actions have not been taken the matter is referred to the Code Enforcement Office for further enforcement action.

Municipal sites within the basin are inspected annually (sites listed in Table 3.2). An inspection checklist (Appendix J) is used to ensure compliance with stormwater quality regulations. Any violations are noted and corrected.

For all commercial, industrial and municipal inspections, inspections findings are maintained in the database and include the following information:

- Inspector’s name
- Date and time of inspection
- Field and weather conditions at the time of the inspection
- Inspection location
- Observed facility conditions
- A summary of follow up and enforcement actions taken, if violations are observed.

### Proposed Activity

The County will continue to inspect high priority commercial, industrial, and municipal sites annually through the stormwater inspection and environmental health programs. The County will also include inspections of any high priority snow storage and off pavement parking sites not associated with the commercial and industrial sites already included. Inspection findings and actions taken will continue to be included in the commercial, industrial and municipal database.

### **5-B(iv) COMMERCIAL, INDUSTRIAL, AND MUNICIPAL SITE ENFORCEMENT**

The permit Section III.B.2.d requires that: *“Permittees shall enforce their stormwater ordinances and other regulatory mechanisms for all commercial, industrial, and municipal sites to maintain compliance with applicable local ordinances and discharge prohibitions contained in this Permit. Permittees shall document any non-compliance with ordinance and/or Permit requirements and report inspection findings as part of their Annual Report as described under Section IV.D of the monitoring and Reporting Program (Attachment C).*

*Each Permittee shall follow up on inspection findings and take actions necessary for commercial, industrial, and municipal sites to comply with Permit and local ordinance requirements.”*

### Current Practices

The County’s stormwater quality ordinance supports enforcement at commercial and industrial sites. For enforcement compliance, the stormwater quality inspector makes regular inspections at sites as outlined above in this section, but also will respond to any reports of potential violations. If violations are noted the parcel owner is notified, given a timeframe for required corrections, and scheduled for a re-inspection as appropriate. Enforcement mechanisms are included within the current County permits and codes. Placer County’s stormwater ordinance (Appendix D) was enacted on October 22, 2006 and is the primary reference for enforcement. Violations are noted in the inspection database and are reported in the annual report. Follow up inspections are made to confirm that appropriate action has been taken to address stormwater quality practices. If corrective actions have not been taken, the matter is referred to the County’s Code Enforcement Office for enforcement. The County also reports violators to the Lahontan Regional board specifically if the site have a SIC code and is not in compliance with the Industrial permit requirements.

### Proposed Activity

The County will continue to enforce its codes and ordinances with regard to water quality protection, will maintain required records, and report findings through annual

reporting to the Regional Board. If any site is not in compliance with County codes and stormwater quality regulations the owner and/or operator will be given a written notice requiring compliance by a given date. The Stormwater Quality Office will conduct follow up inspections as appropriate. If noted problems are not resolved in a timely and effective manner, the matter may be referred to the County Code Enforcement staff for further enforcement action. Enforcement will be applied as described in Chapter 4. Violations will be noted in the inspection database to track of number and type of violations, corrective actions and to identify repeat offenders.

County staff will notify the Regional Board of any industrial non-filer sites through e-mail, phone call or letter.

### **5-B(v) OVERSIGHT BY OTHERS**

The permit Section III.B.2.e requires that: *“Permittees may make use of commercial and industrial site outreach, inspection, and enforcement actions taken by other responsible agencies (such as the TRPA or the Water Board). If a Permittee chooses to use the efforts of other agencies to meet Permit requirements, Permittees must provide detailed documentation of the outreach, inspection and/or enforcement action taken by others.”*

#### Current Practices

The County works cooperatively with other regional agencies to support implementation of the municipal permit and documents all work associated with that support. Such efforts have included public outreach and education, site inspections and enforcement actions.

#### Proposed Activity

The County will continue to work cooperatively with responsible agencies in the Tahoe basin to support permit implementation, and to document such actions. In the event the County relies on the actions of those agencies to meet municipal permit requirements, detailed documentation will be prepared and maintained as necessary.

### **5-B(vi) RESIDENTIAL PROPERTY – OUTREACH AND EDUCATION**

The permit Section III.B.2.f requires that: *“Each permittee shall identify high priority residential areas and activities for target outreach and education. These areas/activities should include:*

1. *Automobile repair and maintenance*
2. *Off-pavement automobile parking*
3. *Home and garden care activities and product use (pesticides, herbicides, and fertilizers)*
4. *Disposal of household hazardous waste (e.g., paints, cleaning products)*

## 5. Snow removal activities

*Permittees shall develop and implement a program to target education and outreach efforts toward identified high priority activities. Such outreach program should include coordination with other Lake Tahoe Basin agencies involved with BMP implementation, including but not limited to the Tahoe Resource Conservation District and the TRPA Erosion Control Team.”*

### Current Practices

Placer County currently cooperates with TRPA under several Memoranda of Understanding that commit the County to implement and enforce certain TRPA regulations including residential stormwater BMP installations and construction inspection activities for new development activity. Additionally, the County enforces its stormwater and grading ordinances in the area. Placer County currently reviews residential construction applications, issues building, grading and encroachment permits, performs site inspections, and provides final approval of projects in accordance with TRPA Code of Ordinances and applicable County ordinances (including the County’s grading ordinance).. Placer County collects the TRPA mitigation fees and security associated with post-construction BMPs. Mitigation fees are forwarded to TRPA while security fees are managed by Placer County personnel.

Placer County supports the TRPA residential BMP retrofit program by providing information to the public at the County’s Tahoe City office where Building, Planning, Engineering Services and Environmental Health Department personnel reside. Brochures and other materials describing the program are available at the office counter. The County provides front line information to the public when telephone or in-person inquiries are made. The County also provides funding to the Tahoe Resource Conservation District (TRCD) to support residential and public school BMP retrofit efforts, including funding space within the Tahoe City office for TRCD personnel.

Public Works personnel in the County’s Kings Beach office, with the assistance of TRCD, provide focused outreach to individual property owners, homeowners’ associations and business owners/operators in areas planned for County BMP retrofit projects, with the goal of improving private BMP retrofit efforts and furthering compliance with TRPA retrofit requirements. Placer County regularly interacts with TRPA in defining residential BMP implementation priorities for the retrofit program.

In addition, the public can access specific water quality homeowner brochures, such as local hazardous waste collection days, automotive oil collection sites, snow removal practices and BMPs for households from the County web pages, at the County offices counters, or at the local libraries. Several newspaper articles have also been published giving the public information on the County’s program.

### Proposed Activity

Outreach and education efforts will be focused on priority pollution sources, areas and activities, and in general will emphasize source control BMPs that target sediment reduction, nutrient control and minimize non-stormwater discharges. Permit-specified high priority activities such as automobile repair and maintenance, off pavement parking, home and garden care, disposal of household wastes, and snow removal activities will be targets for residential outreach and education. The County will, at a minimum, identify at least one high priority problem area or activity per year to target for specific training, outreach effort or educational mailings. The County will also work with TRPA and TRCD to identify opportunities to coordinate outreach and education efforts to high priority areas and activities. Enforcement of water quality problem situations will be as described in Chapter 4.

**SWMP Industrial/Commercial/Municipal/Residential Component Tasks**  
**Table 5-B**

Performance Practices	Type of Requirements	IMPLEMENTATION SCHEDULE <sup>2</sup>																Responsibility <sup>3,4</sup>							Measurable Goals							
		2012				2013				2014				2015				2016				Facility Services	Public Works	Environmental Health		Building Planning	County Counsel	ESD	Emergency Services	Sheriff	Flood Control	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4											
5-B(i) Update inventory of industrial/commercial/municipal sites	E	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	A	R	A	-	A	-	-	-	-	-	Inventory updated and reviewed annually
5-B(i) Industrial/commercial/municipal site prioritization	C	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	A	R	A	-	A	-	A	-	-	-	All site prioritized with high, medium, or low rating.
5-B(ii) Education program for industrial/commercial/municipal sites	C	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	A	R	A	-	A	-	-	-	-	-	Outreach effort (handouts or training) to high priority sites at least once annually
5-B(iii) Inspection at industrial/commercial/municipal sites	C	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	A	R	A	-	-	-	-	-	-	-	High priority sites inspected annually. All other sites inspected at appropriate frequencies
5-B(iv) Conduct enforcement actions through County enforcement processes	C	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	A	R	A	-	-	-	-	-	-	-	All enforcements actions tracked to completion
5-B(iv) Notify the State of industrial permit non-filers	C	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	R	-	-	-	-	-	-	-	-	Non Filers reported
5-B(vi) Identify high priority residential areas for education and outreach	E	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	R	-	-	-	-	-	-	-	-	Outreach effort to at least one high priority activity once per year.

1. C - Continue; E - Enhance; N - New

2. Q1 - Jan-March; Q2 - April-June; Q3 - July-Sept; Q4 - Oct-Dec

3. R - Responsible; A - Assisting

4. The Placer County NPDES Coordinator has primary responsibility for coordinating the implementation of performance standards and will provide overall support and coordination for the County Departments and Divisions who are responsible and assisting.

## 5.C STORM WATER FACILITIES INSPECTION COMPONENT

The permit Section III.B.3 requires that: *“Each Permittee shall develop and implement an inspection program to assess the condition of its storm water collection, conveyance and treatment facilities and maintenance needs on a catchment, or sub-watershed basis in accordance with the following requirements, and Section II.A of the Monitoring and Reporting Program (Attachment C).”*

Attachment C, Section II.A, states *“For portions of a Permittee’s jurisdiction not included in a Crediting Program registered catchment, Permittees shall inspect its storm water collection, conveyance, and treatment systems **annually**. Permittees shall conduct facilities inspections between the period of time following spring snow melt and before fall rain and snow storms each year to provide the opportunity to perform facilities maintenance as needed.”*

**5-C(i)** Permit Section III.B.3.a, states *“By the end of the Permit Term, each Permittee shall develop and maintain an up-to-date and accurate system map of its collection, conveyance, and treatment facilities.”*

### Current Practices

The County has completed an up to date and accurate GIS system map of its collection, conveyance and treatment facilities in the Tahoe basin, based upon field located facilities using GPS equipment. This mapping is being expanded to include road shoulder conditions and drainage system connectivity to assist with pollutant load reduction modeling efforts.

### Proposed Activity

System mapping will be reviewed and updated on annual continuing basis, as facilities are added or modified, and as new information becomes available.

**5-C(ii)** Permit Section III.B.3.b, states *“Each Permittee shall inspect its storm water collection, conveyance and treatment systems at least once annually and maintain a database of inspection findings.”*

### Current Practices

The County Public Works Department currently inspects public drainage facilities in the Tahoe Basin each spring (after snow melt) to evaluate condition and maintenance needs. Inspection findings and identified maintenance needs are recorded in a database, which includes the inspector’s name, date, observed facility conditions, assessment of needed maintenance or follow-up activities, and assigned priority. County maintenance crews use this information to determine maintenance sequence for

the remainder of the year. The facilities inspection database includes all the municipal permit requirements, including annual inspection of storm drain inlets, pipes, culverts, curb and gutter, asphalt dikes, rock lined or vegetated swales and any other storm water collection and conveyance facility for signs of needed maintenance, evidence of erosion, damage from snow removal or other equipment, and for accumulated sediment and debris (pine needles, trash, etc.).

### Proposed Activity

The County will continue with the spring inspection and maintenance program and will review this process annually for possible improvements. Additionally, inspection and maintenance data will be evaluated each year for trends that indicate the need for further investigation of problems and for consideration of BMP retrofit or outreach efforts. Storm water facilities shall be inspected for signs of needed maintenance, evidence of erosion, damage from snow removal equipment, and accumulated sediment and debris. This will be in addition to the maintenance inspections of County BMP's and roadways required in the PLRP. All inspection findings will be documented and reported in accordance with the Monitoring and Reporting Program (Appendix C, Section II. A).

Each inspection will be documented and maintained within a tracking database, including the following:

- Inspector's name
- Date and time of inspection
- Field and weather conditions at the time of the inspection
- Mapped inspection location
- Observed system condition at time of inspection
- An assessment of needed maintenance or other follow-up actions
- Prioritization of needed maintenance

**5-C(iii)** Permit Section III.B.3.c states *“As part of its stormwater collection, conveyance, and treatment system inspections, each Permittee shall evaluate and identify potential pollutant sources including but not limited to: private property/residential runoff, commercial site runoff, eroding cut slopes, eroding road shoulders, intercepted groundwater discharges, excessive traction abrasive application, and construction site tracking.”*

### Current Practices

As noted above, inspections of storm drain facilities are conducted annually. During these inspections potential problem areas and pollution sources are also considered, with such information noted in inspection reports. That information is used by maintenance personnel, the stormwater staff and engineering staff to consider future corrective actions, such as BMP retrofits or source control strategies, such as targeted outreach efforts.

Road maintenance personnel are responsible for the maintenance and safety of all County maintained public roads in the Tahoe Basin. As such, these personnel are constantly on the roadways evaluating road condition, drainage facilities, signage, potential hazards, adjacent construction activity, roadway shoulders, cut/fill slopes, etc. Road maintenance staff is trained annually on stormwater quality practices. They are a valuable resource in the field to identify any stormwater non-compliance issues and report findings to the Stormwater Quality Office. If there is an urgent issue, they will act promptly in the field. The road crews also look for BMP retrofit opportunities.

Roadway traction abrasive applied on the County maintained roadways can be a pollutant source and thus application and removal are evaluated and tracked on a continuing basis. Factors that may affect application rates include storm intensity and duration; ambient temperatures during and after storm; and snow depth. County road maintenance personnel modify application rates and locations based on the above factors. For example, during less intense storms, sand is only applied to steeper sections of County roads (i.e., greater than 10 percent).

The sand currently utilized by Placer County currently meets the Nevada Department of Transportation Specification 3 Ice Control Sand and other specifications from AASHTO and Caltrans that require the following:

- Durability index or hardness greater than 75;
- Loss by abrasion not less than 33 percent by weight;
- Content of material smaller than 100 U.S. mesh sieve (149 microns) must not exceed 4.0 percent by weight;
- Content of material smaller than 200 U.S. mesh sieve (74 microns) must not exceed 2.5 percent by weight; and
- Maximum phosphorous content shall be 10 parts per million (ppm).

Application of these specifications is intended to reduce stormwater quality impacts.

County engineering staff responsible for BMP retrofit projects reviews the potential sources of pollutants as the design basis for the projects. Pollutant sources may include private property/residential sources, commercial site run off, eroding cut slopes, and road shoulders. All of these sources are considered when evaluating project design alternatives, so that the best possible water quality outcome can be achieved. Private property outreach has become a common practice in areas of planned BMP retrofit projects, to encourage pollutant source control.

Commercial, industrial, construction site and municipal facilities inspections conducted by the County's inspectors also serve to identify and address pollutant sources. The information collected by the inspector, and actions taken for enforcement, help to reduce pollutant loading into the storm drain system as well as discharges to Lake Tahoe.

## Proposed Activity

The County will continue with its current practices to inspect facilities, identify potential pollutant sources, and apply that information for effective maintenance, project planning, and outreach efforts.

During facility and site inspections by County Staff, shall continue to consider potential storm water pollutant sources including but not limited to:

- Private property/residential runoff
- Commercial property runoff
- Eroding cut slopes
- Eroding road shoulders
- Traction abrasive application
- Dislodged sediment from snow removal activities
- Vehicles tracking sediment onto the roadway
- Parking related erosion
- Intercepted groundwater discharges
- Construction site tracking

Problems involving maintenance needs will be prioritized and scheduled for correction based on threat to water quality and severity of the problem as discussed in section 5 – C(iv) below.

**5-C(iv)** Permit Section III.B.3.d, states *“Each Permittee shall document and prioritize identified maintenance needs and perform needed maintenance to ensure stormwater systems effectively collect, convey, and treat urban runoff as designed.”*

## Current Practices

Currently, as discussed above in Section 5-C (iii) the county completes storm drain system inspections and completes maintenance as determined based on priority. Priorities are based on spring inspections and often relate to the volume of sediment noted in various components of the system. Appendix L has a sample inspection report. The priorities are given to the maintenance crews who normally complete cleaning of the stormwater systems. Completion of maintenance work is verified through random inspection prior to the winter season. To the extent contributing pollutant sources are identified through the inspection processes, these are typically addressed through enforcement or outreach efforts, road/site maintenance, or future restoration/retrofit projects.

### Proposed Activity

Based on past inspection history, areas of high pollutant loads will initially be assigned a high priority. Annual inspection of the system will be completed by the Stormwater staff and maintenance staff to further identify any additional priority sites that can be documented in a maintenance database. . The Stormwater staff will work with the maintenance crews to ensure priority facilities are maintained. Any sites that continue to show high pollutant loads or when inspected indicated a possible illicit discharge will be investigated to determine pollutant source. Additionally, through the pollutant load reduction plan, registered catchments will be maintained to ensure continued operation of the stormwater systems such that they can effectively collect, convey, and treat urban runoff as designed.

**SWMP Storm Water Facilities Inspection Component Tasks**  
**Table 5-C**

Performance Provisions	Type of Requirements	IMPLEMENTATION SCHEDULE <sup>2</sup>																Responsibility <sup>3,4</sup>								Measurable Goals						
		2012				2013				2014				2015				2016				Facility Services	Public Works	Environmental Health	Building Planning		County Counsel	County Executive	Emergency Services	Sheriff	Flood Control	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4											
5-C(i) Develop system map	E					X	X	X	X													-	R	-	-	-	-					Placer County Tahoe Basin facilities completely mapped.
5-C(i) Maintain system map	C									X	X	X	X	X	X	X	X	X	X	X	X	-	R	-	-	-	-					Mapping maintained as needed.
5-C(ii) Inspect stormwater collection, conveyance and treatment facilities and maintain database	C	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	R	-	-	-	-					Inspections completed and database maintained
5-C (iii) Evaluate and identify potential pollutant sources	E	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	R	-	-	-	-					Evaluation completed and sources identified
5-C(iv) Prioritize maintenance needs and maintain facilities	E					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	R	-	-	-	-					Needs prioritized and maintenance completed and noted in database

1. C - Continue; E - Enhance; N - New

2. Q1 - Jan-March; Q2 - April-June; Q3 - July-Sept; Q4 - Oct-Dec

3. R - Responsible; A - Assisting

4. The Placer County NPDES Coordinator has primary responsibility for coordinating the implementation of performance standards and will provide overall support and coordination for the County Departments and Divisions who are responsible and assisting.

## 5-D ILLICIT DISCHARGE DETECTION AND ELIMINATION COMPONENT

The permit Section III.B.4 requires that: *“Permittees shall implement an Illicit Discharge Detection and Elimination Component containing measures to actively seek and eliminate illicit discharges and connections. At a minimum the Illicit Discharge Detection and Elimination Component shall include the following elements:”*

**5-D (i)** Permit Section III.B.4.a, states *“Each Permittee shall visually inspect all stormwater collection, conveyance, and treatment systems at least once annually as described in Section II.A of the Monitoring and Reporting Program (Attachment C) for evidence of illicit discharges, illicit connections, or other sources of non-storm water discharges.”*

### Current Practices

County personnel who are routinely in the field (such as environmental health, air quality, road maintenance personnel and building inspectors) are trained to identify active or threatened non-stormwater discharges and illicit connections. If an illicit connection or discharge is found it is reported it to the Stormwater Quality Office for follow up investigations and County stormwater quality ordinance compliance actions. Also, as discussed in previous sections, the County reviews for evidence of illicit discharges, illicit connections and other non-stormwater discharges during inspections of restaurant facilities , at construction site inspections, during grading inspections, and during the industrial, commercial and municipal site inspections.

### Proposed Activity

During annual inspections of the facilities as noted in section 5-C (ii) County personnel will also specifically review for evidence or potential of illicit discharges. The inspection forms will be updated to add the specific illicit discharge elements for inspection. Signs of potential illicit discharge or illicit connections will be noted on inspection forms and routed to the stormwater quality inspector for follow up. As the stormwater quality inspector completes his routine inspections of commercial, industrial and municipal facilities, he is also reviewing for evidence of illicit discharges, illicit connections or other non-stormwater sources. The County will continue to review procedures and establish appropriate criteria, such as inspection protocols, to assist with identifying violations. The facility mapping (culvert, drains, outfalls, etc) will be instrumental in preparing a program by enabling identification of the potential source areas. Field personnel will continue to be trained in identification and reporting of suspected illicit discharges. Where appropriate, field personnel will be empowered to rectify any adverse situations or other Placer County personnel will be responsible for investigation and follow up per defined procedures.

**5-D (ii)** Permit Section III.B.4.b, states “*Each Permittee shall establish and implement a program to investigate and inspect any portion of the stormwater collection and conveyance system that indicates a reasonable potential for illicit discharges, illicit connections, or other sources of non-stormwater. Each Permittee shall establish criteria to identify portions of the system where follow-up investigations are needed to determine whether illicit discharges, illicit connections, or other sources of non-storm water have occurred or are likely to occur.*”

### Current Practices

The County Stormwater Office with support through other County programs currently implement activities associated with Illicit Discharge Detection and Elimination (IDDE):

The Stormwater Quality office annually reviews for IDDE as they complete their annual commercial, industrial, municipal, and stormwater facilities inspections. Any noted or suspected illicit discharges, illicit connections or threat of non-stormwater discharge is initially addressed at the time of the inspections. Investigations are conducted by the stormwater quality staff to locate pollutant sources. If warranted, a violation notice is given with a time frame to correct the violation. The County stormwater inspector also investigates and follows up on complaints received from the public or reports by County staff. The public can report violations through the county web page, by phone, or by email.

Environmental Health manages the State’s Hazardous Materials Business Plan program that requires reporting of the proper storage of reportable quantities of hazardous materials. Additionally, Environmental Health inspectors assist thorough review of sites for stormwater compliance in the course of inspections for restaurants, water well drilling, septic systems, and hazardous materials business plans. If inspections identify cross connections or an actual/threatened illicit discharges, the information is responded to according to urgency.

In addition, County personnel such as building inspectors and road maintenance staff have been trained on identifying and reporting illicit discharges.. If they make an observation, they will first try to identify a source and address the issue. Notification will be made to the Stormwater Quality office to take appropriate follow up actions.

### Proposed Activity

The County will continue to use the industrial, commercial, municipal, and stormwater facilities inspections to identify any suspected illicit discharges, illicit connections and potential for non-stormwater issues. . Drainage facilities and outfall mapping will be used to support pollutant and flow source investigations. The County will continue training field personnel to identify evidence of illicit discharges, including indicators such

as dry weather flows, visual and olfactory indicators; testing with field and laboratory equipment and methods will be employed if necessary.

The County will review and update the map of storm drain outfalls and their receiving waters in the Tahoe Basin and establish criteria to identify portions of the system where follow-up investigations are needed. The County will also review and update the comprehensive maps of its existing storm drain conduit and roadside ditch drainage systems.

Additionally, the stormwater quality inspector will continue to maintain the database of non-compliance sites such that follow up investigations can be completed.

**5-D (iii)** Permit Section III.B.4.c, states *“Each Permittee shall implement and enforce its ordinances, order, or other legal authority or regulatory mechanism to prevent and eliminate illicit discharges and connections to its stormwater collection and conveyance system.”*

### Current Practices

Placer County’s existing stormwater quality ordinance prohibits non-stormwater discharges and defines enforcement procedures and actions. The stormwater quality ordinance includes provisions prohibiting discharges in violation of any NPDES permit issued to Placer County.

Placer County implements provisions of its ordinance, including enforcement actions, through numerous means as described in this SWMP. Inspections of municipal facilities and infrastructure, commercial, industrial, and construction sites are conducted and enforcement actions taken where water quality problems are noted. BMP requirements are imposed for all new and redevelopment activities requiring County approvals, including maintenance and inspection requirements. Procedures are in place for public reporting of violations. Training of staff, contractors, developers, and others is provided to raise awareness of water quality requirements, regulations, and enforcement.

Reports of possible illicit discharges or connections are investigated under the direction of the stormwater coordinator, with the assistance of the personnel initially identifying the issue. Depending upon the severity of problem or the history of the situation, the property owner or tenant may be issued a warning, a corrective order, or an administrative citation. According to State and Federal law, Civil and criminal penalties may also be invoked. The County’s Stormwater Ordinance contains due process and appeal rights for individuals receiving corrective orders or administrative citations. This ordinance functions with the existing grading and erosion prevention ordinance where vegetation removal and construction activity are involved. Enforcement is carried out as described in Chapter 4 of this SWMP.

### Proposed Activity

The County will continue to implement and enforce existing ordinances, standards, and policies that relate to stormwater quality and illicit discharges or connections. Staffing and other resource needs will be evaluated on a regular basis to maintain effectiveness of the program and enforcement efforts.

**5-D(iv)** Permit section III.B.4.d states *“Each Permittee shall promote, publicize and facilitate public reporting of illicit discharges of water quality impacts associated with discharges into or from its stormwater collection and conveyance system. Each Permittee shall facilitate public reporting through development and operation of a public hotline. Public hotlines can be Permittee-specific or shared by Permittees. All stormwater hotlines should be capable of receiving reports in both English and Spanish 24 hours per day, seven days per week. Permittees shall respond to and resolve each reporting incident. Each Permittee shall keep a record of all reported incidents and how each was resolved.”*

### Current Practices

The Placer County Sheriff’s Department administers an after-hours citizen hotline for reporting non-emergency events. There is also a stormwater reporting line within the Department of Public Works. Reports of suspected illicit discharges are received from a number of sources, including public reports, agency reports, public hotline, stormwater section personnel, and electronic reports from County field personnel. The Stormwater reporting system is advertised through County brochures, on Tahoe Area Transit busses, at the Tahoe City Transit Center, and on the County Web page. Most frequently, reports and complaints are received through normal daily business activity, via mail, email, phone call, or in person.

Inspections and investigations are conducted for every report received in compliance with the requirements of the County stormwater quality ordinance. In addition, a database is kept with all pertinent information, including follow up actions needed to insure compliance.

### Proposed Activity

The County will continue to promote, publicize and facilitate public reporting of illicit discharges or water quality impacts and enforce existing ordinances, standards, and policies that relate to stormwater quality and illicit discharges. Staffing and other resource needs will be evaluated on a regular basis to maintain effectiveness of the program and enforcement efforts. The current reporting systems will be maintained and reviewed regularly for improvement opportunities. Additional public reporting opportunities will be sought, implemented, and promoted as appropriate. Illicit discharge reports, inspections, and actions will be tracked and reported in the annual report.

**SWMP Illicit Discharge Detection and Elimination Component Tasks**  
**Table 5-D**

Performance Practices	Type of Requirements	IMPLEMENTATION SCHEDULE <sup>2</sup>																Responsibility <sup>3,4</sup>								Measurable Goals						
		2012				2013				2014				2015				2016				Facility Services	Public Works	Environmental Health	Building Planning		County Counsel	County Executive	Emergency Services	Sheriff	Flood Control	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4											
5-D(i) Inspect All Storm Water Collection and Conveyance System	C	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	A-	R	A	A	-	-					Inspections completed and database maintained
5-D(ii) Implement program to Investigate potential IDDE	E	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	A-	R	A	A	-	-		A	A		Program established and implemented to inspect and follow up IDDE
5-D(iii) Enforcement of stormwater ordinance and other regulatory mechanisms	C	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	A	R	A	A	-	A		A	A		Record of enforcement actions taken.
5-D(iv) Promote, publicize, and facilitate public reporting of illicit discharges	C	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	A	R	A	A	-	-					Public hotline always available for reporting. Reported incidents recorded..

1. C - Continue; E - Enhance; N - New
2. Q1 - Jan-March; Q2 - April-June; Q3 - July-Sept; Q4 - Oct-Dec
3. R - Responsible; A - Assisting
4. The Placer County NPDES Coordinator has primary responsibility for coordinating the implementation of performance standards and will provide overall support and coordination for the County Departments and Divisions who are responsible and assisting.

## 5-E NEW DEVELOPMENT AND REDEVELOPMENT COMPONENT

The permit Section III.D.5 requires that: *“For new development and redevelopment projects, Permittees shall require project proponents to incorporate permanent storm water treatment facilities that are designed to infiltrate, at a minimum, runoff generated by the 20 year, 1-hour storm, which equates to approximately one inch of runoff over all impervious surfaces during a 1-hour period.*

*If infiltrating the entire volume of the 20 year, 1-hour storm is not possible at a given new development or redevelopment site, the Permittee shall require project proponents to infiltrate as much runoff as possible and either:*

*(a) Document how the project proponent will treat runoff to meet the numeric effluent limits described in Table III.B.1; or*

*(b) Document coordination with the project proponent to demonstrate that shared stormwater treatment facilities treating private property discharges and public right-of-way storm water are sufficient to meet the municipality’s average annual fine sediment and nutrient load reduction requirements described in Section IV.B of this Permit.”*

*Table III.B.1 – Numeric effluent limits for runoff discharges*

<i>Constituent Land</i>	<i>Units</i>	<i>Treatment/ Infiltration Systems</i>	<i>Surface Waters</i>
<i>Total Nitrogen</i>	<i>mg/L as N</i>	<i>5.0</i>	<i>.5</i>
<i>Total Phosphorus</i>	<i>mg/L as P</i>	<i>1.0</i>	<i>0.1</i>
<i>Turbidity</i>	<i>NTU</i>	<i>200</i>	<i>20</i>
<i>Oil and Grease</i>	<i>mg/L</i>	<i>40</i>	<i>2.0</i>
<i>Total Iron</i>	<i>mg/L</i>	<i>4.0</i>	<i>.5</i>

### Current Practices

New and redevelopment projects requiring County discretionary permit approvals are usually subjected to an extensive environmental review process and are permitted subject to numerous conditions of approval. Within the Tahoe Basin, these projects are required to infiltrate runoff generated by the 20 year 1 hour storm from impervious surfaces. Single family residential construction and remodel work is permitted by the County’s Building Department subject to TRPA requirements for treatment and retention of storm water on site.

### Proposed Activity

The County will continue with the current development review process and will incorporate the permit-specified infiltration and treatment standards be applied on all new and redevelopment projects. The County’s stormwater quality ordinance will be reviewed to ensure the standards are properly applied.

SWMP New Development and Redevelopment Component Tasks  
Table 5-E

Performance Practices	Type of Standard <sup>1</sup>	IMPLEMENTATION SCHEDULE <sup>2</sup>																Responsibility <sup>3,4</sup>								Measurable Goals								
		2012				2013				2014				2015				2016				Facility Services	Public Works	Environmental Health	Building		Planning	County Counsel	ESD	Emergency Services	Sheriff	Flood Control		
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4													
5-E Incorporation of storm water infiltration and treatment standards	E					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	A	A	-	R	R	R	-	R					Documented project compliance

1. C - Continue; E - Enhance; N - New
2. Q1 - Jan-March; Q2 - April-June; Q3 - July-Sept; Q4 - Oct-Dec
3. R - Responsible; A - Assisting
4. The Placer County NPDES Coordinator has primary responsibility for coordinating the implementation of performance standards and will provide overall support and coordination for the County Departments and Divisions who are responsible and assisting.

## 5-F PUBLIC EDUCATION COMPONENT

The permit Section III.B.6 requires that: *“Permittees shall implement a public education program using any appropriate media to increase the community’s knowledge of the effect of urban runoff on surface waters and the measures the public can take to help control stormwater pollution and encourage behavior to reduce pollutant discharges.”*

### Current Practice

The County currently seeks and implements opportunities to educate and include the public in implementation of the SWMP. The SWMP has been made available to the public through the County’s website, has been discussed in public forums including County Board of Supervisors meetings, has been discussed in newspaper articles, it is available at public libraries, advertisement on and in Tahoe Area Transit busses and facilities, and through references in available public materials. Education is also provided during site enforcement activities. Areas where the public can assist with implementation include outreach and education, monitoring and reporting illicit discharges from neighborhoods (can be reported via the County web page), and participation in events such as Lake Tahoe’s Earth Day, TRCD and Truckee River Watershed Council activities, and in training workshops. Public input has been a very valuable tool in SWMP implementation. The County has also coordinated with The Sierra Watershed Education Partnership who has used the County’s Watershed Model to educate children in Tahoe area schools.

### Proposed Activity

The County will continue to participate in public events and will search for new opportunities for public education and involvement in implementation of the SWMP.

**SWMP Public Education Component Tasks**  
**Table 5-F**

Performance Practices	Type of Requirements	IMPLEMENTATION SCHEDULE <sup>2</sup>																Responsibility <sup>3,4</sup>								Measurable Goals								
		2012				2013				2014				2015				2016				Facility Services	Public Works	Environmental Health	Building		Planning	County Counsel	County Executive	Emergency Services	Sheriff	Flood Control		
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4													
5-F Conduct outreach and education programs for the community	E	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	A-	R	A	A	A	A	-						Conduct training events and distribute materials at least once per year

1. C - Continue; E - Enhance; N - New

2. Q1 - Jan-March; Q2 - April-June; Q3 - July-Sept; Q4 - Oct-Dec

3. R - Responsible; A - Assisting

4. The Placer County NPDES Coordinator has primary responsibility for coordinating the implementation of performance standards and will provide overall support and coordination for the County Departments and Divisions who are responsible and assisting.

## 5-G MUNICIPAL PERSONNEL TRAINING AND EDUCATION COMPONENT

The Permit Section III.B.7 requires that: *“Permittees shall ensure that all municipal personnel and contractors responsible for implementing Permit requirements, for operating municipal facilities covered under Section III.B.2 of this Permit, and for conducting inspections required under Section III.B1-5 of this Permit are adequately trained and educated to perform such tasks.”*

### Current Practices

Placer County currently completes regular trainings to inform the municipal staff and contractors about the requirements of the municipal permit and how staff should operate and maintain municipal facilities to protect or improve the quality of stormwater runoff. Municipal training is provided for building inspectors, CDRA construction and grading inspectors, stormwater section personnel, capital projects personnel, project reviewers, and road maintenance personnel. The training sessions cover the following, at a minimum,

- Stormwater program basics such as local water quality laws and regulations applicable to construction and grading activities
- Erosion and sediment control practices/BMPs including how erosion can be prevented
- Stormwater quality protection techniques
- Inspection practices
- Identification and reporting of illicit discharges
- The connection between construction activities and water quality impacts -i.e., impacts from sediment discharges to surface water, and how to minimize impacts
- Importance of using good housekeeping practices for County facilities and operations enforcement processes and roles/responsibilities

### Proposed Activity

The County will continue with the current trainings with expanded content for the following topics:

- Pollution prevention and safe alternatives during operations and maintenance activities
- Permanent BMP maintenance at municipal facilities
- Non-storm water disposal alternatives (e.g., all wash waters)
- Review and update equipment and vehicle maintenance and repair practices
- Importance of native vegetation/mulch for preventing soil erosion during maintenance on the outside of facilities
- Lawful disposal of vacuum truck and sweeping equipment waste.
- Spill response, containment, and recovery.
- Proper/effective BMP selection, installation, and maintenance.

**SWMP Municipal Personnel Training Component Tasks**  
**Table 5-F**

Performance Practices	Type of Practices	IMPLEMENTATION SCHEDULE <sup>2</sup>																Responsibility <sup>3,4</sup>							Measurable Goals									
		2012				2013				2014				2015				2016				Facility Services	Public Works	Environmental Health		Building	Planning	County Counsel	County Executive	Emergency Services	Sheriff	Flood Control		
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4													
5-G Train Placer County personnel and consultants in proper stormwater quality program practices for municipal facilities operations and maintenance	E	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	A	R	A	A	A	-							Complete training and maintain records of attendees

1. C - Continue; E - Enhance; N – New
2. Q1 - Jan-March; Q2 - April-June; Q3 - July-Sept; Q4 - Oct-Dec
3. R - Responsible; A – Assisting
4. The Placer County NPDES Coordinator has primary responsibility for coordinating the implementation of performance standards and will provide overall support and coordination for the County Departments and Divisions who are responsible and assisting.

## 5-H FISCAL ANALYSIS

The permit Section III.B.8 requires that: *“Each Permittee shall conduct a fiscal analysis of its urban runoff management program in its entirety, including development and implementation of both SWMP and PLRPs (IV.C below), along with operations and maintenance costs. This analysis shall, for each fiscal year covered by this Permit, evaluate the expenditures (such as capital, operation and maintenance, education, and administrative expenditures) expected for Permit implementation. Such analysis shall include a description of the source(s) of funds that are proposed to meet the necessary expenditures, including legal restrictions on the use of such funds”.*

### Current Practice

The County Stormwater Program staff includes an Associate Engineer, a Staff Services Analyst, and a Engineering Tech. Additionally, the Stormwater program has from one to three part time college interns collect field data, provide GIS support, and provide administrative support. Funding to support the stormwater program staff is primarily from County Road and General Fund sources. The County also maintains Engineering staff in the Kings Beach Office who primarily design and construct water quality improvement projects. Engineering staff funding is primarily supported through project related grant funding.

Design and construction of water quality projects to treat runoff from public roads and properties is a critical element of the County’s strategy to reduce pollutant loads and comply with TMDL goals in the Tahoe basin. Much of that work is funded through state and federal grants, though such grants have not traditionally been available to support other aspects of permit and SWMP implementation. Grant funding opportunities are researched and explored by the Tahoe Engineering Division (Kings Beach Office) on a continuous basis. There are presently 10 active grants which have been awarded for water quality projects in various stages of planning, design or construction. The existing value of these grants is approximately \$15,000,000. There are an additional 3 grant applications in process.

Stormwater program funding needs are evaluated annually by the Public Works department, and presented to the County Executive Office for consideration. County stormwater program staff administer three separate municipal NPDES permits within the County; there is not a distinct budget amount assigned for each permit. The County’s approved budget for the NPDES program (County fiscal year July 1, 2013 - June 30, 2014) is approximately \$1,300,000 for the Stormwater Quality Program. Other County departments responsible for implementing storm water permit requirements do not specifically budget for such activities, since they are typically merged into existing responsibilities, i.e., inspections.

### Proposed Activity

The County will prepare a fiscal analysis of its Tahoe stormwater management program, as specified in Permit Section III.B.8. The analysis will consider SWMP and permit implementation, operations and maintenance costs, and will describe funding sources available to the program. Since Placer County is tasked with implementation of three separate NPDES municipal permits, all of which have been updated within the past year, the preparation of a detailed program fiscal analysis is complicated and is not yet available for inclusion in this SWMP. An analysis will be completed and included with the County's March 15, 2014 annual report to the Regional Board.

**SWMP Fiscal Analysis Component Tasks**  
**Table 5-H**

Performance Provisions	Type of Standard <sup>1</sup>	IMPLEMENTATION SCHEDULE <sup>2</sup>																Responsibility <sup>3,4</sup>								Measurable Goals						
		2012				2013				2014				2015				2016				Facility Services	Public Works	Environmental Health	Building		Planning	County Counsel	County Executive	Emergency Services	Sheriff	Flood Control
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4											
5-H Prepare a Fiscal Analysis for program implementation	N						X	X	X													R										Fiscal Analysis completed with 2014 Annual Report

1. C - Continue; E - Enhance; N - New

2. Q1 - Jan-March; Q2 - April-June; Q3 - July-Sept; Q4 - Oct-Dec

3. R - Responsible; A - Assisting

4. The Placer County NPDES Coordinator has primary responsibility for coordinating the implementation of performance standards and will provide overall support and coordination for the County Departments and Divisions who are responsible and assisting.

## 6 TMDL POLLUTANT LOAD REDUCTION REQUIREMENTS

### 6-A (i) Baseline Pollutant Loads

Permit Section IV.A states, in part: *“To translate basin-wide urban runoff load reduction requirements into jurisdiction-specific load reduction requirements, the Water Board has required the Permittees to conduct a jurisdiction-scale baseline load analysis as the first step in the TMDL implementation process for the urban pollutant source. Each Permittee has completed this analysis, and the submitted baseline pollutant load estimates are the basis for the particle number- and mass-based effluent limits in this Permit (Table IV.B.1).”*

The baseline basin-wide pollutant loads for the TMDL reflect conditions as of water year 2003/2004 (October 1, 2003-September 30, 2004), hereafter referred to as “baseline”. To translate basin-wide urban runoff load reduction requirements into jurisdiction-specific load reduction requirements, the Water Board has required Placer County to conduct a jurisdiction-scale baseline load analysis as the first step in the TMDL implementation process for the urban pollutant source. Placer County completed this analysis, and the submitted baseline pollutant load estimates are the basis for the particle number and mass-based effluent limits in this Permit. Table 6-1 details the loads.

Baseline Pollutant Loads  
Table 6-1

Jurisdiction	Baseline FSP (# of particles)	FSP Allowable Load	Baseline TP (kg)	TP Allowable Load	Baseline TN (kg)	TN Allowable Load
Placer County	2.6 X 10(19)	2.3 X 10(19)	1111	1033	4635	4264

### 6-B (ii) Pollutant Load Reduction Requirements and Water Quality-Based Effluent Limits

*Permit Section IV. B states, in part: “For the first five year milestone, jurisdiction-specific waste load reduction requirements, incorporated into this Permit as average annual particle number- and mass-based effluent limits (Table IV.B.1), are calculated by multiplying the percentage of reduction required by the urban uplands for each pollutant by each jurisdiction’s individual baseline load. Each jurisdiction must reduce fine sediment particle (FSP), total phosphorus (TP), and total nitrogen (TN) loads by 10%, 7%, and 8%, respectively, by **September 30, 2016.**”*

Pollutant load reductions will be measured in accordance with the processes outlined in the Lake Clarity Crediting Program to demonstrate compliance with the average annual fine sediment particle pollutant load reduction requirements, the County must earn and maintain 260 Lake Clarity Credits for water year October 1, 2015 to September 30, 2016, and for subsequent water years.

### **6-C Pollutant Load Reduction Plans**

Permit Section IV.C. requires that *“Each Permittee shall prepare a detailed plan describing how it expects to meet the pollutant load reduction requirements described in Section IV.B above. Permittees shall submit a plan no later than **March 15, 2013** that shall include, at a minimum, the following elements:*

- *Catchment registration schedule*
- *Proposed pollutant control measure*
- *Pollutant load reduction estimates*
- *Load reduction schedule*
- *Annual adaptive management.”*

The required plan was completed March 15, 2013 and is included in Appendix K. The plan details Placer County’s program to meet 2016 TMDL load reduction goals, and includes actions related to quantifying load reductions, registering catchments, and maintaining tracking and accounting for lake clarity credits earned. The plan also addresses adaptive management which is the annual assessment and possible adjustment of the stormwater activities and associated load reduction progress.

### **6-D Land Use Changes and Management Practices**

Permit Section IV. D states *“If either land use changes or management practices associated with development or re-development result in a reduction of pollutant loads from the estimated baseline, then this reduction can be counted toward meeting pollutant load reduction requirements. Conversely, actions to eliminate any pollutant load increase from these changes will not be counted towards the annual load reduction requirements.*

*In accordance with the Basin Plan, Permittees must ensure that changes in land use, impervious coverage, or operations and maintenance practices do not increase a catchment’s average annual baseline pollutant load.”*

The County will monitor land use changes and management practices that could potentially impact baseline load conditions to ensure that such impacts are considered appropriately in the lake clarity crediting process.

### **6- E Storm Water Facility Operations and Maintenance**

Permit Section IV.E requires *“Permittees shall operate and maintain storm water collection, conveyance, and treatment facilities to ensure, at a minimum, that the baseline pollutant loading specified in Table IV.B.1 does not increase.”*

Section 5C of this SWMP identifies the inspection and maintenance tasks the County intends to implement to meet this requirement.

### **6-F Pollutant Load Reduction Progress**

Permit Section IV. F, states *“To demonstrate pollutant load reduction progress, each Permittee shall submit a Progress Report by **October 1, 2013**. The Progress Report shall include:*

- 1. A list of erosion control and storm water treatment projects the Permittee completed between the May 1, 2004 and October 15, 2011.*
- 2. Pollutant load reduction estimates for all erosion control and storm water projects and any other load reduction actions up to October 15, 2011. The report shall compare the pollutant load estimates for work completed with the pollutant load reduction requirements described in Section IV.B above.”*

This Pollutant Load Reduction Progress Report was completed and is included with the Pollutant Load Reduction Report in Appendix K.

### **6-G Pollutant Load Reduction Monitoring Requirements**

Permit section IV.G states *“Permittees shall comply with all monitoring and reporting requirements specified in Section I of the attached Monitoring and Reporting Program(Attachment C).”*

This SWMP identifies the tasks and reporting that will be completed to meet this requirement.

**SWMP Pollutant Load Reduction Component Tasks**  
**Table 6-1**

Performance Provisions	Type of Standard <sup>1</sup>	IMPLEMENTATION SCHEDULE <sup>2</sup>																Responsibility <sup>3,4</sup>								Measurable Goals						
		2012				2013				2014				2015				2016				Facility Services	Public Works	Environmental Health	Building		Planning	County Counsel	CDRA	Emergency Services	Sheriff	Flood Control
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4											
6-B Implement the pollutant load reduction strategy plan	N					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	R									A	Implementation of priority projects
6-D Review land use changes and management practices for pollutant load impact	N					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	R						A				Review completed and pollutant load impacts quantified for use with PLR requirements
6-E Operate and maintain storm water systems										X	X	X	X	X	X	X	X	X	X	X	X	R										Baseline pollutant loading is not increased
6-G Complete monitoring and reporting per Attachment C										X	X	X	X	X	X	X	X	X	X	X	X	R										Compliance with Permit Attachment C

1. C - Continue; E - Enhance; N – New

2. Q1 - Jan-March; Q2 - April-June; Q3 - July-Sept; Q4 - Oct-Dec

3. R - Responsible; A – Assisting

4. The Placer County NPDES Coordinator has primary responsibility for coordinating the implementation of performance standards and will provide overall support and coordination for the County Departments and Divisions who are responsible and assisting.

## **7. RECEIVING WATER LIMITATIONS**

Permit Section 3.V, states, in part: *“The Permittees shall comply with discharge prohibitions specified in Sections I and II of this Permit through timely implementation of control measures and other actions to reduce pollutants in the discharges in accordance with the Permittees’ SWMPs and other requirements of this Permit, including my modifications.”*

In summary, the following procedure is required to assure compliance with discharge prohibitions and receiving water limitations:

1. Upon a determination by either the Permittee or the Water Board that discharges are causing or contributing to an exceedance of an applicable WQS, the Permittee shall notify and thereafter submit a report to the Water Board that describes Best Management Practices that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedance of WQSs.
2. If SWMP and/or monitoring program modifications are needed to incorporate new or revised BMPs, adjust implementation schedules, or add additional monitoring, the Permittee will make such changes within 30 days following approval of the report described above.
3. If changes have been made, implement the revised SWMP and monitoring program in accordance with the approved schedule.

Placer County intends to comply with the discharge prohibitions as outlined in Permit sections I and II, and to fully implement the SWMP and other requirements of the Permit. Should an exceedance of WQS occur, notifications, reporting, and SWMP/monitoring program modifications will be implemented as specified in the permit.

## **8. WATER QUALITY MONITORING REQUIREMENTS**

Permit Monitoring and Reporting Program, Attachment C, Section III.C, requires that *“By March 15, 2013 each Permittee shall prepare and submit to the Water Board a storm water monitoring plan to implement the requirements described in Sections III.A and III.B above.”*

To satisfy these requirements, the County is participating in the collaborative monitoring group effort known as the Regional Stormwater Monitoring Program (RSWMP). As described in the Implementers’ Monitoring Plan (Attachment A), the Tahoe Resource Conservation District will conduct monitoring and analysis, and prepare annual monitoring reports on behalf of the implementing jurisdictions.

## 9. MONITORING AND REPORTING PROGRAM/ANNUAL REPORT/KEY SUBMITTAL DATES

Permit Monitoring and Reporting requirements are outlined in Attachment C, Section IV. The permit states:

*“For each water year (October 1-September 30), Permittees shall develop and submit an Annual Report by **March 15, 2014** and by **March 15** of each subsequent year of the permit term. Annual Reports shall include the following elements:”*

- A. Pollutant Load Reduction Reporting
- B. Stormwater Facilities Inspection Report
- C. Construction Site Inspection Report
- D. Commercial, Industrial, and Municipal Site Inspection Report
- E. Traction Abrasive and Deicing Material Report
- F. Stormwater Monitoring Report
- G. Illicit Discharge Report
- H. Education Component Report
- I. Impacts Influencing Baseline Pollutant Loads Report

The County will submit an annual report to Lahontan Water Resources Control Board by March 15, 2014 and annually thereafter. Reports will be based on the water year starting with the first report year of October 1, 2012 to September 30, 2013. Table 8-1 summarizes submittal dates as specified in Permit Section VI.G. The Annual Reports will include any new information developed subsequent to adoption of the SWMP, such as any changes in goals or program structure.

**Submittal Dates  
Table 8-1**

Permit Submittal	Permit Section	Submittal/Required Completion Date
Analysis of Existing Legal Authority	III.A.4	March 15, 2012
Statement of Legal Authority	III.A.4	March 15, 2013
Amended Storm Water Management Plan	III.B	October 1, 2013
Pollutant Load Reduction Plan	IV.C	March 15, 2013
Pollutant Load Reduction Progress Report	IV.F	October 1, 2013
Report of Waste Discharge and preliminary Pollutant Load Reduction Plan	VI.F	June 9, 2016
Monitoring and Reporting Program Submittal	Attach.C Section	Submittal/Required Completion Dates
Two (2) Catchment Credit Schedules	I.D	March 15, 2012
Storm Water Monitoring Plan	III.C	March 15, 2013
Annual Report	IV	March 15, 2014 and annually
Development Impact Statement	I.G, IV.I	March 15, 2015

## DEFINITIONS AND ACRONYMS

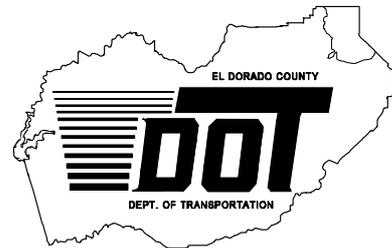
Acronym/Word	Definition	Description
BMP	Best Management Practice	Term used to describe an activity, management technique, device, or requirement that is intended to improve the quality of stormwater runoff.
CASQA	California Stormwater Quality Association	An organization that assists with permit regulations
CDRA	Community Development and Resources Agency	The Placer County Department Responsible for all development-related services to the community.
CFR	Code of Federal Regulations	
CTC	California Tahoe Conservancy	
CWA	Clean Water Act	
DPW	Department of Public Works	The Placer County Department responsible for road maintenance, water quality project implementation, and stormwater program coordination
EPA	Federal Environmental Protection Agency	
FSP	Fine Sediment Particles	
IDDE	Illicit Discharge Detection Elimination	
LRWQCB	Lahontan Regional Water Quality Control Board	State agency responsible for regulating water quality in the Tahoe Basin. Also referred to in SWMP as Regional Board and Lahontan.
LTEEC	Lake Tahoe Environmental Education Coalition	An Environmental Education Coalition sponsored by the University of Nevada Cooperative Extension and the University of California Cooperative Extension with the goal to assist many groups and organizations in working together to educate the public about how to prevent pollution of Lake Tahoe.
MRP	Monitoring and Reporting Program	
MOU	Memorandum of Understanding	
NOI	Notice of Intent	
NDEP	Nevada Division of Environmental Protection	State of Nevada regulatory agency for stormwater and partner with Lahontan for developing Lake Tahoe TMDL.
NDOT	Nevada Department of Transportation	
NPDES	National Pollutant Discharge Elimination System	

Acronym/Word	Definition	Description
Non-Filer		An entity that has not obtained the appropriate construction or industrial stormwater permit from LRWQCB.
ONRW	Outstanding Natural Resource Water	Designation under the Clean Water Act for the nation's highest quality waters. ONRWs are protected against degradation of water quality.
Order	Same as "Permit", below	
Permit	LRWQCB Waste discharge requirements and NPDES permit for, Board Order R6T-2011-0101A1, NPDES CAG-616001	Stormwater waste discharge permit common to the City of South Lake Tahoe, El Dorado County, and Placer County.
Plan	See SWMP	
PLRP	Pollutant Load Reduction Plan	County Plan for reducing the pollutant load in Lake Tahoe by 2026
RSWMP	Regional Stormwater Monitoring Program	The program to monitor catchemnts to verify model assumptions
Regional Board	Same as LRWQCB	
SEZ	Stream Environment Zone	TRPA designation of lands of special consideration adjacent to streams, wetlands and other water influenced areas.
SIC	Standard Industrial Classification	
SWMP	This Tahoe Stormwater Management Plan	The County's plan for meeting the program requirements of the LRWQCB Municipal Permit
SWQIC	Stormwater Quality Improvement Committee	A subcommittee of the Lake Tahoe Basin Executives Committee of the TRPA, established to improve the design and effectiveness of stormwater quality improvement projects by working on process issues.
TMDL	Total Maximum Daily Load	Measure of how much pollutant is allowed.
TRCD	Tahoe Resource Conservation District	
TRPA	Tahoe Regional Planning Agency	
TIIMS	Tahoe Integrated Information Management System	
TRG	Tahoe Research Group	
USFS	United States Forest Service	
WQIP	Water Quality Improvement Project	
WDID	Waste Discharge Identification Number	The unique identification number assigned by the State of California to various types of waste discharge permits.

# Appendix – A

# Implementers' Monitoring Program (IMP)

## Component of the Regional Storm Water Monitoring Program (RSWMP)



# Implementers' Monitoring Plan

Submitted to the Lahontan Regional Water Quality Control Board  
and the Nevada Division of Environmental Protection

April 30, 2013

Funds for this project are provided by the USDA Forest Service Lake Tahoe Basin Management Unit through the Southern Nevada Public Lands Management Act and the Department of Conservation for a Watershed Coordinator



Submitted by the Tahoe Resource Conservation District  
in cooperation with:

California

El Dorado County

Placer County

City of South Lake Tahoe

California Department of Transportation

Nevada

Douglas County

Washoe County

Nevada Tahoe Conservation District

Nevada Department of Transportation

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- Appendix A: Updated Waste Discharge Requirements and National Pollutant Discharge Elimination System (NPDES) Permit for Stormwater/Urban Runoff Discharges from El Dorado County, Placer County and the City of South Lake Tahoe within the Lake Tahoe Hydrologic Unit, Order No. R6T 2011-101A, October 12, 2012.
- Appendix B: National Pollutant Discharge Elimination System (NPDES) Statewide Stormwater Permit for Waste Discharge Requirements for State of California Department of Transportation, Order No. 2012-0011-DWQ, July 1, 2013.
- Appendix C: Sampling and Analysis Plan, Tahoe Regional Stormwater Monitoring Program. Division of Hydrologic Sciences, Desert Research Institute and Tahoe Environmental Research Center, University of California, Davis. May 10, 2011.
- Appendix D: Quality Assurance Program Plan, Tahoe Regional Stormwater Monitoring Program. Division of Hydrologic Sciences, Desert Research Institute and Tahoe Environmental Research Center, University of California, Davis. May 10, 2011.

## LIST OF ACRONYMS

AV	Area-Velocity
BMP	Best Management Practice
Caltrans	California Department of Transportation
CEDEN	California Environmental Data Exchange Network
cf	cubic feet
cfs	cubic feet per second
CICU	Commercial, Industrial, Communications, Utilities
CMP	Corrugated Metal Pipe
CRC	Characteristic Runoff Concentration
District	Tahoe Resource Conservation District
DRI	Desert Research Institute
DTU	Data Transfer Unit
EIP	Environmental Improvement Program
EMC	Event Mean Concentration
FSP	Fine Sediment Particles
ICR	Indirect Cost Rate
IMP	Implementers' Monitoring Program
IV	Incline Village
MFS	Media Filtration System
NDOT	Nevada Department of Transportation
NPDES	National Pollutant Discharge Elimination System
NTCD	Nevada Tahoe Conservation District
PD	Pasadena
PLRM	Pollutant Load Reduction Model
PLRP	Pollutant Load Reduction Plan
QAPP	Quality Assurance Project Plan
QC	Quality Control
RAM	Rapid Assessment Method
ROW	Right-of-Way
RSWMP	Regional Storm Water Monitoring Program
RTD	Rapid Transfer Device
RU	Rubicon
SAP	Sampling and Analysis Plan
SLRP	Stormwater Load Reduction Plan
SR	SR431
SWAMP	Surface Water Ambient Monitoring Program
TA	Tahoma
TN	Total Nitrogen
TMDL	Total Maximum Daily Load
TP	Total Phosphorus
TRPA	Tahoe Regional Planning Agency
UCD	University of California, Davis

μm	micro-meters
TSS	Total Suspended Solids
USDA	United States Department of Agriculture
WQIP	Water Quality Improvement Project

## PREFACE

This document is intended to function as the Lake Tahoe Basin's first collaborative monitoring plan for implementation efforts related to the urban stormwater source category of the Lake Tahoe Total Maximum Daily Load (TMDL). This monitoring program was developed jointly by the California and Nevada implementing jurisdictions in an attempt to collectively fulfill California National Pollutant Discharge Elimination System (NPDES) Permit requirements or Nevada Interlocal Agreement commitments. However, this monitoring plan also represents a historic first step toward implementing a comprehensive Regional Stormwater Monitoring Program (RSWMP) envisioned for the Tahoe Basin. All data will be collected in a manner consistent with RSWMP monitoring protocols so it can easily be analyzed to align with the goals and objectives presented in the multi-agency driven RSWMP Data Quality Objective Plan (Heyvaert et al 2011a), Quality Assurance Project Plan (Heyvaert et al 2011b), and Sample Analysis Plan (Heyvaert et al 2011c).

Although the scope of this monitoring plan does not include answering the following four RSWMP Key Study Questions, the generated data and information will support and feed into the forthcoming RSWMP effort. These four questions were developed to guide the evaluation criteria for determining the success of the Lake Tahoe TMDL's pollutant reduction strategies and are a priority for Basin Managers. Additionally, they were established in concert with the Tahoe Science Consortium (TSC) and were previously endorsed by the Tahoe Inter-agency Executive Committee (TIE). The four Key RSWMP Study Questions that data collected under this monitoring plan will feed into are as follows:

- 1) *Are the stormwater Characteristic Runoff Concentrations (CRCs) developed for identified land use types in the Tahoe Basin suitable for use in deriving Pollutant Load Reduction Model (PLRM) estimates of pollutant loading?***
- 2) *Are the stormwater Characteristic Effluent Concentrations (CECs) developed for different treatment and source control practices appropriate for PLRM estimates of load reductions?***
- 3) *Are drainage area load reduction estimates from PLRM projections verified by field data collected from the projects under construction?***
- 4) *Are pollutant loads from urban stormwater runoff in the Tahoe Basin decreasing in response to Environmental Improvement Program (EIP) and TMDL implementation, and what are the long-term trends related to TMDL load reduction targets?***

Furthermore, the data collected as part of this monitoring will not determine TMDL pollutant load reduction credits, rather, it serves to support the TMDL Management System and the modeling and assessment tools associated with crediting. Thus, data collected

under this monitoring plan will be evaluated by the Tahoe Resource Conservation District (Tahoe RCD) and presented to the Lahontan Regional Water Quality Control Board (Water Board) and the Nevada Division of Environmental Protection (NDEP) as part of meeting annual compliance reporting needs. This data will then be further analyzed under the purview of RSWMP such that recommendations can be provided to guide future stormwater program efforts. As this work progresses the following questions can also be explored:

- 5) *On a site by site basis, what is the correlation between turbidity and fine sediment particle (FSP) concentrations?***
  
- 6) *Once a site-specific rating curve has been developed between turbidity and FSP, is using a continuous turbidimeter in place of a traditional autosampler a suitable and cost effective alternative?***
  
- 7) *How can monitoring data be used to support, enhance, and inform the jurisdictions' existing pollutant load estimates as modeled by the PLRM (or comparable models), and their condition assessment methods (Road RAM, BMP RAM or other comparable methods).***

Question 5 and 6 above will likely contribute to future RSWMP method development, model refinement, and cost effective implementation practices. This question is relevant because TMDL baseline conditions and associated load allocations were generated from data collected with traditional autosampler methodology. However due to the constant search for cost savings, continuous turbidity has been used in more recent studies (2NDNATURE and NHC 2010a), (2NDNATURE and NHC 2012). Since data collected by 2NDNATURE and NHC 2010b, and Heyvaert et. al., 2010 suggest there is a positive correlation between turbidity and fine sediment particles (FSP), one of Lake Tahoe's primary pollutants, work performed under this monitoring plan will employ, where feasible, the use of both autosampler and turbidimeter methodologies.

As part of fulfilling regulatory requirements, the jurisdictions will compile road operations and maintenance data, BMP maintenance records, as well as road and BMP condition assessments. This information will be summarized in annual reporting documents and will assist in answering Question 7. Knowing the condition of a road or BMP, the incidence of BMP maintenance, and/or the frequency of abrasive application and road sweeping prior to a monitored precipitation event lend valuable information to the interpretation of observed nutrient and sediment loads.

Lastly, RSWMP documents also identify the four "types" of monitoring needed to fill scientific data gaps; implementation, effectiveness, status and trend, and model support monitoring. The work performed under this monitoring plan will contribute to data collection that will help fulfill all of these monitoring needs. The California NPDES Permits and Nevada Interlocal Agreements qualify as implementation monitoring, whereas BMP

evaluations would fall under effectiveness monitoring. Long-term consistent data sets generated through permit and agreement compliance will also be useful in refining model predictions and identifying status and trends in the watershed.

This monitoring effort will utilize and build upon a significant body of work performed by the California and Nevada stormwater jurisdictions, Desert Research Institute, University of California, Davis Tahoe Environmental Research Center, 2NDNATURE, and Northwest Hydrologic Consultants (NHC). In addition, data collected for this work will assist in serving larger programmatic and regulatory needs and will benefit the Lake Tahoe TMDL's Adaptive Management System, the Status and Trend Monitoring and Evaluation Program at TRPA (environmental indicator tracking), and even California's Surface Water Ambient Monitoring Program which reports on surface water quality around the state. The larger RSWMP group, composed of basin scientists, agency partners, implementers, regulators and funders, some of which are listed above, will be a part of the discussion on how the RSWMP structure will function in the future.

As previously stated, this monitoring plan was developed for the implementation of the TMDL through California NDPES Permits and Nevada Interlocal Agreements; however, much of this data will be evaluated as part of the larger RSWMP effort, and will allow for a consistent monitoring design, data collection, analysis and reporting approach. The ability to tie this monitoring plan to the RSWMP vision will take continued collaboration and partnership building, and is an excellent opportunity to discuss and adaptively manage future program improvements and requirements for the next monitoring period beginning in 2016.

Beyond partnership building, permit compliance and a functional RSWMP, there is still a significant challenge ahead, one in which all partners will need to work together to find realistic funding sources for long term implementation of RSWMP, as well as basic permit and agreement compliance monitoring. Funds provided to the Tahoe Resource Conservation District, through the State Water Quality Control Board's Proposition 84 Stormwater Grants Program, will help move the Tahoe Basin in addressing this next major hurdle. Initial planning and work agreements are expected to begin in late 2013-early 2014; the primary purpose being to further develop a comprehensive stormwater monitoring program in the Lake Tahoe Basin.

## INTRODUCTION

The Lake Tahoe Total Maximum Daily Load (TMDL) is a comprehensive, long-term plan to reverse the decline in deep-water transparency of Lake Tahoe and restore mid-lake clarity to the 1967-1971 level of 29.7 meters (97.4 feet). TMDL science suggests that up to two thirds of the decrease in clarity is attributable to fine sediment particles (FSP, <16 µm in diameter), and that the urbanized areas, roadways in particular, account for approximately 72% of FSP that eventually enter the lake (Lake Tahoe TMDL Technical Report, 2010).

Following the adoption of the TMDL in August 2011, the Lahontan Regional Water Quality Control Board approved a Municipal National Pollutant Discharge Elimination System (NPDES) permit (NPDES NO. CAG616001 Updated Waste Discharge Requirements and National Pollutant Discharge Elimination System (NPDES) Permit for Stormwater/Urban Runoff Discharges from El Dorado County, Placer County and the City of South Lake Tahoe within the Lake Tahoe Hydrologic Unit, Order No. R6T 2011-101A) (herein after “Municipal permit”) on December 6, 2011, and later amended on October 12, 2012 (attached herein as Appendix A).

The Municipal permit requires California jurisdictions in the Lake Tahoe Basin to take measures to decrease pollutant loading from stormwater runoff in urbanized areas. Local California jurisdictions must implement pollutant controls to decrease FSP and nutrient inputs, and must monitor and evaluate select urban catchment outfalls and Best Management Practices (BMPs) for flow volumes and sediment and nutrient loads. While monitoring data will not be used assess credits earned under the Lake Clarity Crediting Program for implementing effective pollutant controls, it will provide empirical data that will begin to (1) inform assumptions used to estimate runoff volumes and pollutant loads modeled with the Pollutant Load Reduction Model (PLRM) (2) assess nutrient and sediment loading at chosen catchments, (3) evaluate BMP effectiveness at chosen BMPs.

Similar permits or regulatory programs have been adopted for the California Department of Transportation (Caltrans) under NPDES NO. CAS000003, NPDES Statewide Stormwater Permit for Waste Discharge Requirements for State of California Department of Transportation, Order No. 2012-0011-DWQ effective July 1, 2013 (attached herein as Appendix B), The three urban jurisdictions located within Nevada, Washoe County, Douglas County and the Nevada Department of Transportation (NDOT) will each enter into Interlocal Agreements with the Nevada Division of Environmental Protection to implement the Lake Tahoe Total Maximum Daily Load. These agreements are expected to become effective in August 2013.

This document will therefore outline a monitoring plan that is sufficient to achieve compliance with the requirements described in Attachment C, sections IIIA and IIIB of the California Municipal permit, as well as the stormwater monitoring commitments contained in the Nevada agreements. This monitoring plan will also assist Caltrans in meeting their

permit requirements to submit a Stormwater Monitoring Plan to meet Lake Tahoe TMDL Implementation Requirements by July 15, 2013.

## BACKGROUND

Road systems and urban development have increased the total impervious area in the Tahoe basin, resulting in increased stormwater runoff volumes due to decreased natural infiltration. Stormwater runoff transports FSP, as well as nitrogen and phosphorus, resulting in more pollutant loading from the many highly impervious urban catchments located within each jurisdiction. Areas with greater hydrologic connectivity to Lake Tahoe are believed to have the highest potential to contribute FSP loads directly to the lake. To date, jurisdictions around the lake have spent tens of millions of dollars implementing projects as part of the many Water Quality Improvement Projects (WQIPs) which in this document are defined as those Environmental Improvement Programs (EIPs) whose primary purpose was to reduce impacts on Lake Tahoe from stormwater runoff. These projects often include numerous stormwater treatment strategies spread throughout the urban catchments, and may include stormwater infrastructure in the form of BMPs such as curb and gutter, sediment traps, a variety of treatment vaults and infiltration mechanisms, street sweepers, constructed wetlands, and source control measures like slope stabilization. Catchment scale runoff monitoring is needed to verify that cumulative implementation of pollutant control actions are resulting in measurable pollutant load reductions. BMP effectiveness monitoring is needed to verify that BMPs are reducing pollutant loads and to improve the installation and maintenance practices that will optimize water quality benefits over the long-term.

Furthermore, data collected under the Municipal permit are complementary to long-term regional stormwater monitoring efforts proposed under the Tahoe Basin's Regional Storm Water Monitoring Program (RSWMP). These data, in conjunction with the Tahoe Basin's long-term tributary monitoring program, will become valuable in helping to determine long-term status and trends related to upland runoff. Municipal permit compliance is a critical first step toward developing RSWMP, but it does not encompass the entire strategy or vision for RSWMP. The programmatic structure and implementation of RSWMP is being developed concurrently with permit monitoring using another funding source.

The Implementers' Monitoring Program (IMP) is a partnership between the Tahoe Resource Conservation District (the District), El Dorado County, Placer County, the City of South Lake Tahoe, Douglas County, Washoe County, the Nevada Tahoe Conservation District (NTCD), NDOT, and Caltrans. The District is the prime recipient of \$750,000 from Round 12 of the Southern Nevada Public Lands Management Act (SNPLMA) issued through the USDA Forest Service, and will work on behalf of the local jurisdictions to implement coordinated monitoring requirements necessary for meeting Municipal permit needs. In addition to having in-house administrative and stormwater monitoring expertise, the District can also

contract across jurisdictional and state lines, making it an ideal agency to coordinate and collaborate with both California and Nevada agency representatives. Functioning with the District as a cohesive unit, the IMP partners will support the “one lake, one plan” ideal, as well as promote cost savings gained through economies of scale.

## GOALS FOR MONITORING

The goals of water quality monitoring under this plan are to (1) comply with the monitoring requirements contained in the stormwater permits and agreements, (2) collect meaningful data this is useful for informing jurisdictions’ efforts to effectively and efficiently manage their stormwater programs, and (3) support TMDL implementation progress assessment and program improvement. Additionally, implementation of this monitoring plan will facilitate a better understanding of stormwater model performance under actual, site-specific conditions in the selected catchments. The PLRM, as developed, has incorporated the best possible assumptions valid basin-wide for multiple jurisdictions. Thus, the PLRM is consistent across all catchments and an important load crediting tool. However, actual conditions in particular catchments would be expected to vary from the basin-wide assumptions to some degree. Comparing model results to measured data is critical to verify model performance. The current Municipal permit requires continuous flow data and a minimal number of events sampled per year (one per season) at each site pursuant to section III.A.3 of Attachment C. Over time, a robust dataset for each monitoring site will be developed, providing a greater degree of confidence in meeting the secondary goal.

Lastly, the uniqueness of the different monitoring and evaluation sites will contribute to initial development and eventual implementation of a basin-wide catchment scale monitoring network under RSWMP. Each site has implemented or planned water quality improvement strategies believed to represent the best known methods for reducing pollutant loading to Lake Tahoe. As this permit monitoring continues, it will help inform what types of sites and BMPs should be included in a regional stormwater monitoring network.

Five catchments have been chosen to be monitored. These catchments are defined as the area that drains to an outfall monitoring site and can be modeled as a PLRM catchment. (In some instances, PLRM catchments are subsets of larger Urban Planning Catchments.) Monitoring will include flow measurements and water quality sampling at eleven monitoring stations: the outfalls of the five selected catchments, and the inflows to and outflows from the selected BMPs located within three of those catchments.

The monitoring plan includes:

- Measuring continuous flow at each of the eleven monitoring stations,
- Measuring continuous turbidity at selected monitoring stations,

- Taking samples across the hydrograph during four different storm event types at ten of the eleven monitoring stations,
- Analyzing samples for total nitrogen (TN), total phosphorus (TP), total suspended solids (TSS), turbidity, and fine sediment particles (FSP),
- Calculating seasonal and annual runoff volumes at each of the eleven monitoring stations and nutrient and sediment loads at ten of the eleven monitoring stations.

The District is responsible for installations and, as needed, will coordinate with the University of California, Davis (UCD) and Desert Research Institute (DRI) staff to instrument the eleven stations and install the devices necessary to monitor flow, continuous turbidity, and to collect samples. Site instrumentation is expected to begin the summer of 2013 so that monitoring can commence on October 1, 2013 (the start of water year 2014 (WY14)). The District is also responsible for coordinating and performing all tasks associated with sampling, with assistance from the NTCD and UCD. Sampling tasks include, but are not limited to, collecting data and samples from the monitoring stations, filtering samples for TSS, and ensuring delivery of the samples to appropriate analytical laboratories. The District will also coordinate site and equipment maintenance, database management, data analysis, and complete annual and final reporting.

## MONITORING SITES

Five catchment outfall sites and four BMP effectiveness projects covering two different treatment approaches have been selected for monitoring (Figure 1) in five locations: SR431 (SR), Incline Village (IV), Tahoma (TA), Rubicon (RU), and Pasadena (PD). Some of these locations will be used as both outfall and BMP sites; their descriptions are to follow in this section. All sites were chosen because of their high direct hydrologic connectivity to Lake Tahoe. In addition, there is one catchment located within each CA jurisdiction as required by the CA permit. Catchment outfall sites were selected based on a diversity of land uses, a range of catchment sizes, and a reasonably equitable distribution of sites among the participating jurisdictions. BMP effectiveness projects were selected because of their potential efficacy in treating storm water runoff characteristic of the Lake Tahoe basin, the broad interest in and lack of conclusive data regarding the efficiency of the selected BMPs in reducing runoff volumes and pollutant loads, especially FSP, and the importance of determining the maintenance required to retain effectiveness.

Table 1 summarizes the selected monitoring sites and their corresponding designation as catchment outfall and/or BMP effectiveness project. Total catchment area, percent impervious area in the catchment, and land-use distribution are also shown. The Other/Vegetated category includes mostly vegetated areas, but may also include unimproved roadside shoulders with sparse vegetation, and was not considered in the ranking.

Table 1: Selected monitoring sites and corresponding characteristics. Dark pink highlights the dominant urban land-use in the catchment, medium pink the second most dominant urban land-use, and light pink the third most dominant urban land-use.

Site Name	Outfall	BMP	# Monitoring Stations	Jurisdiction	Total Acres	% Impervious Area	Single Family Residential	Multi-Family Residential	CICU*	Primary Roads	Secondary Roads	Vegetated
SR431 (SR)	√	√√	5	NDOT	0.61	99%	0%	0%	0%	95%	0%	5%
Incline Village (IV)	√		1	Washoe	83.6	46%	3%	38%	33%	10%	3%	13%
Tahoma (TA)	√		1	Placer, El Dorado, Caltrans	49.5	30%	41%	4%	12%	2%	15%	25%
Rubicon (RU)	√	√	2	El Dorado	13.8	24%	76%	0%	0%	0%	15%	8%
Pasadena (PD)	√	√	2	CSLT	78.9	39%	52%	13%	5%	0%	16%	13%

\*Commercial, Industrial, Communications, Utilities

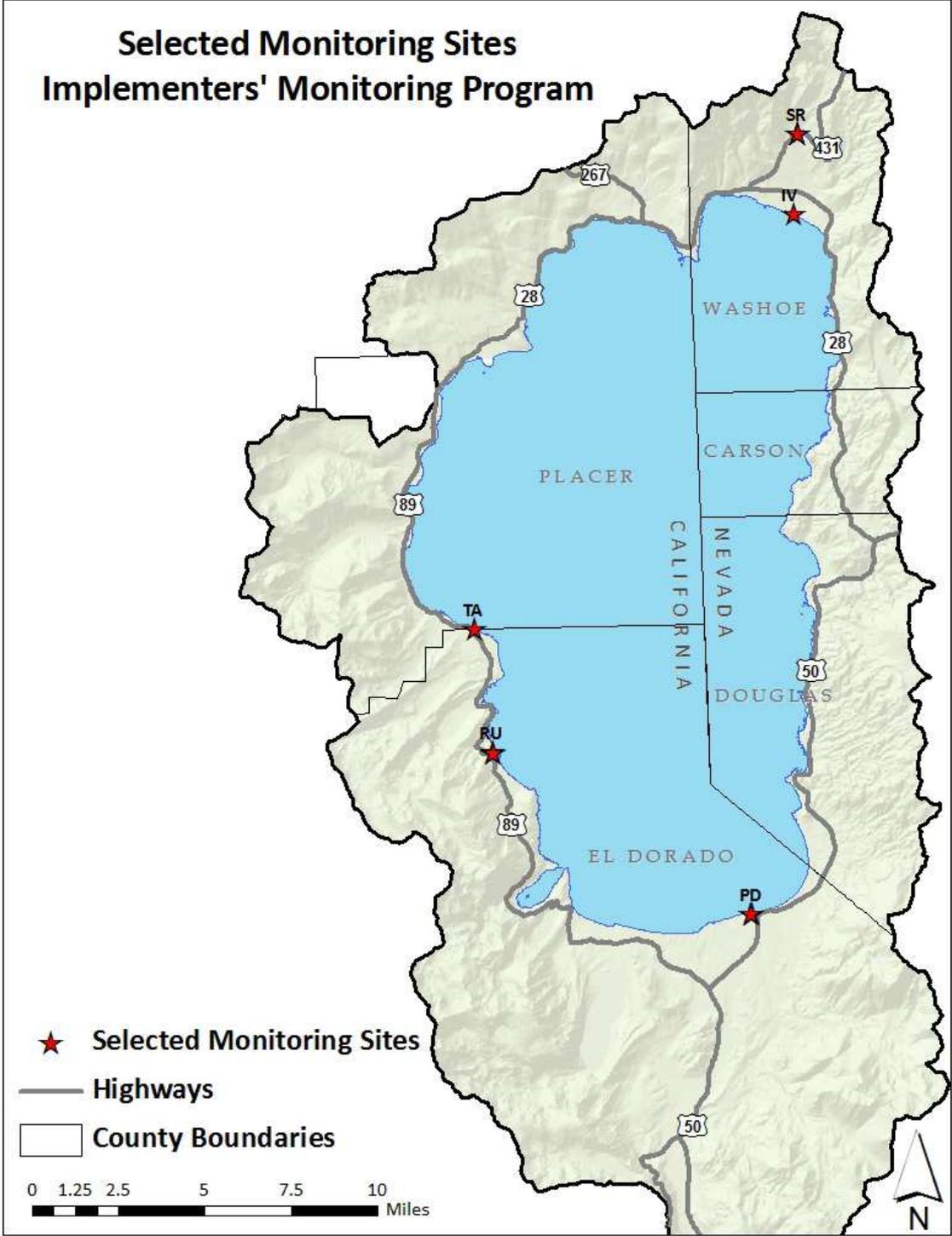


Figure 1: Distribution of selected monitoring sites. See Table 1 for site name acronyms and characteristics.

To reduce redundancy in data collection, each catchment has distinctive characteristics. SR431 is a small catchment dominated by primary road. Central Incline Village is a large catchment composed primarily of higher density development including multi-family residential and commercial properties and a relatively large proportion of primary roads. Tahoma and Pasadena are similar in that they are both medium density single-family residential neighborhoods crisscrossed with secondary roads, but they differ in size, slope, and distribution of the higher density land-uses of multi-family residential and commercial properties. Rubicon is a lower density single-family residential neighborhood with no multi-family residential or commercial properties. Though Tahoma, Pasadena, and Rubicon are all dominated by the single-family residential land-use classification, monitoring resources will be well spent because they represent the type of development most common around Lake Tahoe, and have widely different planned or implemented water quality improvement strategies. Water quality improvements in all five of these catchments span a wide range of strategies, from permeable pavement along roadway shoulders, to a variety of infiltration mechanisms, to treatment vaults, to erosion control methods. Each site has a unique combination of improvement strategies that will contribute to a greater understanding of their efficacy and avoid duplication of data collection efforts.

The chosen BMPs will provide comparative data from three different types of cartridge filter vault installations (a Contech Storm Filter, a Contech Media Filtration System (MFS) and an Imbrium Jellyfish membrane filtration cartridge) and evaluate a pair of subsurface infiltration chambers of a size and type commonly considered for private parcel BMPs as well as EIPs. As of 2006 (2NDNATURE, 2006) several infiltration basins and constructed wetlands had been monitored in the Tahoe Basin, but only one cartridge filter of the Storm Filter variety. The Storm Filter study was largely inconclusive due to sample handling discrepancies, difficulties monitoring low flow conditions, and poor maintenance practices. However, reductions in some pollutants were found to be significant. To date, no studies have been conducted to evaluate the efficiencies of the MFS or the Jellyfish, nor has conclusive study been done on a Storm Filter. This monitoring plan fills the need to monitor several different types of cartridge filters to begin to shed light on what type works best for stormwater characteristic to Lake Tahoe, especially with regards to FSP. Not only are the selected cartridge filter vaults designed specifically to remove FSP, but they offer the ability to treat stormwater in areas with limited space for treatment basin construction, a common problem in the densely developed areas that need stormwater treatment the most. Subsurface infiltration chambers are also a viable option for stormwater treatment in confined areas and preliminary unpublished studies have shown significant stormwater runoff volume reduction through infiltration. No formal studies have been done on infiltration chambers in the Tahoe Basin, but with their reputed effectiveness, they have the potential to become more widely used as a BMP. This monitoring plan will formally evaluate the effectiveness of infiltration chambers, providing efficiency data that may justify their widespread use. Monitoring data will also begin to inform maintenance schedules required for sustaining treatment effectiveness of each of the BMP types monitored. A detailed description of each site follows.

## SR431

The SR431 monitoring site is located on State Route 431 in Washoe County above Incline Village, Nevada (Figure 2). At this location, State Route 431 is a two-lane road with a catchment area that includes 0.61 acres of NDOT right-of-way (ROW) of which approximately 95% of the surface is impervious. The catchment outfall discharges directly into a perennial stream called Deer Creek which connects with Third Creek and discharges into Lake Tahoe, giving this site the distinction of being directly connected to the lake despite being 2.5 miles from it. The adjacent, stabilized, vegetated hillside on the northeast side of the catchment represents approximately 14 acres and contributes no additional runoff to the catchment. The area on the southwestern side of the highway slopes steeply downward and does not flow towards the catchment.

SR431 will be monitored as a catchment outfall site and for evaluating and comparing BMP effectiveness of two adjacent vaults containing different cartridge filter types. Though located in a rural area with moderate highway traffic density, SR431 is the only site that isolates the characterization of runoff from primary roads. All other selected sites have commingled runoff from various land-uses, making it difficult to determine FSP contribution from primary roads only. This is important because primary roads have been identified as the largest single generator of FSP in the Lake Tahoe basin (Lake Tahoe TMDL Technical Report, 2010). Though the catchment is of a size smaller than recommended for modeling using PLRM, this provides a unique opportunity to evaluate whether PLRM can reasonably estimate pollutant loads in a small catchment. Because the catchment is comprised of only a single land-use that is almost entirely impervious, PLRM has the potential to be acceptably effective at predicting pollutant loads, especially if coupled with shorter than 15 minute precipitation logging intervals. In addition, SR431 is the only site currently available where a true side-by-side comparison of stormwater cartridge filter types can be performed. There is little information available at this time regarding the FSP removal capability of different stormwater filter cartridges. This site will allow for a real-world comparison of two treatment technologies that may be applicable to stormwater treatment around the Lake Tahoe basin in the future.

An EIP (#01.01.02.11) was recently completed in this catchment. In addition to slope stabilization and installation of permeable pavers on the shoulders of the highway, two side-by-side stormwater cartridge filter vaults were installed on the south side of the highway, an Imbrium Jellyfish and a Contech MFS. Runoff sheetflows across a portion of State Route 431 and falls into a drop inlet (DI). Flow to the system is limited by an orifice plate installed in the drop inlet and the maximum amount of head that can be developed above the orifice. The DI includes a two-foot deep sump for capturing large particles. A 12-inch plastic pipe connects the DI to a splitter. The flow is split (approximately evenly) and runs 75 feet through two 8-inch plastic pipes to either the Jellyfish or the MFS. The stormwater is treated in one of the two cartridge filter vaults and discharged through two 8-inch outflow pipes to a short, steep swale that enters Deer Creek. Any flow exceeding the

restriction at the orifice plate bypasses the system and flows on the shoulder surface to a triple wide drop inlet and is discharged to the same creek through a 24-inch outflow pipe from the triple wide drop inlet.



Figure 2: SR431 monitoring site, including monitoring station locations, catchment boundary and land use distribution.

The Jellyfish (Figures 3 and 4) consists of three membrane filtration cartridges, each containing eleven 2.75 inch diameter cylindrical membrane filters or “tentacles” 54 inches in length contained within a six foot diameter fiberglass chamber. The design treatment flow rate for the installed Jellyfish is approximately 0.3 cfs. The high surface area of the membranes ensures long-lasting treatment. Vibrational pulses dislodge sediment from the membrane surfaces during filtration. In addition, filtered water backwashes membrane filtration tentacles and sediment is continuously removed from the tentacles by gravity. The coarse particles settle to the sump at the bottom of the fiberglass cartridge. The Jellyfish is designed to remove 100% of trash, 89% of total suspended solids, 60% of total

phosphorus, 50% of total nitrogen, greater than 50% of metals, and turbidity to less than 15 NTU.



Figure 3: View looking down on Imbrium Jellyfish membrane filtration cartridges installed in concrete vault at SR431.

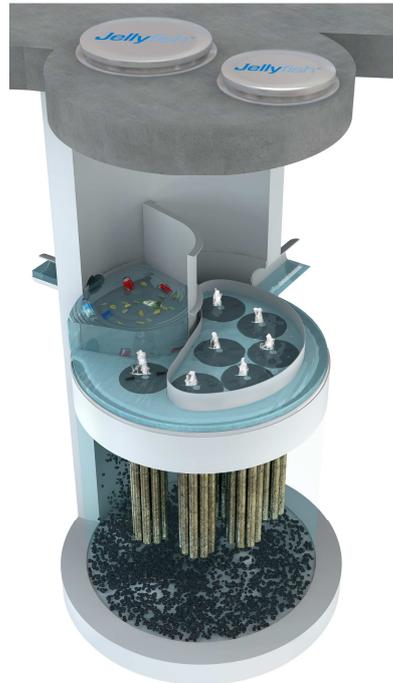


Figure 4: Schematic of inside of a single Imbrium Jellyfish membrane filtration cartridge (photo courtesy of Imbrium).

The Contech MFS consists of a series of nine upright, cylindrical filtration cartridges filled with media arrayed in an underground concrete vault (Figure 5). As stormwater enters the vault through an inflow pipe, the vault is filled and the cartridges are submerged. Polluted stormwater is forced through the outer screen of the cartridges and through the media, into a perforated center tube, and out through a pipe under the cartridges (Figure 6). The design treatment flow rate for the installed MFS is approximately 0.3 cfs, comparable to the Jellyfish. The outflow pipe will not discharge until the vault is filled to a certain level and float valve is opened. At SR431, the cartridges will be filled with perlite. Perlite was chosen as the media specifically because it has the potential to remove fine solids less than 15 $\mu$ m in diameter from runoff. Perlite will also remove a wide variety of other pollutants including heavy metals, oil and grease, and nutrients. In addition, the bottom of the concrete vault provides the opportunity for gravity settlement and storage of larger sized particles.



Figure 5: Contech MFS filter cartridges in underground concrete vault at SR431. Float valve is behind fiberglass shield. An outflow pipe runs underneath each row of cartridges.

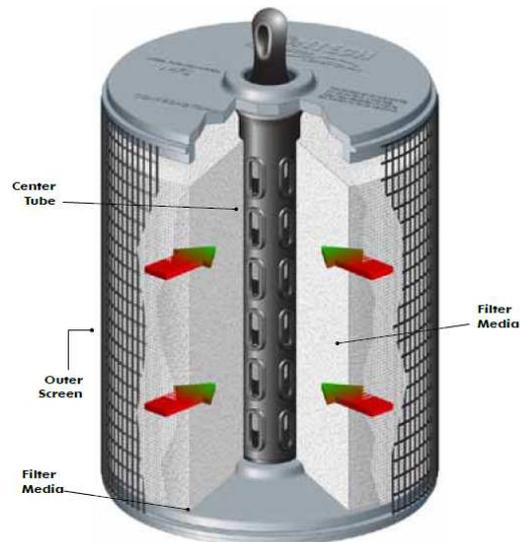


Figure 6: Schematic of single Contech MFS filter cartridge (photo courtesy of Contech).

Five monitoring stations will be instrumented at this site: on the inflow (J1) and outflow (J2) pipes of the Jellyfish, on the inflow (C1) and outflow (C2) pipes of the Contech MFS, and on the 24-inch bypass outflow pipe of the triple wide drop inlet (S1). Stations J1, J2, C1, and C2 each have a manhole specifically designed to facilitate monitoring and provide access to Parshall flumes designed for a wide range of flow rates in an 8-inch pipe. At S1, monitoring will occur directly in the outflow pipe that discharges the bypassed flow.

The sum of runoff volumes and pollutant loads from S1, J2, and C2 will be used to characterize the outfall from the catchment. Pollutant loads at the outflows of each cartridge filter type (J2 and C2) will be compared to pollutant loads at the inflows to each cartridge filter type (J1 and C1 respectively) to determine reductions attributable to each cartridge filter type. It is assumed that neither the Jellyfish nor the MFS retains or infiltrates any flow, so flow volumes will not be reduced. The two different cartridge filter types will also be compared to each other to determine which is more effective at retaining pollutants, FSP in particular. In addition, it is likely that after a certain amount of runoff volume, data will show that pollutant retention in the cartridge filter vaults begins to decline. Coupled with visual observations, this will help to determine maintenance schedules for the different cartridge filter types.

## *Incline Village*

The Incline Village monitoring site is located on the western edge of the parking lot for Incline Beach Park near the end of Village Blvd on the south side of Lakeshore Blvd in Incline Village, Nevada. It will be monitored as a catchment outfall at one monitoring station (V1). At 83.6 acres, this is the largest catchment monitored and it includes runoff from Washoe County and NDOT jurisdictions. The catchment drains a relatively steep, highly urbanized area of Incline Village with dominant urban land-uses consisting of moderate to high density residential, commercial, and primary roads. Forty-six percent of the area is impervious and there is a lack of any intervening natural dispersion and infiltration areas. Runoff discharges directly to the lake via a 30-inch CMP that day-lights into a rock-lined ditch before entering Lake Tahoe. The monitoring station is located on the rock-lined ditch (Figure 7).

The catchment is located in the Wood Creek Watershed and includes both primary high-risk (Highway 28) and secondary high-risk (Village Blvd.) roads. Because of the highly urbanized nature of the catchment, the area has a high potential for generating FSP. There are numerous unarmored roadside ditches and bare shoulders used for parking that are known to contribute large amounts of sediment to runoff. Visual observations during past events have indicated that runoff is considerably turbid and therefore potentially high in nutrients and sediments (field observations by Andrea Parra).

Preliminary studies conducted during the Incline Village Commercial and Lower Wood Creek EIP#669 in 2000 have shown that an existing Vortech V Vault immediately upstream of the monitoring station provides minimal treatment to approximately a quarter of the flow to the outfall, but the remainder of the flow is untreated (Lumos and Associates, 2000) as it flows through culvert pipes and compacted, eroding roadside ditches to the outfall location. The changes to FSP and nutrient concentrations are insignificant. A very small portion of the total flow from the catchment area (Lumos and Associates, 2000) is discharged to the east along the northern edge of Lakeshore Blvd. and does not go through the monitoring station. The loss will be accounted for when calculating total flow volumes from this catchment.

Washoe County has an EIP (#01.01.01.44) planned within this catchment that will extend to slightly outside of its borders for the summer of 2014. The main goal of the EIP is to improve stormwater quality, defined primarily by the reduction of FSP generated within the project area public ROW. Monitoring in this catchment will occur both during and post construction and will provide information regarding the efficacy of planned improvements. Anticipated improvements will be made in the County ROW or on public properties and include source controls in the form of slope, bare shoulder and channel stabilization. Other improvements include the installation of sediment traps throughout the project area to capture coarse sediments and the installation of a cartridge filter vault near the existing

Vortechnics Vault able to capture FSP. The possibility of eliminating parking along road shoulders will be analyzed, and the applicability of porous pavement will be explored as an infiltration option due to the absence of suitable infiltration areas. Some piped runoff on Village Blvd. may be diverted to a proposed infiltration feature on Incline Way outside of the catchment. Other potential water quality improvement strategies include various types of settlement and infiltration basins constructed where space allows, and the purchase of a high efficiency vacuum sweeper to remove a portion of the FSP generated on the roadways.

Because this catchment represents a large, directly connected, relatively densely urbanized area, it is likely to contribute large pollutant loads to Lake Tahoe. Monitoring at this site (station V1) will characterize the catchment outfall both pre- and post-construction, and will begin to allow for the evaluation of the efficacy of the planned water quality improvement strategies in reducing pollutant loads. The lessons learned in this catchment will likely have valuable application to other critical, large, highly urbanized areas around the lake that contribute significantly to pollutant loading. In addition, this catchment was monitored for flow and turbidity by 2NDNATURE from March 1, 2012 to February 28, 2013 and the final technical report is due for release in 2014. The data collected under this monitoring plan will expand the data set for this site using equipment already installed, allowing for cost savings. This is an excellent opportunity to collaborate with other stormwater monitoring efforts in the basin.

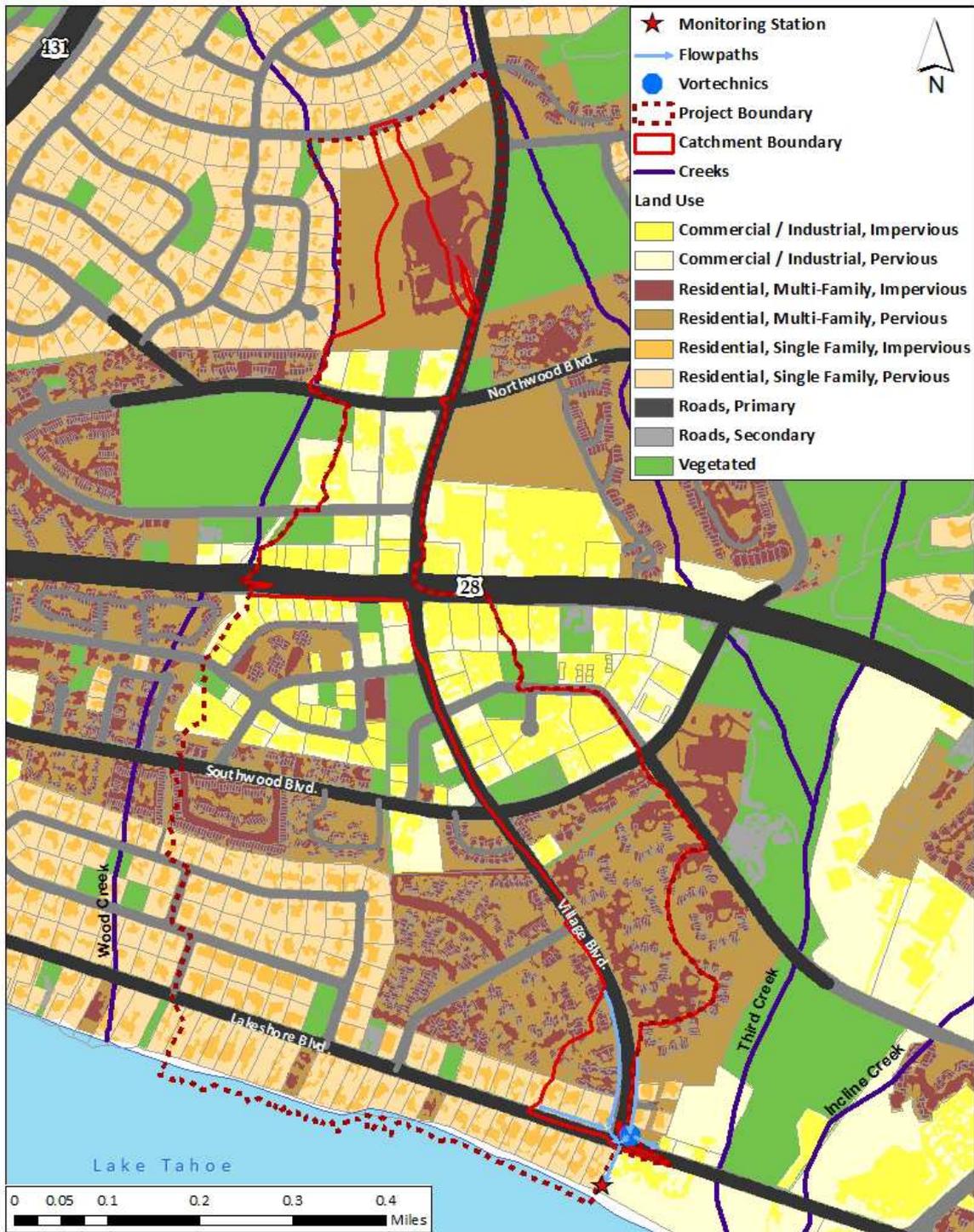


Figure 7: Central Incline Village II monitoring site, including monitoring station location, catchment boundary and land use distribution.

## *Tahoma*

Tahoma will be monitored as a catchment outfall at one monitoring station (T1). The 49.5 acre catchment straddles the Placer County/El Dorado County border and combines waters from both jurisdictions (Figure 8), plus waters from the Caltrans maintained Highway 89. The land-uses in this catchment are primarily moderate density residential and secondary roads in the Tahoe Cedars subdivision, but also include some commercial/industrial/communications/utilities (CICU) and primary roads. Twenty-eight percent of the catchment area is impervious. The runoff from this catchment discharges directly into Lake Tahoe via a 36-inch oval “squashed” corrugated metal pipe (CMP) at the bottom of the Water’s Edge North condominium complex driveway without infiltration or treatment. Because of the high direct connectivity between the catchment and Lake Tahoe, this storm drain system has great potential to deliver high FSP loads to the lake. Runoff from this CMP has been monitored periodically in the past with grab samples, and has been shown to be elevated in both nutrients and sediments (unpublished data, UC Davis).

No recent water quality improvement projects have been completed in this drainage. However, due to steep roadways, road sand and cinder accumulation, eroding cut slopes, drainages, and roadside ditches, as well as direct discharges of untreated stormwater to Lake Tahoe, the TRPA has identified the area as one that requires erosion control and water quality treatment BMPs. Therefore, EIP projects are planned in and around this catchment by El Dorado County for 2015 (EIP#10062, see project boundary, Figure 8) and by Caltrans for 2014 (EIP#995 for 03-1A845, ED 89 24.9/27.2). The EIP projects will focus on reducing the delivery of FSP to the lake through source control, hydrologic design, and stormwater treatment. Source control will be achieved by stabilizing eroding cut slopes with vegetation and/or rock armoring, stabilizing existing drainages with rock, and where feasible, with bio-engineering techniques, and eliminating eroding roadside ditches by installing curb and gutter or rock-lined channels and vegetated swales. Improved hydrologic design will store and spread out stormwater more effectively in the upper watershed prior to reaching the 36-inch discharge CMP and infiltrate and/or treat runoff from the El Dorado County and Caltrans ROWs before it discharges to Lake Tahoe. El Dorado also proposes to work with Caltrans, the California Tahoe Conservancy (CTC), Placer County, and private land owners to develop a comprehensive watershed management plan within the project boundary.

The monitoring station (station T1) will be located near the mouth of the CMP, and data from this site will characterize the catchment outfall. Like Incline Village, this site also provides the unique opportunity to monitor pre- and post- water quality improvement project. The lessons learned in this catchment will be valuable to other moderate density residential neighborhoods with high direct hydrologic connectivity to Lake Tahoe.

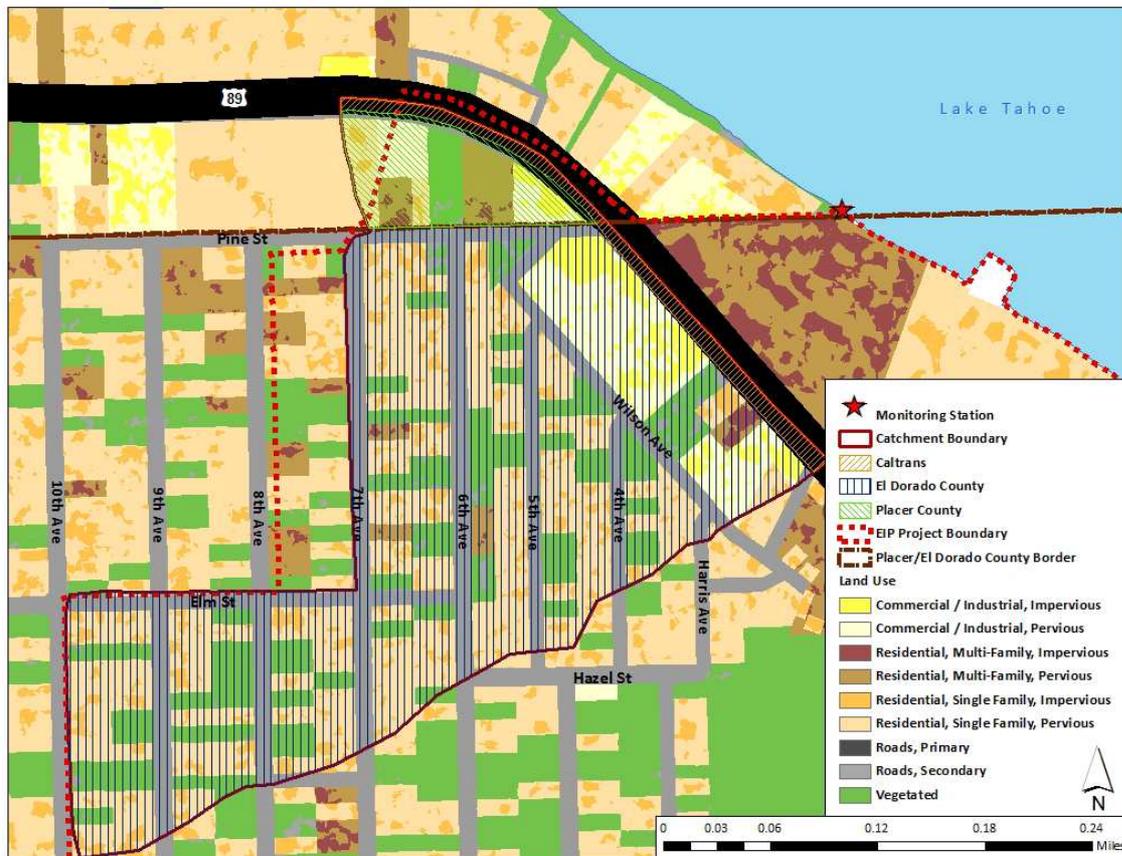


Figure 8: Tahoma monitoring site, including monitoring station location, catchment boundary, partial EIP project boundary, and land use distribution.

## Rubicon

The Rubicon monitoring site is located on Rubicon Drive in the Rubicon Estates subdivision on the west shore of Lake Tahoe (Figure 9). At 13.8 acres, Rubicon is the second smallest monitored catchment and is characterized by low density single-family residential properties and relatively gentle slope near lake level. Most of the roadways have unimproved shoulders but a few steeper sections are lined by asphalt dikes. Twenty-four percent of the catchment is impervious.



Figure 9: Rubicon monitoring site, including monitoring station locations, Stormtech chambers location, catchment boundary, and land use distribution.

The Rubicon V Erosion Control Project in 2010 (EIP#713.3) installed two sets of parallel Stormtech stormwater retention chambers at the lowest point in the catchment to reduce stormwater runoff volumes prior to discharge into Lake Tahoe (Figure 10). Runoff primarily from Rubicon Dr. flows to a drop inlet where it is conveyed to a 48-inch diameter sediment trap for coarse particle removal before entering the Stormtech chambers. There are two additional sediment traps, one between the two sets of chambers and one at the outflow from the second set of chambers. Each chamber is a 51-inch long, 30-inch diameter half-pipe set atop two feet of rock. The first set consists of 24 chambers and the second set consists of 16 chambers. The combined volume capacity of both sets of chambers is 3,000cf. When all the chambers have filled, the overflow bubbles up through a grate in the roadway and then runs south along the shoulder to a residential property outfitted with several private property BMPs. Prior to installation, high end properties were being flooded by uncontrolled runoff that exited the County ROW only 400 feet from the lake. Being so near the lake, this site is highly hydrologically connected and allows for the potential transfer of large amounts of pollutants. The series of chambers were designed to infiltrate the runoff

that was causing flooding with the explicit goal of reducing the average annual runoff volume and the amount of very fine, fine, and coarse inorganic sediment loading by 33%.



Figure 10: Rubicon Stormtech chambers during installation, 2010 (photo courtesy of El Dorado County).

Also included within the catchment boundary are four “fill and spill” microbasins designed to detain a small portion of the runoff before entering the Stormtech chambers and a small perforated pipe infiltration gallery. The microbasins consist of shallow depressions in the ground with a sediment trap at the down-gradient end.

The Rubicon site will be monitored as a catchment outfall and a BMP effectiveness project at two monitoring stations, R1 and R2. R1 is located at the inflow to the Stormtech chambers and R2 is located at the outflow from the Stormtech chambers. Flow volumes from R2 will be compared to flow volumes at R1 to assess the effectiveness of the BMP at reducing stormwater runoff volumes. R2 captures all catchment discharges and will therefore also be used to characterize the catchment outfall. This BMP is not intended to change nutrient or FSP concentrations the way the cartridge filter vaults at SR431 and Pasadena are, and therefore only flow monitoring will occur at R1. Because of its designation as a catchment outfall site however, samples will be collected at R2 for nutrient and sediment analyses in accordance with permit requirements. Monitoring at Rubicon will also allow for a better understanding of the level of maintenance required to ensure functionality of an infiltration chamber like this one, especially with regards to how infiltration capacity decreases with time. This will inform future design considerations with regards to treatment capacity, installation requirements, and maintenance schedules.

## *Pasadena*

The Pasadena monitoring site is located at the northern most end of Pasadena Ave. in the City of South Lake Tahoe (Figure 11). It will be monitored as a catchment outfall and BMP effectiveness site. A 36-inch outfall CMP emerging from the side of the steep slope at the end of Pasadena Ave conveys runoff directly to Lake Tahoe. The pipe is the terminus of a 78.9 acre catchment designated the “G12 basin” by the City of South Lake Tahoe. The dominant land uses are moderate density single and multi-family residential and secondary roads. Thirty-nine percent of the catchment is impervious.

This outfall was the former Regan Beach TMDL monitoring site, one of 19 sites in the Tahoe Basin equipped with auto-samplers and monitored during 2003 and 2004 as part of the Lake Tahoe TMDL research effort conducted by DRI and UCD. Data collected at this site was used in the Lake Tahoe TMDL Technical Report to establish Event Mean Concentrations (EMCs) for modeled land-use categories. In addition, this catchment was monitored for flow and turbidity by 2NDNATURE from March 1, 2012 to February 28, 2013 and the final technical report is due for release in 2014. The data collected under this monitoring plan will expand the data set for this site using equipment already installed, allowing for cost savings. This is an excellent opportunity to collaborate with other stormwater monitoring efforts in the basin.

An EIP completed in 2010 (AI Tahoe ECP 1 EIP#696) made several improvements to the catchment, including the installation of 9,694 square feet of permeable pavement on the shoulders of six blocks of residential streets and 3,891 linear feet of perforated storm drain pipes to increase in-situ infiltration wherever feasible throughout the project area. Due to the gentle slope in the area, erosion control measures such as rock-lined channels and stabilization of cut slopes were not as important here. The perforated storm drain pipes include approximately 2,750 linear feet of main line 18-inch and 24-inch perforated pipes under roadways, and smaller diameter perforated pipes connecting drain inlets and sediment traps to back-of-curb infiltration areas. The permeable pavement was an attempt to maximize infiltration and stabilize road shoulders while providing parking and unimpeded snow removal on a stable surface, a challenge that California jurisdictions have been struggling with in their project designs for more than twenty years.

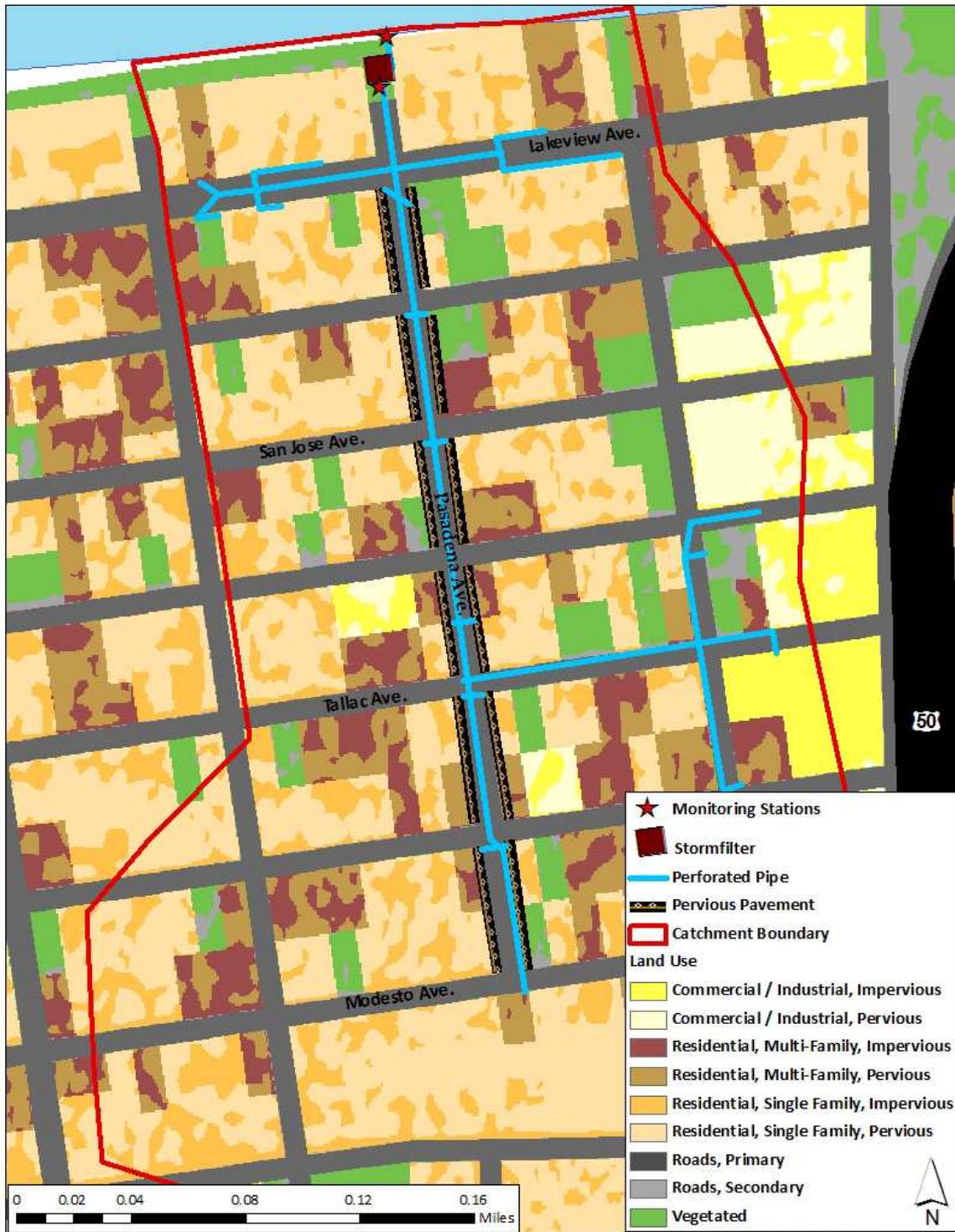


Figure 11: Pasadena monitoring site, catchment boundary and land use distribution.

In addition to the in-situ infiltration BMPs and a pre-treatment Vortech storm vault, two Contech Stormfilter vaults were installed in parallel at the end of the catchment before discharge to the lake through the 36-inch CMP. The vaults are configured as shown in Figure 12. The Contech Stormfilter installation located at the north end of Pasadena Ave. consists of two stormwater cartridge filter vaults, larger but outwardly similar to the Contech MFS vault installed at SR431. However, the MFS installed at SR431 has only one float valve that releases the treated stormwater from all the cartridges, while the Stormfilter cartridges have separate float valves on each cartridge (Figure 12). The Stormfilter cartridges have a different surface cleaning mechanism which Contech claims will extend maintenance intervals. The two Stormfilter cartridge vaults together are designed to treat up to 2.2 cfs, but as yet there is no confirmation that bypass starts when flows are greater than 2.2 cfs. Preliminary studies have estimated that only 1.1% of annual flows bypass the system.

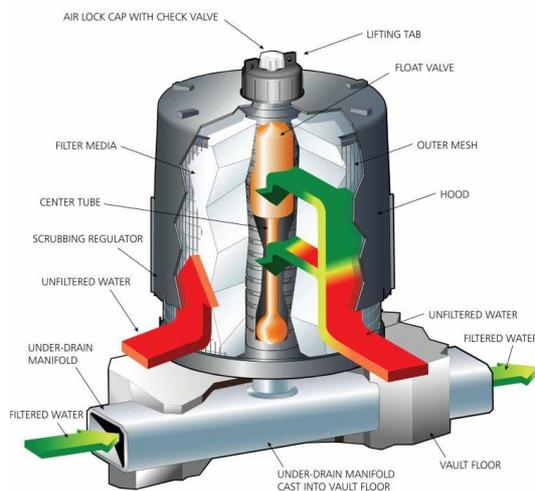


Figure 12: Schematic of single Contech Stormfilter cartridge (photo courtesy of Contech).

The two 8'x16' vaults contain Stormfilter cartridges filled with a media of zeolite, perlite and granular activated carbon, a mixture called ZPG. The first vault is designed for low-flow conditions. It contains twenty-five 27-inch tall cartridges with smaller orifices, each with a maximum flow rate of 0.025 cfs through a radial media depth of 7-inches. The second vault is designed to handle larger flows. It contains thirty-two 27-inch tall cartridges with orifices that allow for a maximum flow rate of 0.050 cfs through a radial media depth of 7-inches. The lower flow cartridges will retain more sediment but will need to be replaced more frequently than the higher flow cartridges. Maintenance will be based on such factors as depth of sediment accumulation in the bottom of the vaults or on top of the cartridges, depth of static water in the cartridge bay, plugged media pores, and the like. Cartridges containing different filter media are available from Contech for both the Stormfilter and the MFS. If monitoring from the SR 431 site suggests that the cartridges with perlite media may improve BMP effectiveness, the City of South Lake Tahoe could consider ordering perlite

cartridges when additional replacement cartridges are needed. By monitoring more than one type of a commonly-considered BMP (cartridge filters) as part of our collaborative monitoring effort, the IMP provides useful information on the effectiveness of Contech’s filter cartridges, and improves our understanding of how cartridge filter systems should be maintained.

Two monitoring stations will be instrumented at Pasadena (Figure 13): one at the inflow to the Stormfilter vaults (M1) and one at the outflow from the vaults/catchment outfall (M2). Continuous flow measurements and samples taken at M1 will determine runoff volumes and pollutant loads exiting the dispersed small-scale infiltration BMPs in the catchment and entering the Stormfilter cartridge vaults. Continuous flow measurements and samples taken at M2 will determine runoff volumes and pollutant loads exiting the Stormfilter cartridge vaults, and characterize the catchment outfall. (It is assumed that the Vortech vault and junction box have negligible impacts on volume and FSP and nutrient load reductions.) Effluent pollutant loads will be compared to influent pollutant loads to assess the performance of the two-chambered Stormfilter cartridge vaults in reducing pollutant loading to Lake Tahoe. (It is assumed that the Stormfilter cartridge vaults have a negligible storage capacity and therefore will not reduce runoff volumes. In addition, preliminary data has shown that bypass occurs infrequently, however, a stage recorder will be installed at or near the junction box to confirm if/when bypass occurs, and adjustments to calculations will be made accordingly.)

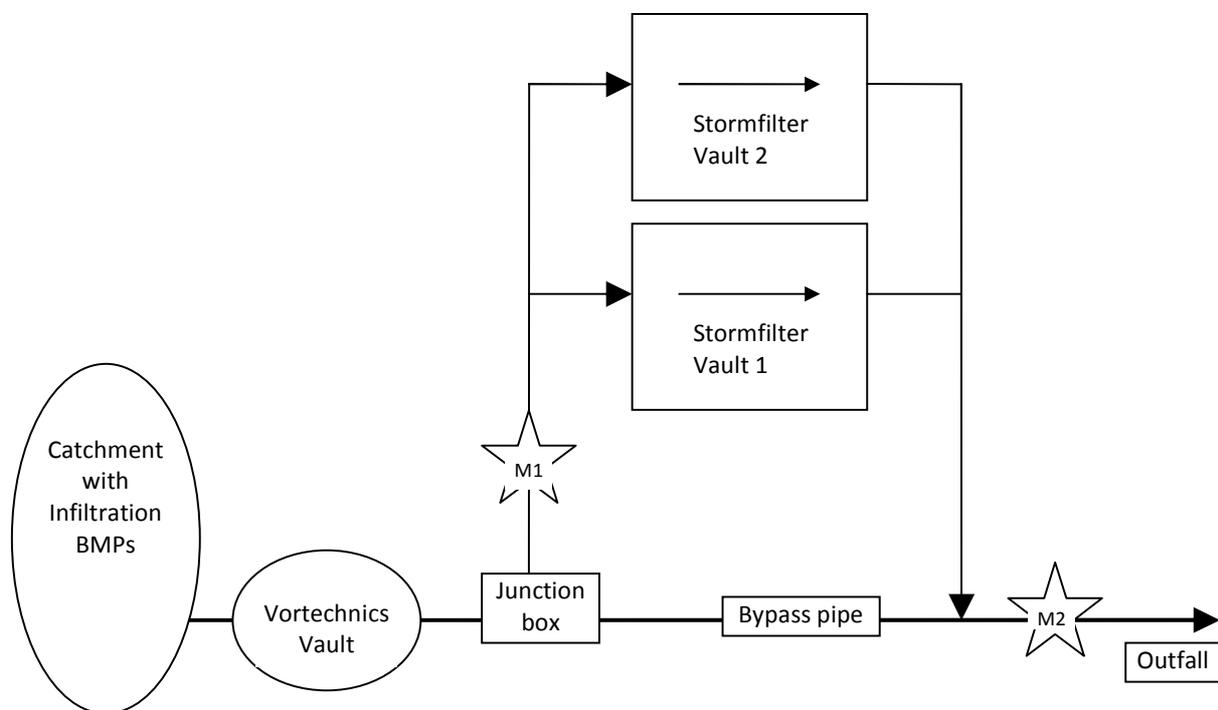


Figure 13: Contech Stormfilter vault configuration at Pasadena Ave. including flow routing and monitoring stations M1 and M2.

It is likely that after a large amount of runoff volume and/or FSP passes through the cartridges, data will show that the ability of the Stormfilter to retain pollutants diminishes. Coupled with visual observations and measurements, this will help to determine maintenance schedules for the two-chambered treatment system. Monitoring data could then be used to confirm whether maintenance, such as cartridge replacement, reverses declines in load reduction performance in the cartridge filter vaults.

## **STATION INSTRUMENTATION**

Each of the eleven monitoring stations will be instrumented with similar equipment as suggested in the Regional Storm Water Monitoring Program Sampling and Analysis Plan (RSMWP SAP, Appendix C) section 6.4 and the Regional Storm Water Monitoring Program Quality Assurance Project Plan (RWSMP QAPP, Appendix D) section 11.1. Each station will have a Job Box to house all instrumentation and prevent loss of data and equipment from vandalism or theft.

The instrumentation at each station will include:

1. An automated sampler (Sigma or ISCO brand) for logging stage and turbidity readings, calculating flows, and collecting samples
2. A bubbler module for measuring stage or area-velocity sensor for measuring stage and velocity (dependent on site characteristics)

In addition, each monitoring site will include:

1. A solar panel for charging Marine Cycle 12V batteries to power equipment (unless access to electricity is available).
2. A nearby meteorological station to record, at a minimum, localized precipitation and ambient temperature. The meteorological station will have a heated tipping bucket to record precipitation so that an accurate reading can be made when precipitation falls as snow.

Turbidimeters for measuring continuous turbidity will be installed at a minimum of three of the five catchment outfalls.

Auto-samplers will be installed in accordance with suggestions outlined in the RSWMP SAP section 6.1.

## **SITE AND EQUIPMENT MAINTENANCE**

The area surrounding each sampling station, as well as the equipment installed at each station will be maintained in accordance with guidelines outlined in the RSWMP SAP section 6.5 and the RWSMP QAPP sections 11.1 and 15. This includes (1) manual seasonal

calibration of flow monitoring equipment, turbidity and other sensors, (2) cleaning of equipment and housings, (3) verifying that hoses, intake strainers, and electronics are in good condition, (4) clearing flumes of accumulated sediment and debris, and (5) any other site-specific maintenance activities as determined by monitoring staff.

## **FLOW MEASUREMENT**

Flow will be measured continuously at each of the eleven stations via a bubbler module or area-velocity sensor (AV sensor) as described in the RSWMP SAP section 6.2. The use of a bubbler module or AV sensor will depend on site-specific characteristics. A bubbler module is preferred if site characteristics are such that flow monitoring will be most accurate using a flume or weir. The bubbler will log stage, and flow will be calculated using an equation specific to the flume or weir. If a bubbler module is mounted in a culvert pipe, stage will be converted to flow using the Manning's equation. An AV sensor can be used in a culvert pipe assuming laminar flow and less than 5% slope. Laminar flow can be achieved with a smooth walled pipe insert.

All monitoring stations will be configured such that there is positive outfall from each flow measuring device (i.e. flume, weir, or culvert pipe). No station will experience back-watering as it greatly confounds the data and is nearly impossible to correct.

Flow data will be collected on a continuous basis at all eleven monitoring stations to support seasonal [fall/winter (October 1-February 28), snowmelt (March 1-May 31), and summer (June 1-September 30)] volume reporting.

Flow data will be offloaded using a Rapid Transfer Device (RTD) for ISCO samplers and a Data Transfer Unit (DTU) for Sigma samplers post precipitation event, or at regular intervals during dry periods. Raw data, including but not limited to, flow, stage, velocity, sampling times, turbidity readings, and precipitation, will be transferred and stored on one central District computer.

## **EVENT PREPARATION, MONITORING AND SAMPLING**

All monitoring staff will be trained in accordance with guidelines outlined in the RWSMP SAP sections 7 and 8 and the RSWMP QAPP sections 11.2 and 11.3. This will include weather monitoring, sample bottle preparation, equipment preparation, auto-sampler programming, and sample collection.

## WATER QUALITY SAMPLING SCHEDULE

Samples will be taken at each of the five monitoring stations associated with the catchment outfall sites according to the requirements outlined in the Municipal permit, Attachment C.III.A. Samples will be taken at each of the additional monitoring stations associated with the four BMPs (with the exception of R1 at Rubicon) according to the requirements outlined in the Municipal permit, Attachment C.III.B. The sampling requirements outlined in C.III.A and C.III.B are similar and therefore the same sampling strategy will be used for both catchment outfalls and BMP effectiveness evaluation sites. The Municipal permit requires that samples be collected for each seasonal event type. All sampling events will occur during runoff events and sampling will be triggered at a site-specific water level (stage). Runoff events, as defined by the permit, are the result of (a) fall rain, (b) rain-on-snow, (c) spring snowmelt, and (d) summer thunderstorms. These four event types will each be sampled once during the water year at each monitoring station with the exception of station R1 at the Rubicon site. Table 2 outlines the sampling strategy for each water year. The fall rain, rain-on-snow, and summer thunderstorm events will capture the first flush, the rising limb, and the falling limb of the hydrograph. Samplers will be programmed to capture a minimum of twelve samples across the event hydrograph. The first flush sample will be a single sample. The rising limb sample will be a flow-weighted composite of at least five single samples taken during the rising limb of the hydrograph. The falling limb sample will be a flow-weighted composite of at least five single samples taken during the falling limb of the hydrograph. In addition, two single samples at each station for each event will be analyzed for turbidity and FSP. These single samples will be used to establish a site-specific rating curve relating turbidity to FSP concentration. The single samples will be selected to represent the range of expected turbidity and FSP concentrations experienced at the catchment outfall.

For snowmelt events, hydrographs typically follow a diurnal pattern that can repeat for many consecutive days. Due to this duration and complexity, samples from four consecutive snowmelt diurnals will be collected and analyzed. These four consecutive diurnals will be called one snowmelt event. The first of the four snowmelt sampling events will occur on the first spring day warm enough to produce melt (generally over 50 degrees Fahrenheit). The first flush, rising limb and falling limb of the diurnal pattern in the hydrograph will be captured in the same way described above for precipitation events. The following three snowmelt events will each be represented by a composite of 10-12 samples covering a complete diurnal cycle in the hydrograph. An attempt will be made to capture the highest diurnal peaks in the hydrograph over the course of spring snowmelt. These three composite samples will not have designated first flush, rising limb, and falling limb samples, but will represent a diel and allow for a spring season EMC to be estimated for each year sampled.

The sampling frequency presented in this monitoring plan is designed to meet the minimum requirements of the NPDES permit. It should also be adequate for beginning to address the

secondary goal of enhancing the Permittees' existing load estimations, condition assessment methods, and the effectiveness of their overall pollutant load reduction program.

The monitoring methods implemented for this plan are comparable to methods outlined in the RSWMP SAP and the RSWMP QAPP. These methods have been developed over a decade, have withstood the rigors of intensive monitoring, and are generally used by the monitoring community in Lake Tahoe.

Table 2: The events sampled at each monitoring station, the corresponding samples generated for each event, and the total number of samples generated over the three year monitoring period.

Event #	Event Type	WYs monitored	Approximate Time Period	Season	Samples generated for TP, TN, TSS, Turbidity, and FSP analysis at each monitoring station per event		Additional samples generated for Turbidity and FSP analysis at each monitoring station per event		Total Samples Generated <sup>2</sup>
<b>1</b>	Fall Rain	14, 15, 16	October-November	Fall/Winter	1	first flush single			<b>159</b>
					1	rising limb composite	1	rising limb single	
					1	falling limb composite	1	falling limb single	
					0.3	QC samples <sup>1</sup>			
<b>2</b>	Rain on Snow	14, 15, 16	December-February	Fall/Winter	1	first flush single			<b>159</b>
					1	rising limb composite	1	rising limb single	
					1	falling limb composite	1	falling limb single	
					0.3	QC samples <sup>1</sup>			
<b>3</b>	Snowmelt	14, 15, 16	March-May	Spring	1	first flush single			<b>258</b>
					1	rising limb composite	1	rising limb single	
					1	falling limb composite	1	falling limb single	
					3	diel composites			
0.6	QC samples <sup>1</sup>								
<b>4</b>	Thunderstorm	14, 15, 16	June-September	Summer	1	first flush single			<b>159</b>
					1	rising limb composite	1	rising limb single	
					1	falling limb composite	1	falling limb single	
					0.3	QC samples <sup>1</sup>			
<sup>1</sup> One QAQC sample will be taken at rotating sites for every 10 samples generated - does not consider additional FSP samples									
<sup>2</sup> Number years*Number sites*Number samples per event*Number events per year									

## **CONTINUOUS TURBIDITY MEASUREMENT**

Recent studies have suggested that a significant site-specific correlation exists between turbidity and FSP concentration (2NDNATURE and NHC 2010b, Heyvaert et. al., 2010). Therefore, turbidity will be measured continuously at all sites unless site specific characteristics determine that the site is unsuitable for turbidimeter instrumentation. Coupled with the site-specific rating curve relating turbidity to FSP concentration generated by the required paired turbidity and FSP analyses, continuous turbidity readings are expected allow for reasonable estimation of FSP loading from each site. With the development of site-specific rating curves, monitoring efforts could become more cost-effective. In fact, if successful, turbidity data has the potential be used as a surrogate by which sediment and nutrient loads are extrapolated.

## **METEOROLOGICAL DATA**

Meteorological data will be collected within 0.25 miles of the monitoring site. Depending on site specific characteristics, the data will be collected on a 5, 10 or 15 minute time interval and include, at a minimum, inches of precipitation and ambient temperature. These readings, coupled with long-term regional meteorological data, will allow for an assessment of whether the season was dry, average, or wet. In addition, collecting meteorological data is imperative to understanding runoff response to rain (i.e. calculating runoff coefficients (runoff volume per inch of rain) in each catchment). Determining rainfall-runoff response gives information as to the impervious connectivity, rainfall-runoff relationships, rainfall intensity and associated peak flows. The meteorological data is also critical for running catchment scale event simulations with the SWMM5 model. By analyzing multiple storm events with SWMM5, one can determine calibrated hydrologic parameters that can then be used in PLRM to generate pollutant load estimations with higher confidence. Indefinite model parameters such as connectivity, road condition, average slope, and others can be adjusted within a realistic range until the model reasonably predicts runoff volumes at each site. This work will be done in conjunction with NHC to ensure that parameters are adjusted in a manner consistent with previous modeling efforts. A strong correlation between model-predicted runoff volumes and empirical runoff volumes at each site can provide a better level of confidence in the PLRM predicted pollutant loads.

## **SAMPLE HANDLING AND PROCESSING**

Sample handling and processing will follow guidelines outlined in the RSWMP SAP section 9 and the RSWMP QAPP section 12. This includes proper labeling of samples in the field, transporting samples to a laboratory immediately after collection in a cooler, compositing single samples on a flow-weighted basis, filtering samples within a 24-hour

period before shipping to an analytical laboratory, and proper chain-of-custody procedures.

## **QUALITY CONTROL**

A minimum of 10% of all samples analyzed will be quality control (QC) samples to identify problems related to field sampling and sample processing. The samples will include the following QC types: field blanks, method blanks, and field replicates as defined in the RSWMP SAP section 11 and the RSWMP QAPP section 14.1. These samples will be used to ensure proper instrument function, sample handling procedures, and laboratory methods. This equates to approximately three QC samples per storm event, rotating sites and QC sample type throughout the year.

## **SAMPLE ANALYSIS**

Samples will be analyzed for the Lake Tahoe TMDL pollutants of concern: FSP concentration, total nitrogen (TN) concentration, and total phosphorus (TP) concentration. In addition, samples will be analyzed for total suspended solids (TSS) and turbidity. In addition to the single first flush samples, two additional single samples (i.e. not composite samples) from each station for each runoff event will be analyzed for turbidity and FSP concentration to establish a site-specific rating curve relating these two analytes. The single samples selected for turbidity and FSP analysis will span the range of expected turbidity and FSP concentrations at each monitoring station. TN, TP and TSS concentrations will be reported in mg/L and turbidity in NTUs. FSP concentration will be reported in mg/L and converted to number of particles per liter using a formula outlined in Heyvaert et. al. 2011. In order to determine FSP concentration, the recommended bin sizes for reporting particle size distribution analysis are taken from the phi series (Heyvaert et.al., 2011) and are from 0.5 $\mu$ m to <1, <2, <4, <8, <16, <31, <63, <125, <250, <500, <1000, and <2000  $\mu$ m. FSP concentration will be the sum off all bin sizes 16  $\mu$ m and less.

Analytical laboratories are selected in accordance with the RSWMP QAPP section 13 and require certification. Samples will be analyzed using methods recommended in Table 3, or a proven similar method, and follow quality control requirements outlined in the RSWMP QAPP section 14.2.

Table 3: Recommended analytical methods and reporting limits.

Analyte	Methods	Description	Target Reporting Limit
Total Dissolved Phosphorus as P	EPA 365.1 w/ USGS I-4600-85; or EPA 365.2; or EPA 365.3; or SM 4500-P-F	Colorimetric, persulfate digestion, phosphomolybdate	10 ug/L
Total Kjeldahl Nitrogen	EPA 351.1; or EPA 351.2	Colorimetric, block digestion, phenate	50 ug/L
Total Suspended Solids	EPA 160.2 or SM 2540-D	Gravimetric	1 mg/L
Turbidity	EPA 180.1 or SM 2130-B	Nephelometric	0.1 NTU
Particle Size Distribution	SM 2560 or RSWMP addendum SOP	Laser backscattering	na

## DATA MANAGEMENT

Data will be offloaded from the auto-samplers with data transfer devices at the time samples are collected or maintenance is required. Any other field measurements and observations will be recorded in a field notebook. Samples, data transfer devices and notes will be transported to a processing lab immediately after collection. Data transfer devices will be offloaded onto a computer, and all data will be input into an Excel template for storing continuous parameters as well as sample dates and times. Each monitoring site will have its own workbook. A separate Excel template will be used for calculating flow-weighted compositing schedules for the rising and falling limb composites at each monitoring station. All samples will be filtered for TSS and values will be recorded on standard data sheets in the laboratory and entered into an Excel template for storing nutrient and sediment data. All samples will also be sent to proper laboratories within appropriate holding times for total phosphorus, total nitrogen, and particle size distribution (FSP) analysis. Results from analytical laboratories will be entered into the Excel template for storing nutrient and sediment data. All Excel workbooks will be housed on one central computer (with backup device) and managed by District staff.

## DATA REVIEW

Analytical results will need to be reviewed for accuracy and precision. Data quality will be reviewed and data will be accepted or rejected following rules outlined in the RSWMP SAP section 12.1.

Continuous data series logged at each monitoring station consist of parameters measured in the field at a constant time interval. These data will include, at a minimum, stage, flow, and turbidity readings. These series will be reviewed and corrected following rules outlined in the RSWMP SAP section 12.2.

## DATA ANALYSIS AND REPORTING

Data contained in the Excel templates described in the Data Management section of this document will be used to calculate flow volumes and pollutants loads to Lake Tahoe. In particular, the collected data will be analyzed to serve the following purposes:

1. Continuous flow data will be used to calculate event, seasonal, and annual flow volumes in cubic feet for fall/winter (October 1 – February 28), spring snowmelt (March 1 – May 31), and summer (June 1 – September 30) at the catchment outfalls. These volumes will be reported.
2. Continuous flow data will be used to calculate event, seasonal, and annual influent and effluent volumes in cubic feet for fall/winter (October 1 – February 28), spring snowmelt (March 1 – May 31), and summer (June 1 – September 30) at the BMPs. These volumes will be reported.
3. Flow-weighted Event Mean Concentrations (EMCs) will be calculated and reported for each catchment outfall for each season (based on a single event) at each monitoring station for TN, TP, FSP, TSS, and turbidity using the first flush single sample, the flow-weighted rising limb composite sample, and the flow-weighted falling limb composite sample. In the case of spring snowmelt, the three flow-weighted diel composites will also be included in the flow-weighted EMC. In addition, the first flush concentration will be reported for each station for each season using only the first flush sample concentrations.
4. Influent and effluent concentrations of TN, TP, FSP, TSS, and turbidity will be calculated and reported for each BMP for each season (based on a single event) using the EMCs described in (3).
5. Concentrations of TN and TP will be reported in mg/L. Concentrations of FSP will be reported in mg/L and number of particles per liter. Concentrations of TSS will be reported in mg/L, and turbidity in NTUs.
6. TN, TP, FSP, and TSS loads will be calculated and reported for each catchment outfall for each season (based on a single event) using the EMCs described in (3) and the continuous flow data.

7. Influent and effluent TN, TP, FSP, and TSS loads will be calculated and reported for each BMP for each season using the EMCs described in (3) and the continuous flow data. The influent and effluent loads will be compared and the pollutant load reduction resulting from the cartridge filter vaults and subsurface infiltration chambers will be reported for each season (based on a single event).
8. Loads will be reported in kilograms for TN, TP and TSS, and in number of particles for FSP.
9. Paired turbidity and FSP concentrations on single samples will be used to establish site-specific rating curves relating FSP concentration to turbidity. These rating curves will be applied to the continuous turbidity data collected at select monitoring stations and allow for calculations of FSP loading per season to be made at the catchment outfalls. This is a second method for determining FSP loads from catchment outfalls. *(The seasonal FSP load reduction calculated using this method will be different than the one calculated in (6) because it will be based on continuous data as opposed to a single event.)*
10. Results from the QC samples collected for the year will be summarized and reported.
11. Catchments will be modeled using PLRM. Modeled estimates of runoff volumes and pollutant loads (“expected” conditions) will be compared to empirical data (“actual” conditions) in the context of water year type (wet, average, dry).
12. Beginning with the second year of monitoring, data from all eleven monitoring stations will be compared to results from previous years, noting trends and inter-annual variability in the context of water year type (wet, average, dry)

As condition assessments (i.e. Road RAM and BMP RAM) are performed and resulting RAM scores are obtainable, analysis may also include correlations between scores and monitoring data. Because previous work has identified that road condition is a strong indicator of resulting water quality (2NDNATURE and NHC, 2012), condition assessment data, where and when available, will be collated to better understand the relationship between observed catchment or BMP condition and measured pollutant loads.

Under Annual Reporting Requirements, Section IV of the permit’s Monitoring and Reporting Program, the District will not fulfill the requirements outlined in sections A-E or G-J. The District will *only* be responsible for section IV.F., Stormwater Monitoring Report. However, results reported in the Stormwater Monitoring Report will inform many of the requirements outlined in sections IV.A-E and G-J. The District, on behalf of the IMP, will submit a single annual report by January 15<sup>th</sup> of the year following the end of each water year (September 30<sup>th</sup>) to each participating jurisdiction, synthesizing all data collected for stormwater monitoring, including results and analyses described above. Table 4 outlines the annual monitoring schedule for each water year monitored. All required details and discussions listed in Section IV.F.1-16 of the permit will be included. This annual Stormwater Monitoring Report is meant to be included in each participating jurisdiction’s larger NPDES report due March 15<sup>th</sup> of the year following the end of each water year to the Lahontan Regional Water Quality Control Board.

All electronic data will be in a format compatible with the Surface Water Ambient Monitoring Program (SWAMP) database and entered into the California Environmental Data Exchange Network (CEDEN). All monitoring data and associated analytical reports will be available to managers on permittees' websites or through a regional data center. Stakeholders and members of the general public will be notified of the availability of electronic and paper monitoring reports through notices distributed by appropriate means.

Table 4: Annual monitoring schedule for each water year monitored.

Annual Monitoring Schedule Implementers' Monitoring Program												
Tasks	Repeating Schedule for Water Years 14-16											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Planning												
Data Collection												
Data Analysis												
Reporting												

## MONITORING PLAN UPDATE OR REVISION

This monitoring plan may be revisited and revised as new information becomes available, such as recommendations from the forthcoming RSWMP effort, or in response to modifications to permit or agreement language. Any proposed modifications would need to consider budget constraints and dollars available to implement a revised monitoring plan.

## BUDGET

Table 5 shows a detailed budget identifying how SNPLMA funds and in-kind salary and equipment match from the District and partnering jurisdictions are expected to be utilized. Because the District views this project as an important service to the public and the jurisdictions, grant management of this project, including operations and administration, will be just over 10% of the total budget. Personnel related to “District and NTCD Monitoring Staff” have yet to be determined and will be hired as needed when monitoring begins in October 2013. Catchment outfall and BMP data collection, analysis, and site management will account for up to 25% of the total budget. Modeling and data reporting is projected to make up less than 10% of the total budget. Contracted services with UCD and DRI will compose approximately 4% of the total budget. The sampling supplies category is broadly defined as the District is still working with partner equipment match to determine what can be borrowed and what must be purchased. The sampling and filtering supplies categories account for about 6% of the total budget. Sample analysis accounts for about 10% of the total budget. The remaining 35% is accounted for by in-kind and equipment match. Matched amounts shown in italics indicate \$100,000 in cash matched by NDOT. Hours projected for each task are also identified in Table 5.

Table 5: Detailed budget outlining expenditures and match.

	Description	Total Hours	Matched Hours	Amount Requested	Amount Matched	Total Budget
<b>Task 1</b>	<b>Grant Management</b>					<b>\$ 158,000</b>
District	Operations			\$ 51,000		
District	John Skeel	477	429	\$ 30,000	\$ 27,000	
District	Kim Gorman	208	832	\$ 10,000	\$ 40,000	
<b>Task 2</b>	<b>Collaborative Monitoring Plan</b>					<b>\$ 7,000</b>
District	Andrea Parra	25	149	\$ 1,000	\$ 6,000	
<b>Task 3</b>	<b>Catchment Outfall Data Collection, Data Analysis, and Site Mgmt</b>					<b>\$ 179,000</b>
District	Andrea Parra	1,735	347	\$ 70,000	\$ 14,000	
District	Kim Gorman	374	218	\$ 18,000	\$ 10,500	
District	District Monitoring Staff	737	517	\$ 28,500	\$ 20,000	
NTCD	NTCD Monitoring Staff	293	81	\$ 18,000		
<b>Task 4</b>	<b>BMP Effectiveness Data Collection, Data Analysis, and Site Mgmt</b>					<b>\$ 179,000</b>
District	Andrea Parra	1,735	347	\$ 70,000	\$ 14,000	
District	Kim Gorman	374	218	\$ 18,000	\$ 10,500	
District	District Monitoring Staff	737	517	\$ 28,500	\$ 20,000	
NTCD	NTCD Monitoring Staff	293	81	\$ 18,000		
<b>Task 5</b>	<b>PLRM Modeling</b>					<b>\$ 40,000</b>
District	District Modeling Staff	462		\$ 17,000		
District	Andrea Parra	570		\$ 23,000		
<b>Task 6</b>	<b>Contracted Scientific Advisor</b>					<b>\$ 19,000</b>
DRI	Alan Heyvaert	125		\$ 19,000		
<b>Task 7</b>	<b>Project Reporting</b>					<b>\$ 98,500</b>
District	Andrea Parra	1,252		\$ 50,500		
District	Kim Gorman	499	499	\$ 24,000	\$ 24,000	
	<b>Contracted Service Costs (Monitoring Site Design, Installation, and Maintenance)</b>					<b>\$ 55,000</b>
UCD	Raph Townsend	800		\$ 55,000		
	<b>Sampling Supplies</b>					<b>\$ 65,500</b>
	Autosamplers, accessories, solar panels, flumes			\$ 25,500		
	Weather station, accessories			\$ 4,000		
	FTS-DTS12 Continuous Turbidimeters			\$ 11,000		
	Repairs, Maintenance and Miscellaneous Supplies			\$ 25,000		
	<b>Filtering Supplies</b>					<b>\$ 28,000</b>
	Glassware, filter towers, filters, bottles, coolers, lab gloves etc...			\$ 15,000		
	Turbidity meter, Hach 2100N range <0.1-4,000 NTU			\$ 3,000		
	DI water system, miscellaneous supplies, and maintenance			\$ 10,000		
	<b>Sample Analysis</b>					<b>\$ 146,000</b>
	Fine Sediment Particles (FSP) - 820 samples at \$45 each			\$ 37,000	\$ 3,000	
	Nutrients (Total Nitrogen, Total Phosphorus) - 548 samples at \$89 each			\$ 49,000	\$ 3,000	
	Margin of safety (roughly 25% of analysis costs)			\$ 21,000		
NDOT	SR431 Data Resolution Pilot Study				\$ 33,000	
	<b>Total Budget</b>			<b>\$ 750,000</b>	<b>\$ 225,000</b>	<b>\$ 975,000</b>
	<i>Matched amounts in italics indicate NDOT cash</i>					

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**Assessment of Particle Size Analysis in the Lake Tahoe Basin.** Heyvaert, Alan C., Nover, Daniel M., Caldwell, Todd G., Trowbridge, Wendy B., Schladow, S. Geoffrey, Reuter, John E. Prepared by Desert Research Institute, Division of Hydrologic Sciences, and University of California, Davis, Tahoe Environmental Research Center. Prepared for USDA Forest Service, Pacific Southwest Research Station. February 2011.

**Data Quality Objectives,** Tahoe Regional Stormwater Monitoring Program. Division of Hydrologic Sciences, Desert Research Institute and Tahoe Environmental Research Center, University of California, Davis. May 10, 2011a.

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**Lake Tahoe Total Maximum Daily Load Technical Report.** California Regional Water Quality Control Board, Lahontan Region, and Nevada Division of Environmental Protection. June 2010.

**National Pollutant Discharge Elimination System (NPDES) Permit** for Discharges from Nevada Department of Transportation System Municipal Separate Storm Sewer Systems, Permit NV0023329. Bureau of Water Pollution Control, Nevada Division of Environmental Protection. July 7, 2010.

**National Pollutant Discharge Elimination System (NPDES) Statewide Storm Water Permit** Waste Discharge Requirements (WDRS) for State of California Department of Transportation. NPDES No. CAS000003, Order No. 2012-0011-DWQ. California State Water Resources Control Board. Effective Date: July 1, 2013.

**PLRM v1 Focused Stormwater Monitoring to Validate Water Quality Source Control and Treatment Assumptions Technical Report, Final Document.** Prepared for the Army Corps of Engineers, Sacramento District. 2NDNATURE INC. and NHC. March 2010a.

**PLRM Refinement Monitoring, Phase II Monitoring Plan, Final Document.** Prepared for USFS Pacific Southwest Research Station. 2NDNATURE INC. and NHC. July 2010b.

**Quality Assurance Program Plan**, Tahoe Regional Stormwater Monitoring Program. Division of Hydrologic Sciences, Desert Research Institute and Tahoe Environmental Research Center, University of California, Davis. May 10, 2011b.

**Sampling and Analysis Plan**, Tahoe Regional Stormwater Monitoring Program. Division of Hydrologic Sciences, Desert Research Institute and Tahoe Environmental Research Center, University of California, Davis. May 10, 2011c.

**Updated Waste Discharge Requirements and National Pollutant Discharge Elimination System (NPDES) Permit** for Storm Water/Urban Runoff Discharges from El Dorado County, Placer County, and the City of South Lake Tahoe Within the Lake Tahoe Hydrologic Unit. Monitoring and Reporting Program, No. CAG616001, Order R6T-2011-0101A. California Regional Water Quality Control Board Lahontan Region, State of California. October 10, 2012.

PROPOSITION 84 STORMWATER GRANT PROGRAM  
GRANT AGREEMENT  
BETWEEN THE  
STATE WATER RESOURCES CONTROL BOARD, hereinafter called "State" or "State Water Board"  
AND

TAHOE RESOURCE CONSERVATION DISTRICT (TAHOE RCD), hereinafter called "Grantee"  
CATCHMENT-SCALE STORMWATER MONITORING, MODELING VALIDATION, AND LOAD  
ESTIMATION TO MEET TOTAL MAXIMUM DAILY LOAD (TMDL) REQUIREMENTS IN THE LAKE  
TAHOE BASIN, hereinafter called "Project"

AGREEMENT NO. 12-428-550

The State and Grantee hereby agree as follows:

PROVISION(S). The following provision(s) authorize the State Water Board to enter into this type of Grant Agreement:

Pub. Resources Code, § 75072 (Prop. 84 Stormwater Planning and Monitoring)

PURPOSE. The State shall provide a grant to and for the benefit of Grantee for the purpose of collaborating with university scientists, environmental agencies, and private contractors to achieve a scientifically sound, cost-effective Regional Stormwater Monitoring Program (RSWMP) approach, including a reliable administrative and programmatic structure. These efforts will support pollutant load predictions and provide a better understanding of the effects of urban land use on water clarity and quality in the Lake Tahoe Basin. It will also establish a single location for a web-based database of all Lake Tahoe stormwater data.

GRANT AMOUNT. The maximum amount payable under this Agreement shall not exceed \$760,000.

TERM OF AGREEMENT. The term of the Agreement shall begin on September 1, 2013 and continue through final payment plus thirty-five (35) years unless otherwise terminated or amended as provided in the Agreement. **HOWEVER, ALL WORK SHALL BE COMPLETED BY MARCH 31, 2017. ABSOLUTELY NO FUNDS MAY BE REQUESTED AFTER APRIL 30, 2017.**

PROJECT REPRESENTATIVES. The Project Representatives during the term of this Agreement will be:

State Water Board	Grantee: Tahoe Resource Conservation District
Name: Kelley List, Grant Manager	Name: Kim Boyd, Project Director
Address: 1001 I Street, 16 <sup>th</sup> Floor	Address: 870 Emerald Bay Road, Suite 108
City, Zip: Sacramento, CA 95814	City, Zip: South Lake Tahoe, CA 96150
Phone: (916) 319-9226	Phone: (530) 543-1501
Fax: (916) 341-5707	Fax: (530) 543-1660
e-mail: <a href="mailto:klist@waterboards.ca.gov">klist@waterboards.ca.gov</a>	e-mail: <a href="mailto:kboyd@tahoercd.org">kboyd@tahoercd.org</a>

Direct all inquiries to:

State Water Board	Grantee: Tahoe Resource Conservation District
Section: Division of Financial Assistance	Section:
Attention: Melissa Miller, Program Analyst	Name: Kim Gorman, Grant Contact
Address: 1001 I Street, 17 <sup>th</sup> Floor	Address: 870 Emerald Bay Road, Suite 108
City, Zip: Sacramento, CA 95814	City, Zip: South Lake Tahoe, CA 96150
Phone: (916) 993-3872	Phone: (530) 543-1501 ext. 129

Fax: (916) 341-5296	Fax: (530) 543-1660
e-mail: <a href="mailto:mamiller@waterboards.ca.gov">mamiller@waterboards.ca.gov</a>	e-mail: <a href="mailto:kgorman@tahoercd.org">kgorman@tahoercd.org</a>

Either party may change its Project Representative upon written notice to the other party.

STANDARD PROVISIONS. The following exhibits are attached and made a part of this Agreement by this reference:

- Exhibit A SCOPE OF WORK – WORK TO BE PERFORMED BY THE GRANTEE
- Exhibit B INVOICING, BUDGET DETAIL AND REPORTING PROVISIONS
- Exhibit C GENERAL TERMS & CONDITIONS
- Exhibit D SPECIAL CONDITIONS

GRANTEE REPRESENTATIONS. The Grantee accepts and agrees to comply with all terms, provisions, conditions, and commitments of this Agreement, including all incorporated documents, and to fulfill all assurances, declarations, representations, and commitments made by the Grantee in its application, accompanying documents, and communications filed in support of its request for grant funding. Grantee shall comply with and require its contractors and subcontractors to comply with all applicable laws, policies and regulations.

IN WITNESS THEREOF, the parties have executed this Agreement on the dates set forth below.

By:   
Grantee Signature

By: \_\_\_\_\_  
Elizabeth L. Haven, Deputy Director  
State Water Resources Control Board,  
Division of Financial Assistance

ROBERT ANDERSON  
Grantee Typed/Printed Name

\_\_\_\_\_  
Date

PRESIDENT  
Title

Reviewed by:  
Office of Chief Counsel  
Date:

9.10.13  
Date

## B. PROJECT-SPECIFIC REQUIREMENTS

### 1. Project Management

- 1.1 Provide all technical and administrative services as needed for Project completion; monitor, supervise, and review all work performed; and coordinate budgeting and scheduling to ensure the Project is completed within budget, on schedule, and in accordance with approved procedures, applicable laws, and regulations.
- 1.2 Notify the Grant Manager at least fifteen (15) working days in advance of upcoming meetings, workshops, and trainings.
- 1.3 Develop a flexible and collaborative structure that stormwater funds and projects can be directed in a coordinated and efficient way. Submit the structure document to the Grant Manager.
- 1.4 Develop a short and long-term funding strategy and submit the strategy to the Grant Manager.

### 2. Planning, Design, and Engineering

- 2.1 Host a minimum of one (1) Interagency Stormwater Monitoring Coordination Workshop. Submit the sign-in sheets and workshop materials to the Grant Manager.
- 2.2 Create a Scientific Advisory Group (SAG) and ensure that it includes a representative from the Regional Water Board and/or State Water Board's Division of Water Quality. Submit the list of members, their roles and responsibilities, and commitment letters to the Grant Manager.
- 2.3 Create a Technical Advisory Committee (TAC) and ensure that it includes a representative from the Regional Water Board and/or State Water Board's Division of Water Quality. Submit the list of members, their affiliated organizations and their roles and responsibilities to the Grant Manager.
- 2.4 Document the scientific progress made in stormwater monitoring in the Lake Tahoe Basin, what scientific data gaps still exist, and develop a Scientific Assessment Report (SAR). Submit the SAR to the Grant Manager.
- 2.5 Document the capabilities and limitations associated with different monitoring approaches for status and trend sites, and the tools used to assess BMP effectiveness. The SAG will produce a report documenting the capabilities and providing recommendations. Submit the report to the Grant Manager.

### 3. Construction and Implementation

- 3.1 Install and maintain relevant monitoring equipment at the recommended locations provided by the SAG, to monitor a minimum of four (4) long-term index sites at catchment outfalls. Submit photo documentation in the quarterly monitoring report(s), during and post installation of the monitoring equipment, to the Grant Manager.

### 4. Monitoring and Performance

- 4.1 Establish and monitor a minimum of four (4) long-term index sites approximately twelve (12) to fifteen (15) times per year for a period of two (2) water years for continuous flow, nutrients, and sediment. Model selected index sites on an event basis to calibrate the Pollutant Load Reduction Model (PLRM) and compare model predictions under current conditions to baseline model predictions to quantify effectiveness of cumulative stormwater management actions. Submit the annual data summary and analysis reports and the comparison reports to the Grant Manager.
- 4.2 Establish a RSWMP database specific to the Lake Tahoe Basin that is non-proprietary, publicly accessible, updateable, and transferable to CEDEN. Submit screenshots and template examples

to CEDEN administrators for review and approval. Submit the CEDEN approval to the Grant Manager.

5. Education and Outreach

- 5.1 Present a minimum of one (1) presentation per year of updates regarding the development of the RSWMP to members of the Stormwater Quality Improvement Committee. Presentations can be given by the Grantee, SAG, and/or TAC. Submit a summary of the presentation(s) with the Annual Progress Summaries.
- 5.2 Complete a minimum of one (1) press release or newsletter per year to provide the public with information describing the progress of the Project. Submit a copy of the press release or newsletter to the Grant Manager.
- 5.3 Host a minimum of three (3) citizen monitoring events to increase public understanding of the sources and transport of stormwater pollutants, source control, and other relevant issues related to urban stormwater runoff and lake clarity. Submit a summary of the data collected and number of volunteers participating in the monitoring events to the Grant Manager.

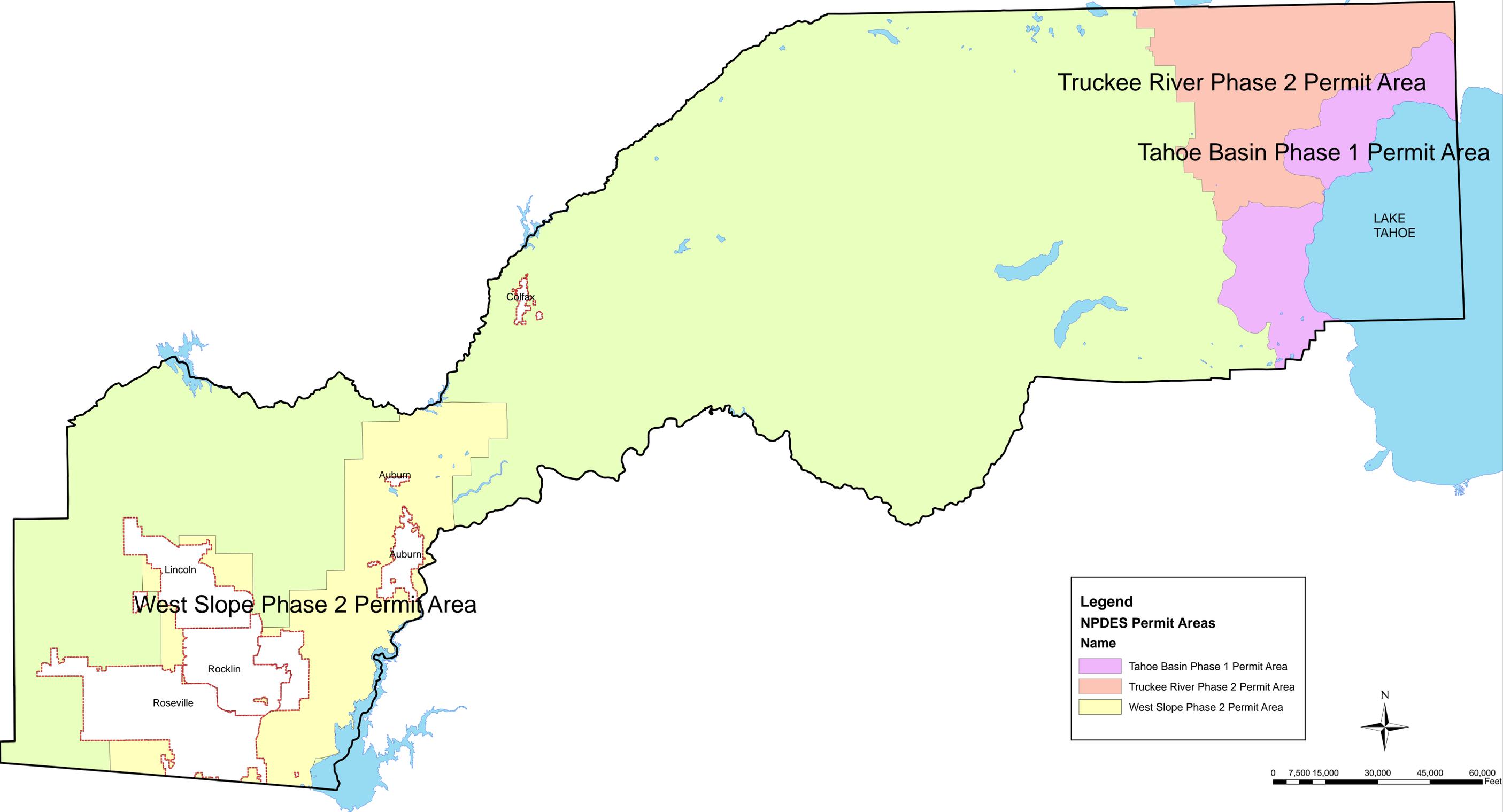
TABLE OF ITEMS FOR REVIEW

ITEM	DESCRIPTION	CRITICAL DUE DATE	ESTIMATED DUE DATE
EXHIBIT A – SCOPE OF WORK – WORK TO BE PERFORMED BY THE GRANTEE			
A.	PLANS AND GENERAL COMPLIANCE REQUIREMENTS		
1.	GPS information for Project site and monitoring locations	Prior to First Disbursement	
2.	Monitoring and Reporting Plan		
2.1	Project Assessment and Evaluation Plan (PAEP)	Day 90	
2.2	Monitoring Plan (MP)	N/A	
2.3	Quality Assurance Project Plan (QAPP)	N/A	
2.4	Proof of Water Quality Data Submission to CEDEN	N/A	
3.	Copy of Final CEQA/NEPA Documentation	Day 90	
4.	Public Agency Approvals, Entitlements, or Permits		As Needed
B.	PROJECT-SPECIFIC REQUIREMENTS		
1.	Project Management		
1.2	Notification of Upcoming Meetings, Workshops, and Trainings		Ongoing
1.3	Structure Document		December 2014
1.4	Funding Strategies		November 2016
2.	Planning, Design, and Engineering		
2.1	Sign In Sheets and Workshop Presentation Materials		December 2014
2.2	Final List of SAG Members, Roles and Responsibilities and Agreements		March 2014
2.3	Final List of TAC Members, Roles and Responsibilities and Commitment Letters		July 2014
2.4	Scientific Assessment Report		June 2014
2.5	SAG Assessment and Recommendations Report		August 2014
3.	Construction and Implementation		
3.1	Photo Documentation of Installed Monitoring Equipment	October 31, 2014	
4.	Monitoring and Performance		
4.1	Annual Data Summary, Analysis, and Comparison Reports		Annually by 1/15
4.2	CEDEN Approval		July 2015
5.	Education and Outreach		

ITEM	DESCRIPTION	CRITICAL DUE DATE	ESTIMATED DUE DATE
<b>EXHIBIT A – SCOPE OF WORK – WORK TO BE PERFORMED BY THE GRANTEE</b>			
5.2	Press Release/Newsletter		September 2015
5.3	Data Collected and Number of Citizen Monitoring Volunteers		Quarterly
<b>EXHIBIT B – INVOICING, BUDGET DETAIL, AND REPORTING PROVISIONS</b>			
A.	INVOICING		Quarterly
G.	REPORTS		
1.	Progress Reports within forty-five (45) days following the end of the calendar quarter (March, June, September, and December)		Quarterly
2.	Annual Progress Summaries		Annually by 9/30
3.	Natural Resource Projects Inventory (NRPI) Survey Form	Before Final Invoice	
4.	Draft Final Project Report	1/31/2017	
5.	Final Project Report	2/28/2017	
6.	Final Project Summary	Before Final Invoice	
7.	Final Project Inspection and Certification	Before Final Invoice	

# Appendix – B

# PLACER COUNTY MS4 PERMIT BOUNDARIES

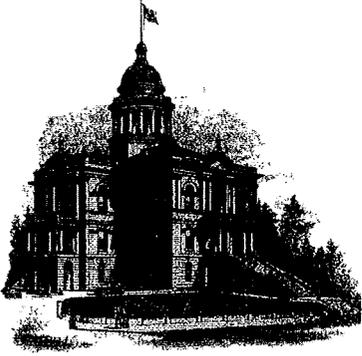


**Legend**  
**NPDES Permit Areas**  
**Name**

- Tahoe Basin Phase 1 Permit Area
- Truckee River Phase 2 Permit Area
- West Slope Phase 2 Permit Area



# Appendix – C



# PLACER COUNTY COUNSEL

GERALD O. CARDEN, COUNTY COUNSEL

175 Fulweiler Avenue  
Auburn, California 95603  
Telephone: (530) 889-4044  
Facsimile: (530) 889-4069  
[www.placer.ca.gov](http://www.placer.ca.gov)

March 11, 2013

By U.S. Mail, Fax (530) 544-2271  
And E-Mail [info6@waterboards.ca.gov](mailto:info6@waterboards.ca.gov)

California Regional Water Quality Control Board  
Lahontan Region  
2501 Lake Tahoe Blvd.  
South Lake Tahoe, CA. 96150

Re: **Statement of Legal Authority**  
Permit No. CAG616001 // Order No. R6T-2011-0101  
County of Placer Tahoe Basin Water Quality Program

## **BACKGROUND**

This Statement is provided on behalf of the County of Placer pursuant to the "*Updated Waste Discharge Requirements and National Pollutant Discharge Elimination System Permit for Stormwater/Urban Runoff Discharge from El Dorado County, Placer County, and the City of South Lake Tahoe Within the Lake Tahoe Hydrologic Unit*", NPDES No. CAG616001, Order No. R6T-2011-0101, issued by the California Regional Water Quality Control Board Lahontan Region on December 6, 2011 (hereafter referred to as the "Order").

Section III.A of the Order requires the preparation of statements "certified by its Legal Counsel", verifying that adequate authority exists to implement the terms of the Order and requirements of federal stormwater regulations. In relevant part, Section III.A.3 of the Order specifies the following requirements be submitted by March 15, 2013:

*No later than **March 15, 2013** each Permittee shall submit a statement certified by its legal counsel that the Permittee possesses all necessary legal authority to comply with this Permit through adoption of ordinances and/ or municipal code modifications. This statement shall include:*

- a. *Identification of all departments within the jurisdiction that conduct urban runoff related activities and their roles and responsibilities under this*

*Order. Include an up-to-date organization chart specifying these departments and key personnel positions.*

- b. Citation of urban runoff related ordinances and the reasons they are enforceable.*
- c. Identification of the local administrative and legal procedures available to mandate compliance with urban runoff related ordinances.*
- d. Description of how these ordinances or other legal mechanisms are implemented and actions taken can be appealed.*
- e. Description of how the municipality can issue administrative orders and injunctions, or if it must go through the court system for enforcement actions.*

## **STATEMENT OF LEGAL AUTHORITY**

In 2006, Placer County prepared and adopted a Storm Water Quality Ordinance to protect water resources and implement NPDES Municipal Permit requirements. The ordinance, which applies to all of the unincorporated County area, became effective October 1, 2006. The Storm Water Quality Ordinance is codified as Article 8.28 of the Placer County Code, which can be accessed via the Internet at: <http://qcode.us/codes/placercounty/>.

It is the opinion of the Placer County Counsel's Office that Placer County possesses all necessary legal authority to comply with this Permit through the adoption of the existing Storm Water Quality Ordinance. The County Counsel's Office is not aware of any actual or threatened legal challenges to that legal authority. The County will evaluate any such challenges that may arise and will submit to the Board any necessary follow up certifications.

As required by the Order, a complete discussion of each issue with respect to the County of Placer follows.

## **DISCUSSION**

### **1. Identification of all departments conducting urban runoff related activities and their roles and responsibilities:**

Placer County's stormwater quality program is implemented by personnel in multiple departments (or sections of departments). A description of involved departments and their roles and responsibilities can be found in **Exhibit "A"**, attached.

### **2. Citation of urban runoff related ordinances and the reasons they are enforceable:**

The principal ordinance governing discharges to the County's municipal separate storm sewer system (MS4) is Article 8.28 of the Placer County Code (the "Storm Water Quality Ordinance"), which is attached as **Exhibit "B"**. The purpose of the Storm Water Quality Ordinance is to ensure that Placer County is compliant with state and federal laws and fulfills its requirements to:

1. Protect the health, safety, and general welfare of the citizens of Placer County;
2. Enhance and protect the quality of waters of the state in Placer County by reducing pollutants in stormwater discharges to the maximum extent practicable and controlling nonstormwater discharges to the storm drain system;
3. To cause the use of best management practices (Section 8.28.050) by the county and its citizens that will reduce the adverse effects of polluted runoff discharges on waters of the state, and;
4. To ensure the county is compliant with applicable state and federal law.

Additionally, the County's Grading Ordinance, Article 15.48 of the Placer County Code, regulates grading projects and sets conditions for such activities. (See attached **Exhibit "C"**). The County enacted this ordinance specifically to minimize the degradation of the water quality of watercourses caused by grading, filling and excavation of land, and to control sediment and pollutant runoff from other construction-related activities. These goals are achieved by establishing administrative procedures, minimum standards of review, and implementation and enforcement procedures for controlling erosion, sedimentation and other construction-related pollution.

These ordinances were properly published, introduced and adopted by the Placer County Board of Supervisors and constitute enforceable enactments pursuant to the County's police power.

The County's authority under its ordinances is very wide-ranging and is sufficient to address the mandates contained in the Order. The Order requires the County to "carry out all inspections, surveillance, and monitoring necessary to determine compliance and noncompliance with permit requirements, including the prohibition on illegal discharges". The Storm Water Quality Ordinance currently authorizes inspections and monitoring by County. Furthermore, **Exhibit "D"** summarizes additional authorities the County has through various county ordinances beyond the Stormwater Quality and Grading Ordinances.

**3. Identification of the local administrative and legal procedures available to mandate compliance with urban runoff related ordinances.**

The County Storm Water Quality Ordinance has several administrative procedures available to mandate compliance with the requirements contained in the ordinance. These options include informal warnings and educational materials distribution, issuing notices of non-compliance, administrative enforcement orders and cease and desist orders. In

addition to administrative enforcement options, the County may seek civil and criminal penalties against a violator and may seek nuisance abatement through the court system.

**4. Description of how these ordinances or other legal mechanisms are implemented and actions taken can be appealed.**

The Storm Water Quality Ordinance sets forth a detailed process for appealing enforcement action brought pursuant to it. Appeals can be filed with the Director of Public Works, who shall request a report and recommendation from the authorized County employee and shall set the matter for hearing at the earliest practical date. At said hearing, the Director of Public Works may base his or her decision on additional evidence, and may reject, affirm or modify the Enforcement Official's initial decision. The decision of the Director of Public Works may be appealed to the Board of Supervisors by filing a notice of appeal with the clerk of the Board of Supervisors within fifteen (15) days of receipt of the decision of the Director of Public Works. Such appeal shall be in writing and shall set forth fully the grounds for the appeal. The board shall thereupon fix a time and place for a public hearing of such appeal. The Clerk of the Board shall give notice to the appellant of the time and place of hearing by serving it personally or by depositing it in the U.S. Post Office, postage prepaid, addressed to the appellant at his last known address at least five days prior thereto.

At the hearing before the Board of Supervisors, the appellant may appear in person or by counsel and present any relevant evidence relating to the grievance; the Enforcement Agency may present evidence in rebuttal thereof. The hearing may be continued from time to time, not to exceed thirty (30) days in all. The Board of Supervisors shall conduct a hearing and make findings as appropriate. The decision of the Board of Supervisors is final.

**5. Description of how the municipality can issue administrative orders and injunctions, or if it must go through the court system for enforcement actions.**

As stated above, the Storm Water Quality Ordinance includes an extensive section on enforcement actions giving the County a wide variety of administrative options in case of violations.

The County has similar authority under the Grading Ordinance and the other County Code Sections mentioned in Exhibit "D". The powers include the issuance of stop work notices, denial of future grading permits and the abatement of nuisance conditions.

6. **Discussion Regarding legal authorities relative to Order Section III.A.1.**

Though the Order does not specifically require its inclusion in this statement, the following section describes the County's current legal authorities relative requirements of Order Section III.A.1.

Section III.A.1 provides, in relevant part:

*"No later than March 15, 2013, Permittees shall establish, maintain, and enforce the necessary legal authority to prohibit, including, but not limited to:*

- a. Illicit connections and illicit discharges to its collection, conveyance, and treatment facilities,*
- b. The discharge of non-storm water to the Permittees' storm water collection, conveyance, and treatment facilities from:*
  - (1) Washing or cleaning of gas stations, auto repair garages, or other types of automotive service facilities*
  - (2) Mobile auto washing, carpet cleaning, steam cleaning, sandblasting and other such mobile commercial and industrial operations*
  - (3) Areas where repair of machinery and equipment which are visibly leaking oil, fluid or antifreeze, is undertaken*
  - (4) Storage areas for materials containing grease, oil, or other hazardous substances, and uncovered receptacles containing hazardous materials*
  - (5) Swimming pool and hot tubs*
  - (6) Industrial/ Commercial areas*
  - (7) Concrete truck cement, pumps, tools, and equipment washout*
  - (8) Spills, dumping, or disposal of materials such as fuel or chemical wastes, batteries, and any other materials which have the potential to adversely impact water quality*
  - (9) Trash container leachate*
  - (10) Permittee-owned and -operated facilities"*

- a. Illicit connections to the County's collection, conveyance, and treatment facilities are prohibited by the following provision from the Storm Water Quality Ordinance:**

**8.28.150 C. Illicit Connection.**

*The construction, use, maintenance or continued existence of illicit connections is prohibited. This prohibition includes illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of the connections. Upon final adoption of this article, any property owner or lessee who maintains an illicit connection shall, within thirty (30) days from the effective date of this article, disconnect and discontinue use of such connection.*

b. **Non-storm water discharges to the County's collection, conveyance, and treatment facilities are prohibited by the following provision from the Storm Water Quality Ordinance:**

*8.28.080 Discharge prohibitions.*

*Except as provided in Section 8.28.090 of this article, it is unlawful for any person to make or cause to be made any illicit discharge into the storm drain system.*

*Notwithstanding the exemptions provided by Section 8.28.090, if the enforcement agency determines any otherwise exempt discharge causes or significantly contributes to violations of any plan standard, or conveys significant quantities of pollutants to surface water(s) or watercourse(s), or is a danger to public health or safety, such discharge shall be prohibited from entering the storm drain system. (Ord. 5430-B (part), 2006)*

*8.28.050 Definitions.*

*As used in this article:*

*"Discharge" means the release, threatened release, or placement of any material into the county's storm drain system, including but not limited to stormwater, wastewater, solid materials, liquids, hazardous waste, raw materials, debris, litter, or any other substance.*

*"Illicit discharge" means any direct or indirect nonstormwater discharge to the county's municipal storm drain system, except as otherwise exempted, including the introduction of pollution into the storm drain system.*

*"Storm drain system," also "municipal storm drain system," means facilities owned or operated by the county by which stormwater is collected and/or conveyed, including but not limited to any roads with drainage systems, municipal streets, gutters, curbs, inlets, piped storm drain, pumping facilities, retention and detention basins, natural and human-made or altered drainage channels, reservoirs, and other drainage structures which are within the county and are not part of a publicly owned treatment works as defined at 40 CFR Section 122.2.*

*8.28.090 Exemptions to prohibited discharges.*

*Discharges from the following activities shall not be prohibited except as otherwise provided by this article:*

- A. *Water line flushing and discharges from potable water sources;*
- B. *Landscape irrigation and lawn watering;*
- C. *Diverted stream flows and irrigation water;*
- D. *Springs, rising groundwater, and flows from riparian habitat and wetlands;*
- E. *Uncontaminated groundwater infiltration (as defined at 40 Code of Federal Regulation Section 35.2005(b)(20));*
- F. *Uncontaminated pumped groundwater, foundation drains, footing drains, and water from crawl space pumps;*
- G. *Air conditioning condensation;*
- H. *Individual residential car washing;*

- I. *Dechlorinated swimming pool discharges;*
- J. *Firefighting flows.*

**CERTIFICATION**

Based on the foregoing discussion, Placer County possesses all necessary legal authority to comply with this Permit through the adoption of the existing Storm Water Quality Ordinance. Subject to the exceptions described herein, the Office of the County Counsel respectfully submits this certification.

Certified by,

Brett D. Holt  
Deputy County Counsel

Attachments:  
Exhibit A- Implementation Roles and Responsibilities  
Exhibit B- County Storm Water Quality Ordinance  
Exhibit C- County Grading Ordinance  
Exhibit D- Other County Codes

## Exhibit A

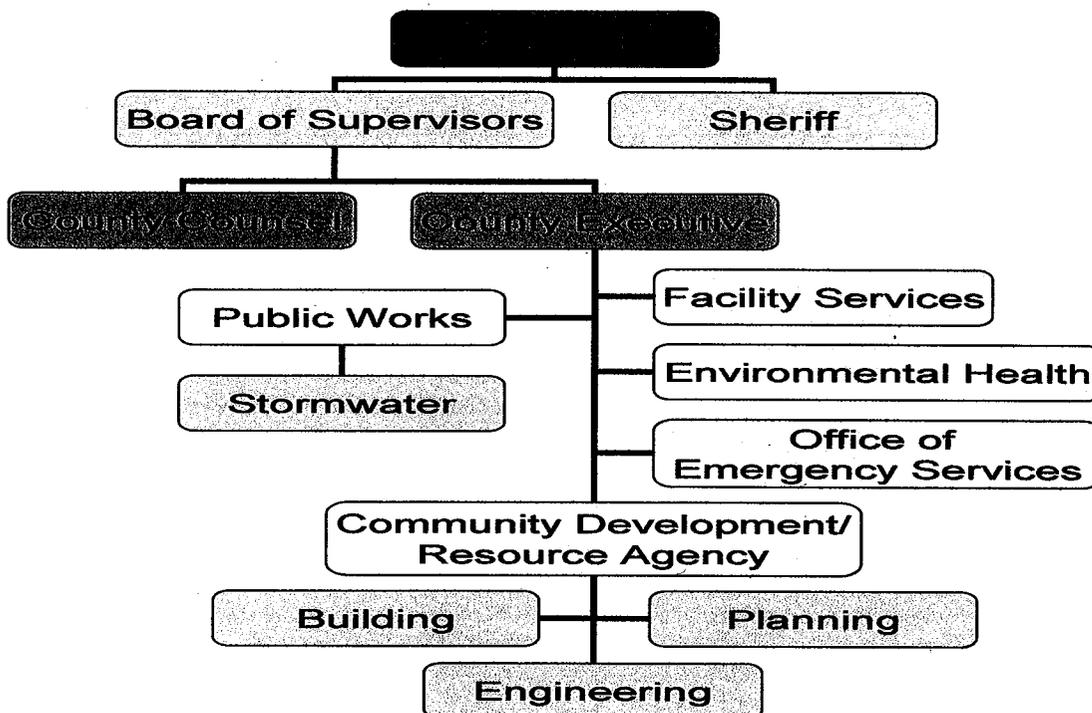
### Stormwater Quality Program Roles and Responsibilities

Placer County's stormwater quality program is implemented by personnel in multiple departments (or sections of departments) including:

- Public Works
- Community Development Resources Agency (CDRA) that includes Planning, Building, and Engineering Services
- Environmental Health
- Air Pollution
- Office of Emergency Services
- Facility Services
- Sheriff
- County Executive Office
- County Counsel

The Public Works Department leads the overall program coordination and management with substantial assistance and input from other departments. Professional consultants are used as needed for specialized technical tasks such as monitoring and some project design. Placer County's Community Development Resources Agency, or 'CDRA', oversees all development-related functions. CDRA acts as an umbrella agency for the Building, Planning, and Engineering and Surveying Services. The Department of Public Works performs road maintenance, fleet management, traffic engineering, roadway capital improvements, water quality improvement projects, floodplain management, and the stormwater quality program. Departmental reporting relationships for purposes of the stormwater program are shown in the following chart:

#### STORMWATER PROGRAM REPORTING RELATIONSHIPS



Placer County has established an internal Stormwater Task Force made up of upper management representatives from participating departments. The task force is convened on an as-needed basis to meet and discuss stormwater quality program issues. Responsible program contacts are shown in Table below:

**Placer County Department Contacts**

<b>Department</b>	<b>Responsible Contact</b>	<b>Telephone</b>
Facility Services	Director	(530) 886-4900
Community Development Resources Agency	Director	(530) 745-3197
Engineering Services	Director	(530) 745-3110
Public Works	Director	(530) 745-7500
Environmental Health	Client Services Director	(530) 745-2300
Building	Chief Building Official	(530) 745-3010
Planning	Director	(530) 745-3000
County Counsel	County Counsel	(530) 889-4044
County Executive	County Executive Officer	(530) 889-4030
Emergency Services	Deputy County Executive Officer	(530) 886-5300
Air Pollution Control	Air Pollution Control Officer	(530) 745-2330

The County Executive Office is responsible for oversight of all Placer County business and for maintaining communication with the Board of Supervisors.

The Community Development Resources Agency is the umbrella agency overseeing all development related functions, including Building, Code Enforcement, Planning and Engineering Services.

The Building Division is responsible for oversight of private structure construction and assists with construction site stormwater compliance of private projects, particularly with residential construction. The Code Enforcement Section personnel investigate reports of noncompliance with land use policies and provide support for stormwater quality violations.

The Planning Division oversees the creation and implementation of land use policies, including general and area plans. The processing of development projects up to the point of approval is led by the Planning Division staff with input from other agencies, and County Departments and Divisions. Discretionary permit approvals are considered by the Planning Commission, Board of Supervisors, or other decision maker/making body.

The Engineering Services Department assists Planning with project review and in recommending development conditions on proposed projects, and processes development projects after approval including improvement plan checking, map review, and construction inspection services. Construction inspection personnel

assist with construction site stormwater compliance, particularly with commercial and industrial projects.

The Public Works Department coordinates the day-to-day activities and administration of the stormwater quality program with substantial assistance and input from other departments. The Public Works Department is responsible for public roadway maintenance, fleet management, traffic engineering functions, roadway capital improvement projects, water quality improvement projects, floodplain management and stormwater program management. The Director of Public Works has been delegated authority from the County Board of Supervisors to implement NPDES permit requirements and communicate directly with State Water Board staff on all related matters, on behalf of Placer County.

The Facility Services Department is responsible for construction, operation and maintenance of Placer County parks and County-owned buildings, facilities and grounds, excluding all public roads and related facilities for which Public Works has responsibility. Facility Services assists the stormwater quality program by applying appropriate stormwater management principles to new Placer County building construction projects, parks management, and facilities maintenance.

The Environmental Health Division of the Department of Health and Human Services is in charge of well and septic systems, food facility inspections, hazardous material business plans, kennels, and commercial pools. The Division assists with applying stormwater quality BMPs and in enforcement of stormwater quality requirements such as identifying, responding to, and mitigating illicit and non-stormwater discharges.

The Office of County Counsel assists with legal matters on an as-needed basis, including the development of legal authority documents and review of materials presented to the Board of Supervisors for approval.

The Office of Emergency Services is responsible for coordination of emergency response within Placer County, including hazardous materials spill response coordination by multiple agencies.

The Placer County Sheriff's Department has responsibility for administering the after-hours reporting line and for enforcement of illegal and criminal activity, within the scope of their responsibilities.

The Air Pollution Control District is a special district that enforces local, state and federal air pollution regulations. The District controls air pollution from stationary sources of air pollution in Placer County, monitors air quality, works with the State and local agencies to maintain and improve air quality, and administer the burn day program.

While Auburn is the official Placer County Seat, and the location of most primary local government offices, support offices are located in the Tahoe area. Many of the departments listed above maintain offices and staff in the Tahoe Basin and are able to provide local support for stormwater program implementation. The Stormwater Division of Public Works, located at 3091 County Center Drive in Auburn, is the overall lead for the County-wide stormwater quality program. This includes the administration and implementation of the Tahoe Basin NPDES Permit requirements, coordination with other departments and divisions, SWMP development and implementation, monitoring and reporting.

The following table shows County facilities within the Tahoe region which provide local support for stormwater program activities, including a summary of services provided.

### Placer County Facilities Supporting the Stormwater Program in the Tahoe Area

County Facility Address	Department	Section	Services
<b>West Shore Office</b> 565 West Lake Boulevard, Tahoe City	Community Development Resources Agency	All	Reviews private development plans. Issues development permits.
		Planning Division	Implements planning documents (general and community plans, zoning ordinance, CEQA environmental review requirements, and other policy documents). Provides planning information to public. Processes development applications.
		Building Division	Reviews building plans. Issues building permits. Inspects building construction.
		Engineering Services Department	Inspects private development construction and grading activities.
		Code Enforcement Division	Investigates reports of land use and code violations.
	Health and Human Services	Environmental Health	Inspects food facilities. Inspects septic systems. Inspects public pool facilities. Manages hazardous materials program. Manages underground storage tank program.

<b>County Facility Address</b>	<b>Department</b>	<b>Section</b>	<b>Services</b>
	Public Works	Tahoe Engineering	Issues encroachment permits and performs related inspections.
<b>Burton Creek</b> 2501 North Lake Boulevard, Tahoe City	Public Works	Road Maintenance	Provides road maintenance and snow removal services. Maintains stormwater collection and treatment facilities.
	Sheriff		Provides law enforcement services.
<b>Cabin Creek</b> 910 Cabin Creek Road, Truckee	Public Works	Road Maintenance	Provides road maintenance and snow removal services. Maintains stormwater collection and treatment facilities.
		Fleet Maintenance	Provides vehicle and equipment maintenance services.
<b>Tahoe Vista</b> 7717 North Lake Boulevard, Tahoe Vista	Public Works	Tahoe Engineering Division	Plans, designs, and constructs water quality control and other capital projects, performs water quality monitoring, inspects and prioritizes BMP maintenance, implements TMDL tracking and crediting, and provides general departmental support for the region.

# EXHIBIT B

## Article 8.28 STORMWATER QUALITY

### 8.28.010 Title.

The ordinance codified in this article shall be known as the “Placer County Stormwater Quality Ordinance” of the county of Placer, and may be so cited. (Ord. 5430-B (part), 2006)

### 8.28.020 Purpose and intent.

A. The purpose of this article is to ensure that Placer County is compliant with state and federal laws and fulfills its requirements to:

1. Protect the health, safety, and general welfare of the citizens of Placer County;
2. Enhance and protect the quality of waters of the state in Placer County by reducing pollutants in stormwater discharges to the maximum extent practicable and controlling nonstormwater discharges to the storm drain system;
3. To cause the use of best management practices (Section 8.28.050) by the county and its citizens that will reduce the adverse effects of polluted runoff discharges on waters of the state, and;
4. To ensure the county is compliant with applicable state and federal law.

B. This article seeks to promote these purposes by:

1. Prohibiting illicit discharges to the storm drain system;
2. Establishing authority to adopt requirements for stormwater management, including source control requirements, to reduce pollution to the maximum extent practicable;
3. Establishing authority to adopt requirements for development projects to reduce stormwater pollution and erosion both during construction and after the project is complete; and
4. Establishing authority that will enable the county to implement and enforce any stormwater management plan adopted by the county. (Ord. 5430-B (part), 2006)

### **8.28.030 Findings.**

The Placer County board of supervisors has determined that the health, safety, and general welfare of the citizens of Placer County is adversely affected by the discharge of pollution into storm drain systems and waters of the state. The board of supervisors further finds that any violation of this article constitutes a public nuisance. (Ord. 5430-B (part), 2006)

### **8.28.040 Applicability.**

This article applies to all unincorporated areas of the county. (Ord. 5430-B (part), 2006)

### **8.28.050 Definitions.**

As used in this article:

“Best management practices (BMPs)” mean schedules of activities, prohibitions of practices, general good housekeeping practices, pollution prevention and educational practices, maintenance procedures, and other management practices to prevent the discharge of pollution directly or indirectly into stormwater, receiving waters, or stormwater conveyance systems. BMPs also include treatment practices, operating procedures, and practices to control site runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage.

“County” means the county of Placer.

“Development” means any activity that moves soils or substantially alters the pre-existing vegetated or man-made cover of any land. Development includes any activity that may be considered new development or redevelopment. This also includes, but is not limited to, grading, digging, cutting, scraping, stockpiling or excavating of soil, placement of fill materials, paving, pavement removal, exterior construction, substantial removal of vegetation where soils are disturbed including but not limited to removal by clearing or grubbing, or any activity which bares soil or rock or involves streambed alterations or the diversion or piping of any watercourse. Development does not include routine maintenance to maintain original line and grade, hydraulic capacity, or the original purpose of the facility, nor does it include emergency construction activities (i.e., land disturbances) required to protect public health and safety.

“Discharge” means the release, threatened release, or placement of any material into the county’s storm drain system, including but not limited to stormwater, wastewater, solid materials, liquids, hazardous waste, raw materials, debris, litter, or any other substance.

“Enforcement agency.” The Placer County department of public works is the primary enforcement agency for the purposes of this article. The enforcement agency

shall coordinate program activities with and authorize personnel of other departments to serve as enforcement officials to effectuate the purposes of this article.

“Enforcement official” means any agent of the county authorized by the enforcement agency to enforce compliance with this chapter.

“Illicit connection.” An illicit connection is defined by either of the following:

1. Any drain or water conveyance facility, either surface or subsurface, which allows an illicit discharge to enter the storm drain system, including but not limited to any conveyances which allow any nonstormwater discharge including sewage, process wastewater, and wash water to enter the storm drain system and any connection to the storm drain system from indoor drains and sinks, regardless of whether such drain or connection has been previously allowed, permitted, or approved by a government agency, or

2. Any drain or conveyance connected from a commercial or industrial land use to the storm drain system which has not been documented in plans, maps, or equivalent records and approved by the county.

“Illicit discharge” means any direct or indirect nonstormwater discharge to the county’s municipal storm drain system, except as otherwise exempted, including the introduction of pollution into the storm drain system.

“Industrial activity” means activities subject to NPDES permits as defined in 40 CFR 122.26(b)(14).

“Maximum extent practicable (MEP)” means a technology-based standard established by Congress in the Clean Water Act Section 402(p)(3)(B)(iii) for stormwater discharge to apply to all small municipal separate storm sewer system (MS4) operators regulated under the NPDES program. MEP is generally the result of emphasizing pollution prevention and source control best management practices (BMPs) as the preferred method of preventing water pollution. The MEP approach is an ever-evolving, flexible and advancing concept, which considers technical and economic feasibility. As knowledge about controlling urban runoff continues to evolve, so does what constitutes MEP.

“Municipal separate storm sewer system (MS4)” means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) owned by a state, county, city, town, or other public body, that is designed or used for collecting or conveying stormwater, which is not a combined sewer, and which is not a part of a publicly owned treatment works.

“National pollutant discharge elimination system (NPDES)” means the primary permitting program under the Clean Water Act (33 U.S.C. Section 1251 et seq.) which regulates most discharges to surface water.

“Nonstormwater discharge” means a discharge to the storm drain system that is not composed entirely of stormwater and that has been polluted, as defined in this section.

“Pollutant” means anything which causes or contributes to pollution, as defined in this section. Pollutants include, but are not limited to: paints, varnishes, solvents, oil, automotive fluids, yard wastes, refuse, rubbish, garbage, litter, discarded or abandoned objects, floatable materials, pesticides, herbicides, fertilizers, detergents, soaps, hazardous substances, hazardous waste, sewage, fecal coliform and pathogens, dissolved and particulate metals, animal wastes, wastes and residues that result from constructing a building or structure (including but not limited to sediments, slurries, and concrete rinsates), and noxious or offensive matter of any kind.

“Pollution” means the human-made or human-induced alteration of the quality of waters to a degree that causes or contributes to an exceedance of water quality standards contained in the statewide water quality control plan, the California Toxics Rule, or in the applicable regional water quality control board basin plan.

“Porter-Cologne Act” means the Porter-Cologne Water Quality Control Act, as amended (California Water Code Section 13000 et seq.).

“Property owner” means any person, entity, company, and/or authorized representative having title to real property within the geographic area affected by this article.

“Regional water quality control board” means the Central Valley regional water quality control board or the California Regional Water Quality Control Board, Lahontan Region.

“Storm drain system,” also “municipal storm drain system,” means facilities owned or operated by the county by which stormwater is collected and/or conveyed, including but not limited to any roads with drainage systems, municipal streets, gutters, curbs, inlets, piped storm drain, pumping facilities, retention and detention basins, natural and human-made or altered drainage channels, reservoirs, and other drainage structures which are within the county and are not part of a publicly owned treatment works as defined at 40 CFR Section 122.2.

“Stormwater” means any surface flow, runoff, and drainage consisting entirely of water from precipitation events, which has not been polluted.

“Stormwater pollution prevention plan (SWPPP)” means the construction site’s water quality management plan required by the state’s construction general stormwater permit.

“Urgency abatement.” Urgency involves the discharge or a threatened discharge condition which causes or threatens to cause an imminent threat to public health, safety, welfare, the environment, or a violation of a NPDES permit.

“Waters of the state” means all surface watercourses and water bodies, including lakes, bays, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, marshes, inlets, canals, and all other bodies of surface waters (Porter Cologne Section 13050(e)), and which are within the county of Placer. This definition includes, but is broader than, waters of the United States.

“Waters of the United States” means surface watercourses and water bodies as defined at 40 CFR Section 122.2, including all natural waterways and definite channels and depressions in the earth that may carry water, even though such waterways may only carry water during rains and storms and may not carry stormwater at and during all times and seasons.

Any term(s) defined in the Federal Clean Water Act, as amended, and/or defined in the regulations for the stormwater discharge permitting program issued by the Environmental Protection Agency, as amended, and which are not specifically defined in this section, shall, when used in this article, have the same meaning as set forth in such act or regulation. (Ord. 5430-B (part), 2006)

**8.28.060 Responsibility for administration.**

The director of public works of the county of Placer shall administer the provisions of this article. Any duties herein may be performed by other departments of the county. (Ord. 5430-B (part), 2006)

**8.28.070 Conflicts with other laws.**

In the event of any conflict between this chapter and any federal or state law or regulation, that requirement which establishes the higher standard for public health shall govern. To the extent permitted by law, nothing in this article shall preclude enforcement of any other applicable law, regulation, order, permit, or county ordinance. (Ord. 5430-B (part), 2006)

**8.28.080 Discharge prohibitions.**

Except as provided in Section 8.28.090 of this article, it is unlawful for any person to make or cause to be made any illicit discharge into the storm drain system. Notwithstanding the exemptions provided by Section 8.28.090, if the enforcement agency determines any otherwise exempt discharge causes or significantly contributes to violations of any plan standard, or conveys significant quantities of pollutants to surface water(s) or watercourse(s), or is a danger to public health or safety, such discharge shall be prohibited from entering the storm drain system. (Ord. 5430-B (part), 2006)

**8.28.090 Exemptions to prohibited discharges.**

Discharges from the following activities shall not be prohibited except as otherwise provided by this article:

- A. Water line flushing and discharges from potable water sources;
- B. Landscape irrigation and lawn watering;
- C. Diverted stream flows and irrigation water;
- D. Springs, rising groundwater, and flows from riparian habitat and wetlands;
- E. Uncontaminated groundwater infiltration (as defined at 40 Code of Federal Regulation Section 35.2005(b)(20));
- F. Uncontaminated pumped groundwater, foundation drains, footing drains, and water from crawl space pumps;
- G. Air conditioning condensation;
- H. Individual residential car washing;
- I. Dechlorinated swimming pool discharges;
- J. Firefighting flows.

(Ord. 5430-B (part), 2006)

**8.28.100 Discharge in violation of existing NPDES permit.**

Any person subject to any individual and/or industrial NPDES stormwater discharge permit shall comply with all provisions of such permit and any regulations or ordinances promulgated thereto, including requirements of the grading and erosion prevention ordinance of Placer County (Article 15.48). Proof of compliance with such permit may be required in a form acceptable to the enforcement agency prior to or as a

condition of a subdivision map, site plan, building permit, or development, redevelopment, or improvement plan; upon inspection of the facility; during any enforcement proceeding or action; or for any other reasonable cause. (Ord. 5430-B (part), 2006)

**8.28.110 Discharge in violation of county's NPDES permit—Indemnification.**

Any discharge that would result in or contribute to a violation of any NPDES permit for stormwater discharges to the county issued by the California State Water Resources Control Board or Regional Water Quality Control Board and any amendment, revision or reissuance thereof, either separately considered or when combined with other discharges, is prohibited. Liability for any such discharge shall be the responsibility of the person(s) so causing or responsible for the discharge, and such persons shall defend, indemnify and hold harmless the county in any administrative or judicial enforcement action relating to such discharge. (Ord. 5430-B (part), 2006)

**8.28.120 Acts potentially resulting in violation of Federal Clean Water Act and/or Porter-Cologne Act.**

The standards set forth herein and promulgated pursuant to this article are minimum standards. This article does not intend or imply that compliance to these minimum standards will ensure that there will be no contamination, pollution, nor unauthorized discharge of pollutants into the waters of the state. This article shall not create liability on the part of the county, or any agent or employee thereof for any damage that results from any discharger's reliance upon this article or any administrative decision made thereunder. (Ord. 5430-B (part), 2006)

**8.28.130 Right of entry—Inspections.**

A. The enforcement official is authorized to enter any building or premises for the purpose of making an inspection to enforce this article, using the provisions of Article 1.28 of this code.

B. The enforcement official may conduct inspections related to purposes of implementing this chapter on private or public property. Inspections shall be based upon such reasonable selection processes as may be deemed necessary to carry out the objectives of this article, including, but not limited to, visual evidence, complaints received, knowledge or physical evidence of industrial activities or other pollutant sources, random sampling, sampling in areas with evidence of stormwater contamination, illicit connections, discharge of nonstormwater to the county storm drain system, or similar factors. (Ord. 5430-B (part), 2006)

**8.28.140 Concealment and abetting.**

Causing, permitting, aiding, abetting, or concealing a violation of any provision of this article shall constitute a violation. (Ord. 5430-B (part), 2006)

**8.28.150 Reduction of pollutants in stormwater, best management practices.**

A. General Requirements. Any person engaging in activities that may result in pollutants entering the storm drain system shall implement best management practices to the maximum extent practicable to prevent and reduce such pollutants.

B. Maintenance. All BMPs shall be protected and maintained to ensure continuous and fully effective performance as designed.

C. Illicit Connection. The construction, use, maintenance or continued existence of illicit connections is prohibited. This prohibition includes illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of the connections. Upon final adoption of this article, any property owner or lessee who maintains an illicit connection shall, within thirty (30) days from the effective date of this article, disconnect and discontinue use of such connection.

D. Waste Disposal. No person shall throw, deposit, leave, maintain, keep, or permit to be thrown, deposited, left, or maintained in or upon any public or private property, driveway, parking area, street, alley, sidewalk, component of the storm drain system, or waters of the state, any refuse, rubbish, garbage, litter, or other discarded or abandoned objects, articles, and accumulations, so that the same may cause or contribute to pollution.

E. Construction Activities. Any person performing construction work within the county shall implement appropriate BMPs to prevent the discharge from the site of soil or construction wastes or debris, including contaminants from construction materials, tools, and equipment to the stormwater drainage system.

F. Sidewalks. Every property owner or any tenant in legal possession of the property upon which there is a paved sidewalk shall maintain that portion of the sidewalk on the property free of dirt or litter to the maximum extent practicable. Sweepings from the sidewalk shall not be swept into or otherwise allowed to enter the gutter or roadway, storm drain system, or any waters of the state, but shall instead be disposed of in receptacles maintained as required for proper disposal of solid waste.

G. Watercourse Protection. Every person owning property through which a watercourse passes, or such person's lessee, shall keep and maintain that part of the watercourse within the property reasonably free of trash, debris, and other obstacles that would pollute, contaminate, or significantly retard the flow of water through the watercourse. Any owner or lessee that conducts development as defined in this article shall maintain existing privately owned structures within or adjacent to a watercourse such that the effective functioning and physical integrity of the watercourse is protected, and in a manner which does not cause pollution.

H. Development. The county may incorporate appropriate BMPs to control the volume, rate, and potential pollutant loading of stormwater runoff from development. These required BMPs will be contained in any land use entitlement and construction or building-related permit to be issued relative to such development or redevelopment. The owner and developer shall comply with the terms, provisions, and conditions of such land use entitlements and building permits as required in this article.

I. Paved Areas. Persons owning, operating, or maintaining a paved area, including the paved areas of a parking lot, gas station, paved private street, road, or driveway, and related storm drain systems shall clean those structures as frequently and as thoroughly as practicable in a manner that does not result in discharge of pollutants to the storm drain system. (Ord. 5430-B (part), 2006)

**8.28.160 Containment and notification of illegal discharges.**

Any person owning or occupying a premises who has knowledge of any illicit discharge from or across those premises which might enter the storm drain system, except as provided in Section 8.28.090 of this article, shall:

A. Immediately take all reasonable action to contain and abate the illicit discharge, and;

B. Notify the enforcement agency or its designated contact person within twenty-four (24) hours of the illicit discharge. The enforcement agency may require the owner of the property and/or the responsible person to take corrective actions within a specified time pursuant to this article. (Ord. 5430-B (part), 2006)

**8.28.170 Coordination with hazardous materials inventory and response program.**

Any business subject to the county's hazardous materials inventory and release response plan shall include, at the first opportunity for revision, provisions in that plan for compliance with this article. (Ord. 5430-B (part), 2006)

**8.28.180 Enforcement.**

Any person who violates a provision of this article may be subject to administrative, civil, or criminal liability as provided in this article.

A. Primary Authority. The enforcement agency is empowered to use any of the provisions of Sections 8.28.190 through 8.28.220 of this article, and the provisions found in Articles 1.24 or 17.62 of this code where appropriate to correct violations of, and secure compliance with the provisions of this article.

B. Warning Not Required. Issuance of a warning shall not be a requirement prior to using any enforcement provision of this article. (Ord. 5430-B (part), 2006)

**8.28.190 Violation.**

A. **Informal Warning, Educational Materials.** Whenever the enforcement official determines that a violation of a provision of this article has occurred or may occur, the enforcement agency may provide a warning to any person and/or owner responsible for the condition giving rise to such violation or potential violation. Such warning may include the distribution of educational materials to assist in future compliance with this article. This warning may be provided in person or in writing.

B. **Notice of Noncompliance.** Whenever the enforcement official determines that a violation has occurred, the enforcement official may serve a notice of noncompliance to any person and/or owner responsible for the violation. Each notice of noncompliance shall contain the following information:

1. The date of the violation;
2. The address or a definite description of the location where the violation occurred;
3. The article section violated and a description of the violation;
4. A description of how the violation can be corrected;
5. A time limit by which the violation shall be corrected, after which further enforcement and/or corrective actions may be taken by the county if the violation is not fully corrected;
6. The name and signature of the individual preparing the notice of noncompliance; and
7. Notice of potential liability under the federal Clean Water Act or State Porter Cologne Water Quality Act.

C. **Administrative Compliance Order** Whenever the enforcement official determines that a violation has occurred, the enforcement official may serve an administrative compliance order to any person and/or owner responsible for the violation. Each administrative compliance order shall contain the following information:

1. The date of the violation;
2. The address or a definite description of the location where the violation occurred;
3. The article section violated and a description of the violation;

4. An order to cease all activities which are believed to be causing the violation;
5. A time limit by which the violation shall be corrected, after which corrective actions will be taken by the county if the violation is not fully corrected;
6. A statement that the county will charge the person and/or owner for all administrative costs associated with enforcement actions;
7. An order prohibiting the continuation or repeated occurrence of the violation;
8. The name and signature of the individual preparing the citation;
9. A statement outlining the procedure for appeal of the order; and
10. Notice to the violator of potential liability under the federal Clean Water Act or State Porter Cologne Water Quality Act.

D. **Infraction.** The enforcement official is authorized to issue citations for infractions of this section using the provisions found in Articles 1.24 or 17.62 of this code.

E. **Misdemeanor.** Any violation of this article may be punished as a misdemeanor using the provisions of Article 1.24 of this code.

F. **Service.** The enforcement officer is authorized to use the provisions of Section 17.62.080(b) to serve a notice of noncompliance, citation, and/or administrative compliance order to effectuate the provisions of this article.

G. **Separate violation—Intent.**

1. Each day in which a violation occurs and each separate failure to comply with any provision of this article is a separate offense and punishable by penalties in accordance with this article.

2. A violation of the provisions of this article shall occur irrespective of the negligence or intent of the violator to construct, maintain, operate, or utilize an illicit connection, or to cause, allow or facilitate any discharge or threatened discharge. (Ord. 5482-B, 2007; Ord. 5430-B (part), 2006)

#### **8.28.200 Administrative appeals.**

A. Any person receiving an administrative compliance order under Section 8.28.190(C) of this article, or any person required to perform monitoring, analysis, reporting or corrective activities by any enforcement official and who is aggrieved by this decision of the enforcement official may appeal the decision in writing to the director of public works within ten (10) days following the effective date of the decision. Upon receipt of such appeal, the director of public works shall request a report and recommendation from the authorized county employee and shall set the matter for hearing at the earliest practical date. At such hearing, the director of public works may base his or her decision on additional evidence, and may reject, affirm or modify the enforcement official's decision.

B. The decision of the director of public works may be appealed to the board of supervisors by filing a notice of appeal with the clerk of the board of supervisors within fifteen (15) days of receipt of the decision of the director of public works. Such appeal shall be in writing and shall set forth fully the grounds for the appeal. The board shall thereupon fix a time and place for a public hearing of such appeal. The clerk of the board shall give notice to the appellant of the time and place of hearing by serving it personally or by depositing it in the U.S. Post Office, postage prepaid, addressed to the appellant at his last known address at least five days prior thereto.

C. At the hearing before the board of supervisors, the appellant may appear in person or by counsel and present any relevant evidence relating to the grievance; the enforcement agency may present evidence in rebuttal thereof. The hearing may be continued from time to time, not to exceed thirty (30) days in all. The board of supervisors shall conduct a hearing and make findings as appropriate. The decision of the board of supervisors shall be final. (Ord. 5430-B (part), 2006)

#### **8.28.210 Civil actions.**

In addition to any other remedies provided in this section, any violation of this article may be enforced by civil action brought by the county. In any such action, the county may seek, as appropriate and allowed by law, any or all of the following remedies:

- A. A temporary restraining order, preliminary and permanent injunction;
- B. Reimbursement for the costs of any investigation, inspection or monitoring survey which led to the establishment of the violation, and for the reasonable costs of preparing and bringing action under this division;
- C. Costs incurred in removing, correcting or terminating the adverse effect(s) resulting from the violation;
- D. Compensatory damages for loss or destruction of water quality, wildlife, fish and aquatic life. Costs and damages under this subsection shall be paid to the county and shall be used exclusively for costs associated with monitoring and establishing

stormwater discharge pollution control system and/or implementing or enforcing the provisions of this division. (Ord. 5430-B (part), 2006)

**8.28.220 Nuisance abatement—Urgency abatement.**

A. Nuisance Abatement. The enforcement agency may, in addition to other authorized procedures set forth in this article, take action to abate any nuisance in accordance with the procedures found in Section 17.62.160 of this code. The costs of any such abatement undertaken by the county shall be borne by the owner and shall be collectable in accordance with the provisions of Section 17.62.090 of this code.

B. Urgency Abatement. The enforcement agency may, in addition to other authorized procedures, take immediate action to abate any discharge or threatened discharge from any source to the storm drain system when, in the discretion of the enforcement agency, the discharge or threatened discharge causes or threatens to cause a condition which presents an imminent danger to the public health, safety, or welfare, or the environment, or a violation of an NPDES permit. The enforcement agency must first make reasonable attempts to contact and compel the responsible person and/or owner to abate the discharge or threatened discharge in a satisfactory manner. The costs of any such abatement shall be borne by the owner and shall be collectable in accordance with the provisions of Section 17.62.090 of this code. (Ord. 5430-B (part), 2006)

**8.28.230 Regulatory fee structure authorized.**

The enforcement agency shall collect such fees as may be authorized by the board of supervisors to establish and collect regulatory costs, which include routine inspections and other regulatory functions associated with this article. Any such fees shall be established by resolution of the board of supervisors. (Ord. 5430-B (part), 2006)

# EXHIBIT C

## Article 15.48 GRADING, EROSION AND SEDIMENT CONTROL

### Note

\* Prior code history: Prior code Sections 29.100 through 29.675, 29.700 through 29.1050 and 29.1070.

### Part 1. Purpose and Definitions

#### 15.48.010 Title.

This article shall be known as the grading and erosion prevention ordinance of Placer County. (Ord. 5056-B, 2000)

#### 15.48.020 Purpose.

The ordinance codified in this article is enacted for the purpose of regulating grading on property within the unincorporated area of Placer County to safeguard life, limb, health, property and public welfare; to avoid pollution of watercourses with hazardous materials, nutrients, sediments, or other earthen materials generated on or caused by surface runoff on or across the permit area; and to ensure that the intended use of a graded site is consistent with the Placer County general plan, any specific plans adopted thereto and applicable Placer County ordinances including the zoning ordinance, flood damage prevention ordinance, (Article 15.52) environmental review ordinance (Chapter 18 Placer County Code) and applicable chapters of the California Building Code. In the event of conflict between applicable chapters and this article, the most restrictive shall prevail. (Ord. 5056- B, 2000)

#### 15.48.030 Definitions.

Unless the particular provision or the context otherwise requires, wherever the following terms are used in this article, they shall have the meaning ascribed to them in this section:

“Agency director” means the head of the community development resource agency of Placer County.

“Agricultural operation” means any land related activity for the purpose of cultivating or raising plants grown in the ground or raising animals or conserving or protecting lands for such purposes when conducted on agriculturally zoned lands and is not surface mining or borrow pit operations.

“Bedding plane” means a nearly flat surface, which may have been tilted up or folded by tectonic forces, separating two beds (or layers or strata) of sedimentary rock. Each bedding plane marks the end of one deposit and the beginning of another having different characteristics (also known as strata, or beds).

“Bedrock” is the solid undisturbed rock in place either exposed at the ground surface or beneath surficial deposits of loose rock or soil.

“Bench” means a relatively level step excavated into sloping natural ground on which engineered fill or embankment fill is to be placed.

“Board” is the board of supervisors of the county of Placer.

“Civil engineer” is a professional engineer registered as a civil engineer by the state of California.

“Community development resource agency” means the agency which provides planning and direction over those county functions that provide land use planning, management of natural resources, building, inspection and code enforcement services, and other permit and land use services to the citizens of Placer County. The agency includes the divisions of engineering and surveying, planning, and building and performs land development core functions such as infrastructure planning, surveying and mapping, permits and construction.

“Compaction” is the increase of density of a soil or rock fill by mechanical means.

Cut. See “Excavation.”

“Days” mean calendar days, except that such time limits shall extend to the following working day where the last of the specified number of days falls on a Saturday, Sunday or any county holiday.

“Depth of fill” means the vertical dimension from the exposed fill surface to the original ground surface.

“Depth of excavation (cut)” means the vertical dimension from the exposed cut surface to the original ground surface.

“Director of environmental health” means the director of the department of health and human services, Placer County, California acting either directly or through authorized deputies.

“Director of public works” means the director of public works of Placer County, California, acting either directly or through authorized deputies.

“Drainage way” means a depression in the earth’s surface such as swales, ravines, gullies, draws, hollows or ditches in which surface waters collect for drainage, but which otherwise are destitute of water.

Embankment. See “Fill.”

“Engineering geologist” means a registered geologist certified as an engineering geologist by the state of California.

“Engineering geology” means the application of geologic knowledge in the investigation and evaluation of naturally occurring rock and soil for use in the design of civil works.

“Erosion” means the wearing away and transportation of earth material as a result of the movement of wind, water, or ice.

“Excavation (cut)” means the removal of naturally occurring earth materials by mechanical means, and includes the conditions resulting therefrom.

“Existing grade” means the elevation of the ground surface at a given point prior to excavating or filling.

“Expansive soil” means any soil, which exhibits significant expansive properties as determined by a geotechnical engineer or civil engineer and approved by community development resource agency.

“Fill (embankment)” means the deposit of soil, rock or other materials placed by man and includes the conditions resulting therefrom.

“Finish grade” means the final grade of the site after excavating or filling which conforms to the approved final grading plan. The finish grade is also the grade at the top of a paved surface.

“Foliation plane” means a linear plane formed in metamorphic rock caused by heat and pressure. The planes in the Sierra foothills usually trend north-south and are titled at a steep slope with folds and intrusions.

“Geologic hazard” means any condition in naturally occurring earth materials, which may endanger life, health or property.

“Geotechnical engineer” means a civil engineer registered by the state of California who is qualified in the field of soil mechanics and soil engineering and has the authority to use the title “soil engineer.”

“Geotechnical engineering” means the application of the principles of soil mechanics in the investigation, evaluation and design of civil works involving the use of earth materials and may include the inspection, testing and construction thereof.

“Grade” means the vertical location of the ground surface.

Grade, existing. “Existing grade” means the grade prior to grading.

Grade, rough. "Rough grade" means the stage at which the grade approximately conforms to the approved plan.

"Grading" means any land excavation or filling or combination thereof, or the removal, plowing under or burial of vegetative groundcover.

"Grading plan" means a plan prepared in accordance with this article showing grading and related work.

"Grading work" is grading and related work, such as, but not limited to, drainage improvements and erosion and sediment control.

"Hazardous materials" is as defined in Health and Safety Code Section 25501 et seq.

"Joint" means a fracture in rock that is produced by expansion, contraction, and tectonic forces, and along which there has been no movement.

"Keyway" means a special backfilled excavation, which is constructed beneath the toe area of a planned fill slope on sloping ground to improve the stability of the slope.

"Landscape architect" means a landscape architect registered by the state of California.

"Level, land leveling operation" means the physical movement of rock or soil which results in a change in the topography of the land, which results in the land being more level than before.

Lot. See "Parcel."

"NPDES" means the National Pollutant Discharge Elimination System, a federal program regulating stormwater discharges pursuant to Sections 307, 402, 318 and 405 of the Clean Water Act (33 U.S.C. Section 1251 et seq.), as such Act may be amended from time to time.

"Overland flow" means and includes flow over planar surfaces, including, but not limited to, roofs, streets, lawns, parking lots and fields.

"Owner" means the person shown as the legal owner of the property on the latest equalized assessment roll in the office of the county assessor.

"Parcel (lot)" means land described as a lot or parcel in a recorded deed or shown as a lot or parcel on a subdivision map or parcel map on file in the county recorder's office.

“Permit” means an approved grading permit issued pursuant to this article authorizing certain grading work.

“Permittee” means any person to whom a permit is issued pursuant to this article.

“Person” means any individual, firm, corporation or public agency whether principal, agent, employee or otherwise.

“Planning director” means the director of the planning department of Placer County, California, acting directly or through his or her authorized agents.

“Rainy season” means the period of the year during which there is a substantial risk of rainfall. For the purpose of this article, the rainy season is defined as from October 15th to May 1st, inclusive.

“Record drawings” means drawings for improvements or grading that show changes made during construction.

“Retaining wall” means any constructed wall that holds back earth (or a liquid), and where there is an abrupt change in elevation.

“Sediment” means any material transported or deposited by water, including soil debris or other foreign matter.

“Site” means any lot or parcel of land or combination of contiguous lots or parcels of land, whether held separately or joined together in common ownership or occupancy where grading is to be performed or has been performed.

“Slope” means an inclined ground surface the inclination of which may be expressed as the ratio of horizontal distance to vertical distance or as the ratio of vertical distance per one hundred (100) feet horizontal distance when given as a percent.

“Soil” means all earth material of any origin that overlies bedrock and may include the decomposed zone of bedrock, which can be excavated readily by mechanical equipment.

“Stormwater runoff” means water runoff due to storms, (rain, snow melt, etc.).

“Stream environment zone” means perennial, intermittent, and ephemeral streams, meadows and marshes, and other areas of near-surface water influence.

“Structure” means that which is built or constructed or any piece of work artificially built up or composed of parts joined in some definite manner.

“Surcharge” means the additional loading acting above and behind a retaining wall other than from the normal active soil pressures; examples of surcharges include but

are not limited to vehicles, buildings, snow, sloped backfill, stockpiles, construction staging areas and equipment.

“Tahoe Basin” means the unincorporated area of Placer County, which is adjacent to and drains into Lake Tahoe.

“Terrace” means a relatively level step constructed in the face of a graded slope surface for drainage, maintenance, or other purposes.

“Vegetation” means plant life or total plant cover of an area.

“Vehicular way” means a private roadway or driveway.

“Watercourse” means any natural or artificial channel flowing continuously or intermittently in a definite direction and course or used for the holding, delay or storage of waters, which functions at any time to convey or store stormwater runoff.

At the discretion of the community development resource agency, the definition of natural channel may be limited to those channels having a watershed area of fifty (50) acres or more, and this definition will be commonly used in connection with the administration of this article except for those cases in which the agency director determines that the definition must be extended to a natural channel with a watershed smaller than fifty (50) acres in order to prevent a condition which could possibly endanger property; be a hazard to public safety; adversely affect the safety, use or serviceability of adjacent property, public way or drainage channel, or could adversely affect the water quality of any water bodies or watercourses.

Work. See “Grading work.” (Ord. 5688-B § 6, 2012; Ord. 5618-B § 2, 2010; Ord. 5407-B § 1, 2006; Ord. 5373- B, 2005; Ord. 5056-B, 2000)

## **Part 2. General Requirements**

### **15.48.040 Grading.**

No person shall do or permit to be done any grading in such a manner that quantities of dirt, soil, rock, debris or other material substantially in excess of natural levels are washed, eroded or otherwise moved from the site, except as specifically provided for by a permit. In no event shall grading activities cause or contribute to the violation of provisions of any applicable NPDES stormwater discharge permit. (Ord. 5407-B § 2, 2006; Ord. 5056-B, 2000)

### **15.48.050 Water obstruction.**

No person shall do or permit to be done any grading which may obstruct, impede or interfere with the natural flow of stormwaters, in such manner as to cause flooding where it would not otherwise occur, aggravate any existing flooding condition or cause accelerated erosion. This section applies whether such waters are unconfined upon the surface of the land or confined within land depressions or natural drainage ways,

unimproved channels or watercourses, or improved ditches, channels or conduits. (Ord. 5056-B, 2000)

**15.48.060 Grading permit required.**

A. Except for the specific exemptions listed in Section 15.48.070 of this article, no person shall do or permit to be done any grading on any site in the unincorporated areas of Placer County without a valid grading permit obtained from the community development resource agency.

A permit shall also be required for the following:

1. Retaining walls which are over four feet in height, as measured from bottom of footing to top of the retained soil;
2. Any retaining walls that are subject to surcharge;
3. Private vehicular bridge;
4. Swimming pool fill operations whereby depth of fill for swimming pool construction exceeds four feet.

B. A grading permit is required for any grading and/or other construction activity with ground disturbance of one acre or more. (Ord. 5407-B § 3, 2006; Ord. 5373-B, 2005; Ord. 5056-B, 2000)

**15.48.070 Exemptions.**

Unless in conflict with provisions of adopted general and/or specific plans, or provisions applicable to the Tahoe Basin as described in Section 15.48.120 of this article, the following grading may be done without obtaining a permit. Exemption from the requirement of a permit shall not be deemed permission to violate any provision of this article:

A. Minor projects which have cuts or fills, each of which is less than four feet in vertical depth at its deepest point measured from the existing ground surface, and which meet all of the following criteria:

1. Less than two hundred fifty (250) cubic yards of graded material in a single area, within a two-year period. In calculating the graded material quantity, excavation material used as fill material will not be counted twice. (For example: one hundred twenty-five (125) cubic yards [C.Y.] of excavation material that is also placed as fill material would be calculated as one hundred twenty-five (125) cubic yards, not as 125 C.Y. + 125 C.Y. = 250 C.Y.),
2. The removal, plowing under or burial of less than ten thousand (10,000) square feet of vegetation on slopes ten (10) percent or greater or any amount of

vegetation on slopes less than ten (10) percent on areas of land less than one acre within a two-year period,

3. Does not create unstable or erodible slopes,
  4. Does not encroach onto sewage disposal systems including leach field areas,
  5. Does not encroach into the areas designated as Zone A as shown on the Flood Insurance Rate Maps,
  6. Does not obstruct any watercourse, disturb, or negatively impact any drainage way, wetland, stream environment zone, or water body,
  7. Does not divert or obstruct overland flow, or negatively affect other adjacent properties,
  8. Includes provisions to effectively prevent discharges of pollutants from the site, and
  9. Provides for completion of soil disturbing activities within a continuous period of forty-five (45) days, and revegetation of all disturbed areas immediately thereafter;
- B. Grading done by or under the supervision or construction control of a public agency that assumes full responsibility for the work;
  - C. Excavations, (but not fill operations) in connection with a swimming pool authorized by a valid building permit. Any swimming pool fill operation must comply with Section 15.48.060(A)(4) of this article to be exempt;
  - D. Retaining walls less than four feet in height, as measured from bottom of footing to the top of the wall, and not subject to surcharge;
  - E. Grading necessary for agricultural operations, unless such grading will create a cut or fill whose failure could endanger any structure intended for human or animal occupancy or any public road, or could obstruct any watercourse or drainage conduit;
  - F. Trenching and grading incidental to the construction or installation of approved underground pipe lines, septic tank disposal fields, conduits, electrical or communication facilities, and drilling or excavation for post holes or approved wells;
  - G. Excavations less than two hundred fifty (250) cubic yards for soil or geological investigations by a geotechnical engineer, civil engineer, or engineering geologist;

H. Grading in accordance with plans incorporated in an approved surface mining permit, reclamation plan, or sanitary landfill or environmental remediation project or petroleum product tank removal and installation where governed by other state or county ordinance;

I. Maintenance of existing firebreaks and roads to keep the firebreak or road substantially in its original condition;

J. Routine cemetery excavations and fills;

K. Performance of emergency work necessary to protect life or property when an urgent necessity arises. The person performing such emergency work shall notify the community development resource agency promptly of the problem and work required and shall apply for a permit within ten (10) calendar days after commencing such work;

L. An excavation below finished grade for basements and footings of a building authorized by a valid building permit;

M. Timber harvest operation conducted under valid state or federal permit, stream alteration permits, dams under state jurisdiction, etc. (Ord. 5407-B § 4, 2006; Ord. 5373-B, 2005; Ord. 5056-B, 2000)

**15.48.080 Fees.**

A. The schedule of fees and costs shall be those established and adopted by the board from time to time by resolution or ordinance. Before a permit is issued, the applicant shall deposit with the community development resource agency cash or a check, in a sufficient sum to cover the fee for issuance of the permit, charges for review of plans, specifications and reports, other engineering services, field investigations, necessary inspection or other work and routine laboratory tests of materials and compaction, all in accordance with schedules established and adopted by the board.

B. No fee shall be required of public agencies.

C. Public utilities may, at the option of the community development resource agency, make payment for the charges in subsection A of this section as billed instead of by advance deposit as required in subsection A of this section.

D. If grading work is done in violation of this article or such work is not done in accordance with an approved permit, a fee covering investigation of any violation and inspection and plan checking of work required to correct such violation shall be charged to the violator to cover all actual costs. (Ord. 5407-B § 5, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

**15.48.090 Levee work.**

No person shall excavate or remove any material from or otherwise alter any levee required for river, creek, bay, or local drainage control channel, without prior approval of the local governmental agency responsible for the maintenance of the levee. (Ord. 5056- B, 2000)

**15.48.100 Construction in public rights-of-way.**

No person shall perform any grading work within the right-of-way of a public road or street, or within a public easement, without prior written approval of the agency director. (Ord. 5407-B § 6, 2006; Ord. 5056- B, 2000)

**15.48.110 Hazards.**

If the community development resource agency director determines that any grading on private or public property constitutes a hazard to public safety; endangers property; adversely affects the safety, use or stability of adjacent property, an overhead or underground utility, or a public way, watercourse or drainage channel; or could adversely affect the water quality of any water bodies or watercourses, the director may issue a stop work notice to the owner of the property upon which the condition is located, or other person or agent in control of such property. Upon receipt of such stop work notice, the recipient shall, within the period specified therein, stop all work, obtain a grading permit and conform to the conditions of such permit. The community development resource agency may require the submission of plans or soil or geological reports, detailed construction recommendations, drainage study or other engineering data prior to and in connection with any corrective or proposed work or activity. (Ord. 5407-B § 7, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

**15.48.120 Tahoe Basin area special restrictions and exemptions.**

A. Provisions of this section apply to the unincorporated area of Placer County within that area defined as "TRPA region" in the Tahoe Regional Planning Agency Compact. This area is the Tahoe Basin and that additional and adjacent part of the county of Placer outside of the Tahoe Basin in the state of California which lies southward and eastward of a line starting at the intersection of the basin crestline and the north boundary of Section 1, thence west to the northwest corner of Section 3, thence south to the intersection of the basin crestline and the west boundary of Section 10; all sections referring to township 15 north, range 16 east, M.D.B. and M.

B. Grading and soil disturbance shall be prohibited during the period from October 15th through May 1st unless otherwise approved, in writing, by the agency director and by the Tahoe Regional Planning Agency and Lahontan Regional Water Quality Control Board. Complete winterization of the site is required by October 15th, if work is not complete and permanent revegetation is not established.

C. All work shall be in conformity with any grading restriction required by other federal, state, or local agencies.

D. A permit for grading on residential property issued by the Tahoe Regional Planning Agency will be evidence of conformity to provisions of this section. All other grading in the region, unless otherwise exempt as provided herein, is subject to review and approval by the community development resource agency.

E. Areas of the site not approved for grading, vegetation removal, or construction shall be fenced or otherwise marked to limit access. These fences shall be inspected, maintained, and repaired as necessary.

F. Prior to initiation of grading or construction-related activity, temporary erosion control measures shall be installed to prevent transport of earthen materials and other wastes off of the site.

G. All other provisions of this article shall apply, but a permit shall not be required if the work complies with all the following conditions:

1. The excavation does not exceed four feet in vertical depth at its deepest point measured from the original ground surface, does not exceed two hundred (200) square feet in area, and does not exceed three cubic yards per site;

2. The fill does not exceed three feet in vertical depth at its deepest point measured from the original

ground surface, the fill material does not cover more than two hundred (200) square feet, and does not exceed three cubic yards per site;

3. The clearing of vegetation does not exceed one thousand (1,000) square feet in area. (Ord. 5407-B § 8, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

**15.48.130 Transfer of permit.**

No permit issued under this article may be transferred or assigned in any manner whatsoever, without the express written consent of the community development resource agency. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

**15.48.140 Right of entry.**

As a condition of the permit, the property owner shall grant the county a right of entry for the duration of the permit until after final inspection. Whenever necessary to enforce the provisions of this article the agency director or designee may enter the premises to perform any duty imposed by this article. (Ord. 5373- B, 2005; Ord. 5056- B, 2000)

**15.48.150 Liability.**

Neither issuance of a permit under the provisions of this article nor compliance with the provisions hereof or with any conditions imposed in a permit issued hereunder shall relieve any person from responsibility for damage to any person or property or impose any liability upon the county for damage to any person or property. (Ord. 5056-B, 2000)

**15.48.160 Denial of other permits.**

No building permit, septic, water, sewer, electrical permit, or any other permit shall be issued by the county to any person for any premises or portion thereof which is in violation of this article. (Ord. 5056- B, 2000)

**15.48.170 Grading prior to approval of improvement plans.**

Property owners who submit applications for permits for grading for projects that have an approved tentative map or the intended use has an approved discretionary zoning permit, (Chapter 17, Zoning) or is in compliance with the design review process (Section 17.52.070) must comply with the following requirements:

A. A separate grading plan shall be submitted for review and approval by the community development resource agency. This plan shall conform to the requirements of this grading ordinance and any applicable conditions placed on the project as a result of any formal discretionary permit process. The applicant shall acknowledge that any additional grading or revisions to work necessitated by conflicts discovered during the improvement plan check or subsequent construction will be corrected at the applicant's expense.

B. The property owner shall submit a revegetation and winterization plan for review and approval. This plan shall include a performance agreement with Placer County which includes a specific schedule for performance of the subject grading, an engineer's estimate of cost for implementing the plan, and cash or other approved form of security to insure the timely performance of the plan.

C. Plan check and inspection fee deposit shall be required in the amount of the full plan check fee applicable at the time of submittal and a deposit of twenty-five (25) percent of the full inspection fee at time of grading permit approval.

D. A drainage report shall be required as per the requirements of this grading ordinance and the Placer County land development manual. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

**15.48.180 Not retroactive.**

The provisions of this article shall not apply to construction for which all previously necessary permits were obtained, before the effective date of the ordinance codified in this article or any subsequent amendments. (Ord. 5056- B, 2000)

**15.48.190 Severability.**

If any section, subsection, paragraph, subparagraph, sentence, clause or phrase of this article is for any reason held to be invalid or unconstitutional, such invalidity or unconstitutionality shall not affect the validity or constitutionality of the remaining portions of this article; and the board declares that this article and each section, subsection, paragraph, subparagraph, sentence, clause, and phrase thereof would have been adopted irrespective of the fact that one or more of such section, subsection, paragraph, subparagraph, sentence, clause or phrase be declared invalid or unconstitutional. (Ord. 5056- B, 2000)

**Part 3. Procedures**

**15.48.200 Filing.**

Applications for permits shall be filed with the community development resource agency on forms furnished by the department. Each application shall include a plan-checking fee and other fees as required, grading plans and a statement of the intended use of the site. Only one application and permit is allowed for grading work to be done on a site. The community development resource agency shall determine whether the application is complete or whether additional information is required from the applicant. The applicant shall be notified within ten (10) working days, and provided outstanding requirements in writing if the application is deemed incomplete. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

**15.48.210 Compliance with CEQA.**

The California Environmental Quality Act (CEQA) and the Placer County environmental review ordinance may require the preparation of environmental documents concerning a proposed grading project. Any required environmental review must be completed before the grading permit application will be deemed complete. (Ord. 5056- B, 2000)

**15.48.220 Notice to adjacent utility owners.**

Applicant shall provide, with the application, documentation that he or she shall have notified by mail the owners of utilities on or abutting the site that an application for a grading permit has been submitted to the county. The notice shall state that the utilities must provide comments to Placer County within thirty (30) calendar days of the date the notice is received by the utility. No permit shall be issued until the utility has either approved the application or the thirty (30) day period has expired. This section may be waived by the agency director in his or her sole discretion. (Ord. 5407-B § 9, 2006; Ord. 5056- B, 2000)

**15.48.230 Referral to other public agencies.**

The community development resource agency may refer an application to other interested public agencies for their recommendations. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

**15.48.240 Permit conditions.**

A. No permit shall be granted unless the project conforms to the Placer County general plan, any community or specific plans adopted thereto and applicable Placer County ordinances including the zoning ordinance.

B. Where a proposed grading project requires the filing of a tentative map or the intended use requires approval of a discretionary zoning permit, no grading permit shall be granted prior to approval by the applicable planning authority.

C. The permit shall be limited to work shown on the grading plans as approved by the community development resource agency. In granting a permit, the community development resource agency may impose any condition deemed necessary to protect the health, safety and welfare of the public, to prevent the creation of a hazard to public or private property, prevent erosion and to assure proper completion of the grading, including but not limited to:

1. Mitigation of adverse environmental impacts as disclosed by any environmental document findings. This includes the proper disposal of any hazardous material identified in the initial planning phase. The director of health and human services will approve hazardous materials management;
2. Improvement of any existing grading to comply with the standards of this article;
3. Requirements for fencing or other protecting of grading which would otherwise be hazardous;
4. Requirements for dust, erosion, sediment and noise control, and hours of operation and season of work, weather conditions, sequence of work, access roads and haul routes;
5. Requirements for safeguarding watercourses, whether natural or man-made, from excessive deposition of sediment or debris in quantities exceeding natural levels;
6. Requirements for safeguarding areas reserved for on-site sewage disposal;

7. Assurance that the land area in which grading is proposed and for which habitable structures are proposed is not subject to hazards of land slippage or significant settlement or erosion and that the hazards of flooding can be eliminated or adequately reduced;

8. Requirements for safeguarding existing water wells.

D. All grading activities east of the Sierra crest (excluding the "TRPA region" as specified in Section 15.48.120 of this article) are prohibited between October 15th and May 1st without written approval of the agency director and the Lahontan Regional Water Quality Control Board. (Ord. 5407- B, § 10, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

**15.48.250 Permission of other agencies or owners.**

No permit shall relieve the permittee of responsibility for securing other permits or approvals required for work which is regulated by any other department or agency of the county, or other public agency, or for obtaining any easements or authorization for grading on property not owned by the permittee. Proof of issuance of applicable public agency permits may be required before the issuance of a grading permit. (Ord. 5056- B, 2000)

**15.48.260 Location of property lines.**

Whenever the location of a property line or easement or the title thereto is disputed during the application process or during a grading operation, a survey by a licensed land surveyor or civil engineer or resolution of title, all at the expense of the applicant, may be required by the community development resource agency. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

**15.48.270 Time limits.**

A. The permittee shall perform and complete all the work required by the permit within time limits specified in the permit. If the work cannot be completed within the specified time, a request for an extension of time setting forth the reasons for the requested extension shall be presented in writing to the community development resource agency no later than thirty (30) days prior to the expiration of the permit. The community development resource agency may grant additional time for the permitted work to be completed.

B. If all of the permit work required is not completed within the time limit specified in subsection A of this section, no further grading shall be done without renewing the permit. A written request for renewal shall be submitted to the agency director who may require a new application and fees depending upon the time between the expiration date and the renewal request, revisions in county regulations, and/or changed circumstances in the immediate area. Any revised plan shall be submitted to the

community development resource agency for review, and any costs thereof shall be at the applicant's expense. (Ord. 5407-B § 11, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

**15.48.280 Validity.**

The issuance of a permit or approval of plans and specifications shall not be construed as an approval of any violation of the provisions of this article or of any other applicable laws, ordinances, rules or regulations. (Ord. 5056- B, 2000)

**15.48.290 Appeals.**

Appeals on decisions pursuant to this article shall be made to the planning commission in writing, setting forth the specific grounds thereto within ten (10) calendar days from the date of such decision. The written appeal shall be accompanied by an appeal fee as set from time to time by the board of supervisors. The planning commission shall consider the appeal per the requirements of Section 17.60.110(D)(4)(C) after receiving the written appeal. The appeal hearing may be continued from time to time at the request of the appellant or by a majority vote of the membership of the planning commission. (Ord. 5056- B, 2000)

**Part 4. Plans and Specifications**

**15.48.300 Application—Plans.**

- A. Each application for a grading permit shall include the following:
  - 1. A completed application form;
  - 2. Two complete sets of grading plans;
  - 3. Profiles, cross sections, and specifications as required;
  - 4. A complete drainage report as required by the community development resource agency;
  - 5. The application fee as determined by the board of supervisors;
  - 6. Where applicable, evidence of coverage, or application for coverage, under an NPDES general construction permit.

B. The plans and other documents will be reviewed by the community development resource agency. The applicant and/or project engineer will be notified of any necessary changes to the plans. When the plans and other documents have been approved by the community development resource agency, a grading permit will be issued for the project. All work must be done in strict conformance with the approved plans and documents. The approved plans shall not be changed or altered except in accordance with the provisions of this article. (Ord. 5407-B § 12, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

**15.48.310 Grading plans—Engineer required.**

A. All plans and specifications shall be prepared and signed by a civil engineer except that the community development resource agency may waive this requirement if the proposed grading does not:

1. Endanger the public health, safety and welfare;
2. Require cuts and fills involving a combined total of one thousand five hundred (1,500) cubic yards of dirt or more, or where depth of fill exceeds ten (10) feet;
3. Include an access road serving five or more existing or potential residences;
4. Require a cut or fill that is situated so as to cause unduly increased soil pressure or reduce earth support upon adjacent structure or property;
5. Include the construction of any drainage or sediment control structures, culverts, or facilities or substantial alteration of any existing drainage course;
6. Include the creation or aggravation of an unstable slope condition;
7. Require construction of any retaining wall over four feet in height;
8. Include the construction of a vehicular bridge. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

**15.48.320 Requirements for engineered grading plans.**

Grading plans and specifications shall be prepared and signed by a civil engineer, as provided herein.

- A. The plans shall include the following:
1. All plans shall be on twenty-four (24) inch by thirty-six (36) inch sheets unless otherwise approved, and shall be drawn at a scale no less than one inch equals one hundred (100) feet;
  2. A title block. Plans shall be entitled “grading plan” and state the purpose of the proposed grading and the name of the engineer or firm by whom this plan is prepared, owner’s name and address, and site address;
  3. A vicinity sketch (not at map scale) indicating the location of the site relative to the principal roads, lakes and watercourses in the area;

4. North arrow and scale;
5. A site plan indicating the extent of the work and any proposed divisions of land;
6. The complete site boundaries and locations of any easements and rights-of-way traversing or adjacent to the property;
7. The location of all existing or proposed roads, buildings, wells, pipelines, watercourses, septic systems or areas reserved for on-site sewage disposal, and any other structures, facilities, and features of the site, as well as the location of all improvements on lots within fifty (50) feet of the proposed work;
8. Location and nature of known or suspected soil or geologic hazard areas, including but not limited to serpentine rock areas, landslides, etc.;
9. Accurate contour lines of the existing terrain and proposed finished grade at intervals not greater than five feet, or spot elevations twenty-five (25) feet on center showing all topographic features and drainage patterns throughout the area where the proposed grading is to occur relative to a bench mark established on site. The contour lines/spot elevations shall be extended to a minimum of fifty (50) feet beyond the affected area, and further, if needed, to define intercepted drainage, and shall be extended a minimum of one hundred (100) feet outside of any future road right-of-way;
10. Approximate location of cut and fill lines extent and finished slopes of all proposed grading and the limits of grading for all proposed grading work, including borrow and stockpile areas;
11. Location, width, direction of flow and approximate location of any watercourses including tops and toes of banks;
12. Approximate boundaries of any areas with histories of flooding;
13. Cross sections, profiles, elevations, dimensions, and construction details based on accurate field data as may be required after initial review of plans;
14. Construction details for roads, watercourses, culverts, bridges and drainage devices, retaining walls, cribbing, dams, and other improvements existing or to be constructed, together with supporting calculations and maps as may be required after initial review of plans;
15. Proposed provisions for storm drainage control and any existing or proposed flood control facilities or septic tank disposal fields or areas reserved for on-site sewage disposal near the grading;

16. A detailed erosion and sediment control plan including specific locations, construction details, and supporting calculations for temporary and permanent sediment control structures and facilities;

17. A revegetation plan, including temporary erosion control plantings, permanent slope plantings, replacement of temporary groundcover, and irrigation facilities.

B. Additional supporting information which may be required includes, but is not necessarily limited to:

1. An estimate of the quantities of excavation and fill;
2. The location of any borrow site or location for disposal of surplus material;
3. A projected schedule of operations, including, as a minimum, the dates of:
  - a. Commencement of work,
  - b. Start and finish of rough grading,
  - c. Completion of drainage facilities,
  - d. Completion of work in any watercourse,
  - e. Completion of erosion and sediment control facilities,
  - f. Completion of hydromulching and other landscaping. If rough grading is proposed between October 15th and May 1st, a more detailed schedule of grading activities and use of erosion and sediment control facilities may be required;
4. Itemized cost estimate of the proposed grading and related work;
5. A complete drainage study in conformance with the Placer County flood control and water conservation district's stormwater management manual (latest edition);
6. Geotechnical investigation report and recommendations addressing the proposed work. (Ord. 5056- B, 2000)

**15.48.330 Retention of approved plans.**

Three sets of approved plans and specifications shall be retained by the community development resource agency. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

**15.48.340 Modification of approved plans.**

A. Proposed modifications of an approved final plan shall be submitted to the community development resource agency for written approval.

B. All necessary soils and geological information and design details shall accompany any proposed modification.

C. The modification shall be compatible with any subdivision map or land use requirements. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

**15.48.350 Seasonal requirements.**

Implementation of erosion and sediment control plans shall be based on the season of the year and the stage of construction at forecasted periods of rainfall and heavy storms. Erosion and sediment control plans shall allow for possible changes in construction scheduling, unanticipated field conditions, and relatively minor changes in grading. Modifications to plans may be required after initial plan approval. (Ord. 5056- B, 2000)

**Part 5. Geotechnical Investigations and Inspections**

**15.48.360 Geotechnical investigation required.**

A soil or geologic investigation report shall accompany the application in any of the following circumstances when required by the agency director:

A. When the proposed grading includes a cut or fill exceeding ten (10) feet in depth at any point; however, for vehicular ways, a soil investigation shall not be required unless the grading includes a proposed cut or fill that exceeds ten (10) feet in depth and the slope of the natural ground exceeds thirty (30) percent;

B. When highly expansive soils are present;

C. In areas of known or suspected geological hazards, including landslide hazards and hazards of ground failure stemming from seismically induced ground shaking. (Ord. 5407-B § 13, 2006: Ord. 5056- B, 2000)

**15.48.370 Investigations.**

Those portions of the soil or geologic investigation that constitutes “civil engineering” as defined by Section 6734 of the Business and Professions Code of the state of California shall be conducted by or under the direct supervision of a geotechnical engineer or civil engineer. Those portions of the investigation that involve the practice of “geology” as defined by Section 7802 of the Business and Professions Code of the state of California shall be conducted by an engineering geologist.

The investigations shall be based on observations and tests of the material exposed by exploratory borings or excavations and inspections made at appropriate locations. Additional studies may be necessary to evaluate soil and rock strength, the effect of moisture variation on soil, bearing capacity, compressibility, expansiveness, stability, keying, subdrainage benching and other factors. Grading factors such as moisture variability, ability to compact the material when wet, etc., should be evaluated. (Ord. 5056- B, 2000)

**15.48.380 Reports—General.**

Any soil or geologic investigation report shall be subject to the approval of the community development resource agency who may require supplemental reports and data. Recommendations included in the reports and approved by the community development resource agency shall be incorporated in the final plans and specifications. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

**15.48.390 Soil/geologic investigation report.**

The soil or geologic investigation report shall contain all of the following, as they may be applicable to the subject site:

- A. An index map showing the regional setting of the site;
- B. A site map which shows the topographic features of the site and locations of all soil borings and test excavations;
- C. A classification of the soil types (unified soil classification), pertinent laboratory test data and consequent evaluation regarding the nature, distribution, and strength of existing soils;
- D. A description of the geology of the site and geology of the adjacent areas when pertinent to the site;
- E. A suitably scaled map and cross sections showing all identified areas of land slippage;
- F. A description of any encountered groundwater or excessive moisture conditions;
- G. A description of the soil and geological investigative techniques employed;
- H. A log for each soil boring and test excavation showing elevation at ground level and the depth of each soil or rock strata;
- I. An evaluation of the stability of pertinent natural slopes and recommendations regarding maximum cut and fill slopes of proposed work;

- J. An evaluation of settlement associated with the placement of any fill;
- K. Recommendations for grading procedures and specifications, including methods for excavation and subsequent placement of fill;
- L. Recommendations regarding surface and subsurface drainage and erosion control;
- M. Recommendations for mitigation of geologic hazards. (Ord. 5056- B, 2000)

**15.48.400 Final report.**

Upon completion of rough grading work, in the event a complete record of the work is desired or necessary, the community development resource agency may require a final geotechnical report that includes, but is not necessarily limited to the following:

- A. A complete record of all field and laboratory tests including location and elevation of all field tests;
- B. A professional opinion regarding slope stability, soil bearing capacity, and any other pertinent information;
- C. Recommendations regarding foundation design, including soil bearing potential and building restrictions or setbacks from the top or toe of slopes;
- D. A declaration by the geotechnical engineer, civil engineer or engineering geologist in the format required by the community development resource agency that all work was done in substantial conformance with the recommendations contained in the soil or geologic investigation reports as approved and in accordance with the approved plans and specification. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

**15.48.410 Changed conditions.**

Where soil or geologic conditions encountered in the grading operation deviate from that anticipated in the soil and geologic investigation reports or where such conditions warrant changes to the recommendations contained in the original soil investigation, a revised soil or geologic report shall be submitted for the approval of the community development resource agency. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

**15.48.420 Special inspection.**

- A. As a condition of the permit, the community development resource agency may require the permittee to retain a private geotechnical engineer or civil engineer to directly supervise or perform continuous inspection work, and upon completion of the work to provide a written statement acknowledging that he or she has inspected the work

and that in his or her professional judgment the work was performed in accordance with the approved plans and specifications. The permittee shall make his or her own contractual arrangements for such services and shall be responsible for payment of all costs. Continuous inspection by a geotechnical engineer or civil engineer shall include, but not be limited to, the following situations:

1. During the preparation of a site for the placement of fills which exceed five feet in depth on slopes which exceed ten (10) percent and during the placing of such fills; however, for vehicular pathways, fill placement shall be continuously inspected when fills exceed ten (10) feet in height;

2. During the preparation of a site for the placement of any fill which is intended to support any building or structure when the fill exceeds three feet in depth;

3. During the installation of subsurface drainage facilities.

B. Reports filed by the private geotechnical engineer or civil engineer regarding special inspection shall state in writing that from his or her personal knowledge the work performed during the period covered by the report has been performed in substantial accordance with the approved plans and specifications.

C. The use of a private geotechnical engineer or civil engineer for inspections shall not preclude the community development resource agency from conducting personal inspections or from authorizing inspections by other qualified inspectors as may be necessary. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

**15.48.430 Noncompliance notification by private geotechnical engineer or civil engineer.**

The permittee shall cause the work to be done in accordance with the approved plans. If during the course of construction the private geotechnical engineer or civil engineer finds that the work is not being done substantially in accordance with the approved plans and specifications, he or she shall immediately notify the person in charge of the work and the community development resource agency of the nonconformity and the corrective measures to be taken. When changes in the plans are required, he or she shall prepare or cause to be prepared such proposed changes and submit them to the community development resource agency for approval. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

**15.48.440 Periodic progress reports by private geotechnical engineer or civil engineer.**

As a condition of the report, periodic progress reports shall be rendered by the private geotechnical engineer or civil engineer as required by the community development resource agency including, but not limited to, laboratory tests, slope stability, placement of materials, retaining walls, drainage, utilities and any special permit or plan requirements. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

**15.48.450 Progress report by permittee.**

Periodic progress reports shall be rendered by permittee on specified calendar dates and at commencement and completion of major key grading and erosion and sediment control operations. The dates of operations upon which such reports are required and their content shall be as required by the community development resource agency in the permit. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

**15.48.460 Record drawings.**

Permittee shall submit to the community development resource agency a record drawing of the grading plan following completion of the work. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

**15.48.470 Performance of work—Inspection/certification.**

The community development resource agency may inspect any work or require certification by private engineer of any work done under a grading permit. No permittee shall be deemed to have complied with this article unless one of the following has occurred:

- A. A final inspection approval has been issued by the community development resource agency; or
- B. Submittal of certification of completion by the civil engineer, or the geotechnical engineer of record, has been accepted by the community development resource agency; or
- C. The final inspection has been waived in writing by the community development resource agency.

The permittee shall provide adequate access to the site for inspection by the community development resource agency during the performance of all work and for a minimum period of one year after completion of the work.

If the engineer of record is changed during the grading, the work shall be stopped until the replacement has agreed in writing to accept their responsibility within the area of technical competence for approval upon completion of the work. It shall be the duty of the permittee to notify the agency director in writing of such change prior to the recommencement of such grading. (Ord. 5407-B § 14, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

**15.48.480 Other responsibilities of permittee.**

The permittee shall also be responsible for the following:

A. Protection of Utilities. The permittee shall be responsible for the prevention of damage to any public utilities or services.

B. Protection of Adjacent Property. The property owner is responsible for the prevention of damage to adjacent property. No person(s) shall excavate on land sufficiently close to the property line to endanger any adjoining public street, sidewalk, alley or other public or private property, or easement, without supporting and protecting such property from damage which might result.

C. Advance Notice. The permittee shall notify the community development resource agency at least twenty-four (24) hours prior to the start of work.

D. Erosion and Sediment Control. It shall be the responsibility of the permittee to control discharge of sediment from the site to any watercourse, drainage system, or adjacent property and to protect watercourses and adjacent properties from damage by erosion, flooding or deposition which may result from the permitted grading.

E. Hazardous Materials Control. It shall be the responsibility of the permittee to prevent discharge of hazardous materials from the site to any watercourse, drainage system, or adjacent property, and to protect watercourses and adjacent properties by hazardous materials, which may result from, permitted grading. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

## **Part 6. Design Standards**

### **15.48.490 Excavation.**

Excavations shall be constructed or protected so that they do not endanger life or property. (Ord. 5056- B, 2000)

### **15.48.500 Excavation slope.**

The slope of cut surfaces of permanent excavations shall not be steeper than two horizontal to one vertical exclusive of terraces and exclusive of rounding described herein. Steeper slopes will be permitted in competent bedrock provided such slope inclinations are in accordance with recommendations contained in the geotechnical or geological report. The bedding planes, foliation planes or principal joint sets in any formation when dipping towards the cut face shall not be daylighted by the cut slope unless the soils and geologic investigations contain recommendations for steeper cut slopes. Cut slopes shall be rounded into the existing terrain to produce a contoured transition from cut face to natural ground. (Ord. 5056- B, 2000)

### **15.48.510 Fill placement.**

Fills shall be constructed in layers. The loose thickness of each layer of fill material before compaction shall not exceed eight inches. Completed fills shall be stable masses of well-integrated material bonded to adjacent materials and to the materials on which they rest. Fills shall be competent to support anticipated loads and be stable at the

design slopes shown on the plans. Proper surface and subsurface drainage and other appropriate measures shall be taken to ensure the continuing integrity of fills. Earth materials shall be used which have no more than minor amounts of organic substances and have no rock or similar irreducible material with a maximum dimension greater than twelve (12) inches. Larger material may be used with the approval of the community development resource agency and the geotechnical engineer. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

**15.48.520 Fill compaction.**

All fills shall be compacted throughout their full extent to a minimum of ninety (90) percent of maximum density as determined by the appropriate Caltrans standard method or other alternate methods approved by the community development resource agency. Tests to determine the density of compacted fills shall be made on the basis of not less than one test for each two-foot vertical lift of the fill but not less than one test for each one thousand (1,000) cubic yards of material placed. Additional density tests at a point approximately one foot below the fill slope surface shall be made on the basis of not less than one test for each one thousand (1,000) square feet in slope surface but not less than one test for each ten (10) foot vertical increase of slope height. All tests shall be reasonably uniformly distributed within the fill or fill slope surface. Results of such testing and location of tests shall be presented in the periodic and final reports. Compaction may be less than ninety (90) percent of maximum density, as determined by the above test, within six inches of the slope surface when such surface material is placed and compacted by a method acceptable to the community development resource agency for the planting of the slopes. Compaction of temporary stockpile fills, to be used for a period of not greater than six months, shall not be required, except where the community development resource agency determines that compaction is necessary as a safety measure to aid in preventing saturation, sliding, or erosion of the fill. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

**15.48.530 Ground preparation for fill placement.**

The natural ground surface shall be prepared to receive fill by removing vegetation, noncomplying fill, top soil, and other unsuitable material, and where slopes are six horizontal to one vertical or steeper, by benching into competent material in a manner acceptable to the community development resource agency. The keyway under the toe, if specified, shall be at least fifteen (15) feet wide. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

**15.48.540 Fill slopes.**

The slope of permanent fills shall not be steeper than two horizontal to one vertical exclusive of terraces and exclusive of roundings described herein, unless a soils report supports a steeper slope, but shall not exceed one and one-half horizontal to one vertical unless the fill is reinforced as recommended by the geotechnical engineer. The community development resource agency may require that the fill be constructed with an exposed surface flatter than two horizontal to one vertical or may require such other

measures as he or she deems necessary for stability and safety. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

**15.48.550 Adjacent structures protection.**

Footings which may be affected by any excavation shall be underpinned or otherwise protected against settlement and shall be protected against lateral movement. Fills or other surcharge loads shall not be placed adjacent to any building or structure unless such building or structure is capable of withstanding the additional loads caused by such fill or surcharge. The rights of coterminous owners shall be as set forth in Section 832 of the Civil Code of the state of California. (Ord. 5056- B, 2000)

**15.48.560 Setbacks—General.**

Unless otherwise recommended in a soil or geologic investigation report, Appendix 33 of the latest county adopted version of the Uniform Building Code shall be used for establishing setbacks for property boundaries, buildings and structures other than fences and retaining walls. (Ord. 5407-B § 15, 2006; Ord. 5056- B, 2000)

**15.48.570 Drainage—General.**

Any drainage structure(s) or device(s) carrying surface water runoff required by this article shall be designed and constructed in accordance with standards herein, the current Placer County flood control and water conservation district stormwater management manual and criteria authorized by the agency director. (Ord. 5407-B § 16, 2006; Ord. 5056- B, 2000)

**15.48.580 Drainage discharge requirements.**

All drainage facilities shall be designed and engineered to carry surface and subsurface waters to the nearest adequate street, storm drain, natural watercourse, or other juncture. (Ord. 5373- B, 2005; Ord. 5056- B, 2000)

**15.48.590 Drainage—Water accumulation.**

All areas shall be graded and drained so that drainage will not cause erosion or endanger the stability of any cut or fill slope or any building or structure. (Ord. 5056- B, 2000)

**15.48.600 Drainage protection of adjoining property.**

When surface drainage is discharged onto any adjoining property, it shall be discharged in such a manner that it will not cause erosion or endanger any cut or fill slope or any building or structure. (Ord. 5056- B, 2000)

**15.48.610 Terrace drainage.**

Terraces at least eight feet in width shall be established at not more than twenty-five (25) feet in height intervals for all cut and fill slopes exceeding thirty (30) feet in height. Where only one terrace is required, it shall be at approximately mid-height. Suitable access shall be provided to permit proper cleaning and maintenance of terraces and terrace drains. Swales or ditches on terraces shall have a minimum depth of one foot, a minimum longitudinal grade of four percent, a maximum longitudinal grade of twelve (12) percent. Down-drains or drainage outlets shall be provided at approximately three hundred (300) foot intervals along the drainage terrace. Down-drains and drainage outlets shall be of approved materials and of adequate capacity to convey the intercepted waters to the point of disposal. If the drainage discharges onto natural ground, adequate erosion protection shall be provided. (Ord. 5056- B, 2000)

**15.48.620 Subsurface drainage.**

Cut and fill slopes shall be provided with surface and/or subsurface drainage as necessary for stability. (Ord. 5056- B, 2000)

**15.48.630 Erosion and sediment control.**

The following shall apply to the control of erosion and sediment from grading operations:

A. Grading plans shall be designed with long-term erosion and sediment control as a primary consideration. Erosion prevention and source control are to be emphasized over sediment controls and treatment.

B. Grading operations shall provide erosion and sediment control measures, except upon a clear demonstration, to the satisfaction of the community development resource agency that at no stage of the work will there be any substantial risk of increased sediment discharge from the site. Temporary mulch, revegetation, or other stabilization methods shall be applied to areas where permanent revegetation or landscaping cannot be immediately implemented. Unless otherwise exempted in this article, grading activity must be scheduled to ensure completion or winterization by October 15th of each year.

C. Grading activity shall be conducted such that the smallest practicable area of erodible land is exposed at any one time during grading operations and the time of exposure is minimized. Land disturbance shall be limited to the minimum area necessary for construction.

D. Natural features, including vegetation, terrain, watercourses and similar resources shall be protected and preserved wherever possible. Units of grading shall be clearly defined and marked to prevent damage by construction equipment.

E. Permanent vegetation and structures for erosion and sediment control shall be installed as soon as possible.

F. Adequate provision shall be made for effective maintenance of temporary and permanent erosion and sediment control structures and vegetation. Sediment and other construction-related wastes shall be retained and properly managed on the site or properly disposed of off-site.

G. No topsoil shall be removed from the site unless otherwise directed or approved by the community development resource agency. Topsoil overburden shall be stockpiled and redistributed where appropriate within the graded area after rough grading to provide a suitable base for seeding and planting. Runoff from the stockpiled area shall be controlled to prevent erosion and resultant sedimentation of receiving water.

H. Runoff shall not be discharged from the site in quantities or at velocities substantially above those which occurred before grading except into drainage facilities, whose design has been specifically approved by the community development resource agency.

I. The permittee shall take reasonable precautions to ensure that vehicles do not track or spill earth materials into public streets and shall immediately remove such materials if this occurs.

J. All cut and fill slopes shall be adequately stabilized to prevent erosion and failure through temporary and permanent means.

K. Control measures shall be employed to prevent transport of dust off the project site or into any drainage course or water body. (Ord. 5407-B § 17, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

#### **15.48.640 Emergency conditions.**

Should increased sediment discharge occur or become imminent, the permittee shall take all necessary steps to control or reduce such discharge. Such steps may include construction of additional facilities or removal or alteration of facilities required by approved erosion and sediment control plans. Facilities removed or altered shall be restored as soon as possible afterward or appropriate changes in the plan shall be immediately required pursuant to this article. The permittee shall take prompt action to resolve emergency problems; otherwise the community development resource agency may institute abatement proceedings pursuant to provisions of Section 15.48.700(B) of this article. (Ord. 5407-B § 18, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

#### **15.48.650 Erosion and sediment control plans.**

Erosion and sediment control plans prepared pursuant to this article shall comply with all of the following:

A. The erosion and sediment control plan need not be a separate sheet if all facilities and measures can be shown on the grading sheets without obscuring the clarity of either the grading plan or the erosion and sediment control plan.

B. An erosion and sediment control plan shall be required whenever:

1. The graded portion of the site includes more than ten thousand (10,000) square feet of area having a slope greater than ten (10) percent;
2. Clearing and grubbing of areas of one acre or more regardless of slope;
3. There is a significant risk that more than two thousand five hundred (2,500) square feet will be unprotected or inadequately protected from erosion during any portion of the rainy season;
4. Grading will occur within fifty (50) feet of any watercourse;
5. The community development resource agency determines that the grading will or may pose a significant erosion, or sediment discharge hazard for any reason; or
6. The site is located within the Tahoe Basin.

C. Except as provided in Section 15.48.120 of this article, sediment and erosion control measures must be in place or be capable of being placed within twenty-four (24) hours, in the opinion of the agency director, by October 15th. The agency director may require suspension of any and all grading activities between October 15 and May 1 without prior notice.

D. The applicant shall submit with the erosion and sediment control plans a detailed cost estimate covering this work.

E. Erosion and sediment control plans shall include an effective revegetation program to stabilize all disturbed areas, which will not be otherwise protected. All such areas where grading has been completed between April 1 and October 15 shall be planted by November 1st. Graded areas completed at other times of the year shall be planted within fifteen (15) days. If revegetation is infeasible or cannot be expected to stabilize an erodible area with assurance during any part of the rainy season and the unstable area exceeds two thousand five hundred (2,500) square feet, additional erosion and sediment control measures or irrigation of planted slopes may be required as appropriate to prevent increased sediment discharge.

F. Erosion and sediment control plans shall be designed to prevent increased discharge of sediment at all stages of grading and development from initial disturbance of the ground to project completion. Every feasible effort shall be made to ensure that site stabilization is permanent. Plans shall indicate the implementation period and the stage of construction where applicable.

G. Erosion and sediment control plans shall comply with the recommendations of the responsible civil engineer, geotechnical engineer, engineering geologist, or landscape architect involved in preparation of the grading plans.

H. The structural and hydraulic adequacy of all stormwater containment or conveyance facilities shown on the erosion and sediment control plans shall be verified by a civil engineer, and he or she shall so attest on the plans. Sufficient calculations and supporting material to demonstrate such adequacy shall accompany the plans when submitted.

I. Erosion and sediment control plans shall be designed to meet anticipated field conditions.

J. Erosion and sediment control plans shall provide for inspection and repair of all erosion and sediment control facilities at the close of each working day during the rainy season and for specific sediment cleanout and vegetation maintenance criteria.

K. Erosion and sediment control plans shall comply with any and all standards and specifications adopted herein for the control of erosion and sedimentation on grading sites. These standards and specifications shall be in general compliance with the current Erosion and Sediment Control Guidelines for Developing Areas of the Sierras, published by the High Sierra Resource Conservation District. (Ord. 5407-B § 19, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

**15.48.660 Vehicular ways—General.**

Vehicular ways shall conform to the grading requirements of this article. (Ord. 5056- B, 2000)

**15.48.670 Vehicular ways—Drainage.**

Vehicular ways shall be graded and drained in such a manner that will not allow erosion or endanger the stability of any adjacent slope. Surface discharge onto adjoining property shall be controlled in such a manner that it does not cause erosion or endanger existing improvements. Bridges and culverts installed in watercourses may be reviewed by the Placer County Flood Control and Water Conservation district and must be approved by the agency director and any other required permitting agency. (Ord. 5407-B § 20, 2006; Ord. 5056- B, 2000)

**Part 7. Improvement Security**

**15.48.680 Security required.**

A. As a condition for the issuance of a permit, the community development resource agency may require the deposit of improvement security in sufficient amount deemed necessary to assure performance of the work in the event of default on the part of permittee or, in the case of a subdivision, where the permittee does not proceed with preparation and obtaining the approval of a final map. Such security shall be in a form acceptable to Placer County.

B. In the case of subdivisions, the improvement security shall remain in effect until final inspections have been made of all grading work and the board of supervisors of Placer County has accepted the subdivision improvements.

C. For projects other than subdivisions, the improvement security shall remain in effect until final inspections have been made and all grading work has been approved by the community development resource agency.

D. In addition to the improvement security, the community development resource agency may also require the deposit of maintenance security in sufficient amount deemed necessary to guarantee and maintain the grading work and to assure the proper functioning of drainage systems and adequate erosion and sedimentation control. Such maintenance security shall be in a form acceptable to Placer County and shall remain in effect for a period of one year after the date of acceptance of the improvements as designated in subsections B and C of this section.

E. Any deposit required by the community development resource agency pursuant to this article shall be payable to the Placer County community development resource agency.

F. Upon satisfaction of applicable provisions of this article, the improvement and maintenance security deposits will be released. However, upon failure to complete the work, failure to comply with all of the terms of the permit, or failure of the completed site to function properly to provide proper drainage or erosion and sedimentation control, the county may do the required work, or cause it to be done and collect from the permittee or surety all costs incurred thereto, including administrative, inspection and legal costs. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

**Part 8. Enforcement**  
**15.48.690 Violations.**

Failure to comply with the following shall constitute a violation of this article:

A. All orders issued by the community development resource agency pursuant to the provisions of this article;

B. All conditions placed on grading permits;

C. All rules and regulations of Placer County. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

**15.48.700 Nuisance.**

A. Established Nuisances Per Se. The board of supervisors of Placer County ordains that the following violations of this article constitute public nuisances:

1. A violation has altered natural drainage patterns and has or will cause flooding to adjacent property; or

2. A violation has created a threat to public health, safety or welfare.

B. Nuisance Abatement Procedure. In accordance with California Government Code Section 25845, the Placer County board of supervisors establishes the procedure for abatement of a nuisance. Upon the discovery of a nuisance, county staff shall comply with the following procedures:

1. Upon discovery of a nuisance, the owner of the parcel, and anyone known to be in possession of the parcel shall be given notice of the nuisance abatement proceeding. The notice shall provide for an opportunity to appear and be heard before the board of supervisors prior to the abatement of the nuisance by county.

2. Notwithstanding the foregoing, nothing in this article shall prohibit the summary abatement of a nuisance upon order of the board of supervisors, or upon order of any other county officer authorized by law to summarily abate nuisances, if the board or officer determines that the nuisance constitutes an immediate threat to public health or safety.

3. In any action to abate a nuisance, whether by administrative proceedings, judicial proceedings or summary abatement, the owner of the parcel upon which the nuisance is found to exist shall be liable for all costs of abatement incurred by the county, including, but not limited to, administrative costs, and any and all costs incurred in abatement of nuisance. Recovery of costs pursuant to this subsection shall be in addition to and shall not limit any prevailing party's right to recover costs pursuant to Sections 1032 and 1033.5 of the Code of Civil Procedure or any other provision of law. A prevailing party may also recover attorneys' fees in any action, administrative proceeding, or special proceeding to abate a nuisance, if the county elects at the initiation of the individual action or proceeding, to seek recovery of its own attorneys' fees. In no action, administrative proceeding, or special proceeding shall an award of attorneys' fees to a prevailing party exceed the amount of reasonable attorneys' fees incurred by the county in the action or proceeding.

4. If the property owner fails to pay the costs of the abatement upon demand by the county, the board of supervisors may order the cost of the abatement to be specially assessed against the parcel. The assessment may be collected at the same time and in the same manner as ordinary county taxes are collected, and shall be subject to the same penalties and the same procedure and sale in case of delinquency as are provided for ordinary county taxes. All laws applicable to the levy, collection, and enforcement of county taxes shall be applicable to this special assessment.

5. If the board of supervisors specially assesses the cost of the abatement against the parcel, the board also may cause a notice of abatement lien to be recorded. The notice shall, at a minimum, identify the record owner or possessor of property, set

forth the last known address of the record owner or possessor, set forth the date upon which abatement of the nuisance was ordered by the board of supervisors and the date the abatement was complete, and include a description of the real property subject to the lien and the amount of the abatement cost.

However, if the board of supervisors does not cause the recordation of a notice of abatement lien pursuant to subsection (B)(5) of this section, and any real property to which the costs of abatement relates has been transferred or conveyed to a bona fide purchaser for value, or a lien on a bona fide encumbrance for value has been created and attaches to that property, prior to the date on which the first installment of county taxes would become delinquent, then the cost of abatement shall be transferred to the unsecured roll for collection.

6. Recordation of a notice of abatement lien pursuant to subsection (B)(5) of this section, has the same effect as recordation of an abstract of a money judgment recorded pursuant to Article 2 (commencing with Section 697.310) of Chapter 2 of Division 2 of Title 9 of Part 2 of the Code of Civil Procedure. The lien created has the same priority as a judgment lien on real property and continues in effect until released. Upon order of the board of supervisors, or any other county officer authorized by the board of supervisors to act upon its behalf, an abatement lien created under this section may be released or subordinated in the same manner as a judgment lien on real property may be released or subordinated.

7. The board of supervisors may delegate the hearing required by subsection (B)(1) of this section prior to abatement of a public nuisance, to a hearing board designated by the board of supervisors. The hearing board shall make a written recommendation to the board of supervisors. The board of supervisors may adopt the recommendation without further notice of hearing, or may set the matter for a de novo hearing before the board of supervisors.

8. The board of supervisors may, by ordinance, delegate to a hearing officer appointed pursuant to Government Code Section 27720 the powers and duties specified by this section.

C. Upon entry of a second or subsequent civil or criminal judgment within a two-year period finding that an owner of property is responsible for a condition that may be abated in accordance with this article enacted pursuant to California Government Code Section 25845, except for conditions abated pursuant to Section 17980 of the health and safety code, the court may order the owner to pay treble the costs of the abatement. (Ord. 5056- B, 2000)

#### **15.48.710 Stop work orders.**

A. Whenever any person is performing work in violation of the provisions of this article, the agency director may issue a written order to the responsible party to stop work on the portion of the work where the violation has occurred or upon which the

danger exists. If there are no persons present on the premises, the notice may be posted in a conspicuous place. The notice shall state the nature of the violation.

B. Upon receipt of such stop work order, the person performing the work shall:

1. Stop work immediately; and
2. Within twenty-four (24) hours, provide the agency director with a list of remedies which can be immediately undertaken to bring the work into compliance with this article; and
3. Within twenty-four (24) hours after approval of a remedy by the agency director, undertake, at the violator's sole expense, such action as is necessary to bring the work into compliance with this article.

C. If the responsible party fails to comply with the stop work order served pursuant to this section, the county may use any and all remedies available to it under this article, in law, or in equity, including but not limited to: shutting down all work on the site, performing the corrective work either with county crews or by contract, or arresting the responsible party for violation of this article. (Ord. 5407-B § 20, 2006; Ord. 5056- B, 2000)

**15.48.720 Misdemeanor violation.**

Notwithstanding any other provisions of this code, any person violating any provisions of this article shall be guilty and punishable as provided in Section 1.24.010 of a misdemeanor. Each such person shall be charged with a separate offense for each and every day or portion thereof during which any violation of this article is committed, continued or permitted. Upon conviction of any such violation such person shall be punishable by a fine of not more than one thousand dollars (\$1,000.00) or by imprisonment in the county jail for not more than six months, or by both such fine and imprisonment. (Ord. 5056- B, 2000)

**15.48.730 Investigation fees/work without a permit.**

Whenever any work for which a permit is required by this article has been commenced without first obtaining the permit, the agency director shall require an investigation before issuing a permit for such work. In this case, the violator shall be charged for the department's labor and costs incurred during the investigation, in addition to the regular permit fees. (Ord. 5407-B § 22, 2006; Ord. 5056- B, 2000)

**15.48.740 Community development resource agency director delegation.**

The agency director shall be authorized to delegate any of his or her duties under this article to other county officer(s). (Ord. 5407-B § 23, 2006)

## Exhibit D- Placer County Stormwater Quality Program Legal Authority

Authority Source	Provisions	Effect on Stormwater Quality Program
County Code Chapter 1 General Provisions	Article 1.24 (General Penalty) provides mechanism for enforcement of County codes and provides for penalties.	Enforcement provisions for all County codes.
County Code Chapter 1 General Provisions	Article 1.28 (Right of Entry) provides for right of entry to private property for purposes of enforcement of County codes and ordinances.	Right of entry to enforce County ordinances.
County Code Chapter 8 Health and Sanitation	Section 8.16.050 requires that solid and liquid waste systems shall be operated in such a manner so as not to substantially contribute to pollution; prohibits placement of non-inert materials in floodplains; and prohibits waste anywhere but approved disposal sites.	Prohibits non-stormwater discharges.
County Code Chapter 8 Health and Sanitation	Section 8.16.060 requires that solid waste be contained in a securely covered and watertight container, stored and maintained to prevent upset and spillage.	Prevents non-stormwater discharges.
County Code Chapter 8 Health and Sanitation	Section 8.16.100 Prohibits disposal of tires in waterways	Prohibits non-stormwater discharges (tires).
County Code Chapter 8 Health and Sanitation	Section 8.16.110 Prohibits disposal of waste oil in any manner causing pollution	Prohibits non-stormwater discharges (oil).
County Code Chapter 8 Health and Sanitation	Section 8.16.120 requires regular and proper disposal of animal waste materials	Prevents non-stormwater discharges (animal wastes).
County Code Chapter 8 Health and Sanitation	Section 8.16.140 requires that construction site wastes be stored properly and removed regularly; requires that solid waste containers be covered.	Prevents release of construction site wastes and garbage; prohibits release of garbage, litter, or liquid waste from trash receptacles.
County Code Chapter 8 Health and Sanitation	Section 8.16.150 prohibits littering	Prohibits non-stormwater discharges (litter).
County Code Chapter 8 Health and Sanitation	Section 8.16.160 requires waste transport in a manner that prevents its escape from the vehicle.	Prevents release of waste materials from transport vehicles.
County Code Chapter 8 Health and Sanitation	Section 8.16.190 requires timely removal of garbage from property.	Prevents garbage accumulations that could lead to non-stormwater releases.
County Code Chapter 8 Health and Sanitation	Section 8.16.220 requires mandatory refuse collection.	Prevents garbage accumulations that could lead to non-stormwater releases.

## Exhibit D- Placer County Stormwater Quality Program Legal Authority

Authority Source	Provisions	Effect on Stormwater Quality Program
County Code Chapter 8 Health and Sanitation	Section 8.16.230 prohibits dumps	Prevents non-stormwater discharges.
County Code Chapter 8 Health and Sanitation	Section 8.16.265 requires use of bear-proof waste containers	Prevents release and distribution of waste that could lead to non-stormwater discharges.
County Code Chapter 8 Health and Sanitation	Article 8.28 (Stormwater Quality) prohibits discharges of pollutants to the storm drain system and provides for compliance and enforcement actions county wide for stormwater quality activities.	Allows the County to enforce federal and state regulations regarding stormwater quality.
County Code Chapter 10 Vehicles and Traffic	Article 10.24 (Abandoned Vehicles) prohibits abandonment of vehicles and provides for removal and clean up of abandoned vehicles.	Prohibits waste from abandoned vehicles that could lead to non-stormwater discharges.
County Code Chapter 12 Roads, Highways, and Public Places	Article 12.04 (Roads and Highways Generally) requires encroachment permits for alterations to County-owned roads and facilities.	Permitting and inspection processes prevent illicit connections to County storm drains and allow control of actions, activities, and improvements that could lead to non-stormwater discharges.
County Code Chapter 12 Roads, Highways, and Public Places	Section 12.28.040 prohibits discharge of sewage, treated or otherwise, to waters of the County without permit.	Prohibits illicit discharges to County waterways.
County Code Chapter 12 Roads, Highways, and Public Places	Section 12.28.180 prohibits any person to cause the water quality of any lake, river, or stream to be altered from previously established water quality.	Makes it unlawful to contribute to degradation in water quality.
County Code Chapter 12 Roads, Highways, and Public Places	Article 12.32 (Shoreline Protection Regulations) requires permits and sets conditions for shoreline activities on any water body tributary to the Truckee River and Lake Tahoe	Regulates shoreline activities to prevent erosion, sedimentation, improper construction, and non-stormwater discharges; provides a permitting process to allow control of actions, activities, and improvements that could lead to non-stormwater discharges.
County Code Chapter 13 Public Services	Article 13.12 (Sewer Service System) prohibits dumping of waste on any public or private property; prohibits dumping of sewage, industrial waste, or polluted waters to any natural outlet. Requires connection to public sewers, where available.	Prohibits illicit discharges to County waterways.

## Exhibit D- Placer County Stormwater Quality Program Legal Authority

Authority Source	Provisions	Effect on Stormwater Quality Program
County Code Chapter 15 Building and Development	Article 15.48 (Grading, Erosion and Sediment Control) prohibits pollution of watercourses by hazardous materials, nutrients, sediments, or earthen materials.	Regulates grading activities to prevent erosion, sedimentation, improper construction, and non-stormwater discharges; provides a permitting process to allow control of actions, activities, and improvements that could lead to non-stormwater discharges.
County Code Chapter 15 Building and Development	Article 15.52 (Flood Damage Prevention Regulations) restricts alteration of floodplains and stream channels and actions that increase erosion hazards.	Regulates actions in floodplain areas to prevent erosion, sedimentation, improper construction, and non-stormwater discharges; provides a permitting process to allow control of actions, activities, and improvements that could lead to non-stormwater discharges.
County Code Chapter 16 Subdivisions	Article 16.08 (Design Standards and Improvements) requires that subdivision developments comply with grading ordinance and Land Development Manual requirements; requires proper drainage systems be provided and that a maintenance mechanism be established.	Establishes specific grading, erosion control, and drainage system standards and maintenance requirements for subdivisions. Required maintenance mechanisms will insure that responsible parties are identified and funding is provided for drainage systems, thus reducing potential for non-stormwater discharges.
County Code Chapter 17 Zoning	Article 17.62 (Code Compliance and Enforcement) defines procedures for enforcement of specific County Code sections.	Allows County to mitigate circumstances contributing to water pollution.
County Code Chapter 17 Zoning	Defines allowable land use categories and sets specific development standards within each. Establishes authority for imposition of conditions on commercial, industrial, and other development applications.	Allowable land uses, coverage allowances, setback requirements, and other defined standards and development requirements are founded on natural resource protection, and impact minimization. Development permit requirements provide a mechanism for applying BMPs and requiring maintenance thereof.
County Code Chapter 18 Environmental Review	Article 18.04 (General Provisions) Requires compliance with the California Environmental Quality Act	Requires evaluation of project related environmental consequences and mitigation of significant impacts.
Placer County Land Development Manual, General Specifications, and Special	Establish minimum standards for design and construction of development improvements.	Provides for preparation and review of detailed construction plans and design reports, and authority for inspection requirements. Defines minimum

## Exhibit D- Placer County Stormwater Quality Program Legal Authority

Authority Source	Provisions	Effect on Stormwater Quality Program
Provisions		standards for infrastructure design and construction to insure facility design and construction methods that minimize long and short term impacts.
Placer County Land Development Manual Section 5 Drainage	Requires proper drainage management, defines minimum design standards, requires use of BMPs, and compliance with NPDES permits.	Establishes requirements for proper drainage system design and construction, inclusion of storm water quality protection measures, and compliance with applicable water quality laws and NPDES permits.
Placer County Land Development Manual Section 15 Erosion Control	Requires erosion control measures be incorporated into development plans and implemented with construction.	Prevents sediment discharges from erosion of development projects during and after construction.
Placer County Land Development Manual Section 17 Best Management Practices	Requires the use of both source and treatment control BMPs for new and redevelopment projects, and compliance with applicable NPDES permit requirements.	Requires application of construction and post-construction BMPs to new and redevelopment projects.
Placer County General Plan	Multiple policies with associated implementation measures.	Guides and controls development practices to encourage or require appropriate water pollution prevention features.

# Appendix – D

**Placer County Code**[Up](#)[Previous](#)[Next](#)[Main](#)[Collapse](#)[Search](#)[Print](#)[No Frames](#)[Chapter 8 HEALTH AND SANITATION](#)**Article 8.28 STORMWATER QUALITY**

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**8.28.010 Title.**

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The ordinance codified in this article shall be known as the “Placer County Stormwater Quality Ordinance” of the county of Placer, and may be so cited. (Ord. 5430-B (part), 2006)

**8.28.020 Purpose and intent.**

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A. The purpose of this article is to ensure that Placer County is compliant with state and federal laws and fulfills its requirements to:

1. Protect the health, safety, and general welfare of the citizens of Placer County;
2. Enhance and protect the quality of waters of the state in Placer County by reducing pollutants in stormwater discharges to the maximum extent practicable and controlling nonstormwater discharges to the storm drain system;
3. To cause the use of best management practices (Section 8.28.050) by the county and its citizens that will reduce the adverse effects of polluted runoff discharges on waters of the state, and;
4. To ensure the county is compliant with applicable state and federal law.

B. This article seeks to promote these purposes by:

1. Prohibiting illicit discharges to the storm drain system;
2. Establishing authority to adopt requirements for stormwater management, including source control requirements, to reduce pollution to the maximum extent practicable;
3. Establishing authority to adopt requirements for development projects to reduce stormwater pollution and erosion both during construction and after the project is complete; and
4. Establishing authority that will enable the county to implement and enforce any stormwater management plan adopted by the county. (Ord. 5430-B (part), 2006)

**8.28.030 Findings.**

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The Placer County board of supervisors has determined that the health, safety, and general welfare of the citizens of Placer County is adversely affected by the discharge of pollution into storm drain systems and waters of the state. The board of supervisors further finds that any violation of this article constitutes a public nuisance. (Ord. 5430-B (part), 2006)

**8.28.040 Applicability.**

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This article applies to all unincorporated areas of the county. (Ord. 5430-B (part), 2006)

**8.28.050 Definitions.**

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As used in this article:

“Best management practices (BMPs)” mean schedules of activities, prohibitions of practices, general good housekeeping practices, pollution prevention and educational practices, maintenance procedures, and other management practices to prevent the discharge of pollution directly or indirectly into stormwater, receiving waters, or stormwater conveyance systems. BMPs also include treatment practices, operating procedures, and practices to control site

runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage.

“County” means the county of Placer.

“Development” means any activity that moves soils or substantially alters the pre-existing vegetated or man-made cover of any land. Development includes any activity that may be considered new development or redevelopment. This also includes, but is not limited to, grading, digging, cutting, scraping, stockpiling or excavating of soil, placement of fill materials, paving, pavement removal, exterior construction, substantial removal of vegetation where soils are disturbed including but not limited to removal by clearing or grubbing, or any activity which bares soil or rock or involves streambed alterations or the diversion or piping of any watercourse. Development does not include routine maintenance to maintain original line and grade, hydraulic capacity, or the original purpose of the facility, nor does it include emergency construction activities (i.e., land disturbances) required to protect public health and safety.

“Discharge” means the release, threatened release, or placement of any material into the county’s storm drain system, including but not limited to stormwater, wastewater, solid materials, liquids, hazardous waste, raw materials, debris, litter, or any other substance.

“Enforcement agency.” The Placer County department of public works is the primary enforcement agency for the purposes of this article. The enforcement agency shall coordinate program activities with and authorize personnel of other departments to serve as enforcement officials to effectuate the purposes of this article.

“Enforcement official” means any agent of the county authorized by the enforcement agency to enforce compliance with this chapter.

“Illicit connection.” An illicit connection is defined by either of the following:

1. Any drain or water conveyance facility, either surface or subsurface, which allows an illicit discharge to enter the storm drain system, including but not limited to any conveyances which allow any nonstormwater discharge including sewage, process wastewater, and wash water to enter the storm drain system and any connection to the storm drain system from indoor drains and sinks, regardless of whether such drain or connection has been previously allowed, permitted, or approved by a government agency, or

2. Any drain or conveyance connected from a commercial or industrial land use to the storm drain system which has not been documented in plans, maps, or equivalent records and approved by the county.

“Illicit discharge” means any direct or indirect nonstormwater discharge to the county’s municipal storm drain system, except as otherwise exempted, including the introduction of pollution into the storm drain system.

“Industrial activity” means activities subject to NPDES permits as defined in 40 CFR 122.26(b)(14).

“Maximum extent practicable (MEP)” means a technology-based standard established by Congress in the Clean Water Act Section 402(p)(3)(B)(iii) for stormwater discharge to apply to all small municipal separate storm sewer system (MS4) operators regulated under the NPDES program. MEP is generally the result of emphasizing pollution prevention and source control best management practices (BMPs) as the preferred method of preventing water pollution. The MEP approach is an ever-evolving, flexible and advancing concept, which considers technical and economic feasibility. As knowledge about controlling urban runoff continues to evolve, so does what constitutes MEP.

“Municipal separate storm sewer system (MS4)” means a conveyance or system of conveyances (including

roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) owned by a state, county, city, town, or other public body, that is designed or used for collecting or conveying stormwater, which is not a combined sewer, and which is not a part of a publicly owned treatment works.

“National pollutant discharge elimination system (NPDES)” means the primary permitting program under the Clean Water Act (33 U.S.C. Section 1251 et seq.) which regulates most discharges to surface water.

“Nonstormwater discharge” means a discharge to the storm drain system that is not composed entirely of stormwater and that has been polluted, as defined in this section.

“Pollutant” means anything which causes or contributes to pollution, as defined in this section. Pollutants include, but are not limited to: paints, varnishes, solvents, oil, automotive fluids, yard wastes, refuse, rubbish, garbage, litter, discarded or abandoned objects, floatable materials, pesticides, herbicides, fertilizers, detergents, soaps, hazardous substances, hazardous waste, sewage, fecal coliform and pathogens, dissolved and particulate metals, animal wastes, wastes and residues that result from constructing a building or structure (including but not limited to sediments, slurries, and concrete rinsates), and noxious or offensive matter of any kind.

“Pollution” means the human-made or human-induced alteration of the quality of waters to a degree that causes or contributes to an exceedance of water quality standards contained in the statewide water quality control plan, the California Toxics Rule, or in the applicable regional water quality control board basin plan.

“Porter-Cologne Act” means the Porter-Cologne Water Quality Control Act, as amended (California Water Code Section 13000 et seq.).

“Property owner” means any person, entity, company, and/or authorized representative having title to real property within the geographic area affected by this article.

“Regional water quality control board” means the Central Valley regional water quality control board or the California Regional Water Quality Control Board, Lahontan Region.

“Storm drain system,” also “municipal storm drain system,” means facilities owned or operated by the county by which stormwater is collected and/or conveyed, including but not limited to any roads with drainage systems, municipal streets, gutters, curbs, inlets, piped storm drain, pumping facilities, retention and detention basins, natural and human-made or altered drainage channels, reservoirs, and other drainage structures which are within the county and are not part of a publicly owned treatment works as defined at 40 CFR Section 122.2.

“Stormwater” means any surface flow, runoff, and drainage consisting entirely of water from precipitation events, which has not been polluted.

“Stormwater pollution prevention plan (SWPPP)” means the construction site’s water quality management plan required by the state’s construction general stormwater permit.

“Urgency abatement.” Urgency involves the discharge or a threatened discharge condition which causes or threatens to cause an imminent threat to public health, safety, welfare, the environment, or a violation of a NPDES permit.

“Waters of the state” means all surface watercourses and water bodies, including lakes, bays, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, marshes, inlets, canals, and all other bodies of surface waters (Porter Cologne Section 13050(e)), and which are within the county of Placer. This definition includes, but is broader than, waters of the United States.

“Waters of the United States” means surface watercourses and water bodies as defined at 40 CFR Section 122.2, including all natural waterways and definite channels and depressions in the earth that may carry water, even though such waterways may only carry water during rains and storms and may not carry stormwater at and during all times and seasons.

Any term(s) defined in the Federal Clean Water Act, as amended, and/or defined in the regulations for the stormwater discharge permitting program issued by the Environmental Protection Agency, as amended, and which are not specifically defined in this section, shall, when used in this article, have the same meaning as set forth in such act or regulation. (Ord. 5430-B (part), 2006)

#### **8.28.060 Responsibility for administration.**

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The director of public works of the county of Placer shall administer the provisions of this article. Any duties herein may be performed by other departments of the county. (Ord. 5430-B (part), 2006)

#### **8.28.070 Conflicts with other laws.**

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In the event of any conflict between this chapter and any federal or state law or regulation, that requirement which establishes the higher standard for public health shall govern. To the extent permitted by law, nothing in this article shall preclude enforcement of any other applicable law, regulation, order, permit, or county ordinance. (Ord. 5430-B (part), 2006)

#### **8.28.080 Discharge prohibitions.**

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Except as provided in Section 8.28.090 of this article, it is unlawful for any person to make or cause to be made any illicit discharge into the storm drain system. Notwithstanding the exemptions provided by Section 8.28.090, if the enforcement agency determines any otherwise exempt discharge causes or significantly contributes to violations of any plan standard, or conveys significant quantities of pollutants to surface water(s) or watercourse(s), or is a danger to public health or safety, such discharge shall be prohibited from entering the storm drain system. (Ord. 5430-B (part), 2006)

#### **8.28.090 Exemptions to prohibited discharges.**

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Discharges from the following activities shall not be prohibited except as otherwise provided by this article:

- A. Water line flushing and discharges from potable water sources;
- B. Landscape irrigation and lawn watering;
- C. Diverted stream flows and irrigation water;
- D. Springs, rising groundwater, and flows from riparian habitat and wetlands;
- E. Uncontaminated groundwater infiltration (as defined at 40 Code of Federal Regulation Section 35.2005 (b)(20));
- F. Uncontaminated pumped groundwater, foundation drains, footing drains, and water from crawl space pumps;
- G. Air conditioning condensation;
- H. Individual residential car washing;
- I. Dechlorinated swimming pool discharges;
- J. Firefighting flows.

(Ord. 5430-B (part), 2006)

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**8.28.100 Discharge in violation of existing NPDES permit.**

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Any person subject to any individual and/or industrial NPDES stormwater discharge permit shall comply with all provisions of such permit and any regulations or ordinances promulgated thereto, including requirements of the grading and erosion prevention ordinance of Placer County (Article 15.48). Proof of compliance with such permit may be required in a form acceptable to the enforcement agency prior to or as a condition of a subdivision map, site plan, building permit, or development, redevelopment, or improvement plan; upon inspection of the facility; during any enforcement proceeding or action; or for any other reasonable cause. (Ord. 5430-B (part), 2006)

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**8.28.110 Discharge in violation of county's NPDES permit—Indemnification.**

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Any discharge that would result in or contribute to a violation of any NPDES permit for stormwater discharges to the county issued by the California State Water Resources Control Board or Regional Water Quality Control Board and any amendment, revision or reissuance thereof, either separately considered or when combined with other discharges, is prohibited. Liability for any such discharge shall be the responsibility of the person(s) so causing or responsible for the discharge, and such persons shall defend, indemnify and hold harmless the county in any administrative or judicial enforcement action relating to such discharge. (Ord. 5430-B (part), 2006)

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**8.28.120 Acts potentially resulting in violation of Federal Clean Water Act and/or Porter-Cologne Act.**

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The standards set forth herein and promulgated pursuant to this article are minimum standards. This article does not intend or imply that compliance to these minimum standards will ensure that there will be no contamination, pollution, nor unauthorized discharge of pollutants into the waters of the state. This article shall not create liability on the part of the county, or any agent or employee thereof for any damage that results from any discharger's reliance upon this article or any administrative decision made thereunder. (Ord. 5430-B (part), 2006)

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**8.28.130 Right of entry—Inspections.**

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A. The enforcement official is authorized to enter any building or premises for the purpose of making an inspection to enforce this article, using the provisions of Article 1.28 of this code.

B. The enforcement official may conduct inspections related to purposes of implementing this chapter on private or public property. Inspections shall be based upon such reasonable selection processes as may be deemed necessary to carry out the objectives of this article, including, but not limited to, visual evidence, complaints received, knowledge or physical evidence of industrial activities or other pollutant sources, random sampling, sampling in areas with evidence of stormwater contamination, illicit connections, discharge of nonstormwater to the county storm drain system, or similar factors. (Ord. 5430-B (part), 2006)

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**8.28.140 Concealment and abetting.**

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Causing, permitting, aiding, abetting, or concealing a violation of any provision of this article shall constitute a violation. (Ord. 5430-B (part), 2006)

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**8.28.150 Reduction of pollutants in stormwater, best management practices.**

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A. General Requirements. Any person engaging in activities that may result in pollutants entering the storm drain system shall implement best management practices to the maximum extent practicable to prevent and reduce such pollutants.

B. Maintenance. All BMPs shall be protected and maintained to ensure continuous and fully effective performance as designed.

C. Illicit Connection. The construction, use, maintenance or continued existence of illicit connections is prohibited. This prohibition includes illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of the connections. Upon final adoption of this article, any property owner or lessee who maintains an illicit connection shall, within thirty (30) days from the effective date of this article, disconnect and discontinue use of such connection.

D. Waste Disposal. No person shall throw, deposit, leave, maintain, keep, or permit to be thrown, deposited, left, or maintained in or upon any public or private property, driveway, parking area, street, alley, sidewalk, component of the storm drain system, or waters of the state, any refuse, rubbish, garbage, litter, or other discarded or abandoned objects, articles, and accumulations, so that the same may cause or contribute to pollution.

E. Construction Activities. Any person performing construction work within the county shall implement appropriate BMPs to prevent the discharge from the site of soil or construction wastes or debris, including contaminants from construction materials, tools, and equipment to the stormwater drainage system.

F. Sidewalks. Every property owner or any tenant in legal possession of the property upon which there is a paved sidewalk shall maintain that portion of the sidewalk on the property free of dirt or litter to the maximum extent practicable. Sweepings from the sidewalk shall not be swept into or otherwise allowed to enter the gutter or roadway, storm drain system, or any waters of the state, but shall instead be disposed of in receptacles maintained as required for proper disposal of solid waste.

G. Watercourse Protection. Every person owning property through which a watercourse passes, or such person's lessee, shall keep and maintain that part of the watercourse within the property reasonably free of trash, debris, and other obstacles that would pollute, contaminate, or significantly retard the flow of water through the watercourse. Any owner or lessee that conducts development as defined in this article shall maintain existing privately owned structures within or adjacent to a watercourse such that the effective functioning and physical integrity of the watercourse is protected, and in a manner which does not cause pollution.

H. Development. The county may incorporate appropriate BMPs to control the volume, rate, and potential pollutant loading of stormwater runoff from development. These required BMPs will be contained in any land use entitlement and construction or building-related permit to be issued relative to such development or redevelopment. The owner and developer shall comply with the terms, provisions, and conditions of such land use entitlements and building permits as required in this article.

I. Paved Areas. Persons owning, operating, or maintaining a paved area, including the paved areas of a parking lot, gas station, paved private street, road, or driveway, and related storm drain systems shall clean those structures as frequently and as thoroughly as practicable in a manner that does not result in discharge of pollutants to the storm drain system. (Ord. 5430-B (part), 2006)

#### **8.28.160 Containment and notification of illegal discharges.**

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Any person owning or occupying a premises who has knowledge of any illicit discharge from or across those premises which might enter the storm drain system, except as provided in Section 8.28.090 of this article, shall:

- A. Immediately take all reasonable action to contain and abate the illicit discharge, and;
- B. Notify the enforcement agency or its designated contact person within twenty-four (24) hours of the

illicit discharge. The enforcement agency may require the owner of the property and/or the responsible person to take corrective actions within a specified time pursuant to this article. (Ord. 5430-B (part), 2006)

#### **8.28.170 Coordination with hazardous materials inventory and response program.**

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Any business subject to the county's hazardous materials inventory and release response plan shall include, at the first opportunity for revision, provisions in that plan for compliance with this article. (Ord. 5430-B (part), 2006)

#### **8.28.180 Enforcement.**

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Any person who violates a provision of this article may be subject to administrative, civil, or criminal liability as provided in this article.

A. Primary Authority. The enforcement agency is empowered to use any of the provisions of Sections 8.28.190 through 8.28.220 of this article, and the provisions found in Articles 1.24 or 17.62 of this code where appropriate to correct violations of, and secure compliance with the provisions of this article.

B. Warning Not Required. Issuance of a warning shall not be a requirement prior to using any enforcement provision of this article. (Ord. 5430-B (part), 2006)

#### **8.28.190 Violation.**

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A. Informal Warning, Educational Materials. Whenever the enforcement official determines that a violation of a provision of this article has occurred or may occur, the enforcement agency may provide a warning to any person and/or owner responsible for the condition giving rise to such violation or potential violation. Such warning may include the distribution of educational materials to assist in future compliance with this article. This warning may be provided in person or in writing.

B. Notice of Noncompliance. Whenever the enforcement official determines that a violation has occurred, the enforcement official may serve a notice of noncompliance to any person and/or owner responsible for the violation. Each notice of noncompliance shall contain the following information:

1. The date of the violation;
2. The address or a definite description of the location where the violation occurred;
3. The article section violated and a description of the violation;
4. A description of how the violation can be corrected;
5. A time limit by which the violation shall be corrected, after which further enforcement and/or corrective actions may be taken by the county if the violation is not fully corrected;
6. The name and signature of the individual preparing the notice of noncompliance; and
7. Notice of potential liability under the federal Clean Water Act or State Porter Cologne Water Quality Act.

C. Administrative Compliance Order Whenever the enforcement official determines that a violation has occurred, the enforcement official may serve an administrative compliance order to any person and/or owner responsible for the violation. Each administrative compliance order shall contain the following information:

1. The date of the violation;
2. The address or a definite description of the location where the violation occurred;
3. The article section violated and a description of the violation;

4. An order to cease all activities which are believed to be causing the violation;
5. A time limit by which the violation shall be corrected, after which corrective actions will be taken by the county if the violation is not fully corrected;
6. A statement that the county will charge the person and/or owner for all administrative costs associated with enforcement actions;
7. An order prohibiting the continuation or repeated occurrence of the violation;
8. The name and signature of the individual preparing the citation;
9. A statement outlining the procedure for appeal of the order; and
10. Notice to the violator of potential liability under the federal Clean Water Act or State Porter Cologne Water Quality Act.

D. **Infraction.** The enforcement official is authorized to issue citations for infractions of this section using the provisions found in Articles 1.24 or 17.62 of this code.

E. **Misdemeanor.** Any violation of this article may be punished as a misdemeanor using the provisions of Article 1.24 of this code.

F. **Service.** The enforcement officer is authorized to use the provisions of Section 17.62.080(b) to serve a notice of noncompliance, citation, and/or administrative compliance order to effectuate the provisions of this article.

G. **Separate violation—Intent.**

1. Each day in which a violation occurs and each separate failure to comply with any provision of this article is a separate offense and punishable by penalties in accordance with this article.

2. A violation of the provisions of this article shall occur irrespective of the negligence or intent of the violator to construct, maintain, operate, or utilize an illicit connection, or to cause, allow or facilitate any discharge or threatened discharge. (Ord. 5482-B, 2007; Ord. 5430-B (part), 2006)

### **8.28.200 Administrative appeals.**

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A. Any person receiving an administrative compliance order under Section 8.28.190(C) of this article, or any person required to perform monitoring, analysis, reporting or corrective activities by any enforcement official and who is aggrieved by this decision of the enforcement official may appeal the decision in writing to the director of public works within ten (10) days following the effective date of the decision. Upon receipt of such appeal, the director of public works shall request a report and recommendation from the authorized county employee and shall set the matter for hearing at the earliest practical date. At such hearing, the director of public works may base his or her decision on additional evidence, and may reject, affirm or modify the enforcement official's decision.

B. The decision of the director of public works may be appealed to the board of supervisors by filing a notice of appeal with the clerk of the board of supervisors within fifteen (15) days of receipt of the decision of the director of public works. Such appeal shall be in writing and shall set forth fully the grounds for the appeal. The board shall thereupon fix a time and place for a public hearing of such appeal. The clerk of the board shall give notice to the appellant of the time and place of hearing by serving it personally or by depositing it in the U.S. Post Office, postage prepaid, addressed to the appellant at his last known address at least five days prior thereto.

C. At the hearing before the board of supervisors, the appellant may appear in person or by counsel and present any relevant evidence relating to the grievance; the enforcement agency may present evidence in rebuttal thereof. The hearing may be continued from time to time, not to exceed thirty (30) days in all. The board of

supervisors shall conduct a hearing and make findings as appropriate. The decision of the board of supervisors shall be final. (Ord. 5430-B (part), 2006)

#### **8.28.210 Civil actions.**

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In addition to any other remedies provided in this section, any violation of this article may be enforced by civil action brought by the county. In any such action, the county may seek, as appropriate and allowed by law, any or all of the following remedies:

- A. A temporary restraining order, preliminary and permanent injunction;
- B. Reimbursement for the costs of any investigation, inspection or monitoring survey which led to the establishment of the violation, and for the reasonable costs of preparing and bringing action under this division;
- C. Costs incurred in removing, correcting or terminating the adverse effect(s) resulting from the violation;
- D. Compensatory damages for loss or destruction of water quality, wildlife, fish and aquatic life. Costs and damages under this subsection shall be paid to the county and shall be used exclusively for costs associated with monitoring and establishing stormwater discharge pollution control system and/or implementing or enforcing the provisions of this division. (Ord. 5430-B (part), 2006)

#### **8.28.220 Nuisance abatement—Urgency abatement.**

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A. Nuisance Abatement. The enforcement agency may, in addition to other authorized procedures set forth in this article, take action to abate any nuisance in accordance with the procedures found in Section 17.62.160 of this code. The costs of any such abatement undertaken by the county shall be borne by the owner and shall be collectable in accordance with the provisions of Section 17.62.090 of this code.

B. Urgency Abatement. The enforcement agency may, in addition to other authorized procedures, take immediate action to abate any discharge or threatened discharge from any source to the storm drain system when, in the discretion of the enforcement agency, the discharge or threatened discharge causes or threatens to cause a condition which presents an imminent danger to the public health, safety, or welfare, or the environment, or a violation of an NPDES permit. The enforcement agency must first make reasonable attempts to contact and compel the responsible person and/or owner to abate the discharge or threatened discharge in a satisfactory manner. The costs of any such abatement shall be borne by the owner and shall be collectable in accordance with the provisions of Section 17.62.090 of this code. (Ord. 5430-B (part), 2006)

#### **8.28.230 Regulatory fee structure authorized.**

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The enforcement agency shall collect such fees as may be authorized by the board of supervisors to establish and collect regulatory costs, which include routine inspections and other regulatory functions associated with this article. Any such fees shall be established by resolution of the board of supervisors. (Ord. 5430-B (part), 2006)

**Placer County Code**[Up](#)[Previous](#)[Next](#)[Main](#)[Collapse](#)[Search](#)[Print](#)[No Frames](#)[Chapter 15 BUILDING AND DEVELOPMENT](#)**Article 15.48 GRADING, EROSION AND SEDIMENT CONTROL**

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**Note**

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\* Prior code history: Prior code Sections 29.100 through 29.675, 29.700 through 29.1050 and 29.1070.

**Part 1. Purpose and Definitions**

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**15.48.010 Title.**

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This article shall be known as the grading and erosion prevention ordinance of Placer County. (Ord. 5056-B, 2000)

**15.48.020 Purpose.**

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The ordinance codified in this article is enacted for the purpose of regulating grading on property within the unincorporated area of Placer County to safeguard life, limb, health, property and public welfare; to avoid pollution of watercourses with hazardous materials, nutrients, sediments, or other earthen materials generated on or caused by surface runoff on or across the permit area; and to ensure that the intended use of a graded site is consistent with the Placer County general plan, any specific plans adopted thereto and applicable Placer County ordinances including the zoning ordinance, flood damage prevention ordinance, (Article 15.52) environmental review ordinance (Chapter 18 Placer County Code) and applicable chapters of the California Building Code. In the event of conflict between applicable chapters and this article, the most restrictive shall prevail. (Ord. 5056- B, 2000)

**15.48.030 Definitions.**

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Unless the particular provision or the context otherwise requires, wherever the following terms are used in this article, they shall have the meaning ascribed to them in this section:

“Agency director” means the head of the community development resource agency of Placer County.

“Agricultural operation” means any land related activity for the purpose of cultivating or raising plants grown in the ground or raising animals or conserving or protecting lands for such purposes when conducted on agriculturally zoned lands and is not surface mining or borrow pit operations.

“Bedding plane” means a nearly flat surface, which may have been tilted up or folded by tectonic forces, separating two beds (or layers or strata) of sedimentary rock. Each bedding plane marks the end of one deposit and the beginning of another having different characteristics (also known as strata, or beds).

“Bedrock” is the solid undisturbed rock in place either exposed at the ground surface or beneath surficial deposits of loose rock or soil.

“Bench” means a relatively level step excavated into sloping natural ground on which engineered fill or embankment fill is to be placed.

“Board” is the board of supervisors of the county of Placer.

“Civil engineer” is a professional engineer registered as a civil engineer by the state of California.

“Community development resource agency” means the agency which provides planning and direction over

those county functions that provide land use planning, management of natural resources, building, inspection and code enforcement services, and other permit and land use services to the citizens of Placer County. The agency includes the divisions of engineering and surveying, planning, and building and performs land development core functions such as infrastructure planning, surveying and mapping, permits and construction.

“Compaction” is the increase of density of a soil or rock fill by mechanical means.

Cut. See “Excavation.”

“Days” mean calendar days, except that such time limits shall extend to the following working day where the last of the specified number of days falls on a Saturday, Sunday or any county holiday.

“Depth of fill” means the vertical dimension from the exposed fill surface to the original ground surface.

“Depth of excavation (cut)” means the vertical dimension from the exposed cut surface to the original ground surface.

“Director of environmental health” means the director of the department of health and human services, Placer County, California acting either directly or through authorized deputies.

“Director of public works” means the director of public works of Placer County, California, acting either directly or through authorized deputies.

“Drainage way” means a depression in the earth’s surface such as swales, ravines, gullies, draws, hollows or ditches in which surface waters collect for drainage, but which otherwise are destitute of water.

Embankment. See “Fill.”

“Engineering geologist” means a registered geologist certified as an engineering geologist by the state of California.

“Engineering geology” means the application of geologic knowledge in the investigation and evaluation of naturally occurring rock and soil for use in the design of civil works.

“Erosion” means the wearing away and transportation of earth material as a result of the movement of wind, water, or ice.

“Excavation (cut)” means the removal of naturally occurring earth materials by mechanical means, and includes the conditions resulting therefrom.

“Existing grade” means the elevation of the ground surface at a given point prior to excavating or filling.

“Expansive soil” means any soil, which exhibits significant expansive properties as determined by a geotechnical engineer or civil engineer and approved by community development resource agency.

“Fill (embankment)” means the deposit of soil, rock or other materials placed by man and includes the conditions resulting therefrom.

“Finish grade” means the final grade of the site after excavating or filling which conforms to the approved final grading plan. The finish grade is also the grade at the top of a paved surface.

“Foliation plane” means a linear plane formed in metamorphic rock caused by heat and pressure. The planes in the Sierra foothills usually trend north-south and are tilted at a steep slope with folds and intrusions.

“Geologic hazard” means any condition in naturally occurring earth materials, which may endanger life, health or property.

“Geotechnical engineer” means a civil engineer registered by the state of California who is qualified in the field of soil mechanics and soil engineering and has the authority to use the title “soil engineer.”

“Geotechnical engineering” means the application of the principles of soil mechanics in the investigation, evaluation and design of civil works involving the use of earth materials and may include the inspection, testing and construction thereof.

“Grade” means the vertical location of the ground surface.

Grade, existing. “Existing grade” means the grade prior to grading.

Grade, rough. “Rough grade” means the stage at which the grade approximately conforms to the approved plan.

“Grading” means any land excavation or filling or combination thereof, or the removal, plowing under or burial of vegetative groundcover.

“Grading plan” means a plan prepared in accordance with this article showing grading and related work.

“Grading work” is grading and related work, such as, but not limited to, drainage improvements and erosion and sediment control.

“Hazardous materials” is as defined in Health and Safety Code Section 25501 et seq.

“Joint” means a fracture in rock that is produced by expansion, contraction, and tectonic forces, and along which there has been no movement.

“Keyway” means a special backfilled excavation, which is constructed beneath the toe area of a planned fill slope on sloping ground to improve the stability of the slope.

“Landscape architect” means a landscape architect registered by the state of California.

“Level, land leveling operation” means the physical movement of rock or soil which results in a change in the topography of the land, which results in the land being more level than before.

Lot. See “Parcel.”

“NPDES” means the National Pollutant Discharge Elimination System, a federal program regulating stormwater discharges pursuant to Sections 307, 402, 318 and 405 of the Clean Water Act (33 U.S.C. Section 1251 et seq.), as such Act may be amended from time to time.

“Overland flow” means and includes flow over planar surfaces, including, but not limited to, roofs, streets, lawns, parking lots and fields.

“Owner” means the person shown as the legal owner of the property on the latest equalized assessment roll in the office of the county assessor.

“Parcel (lot)” means land described as a lot or parcel in a recorded deed or shown as a lot or parcel on a subdivision map or parcel map on file in the county recorder’s office.

“Permit” means an approved grading permit issued pursuant to this article authorizing certain grading work.

“Permittee” means any person to whom a permit is issued pursuant to this article.

“Person” means any individual, firm, corporation or public agency whether principal, agent, employee or otherwise.

“Planning director” means the director of the planning department of Placer County, California, acting directly or through his or her authorized agents.

“Rainy season” means the period of the year during which there is a substantial risk of rainfall. For the purpose of this article, the rainy season is defined as from October 15th to May 1st, inclusive.

“Record drawings” means drawings for improvements or grading that show changes made during construction.

“Retaining wall” means any constructed wall that holds back earth (or a liquid), and where there is an abrupt change in elevation.

“Sediment” means any material transported or deposited by water, including soil debris or other foreign matter.

“Site” means any lot or parcel of land or combination of contiguous lots or parcels of land, whether held

separately or joined together in common ownership or occupancy where grading is to be performed or has been performed.

“Slope” means an inclined ground surface the inclination of which may be expressed as the ratio of horizontal distance to vertical distance or as the ratio of vertical distance per one hundred (100) feet horizontal distance when given as a percent.

“Soil” means all earth material of any origin that overlies bedrock and may include the decomposed zone of bedrock, which can be excavated readily by mechanical equipment.

“Stormwater runoff” means water runoff due to storms, (rain, snow melt, etc.).

“Stream environment zone” means perennial, intermittent, and ephemeral streams, meadows and marshes, and other areas of near-surface water influence.

“Structure” means that which is built or constructed or any piece of work artificially built up or composed of parts joined in some definite manner.

“Surcharge” means the additional loading acting above and behind a retaining wall other than from the normal active soil pressures; examples of surcharges include but are not limited to vehicles, buildings, snow, sloped backfill, stockpiles, construction staging areas and equipment.

“Tahoe Basin” means the unincorporated area of Placer County, which is adjacent to and drains into Lake Tahoe.

“Terrace” means a relatively level step constructed in the face of a graded slope surface for drainage, maintenance, or other purposes.

“Vegetation” means plant life or total plant cover of an area.

“Vehicular way” means a private roadway or driveway.

“Watercourse” means any natural or artificial channel flowing continuously or intermittently in a definite direction and course or used for the holding, delay or storage of waters, which functions at any time to convey or store stormwater runoff.

At the discretion of the community development resource agency, the definition of natural channel may be limited to those channels having a watershed area of fifty (50) acres or more, and this definition will be commonly used in connection with the administration of this article except for those cases in which the agency director determines that the definition must be extended to a natural channel with a watershed smaller than fifty (50) acres in order to prevent a condition which could possibly endanger property; be a hazard to public safety; adversely affect the safety, use or serviceability of adjacent property, public way or drainage channel, or could adversely affect the water quality of any water bodies or watercourses.

Work. See “Grading work.” (Ord. 5688-B § 6, 2012; Ord. 5618-B § 2, 2010; Ord. 5407-B § 1, 2006; Ord. 5373- B, 2005; Ord. 5056-B, 2000)

## **Part 2. General Requirements**

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### **15.48.040 Grading.**

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No person shall do or permit to be done any grading in such a manner that quantities of dirt, soil, rock, debris or other material substantially in excess of natural levels are washed, eroded or otherwise moved from the site, except as specifically provided for by a permit. In no event shall grading activities cause or contribute to the violation of provisions of any applicable NPDES stormwater discharge permit. (Ord. 5407-B § 2, 2006; Ord. 5056-B, 2000)

**15.48.050 Water obstruction.**

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No person shall do or permit to be done any grading which may obstruct, impede or interfere with the natural flow of stormwaters, in such manner as to cause flooding where it would not otherwise occur, aggravate any existing flooding condition or cause accelerated erosion. This section applies whether such waters are unconfined upon the surface of the land or confined within land depressions or natural drainage ways, unimproved channels or watercourses, or improved ditches, channels or conduits. (Ord. 5056-B, 2000)

**15.48.060 Grading permit required.**

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A. Except for the specific exemptions listed in Section 15.48.070 of this article, no person shall do or permit to be done any grading on any site in the unincorporated areas of Placer County without a valid grading permit obtained from the community development resource agency.

A permit shall also be required for the following:

1. Retaining walls which are over four feet in height, as measured from bottom of footing to top of the retained soil;
2. Any retaining walls that are subject to surcharge;
3. Private vehicular bridge;
4. Swimming pool fill operations whereby depth of fill for swimming pool construction exceeds four feet.

B. A grading permit is required for any grading and/or other construction activity with ground disturbance of one acre or more. (Ord. 5407-B § 3, 2006; Ord. 5373- B, 2005; Ord. 5056-B, 2000)

**15.48.070 Exemptions.**

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Unless in conflict with provisions of adopted general and/or specific plans, or provisions applicable to the Tahoe Basin as described in Section 15.48.120 of this article, the following grading may be done without obtaining a permit. Exemption from the requirement of a permit shall not be deemed permission to violate any provision of this article:

A. Minor projects which have cuts or fills, each of which is less than four feet in vertical depth at its deepest point measured from the existing ground surface, and which meet all of the following criteria:

1. Less than two hundred fifty (250) cubic yards of graded material in a single area, within a two-year period. In calculating the graded material quantity, excavation material used as fill material will not be counted twice. (For example: one hundred twenty-five (125) cubic yards [C.Y.] of excavation material that is also placed as fill material would be calculated as one hundred twenty-five (125) cubic yards, not as 125 C.Y. + 125 C.Y. = 250 C.Y.),
2. The removal, plowing under or burial of less than ten thousand (10,000) square feet of vegetation on slopes ten (10) percent or greater or any amount of vegetation on slopes less than ten (10) percent on areas of land less than one acre within a two-year period,
3. Does not create unstable or erodible slopes,
4. Does not encroach onto sewage disposal systems including leach field areas,
5. Does not encroach into the areas designated as Zone A as shown on the Flood Insurance Rate Maps,
6. Does not obstruct any watercourse, disturb, or negatively impact any drainage way, wetland, stream environment zone, or water body,
7. Does not divert or obstruct overland flow, or negatively affect other adjacent properties,

8. Includes provisions to effectively prevent discharges of pollutants from the site, and
9. Provides for completion of soil disturbing activities within a continuous period of forty-five (45) days, and revegetation of all disturbed areas immediately thereafter;
  - B. Grading done by or under the supervision or construction control of a public agency that assumes full responsibility for the work;
  - C. Excavations, (but not fill operations) in connection with a swimming pool authorized by a valid building permit. Any swimming pool fill operation must comply with Section 15.48.060(A)(4) of this article to be exempt;
  - D. Retaining walls less than four feet in height, as measured from bottom of footing to the top of the wall, and not subject to surcharge;
  - E. Grading necessary for agricultural operations, unless such grading will create a cut or fill whose failure could endanger any structure intended for human or animal occupancy or any public road, or could obstruct any watercourse or drainage conduit;
  - F. Trenching and grading incidental to the construction or installation of approved underground pipe lines, septic tank disposal fields, conduits, electrical or communication facilities, and drilling or excavation for post holes or approved wells;
  - G. Excavations less than two hundred fifty (250) cubic yards for soil or geological investigations by a geotechnical engineer, civil engineer, or engineering geologist;
  - H. Grading in accordance with plans incorporated in an approved surface mining permit, reclamation plan, or sanitary landfill or environmental remediation project or petroleum product tank removal and installation where governed by other state or county ordinance;
  - I. Maintenance of existing firebreaks and roads to keep the firebreak or road substantially in its original condition;
  - J. Routine cemetery excavations and fills;
  - K. Performance of emergency work necessary to protect life or property when an urgent necessity arises. The person performing such emergency work shall notify the community development resource agency promptly of the problem and work required and shall apply for a permit within ten (10) calendar days after commencing such work;
  - L. An excavation below finished grade for basements and footings of a building authorized by a valid building permit;
  - M. Timber harvest operation conducted under valid state or federal permit, stream alteration permits, dams under state jurisdiction, etc. (Ord. 5407-B § 4, 2006; Ord. 5373-B, 2005; Ord. 5056-B, 2000)

#### **15.48.080 Fees.**

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A. The schedule of fees and costs shall be those established and adopted by the board from time to time by resolution or ordinance. Before a permit is issued, the applicant shall deposit with the community development resource agency cash or a check, in a sufficient sum to cover the fee for issuance of the permit, charges for review of plans, specifications and reports, other engineering ser-

vices, field investigations, necessary inspection or other work and routine laboratory tests of materials and compaction, all in accordance with schedules established and adopted by the board.

B. No fee shall be required of public agencies.

C. Public utilities may, at the option of the community development resource agency, make payment for the charges in subsection A of this section as billed instead of by advance deposit as required in subsection A of this section.

D. If grading work is done in violation of this article or such work is not done in accordance with an approved permit, a fee covering investigation of any violation and inspection and plan checking of work required to correct such violation shall be charged to the violator to cover all actual costs. (Ord. 5407-B § 5, 2006: Ord. 5373- B, 2005; Ord. 5056- B, 2000)

#### **15.48.090 Levee work.**

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No person shall excavate or remove any material from or otherwise alter any levee required for river, creek, bay, or local drainage control channel, without prior approval of the local governmental agency responsible for the maintenance of the levee. (Ord. 5056- B, 2000)

#### **15.48.100 Construction in public rights-of-way.**

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No person shall perform any grading work within the right-of-way of a public road or street, or within a public easement, without prior written approval of the agency director. (Ord. 5407-B § 6, 2006: Ord. 5056- B, 2000)

#### **15.48.110 Hazards.**

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If the community development resource agency director determines that any grading on private or public property constitutes a hazard to public safety; endangers property; adversely affects the safety, use or stability of adjacent property, an overhead or underground utility, or a public way, watercourse or drainage channel; or could adversely affect the water quality of any water bodies or watercourses, the director may issue a stop work notice to the owner of the property upon which the condition is located, or other person or agent in control of such property. Upon receipt of such stop work notice, the recipient shall, within the period specified therein, stop all work, obtain a grading permit and conform to the conditions of such permit. The community development resource agency may require the submission of plans or soil or geological reports, detailed construction recommendations, drainage study or other engineering data prior to and in connection with any corrective or proposed work or activity. (Ord. 5407-B § 7, 2006: Ord. 5373- B, 2005; Ord. 5056- B, 2000)

#### **15.48.120 Tahoe Basin area special restrictions and exemptions.**

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A. Provisions of this section apply to the unincorporated area of Placer County within that area defined as “TRPA region” in the Tahoe Regional Planning Agency Compact. This area is the Tahoe Basin and that additional and adjacent part of the county of Placer outside of the Tahoe Basin in the state of California which lies southward and eastward of a line starting at the intersection of the basin crestline and the north boundary of Section 1, thence west to the northwest corner of Section 3, thence south to the intersection of the basin crestline and the west boundary of Section 10; all sections referring to township 15 north, range 16 east, M.D.B. and M.

B. Grading and soil disturbance shall be prohibited during the period from October 15th through May 1st unless otherwise approved, in writing, by the agency director and by the Tahoe Regional Planning Agency and Lahontan Regional Water Quality Control Board. Complete winterization of the site is required by October 15th, if work is not complete and permanent revegetation is not established.

C. All work shall be in conformity with any grading restriction required by other federal, state, or local agencies.

D. A permit for grading on residential property issued by the Tahoe Regional Planning Agency will be

evidence of conformity to provisions of this section. All other grading in the region, unless otherwise exempt as provided herein, is subject to review and approval by the community development resource agency.

E. Areas of the site not approved for grading, vegetation removal, or construction shall be fenced or otherwise marked to limit access. These fences shall be inspected, maintained, and repaired as necessary.

F. Prior to initiation of grading or construction-related activity, temporary erosion control measures shall be installed to prevent transport of earthen materials and other wastes off of the site.

G. All other provisions of this article shall apply, but a permit shall not be required if the work complies with all the following conditions:

1. The excavation does not exceed four feet in vertical depth at its deepest point measured from the original ground surface, does not exceed two hundred (200) square feet in area, and does not exceed three cubic yards per site;

2. The fill does not exceed three feet in vertical depth at its deepest point measured from the original ground surface, the fill material does not cover more than two hundred (200) square feet, and does not exceed three cubic yards per site;

3. The clearing of vegetation does not exceed one thousand (1,000) square feet in area. (Ord. 5407-B § 8, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

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#### **15.48.130 Transfer of permit.**

No permit issued under this article may be transferred or assigned in any manner whatsoever, without the express written consent of the community development resource agency. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

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#### **15.48.140 Right of entry.**

As a condition of the permit, the property owner shall grant the county a right of entry for the duration of the permit until after final inspection. Whenever necessary to enforce the provisions of this article the agency director or designee may enter the premises to perform any duty imposed by this article. (Ord. 5373- B, 2005; Ord. 5056- B, 2000)

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#### **15.48.150 Liability.**

Neither issuance of a permit under the provisions of this article nor compliance with the provisions hereof or with any conditions imposed in a permit issued hereunder shall relieve any person from responsibility for damage to any person or property or impose any liability upon the county for damage to any person or property. (Ord. 5056- B, 2000)

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#### **15.48.160 Denial of other permits.**

No building permit, septic, water, sewer, electrical permit, or any other permit shall be issued by the county to any person for any premises or portion thereof which is in violation of this article. (Ord. 5056- B, 2000)

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#### **15.48.170 Grading prior to approval of improvement plans.**

Property owners who submit applications for permits for grading for projects that have an approved tentative map or the intended use has an approved discretionary zoning permit, (Chapter 17, Zoning) or is in compliance

with the design review process (Section 17.52.070) must comply with the following requirements:

A. A separate grading plan shall be submitted for review and approval by the community development resource agency. This plan shall conform to the requirements of this grading ordinance and any applicable conditions placed on the project as a result of any formal discretionary permit process. The applicant shall acknowledge that any additional grading or revisions to work necessitated by conflicts discovered during the improvement plan check or subsequent construction will be corrected at the applicant's expense.

B. The property owner shall submit a revegetation and winterization plan for review and approval. This plan shall include a performance agreement with Placer County which includes a specific schedule for performance of the subject grading, an engineer's estimate of cost for implementing the plan, and cash or other approved form of security to insure the timely performance of the plan.

C. Plan check and inspection fee deposit shall be required in the amount of the full plan check fee applicable at the time of submittal and a deposit of twenty-five (25) percent of the full inspection fee at time of grading permit approval.

D. A drainage report shall be required as per the requirements of this grading ordinance and the Placer County land development manual. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

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#### **15.48.180 Not retroactive.**

The provisions of this article shall not apply to construction for which all previously necessary permits were obtained, before the effective date of the ordinance codified in this article or any subsequent amendments. (Ord. 5056- B, 2000)

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#### **15.48.190 Severability.**

If any section, subsection, paragraph, subparagraph, sentence, clause or phrase of this article is for any reason held to be invalid or unconstitutional, such invalidity or unconstitutionality shall not affect the validity or constitutionality of the remaining portions of this article; and the board declares that this article and each section, subsection, paragraph, subparagraph, sentence, clause, and phrase thereof would have been adopted irrespective of the fact that one or more of such section, subsection, paragraph, subparagraph, sentence, clause or phrase be declared invalid or unconstitutional. (Ord. 5056- B, 2000)

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### **Part 3. Procedures**

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#### **15.48.200 Filing.**

Applications for permits shall be filed with the community development resource agency on forms furnished by the department. Each application shall include a plan-checking fee and other fees as required, grading plans and a statement of the intended use of the site. Only one application and permit is allowed for grading work to be done on a site. The community development resource agency shall determine whether the application is complete or whether additional information is required from the applicant. The applicant shall be notified within ten (10) working days, and provided outstanding requirements in writing if the application is deemed incomplete. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

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#### **15.48.210 Compliance with CEQA.**

The California Environmental Quality Act (CEQA) and the Placer County environmental review ordinance may require the preparation of environmental documents concerning a proposed grading project. Any required

environmental review must be completed before the grading permit application will be deemed complete. (Ord. 5056- B, 2000)

#### **15.48.220 Notice to adjacent utility owners.**

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Applicant shall provide, with the application, documentation that he or she shall have notified by mail the owners of utilities on or abutting the site that an application for a grading permit has been submitted to the county. The notice shall state that the utilities must provide comments to Placer County within thirty (30) calendar days of the date the notice is received by the utility. No permit shall be issued until the utility has either approved the application or the thirty (30) day period has expired. This section may be waived by the agency director in his or her sole discretion. (Ord. 5407-B § 9, 2006; Ord. 5056- B, 2000)

#### **15.48.230 Referral to other public agencies.**

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The community development resource agency may refer an application to other interested public agencies for their recommendations. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

#### **15.48.240 Permit conditions.**

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A. No permit shall be granted unless the project conforms to the Placer County general plan, any community or specific plans adopted thereto and applicable Placer County ordinances including the zoning ordinance.

B. Where a proposed grading project requires the filing of a tentative map or the intended use requires approval of a discretionary zoning permit, no grading permit shall be granted prior to approval by the applicable planning authority.

C. The permit shall be limited to work shown on the grading plans as approved by the community development resource agency. In granting a permit, the community development resource agency may impose any condition deemed necessary to protect the health, safety and welfare of the public, to prevent the creation of a hazard to public or private property, prevent erosion and to assure proper completion of the grading, including but not limited to:

1. Mitigation of adverse environmental impacts as disclosed by any environmental document findings. This includes the proper disposal of any hazardous material identified in the initial planning phase. The director of health and human services will approve hazardous materials management;
  2. Improvement of any existing grading to comply with the standards of this article;
  3. Requirements for fencing or other protecting of grading which would otherwise be hazardous;
  4. Requirements for dust, erosion, sediment and noise control, and hours of operation and season of work, weather conditions, sequence of work, access roads and haul routes;
  5. Requirements for safeguarding watercourses, whether natural or man-made, from excessive deposition of sediment or debris in quantities exceeding natural levels;
  6. Requirements for safeguarding areas reserved for on-site sewage disposal;
  7. Assurance that the land area in which grading is proposed and for which habitable structures are proposed is not subject to hazards of land slippage or significant settlement or erosion and that the hazards of flooding can be eliminated or adequately reduced;
  8. Requirements for safeguarding existing water wells.
- D. All grading activities east of the Sierra crest (excluding the "TRPA region" as specified in Section

15.48.120 of this article) are prohibited between October 15th and May 1st without written approval of the agency director and the Lahontan Regional Water Quality Control Board. (Ord. 5407- B, § 10, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

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#### **15.48.250 Permission of other agencies or owners.**

No permit shall relieve the permittee of responsibility for securing other permits or approvals required for work which is regulated by any other department or agency of the county, or other public agency, or for obtaining any easements or authorization for grading on property not owned by the permittee. Proof of issuance of applicable public agency permits may be required before the issuance of a grading permit. (Ord. 5056- B, 2000)

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#### **15.48.260 Location of property lines.**

Whenever the location of a property line or easement or the title thereto is disputed during the application process or during a grading operation, a survey by a licensed land surveyor or civil engineer or resolution of title, all at the expense of the applicant, may be required by the community development resource agency. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

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#### **15.48.270 Time limits.**

A. The permittee shall perform and complete all the work required by the permit within time limits specified in the permit. If the work cannot be completed within the specified time, a request for an extension of time setting forth the reasons for the requested extension shall be presented in writing to the community development resource agency no later than thirty (30) days prior to the expiration of the permit. The community development resource agency may grant additional time for the permitted work to be completed.

B. If all of the permit work required is not completed within the time limit specified in subsection A of this section, no further grading shall be done without renewing the permit. A written request for renewal shall be submitted to the agency director who may require a new application and fees depending upon the time between the expiration date and the renewal request, revisions in county regulations, and/or changed circumstances in the immediate area. Any revised plan shall be submitted to the community development resource agency for review, and any costs thereof shall be at the applicant's expense. (Ord. 5407-B § 11, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

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#### **15.48.280 Validity.**

The issuance of a permit or approval of plans and specifications shall not be construed as an approval of any violation of the provisions of this article or of any other applicable laws, ordinances, rules or regulations. (Ord. 5056- B, 2000)

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#### **15.48.290 Appeals.**

Appeals on decisions pursuant to this article shall be made to the planning commission in writing, setting forth the specific grounds thereto within ten (10) calendar days from the date of such decision. The written appeal shall be accompanied by an appeal fee as set from time to time by the board of supervisors. The planning commission shall consider the appeal per the requirements of Section 17.60.110(D)(4)(C) after receiving the written appeal. The appeal hearing may be continued from time to time at the request of the appellant or by a

majority vote of the membership of the planning commission. (Ord. 5056- B, 2000)

#### **Part 4. Plans and Specifications**

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##### **15.48.300 Application—Plans.**

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A. Each application for a grading permit shall include the following:

1. A completed application form;
2. Two complete sets of grading plans;
3. Profiles, cross sections, and specifications as required;
4. A complete drainage report as required by the community development resource agency;
5. The application fee as determined by the board of supervisors;
6. Where applicable, evidence of coverage, or application for coverage, under an NPDES general construction permit.

B. The plans and other documents will be reviewed by the community development resource agency. The applicant and/or project engineer will be notified of any necessary changes to the plans. When the plans and other documents have been approved by the community development resource agency, a grading permit will be issued for the project. All work must be done in strict conformance with the approved plans and documents. The approved plans shall not be changed or altered except in accordance with the provisions of this article. (Ord. 5407-B § 12, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

##### **15.48.310 Grading plans—Engineer required.**

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A. All plans and specifications shall be prepared and signed by a civil engineer except that the community development resource agency may waive this requirement if the proposed grading does not:

1. Endanger the public health, safety and welfare;
2. Require cuts and fills involving a combined total of one thousand five hundred (1,500) cubic yards of dirt or more, or where depth of fill exceeds ten (10) feet;
3. Include an access road serving five or more existing or potential residences;
4. Require a cut or fill that is situated so as to cause unduly increased soil pressure or reduce earth support upon adjacent structure or property;
5. Include the construction of any drainage or sediment control structures, culverts, or facilities or substantial alteration of any existing drainage course;
6. Include the creation or aggravation of an unstable slope condition;
7. Require construction of any retaining wall over four feet in height;
8. Include the construction of a vehicular bridge. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

##### **15.48.320 Requirements for engineered grading plans.**

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Grading plans and specifications shall be prepared and signed by a civil engineer, as provided herein.

A. The plans shall include the following:

1. All plans shall be on twenty-four (24) inch by thirty-six (36) inch sheets unless otherwise approved, and shall be drawn at a scale no less than one inch equals one hundred (100) feet;

2. A title block. Plans shall be entitled “grading plan” and state the purpose of the proposed grading and the name of the engineer or firm by whom this plan is prepared, owner’s name and address, and site address;
  3. A vicinity sketch (not at map scale) indicating the location of the site relative to the principal roads, lakes and watercourses in the area;
  4. North arrow and scale;
  5. A site plan indicating the extent of the work and any proposed divisions of land;
  6. The complete site boundaries and locations of any easements and rights-of-way traversing or adjacent to the property;
  7. The location of all existing or proposed roads, buildings, wells, pipelines, watercourses, septic systems or areas reserved for on-site sewage disposal, and any other structures, facilities, and features of the site, as well as the location of all improvements on lots within fifty (50) feet of the proposed work;
  8. Location and nature of known or suspected soil or geologic hazard areas, including but not limited to serpentine rock areas, landslides, etc.;
  9. Accurate contour lines of the existing terrain and proposed finished grade at intervals not greater than five feet, or spot elevations twenty-five (25) feet on center showing all topographic features and drainage patterns throughout the area where the proposed grading is to occur relative to a bench mark established on site. The contour lines/spot elevations shall be extended to a minimum of fifty (50) feet beyond the affected area, and further, if needed, to define intercepted drainage, and shall be extended a minimum of one hundred (100) feet outside of any future road right-of-way;
  10. Approximate location of cut and fill lines extent and finished slopes of all proposed grading and the limits of grading for all proposed grading work, including borrow and stockpile areas;
  11. Location, width, direction of flow and approximate location of any watercourses including tops and toes of banks;
  12. Approximate boundaries of any areas with histories of flooding;
  13. Cross sections, profiles, elevations, dimensions, and construction details based on accurate field data as may be required after initial review of plans;
  14. Construction details for roads, watercourses, culverts, bridges and drainage devices, retaining walls, cribbing, dams, and other improvements existing or to be constructed, together with supporting calculations and maps as may be required after initial review of plans;
  15. Proposed provisions for storm drainage control and any existing or proposed flood control facilities or septic tank disposal fields or areas reserved for on-site sewage disposal near the grading;
  16. A detailed erosion and sediment control plan including specific locations, construction details, and supporting calculations for temporary and permanent sediment control structures and facilities;
  17. A revegetation plan, including temporary erosion control plantings, permanent slope plantings, replacement of temporary groundcover, and irrigation facilities.
- B. Additional supporting information which may be required includes, but is not necessarily limited to:
1. An estimate of the quantities of excavation and fill;
  2. The location of any borrow site or location for disposal of surplus material;
  3. A projected schedule of operations, including, as a minimum, the dates of:
    - a. Commencement of work,
    - b. Start and finish of rough grading,
    - c. Completion of drainage facilities,

- d. Completion of work in any watercourse,
  - e. Completion of erosion and sediment control facilities,
  - f. Completion of hydromulching and other landscaping. If rough grading is proposed between October 15th and May 1st, a more detailed schedule of grading activities and use of erosion and sediment control facilities may be required;
4. Itemized cost estimate of the proposed grading and related work;
  5. A complete drainage study in conformance with the Placer County flood control and water conservation district's stormwater management manual (latest edition);
  6. Geotechnical investigation report and recommendations addressing the proposed work. (Ord. 5056- B, 2000)

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#### **15.48.330 Retention of approved plans.**

Three sets of approved plans and specifications shall be retained by the community development resource agency. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

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#### **15.48.340 Modification of approved plans.**

A. Proposed modifications of an approved final plan shall be submitted to the community development resource agency for written approval.

B. All necessary soils and geological information and design details shall accompany any proposed modification.

C. The modification shall be compatible with any subdivision map or land use requirements. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

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#### **15.48.350 Seasonal requirements.**

Implementation of erosion and sediment control plans shall be based on the season of the year and the stage of construction at forecasted periods of rainfall and heavy storms. Erosion and sediment control plans shall allow for possible changes in construction scheduling, unanticipated field conditions, and relatively minor changes in grading. Modifications to plans may be required after initial plan approval. (Ord. 5056- B, 2000)

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### **Part 5. Geotechnical Investigations and Inspections**

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#### **15.48.360 Geotechnical investigation required.**

A soil or geologic investigation report shall accompany the application in any of the following circumstances when required by the agency director:

A. When the proposed grading includes a cut or fill exceeding ten (10) feet in depth at any point; however, for vehicular ways, a soil investigation shall not be required unless the grading includes a proposed cut or fill that exceeds ten (10) feet in depth and the slope of the natural ground exceeds thirty (30) percent;

B. When highly expansive soils are present;

C. In areas of known or suspected geological hazards, including landslide hazards and hazards of ground failure stemming from seismically induced ground shaking. (Ord. 5407-B § 13, 2006; Ord. 5056- B, 2000)

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**15.48.370 Investigations.**

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Those portions of the soil or geologic investigation that constitutes “civil engineering” as defined by Section 6734 of the Business and Professions Code of the state of California shall be conducted by or under the direct supervision of a geotechnical engineer or civil engineer. Those portions of the investigation that involve the practice of “geology” as defined by Section 7802 of the Business and Professions Code of the state of California shall be conducted by an engineering geologist.

The investigations shall be based on observations and tests of the material exposed by exploratory borings or excavations and inspections made at appropriate locations. Additional studies may be necessary to evaluate soil and rock strength, the effect of moisture variation on soil, bearing capacity, compressibility, expansiveness, stability, keying, subdrainage benching and other factors. Grading factors such as moisture variability, ability to compact the material when wet, etc., should be evaluated. (Ord. 5056- B, 2000)

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**15.48.380 Reports—General.**

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Any soil or geologic investigation report shall be subject to the approval of the community development resource agency who may require supplemental reports and data. Recommendations included in the reports and approved by the community development resource agency shall be incorporated in the final plans and specifications. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

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**15.48.390 Soil/geologic investigation report.**

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The soil or geologic investigation report shall contain all of the following, as they may be applicable to the subject site:

- A. An index map showing the regional setting of the site;
- B. A site map which shows the topographic features of the site and locations of all soil borings and test excavations;
- C. A classification of the soil types (unified soil classification), pertinent laboratory test data and consequent evaluation regarding the nature, distribution, and strength of existing soils;
- D. A description of the geology of the site and geology of the adjacent areas when pertinent to the site;
- E. A suitably scaled map and cross sections showing all identified areas of land slippage;
- F. A description of any encountered groundwater or excessive moisture conditions;
- G. A description of the soil and geological investigative techniques employed;
- H. A log for each soil boring and test excavation showing elevation at ground level and the depth of each soil or rock strata;
- I. An evaluation of the stability of pertinent natural slopes and recommendations regarding maximum cut and fill slopes of proposed work;
- J. An evaluation of settlement associated with the placement of any fill;
- K. Recommendations for grading procedures and specifications, including methods for excavation and subsequent placement of fill;
- L. Recommendations regarding surface and subsurface drainage and erosion control;
- M. Recommendations for mitigation of geologic hazards. (Ord. 5056- B, 2000)

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**15.48.400 Final report.**

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Upon completion of rough grading work, in the event a complete record of the work is desired or necessary, the community development resource agency may require a final geotechnical report that includes, but is not necessarily limited to the following:

- A. A complete record of all field and laboratory tests including location and elevation of all field tests;
- B. A professional opinion regarding slope stability, soil bearing capacity, and any other pertinent information;
- C. Recommendations regarding foundation design, including soil bearing potential and building restrictions or setbacks from the top or toe of slopes;
- D. A declaration by the geotechnical engineer, civil engineer or engineering geologist in the format required by the community development resource agency that all work was done in substantial conformance with the recommendations contained in the soil or geologic investigation reports as approved and in accordance with the approved plans and specification. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

#### **15.48.410 Changed conditions.**

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Where soil or geologic conditions encountered in the grading operation deviate from that anticipated in the soil and geologic investigation reports or where such conditions warrant changes to the recommendations contained in the original soil investigation, a revised soil or geologic report shall be submitted for the approval of the community development resource agency. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

#### **15.48.420 Special inspection.**

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A. As a condition of the permit, the community development resource agency may require the permittee to retain a private geotechnical engineer or civil engineer to directly supervise or perform continuous inspection work, and upon completion of the work to provide a written statement acknowledging that he or she has inspected the work and that in his or her professional judgment the work was performed in accordance with the approved plans and specifications. The permittee shall make his or her own contractual arrangements for such services and shall be responsible for payment of all costs. Continuous inspection by a geotechnical engineer or civil engineer shall include, but not be limited to, the following situations:

1. During the preparation of a site for the placement of fills which exceed five feet in depth on slopes which exceed ten (10) percent and during the placing of such fills; however, for vehicular pathways, fill placement shall be continuously inspected when fills exceed ten (10) feet in height;
2. During the preparation of a site for the placement of any fill which is intended to support any building or structure when the fill exceeds three feet in depth;
3. During the installation of subsurface drainage facilities.

B. Reports filed by the private geotechnical engineer or civil engineer regarding special inspection shall state in writing that from his or her personal knowledge the work performed during the period covered by the report has been performed in substantial accordance with the approved plans and specifications.

C. The use of a private geotechnical engineer or civil engineer for inspections shall not preclude the community development resource agency from conducting personal inspections or from authorizing inspections by other qualified inspectors as may be necessary. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

#### **15.48.430 Noncompliance notification by private geotechnical engineer or civil engineer.**

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The permittee shall cause the work to be done in accordance with the approved plans. If during the course of construction the private geotechnical engineer or civil engineer finds that the work is not being done substantially in accordance with the approved plans and specifications, he or she shall immediately notify the person in charge of the work and the community development resource agency of the nonconformity and the corrective measures to be taken. When changes in the plans are required, he or she shall prepare or cause to be prepared such proposed changes and submit them to the community development resource agency for approval. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

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#### **15.48.440 Periodic progress reports by private geotechnical engineer or civil engineer.**

As a condition of the report, periodic progress reports shall be rendered by the private geotechnical engineer or civil engineer as required by the community development resource agency including, but not limited to, laboratory tests, slope stability, placement of materials, retaining walls, drainage, utilities and any special permit or plan requirements. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

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#### **15.48.450 Progress report by permittee.**

Periodic progress reports shall be rendered by permittee on specified calendar dates and at commencement and completion of major key grading and erosion and sediment control operations. The dates of operations upon which such reports are required and their content shall be as required by the community development resource agency in the permit. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

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#### **15.48.460 Record drawings.**

Permittee shall submit to the community development resource agency a record drawing of the grading plan following completion of the work. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

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#### **15.48.470 Performance of work—Inspection/certification.**

The community development resource agency may inspect any work or require certification by private engineer of any work done under a grading permit. No permittee shall be deemed to have complied with this article unless one of the following has occurred:

- A. A final inspection approval has been issued by the community development resource agency; or
- B. Submittal of certification of completion by the civil engineer, or the geotechnical engineer of record, has been accepted by the community development resource agency; or
- C. The final inspection has been waived in writing by the community development resource agency.

The permittee shall provide adequate access to the site for inspection by the community development resource agency during the performance of all work and for a minimum period of one year after completion of the work.

If the engineer of record is changed during the grading, the work shall be stopped until the replacement has agreed in writing to accept their responsibility within the area of technical competence for approval upon completion of the work. It shall be the duty of the permittee to notify the agency director in writing of such change prior to the recommencement of such grading. (Ord. 5407-B § 14, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

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#### **15.48.480 Other responsibilities of permittee.**

The permittee shall also be responsible for the following:

A. Protection of Utilities. The permittee shall be responsible for the prevention of damage to any public utilities or services.

B. Protection of Adjacent Property. The property owner is responsible for the prevention of damage to adjacent property. No person(s) shall excavate on land sufficiently close to the property line to endanger any adjoining public street, sidewalk, alley or other public or private property, or easement, without supporting and protecting such property from damage which might result.

C. Advance Notice. The permittee shall notify the community development resource agency at least twenty-four (24) hours prior to the start of work.

D. Erosion and Sediment Control. It shall be the responsibility of the permittee to control discharge of sediment from the site to any watercourse, drainage system, or adjacent property and to protect watercourses and adjacent properties from damage by erosion, flooding or deposition which may result from the permitted grading.

E. Hazardous Materials Control. It shall be the responsibility of the permittee to prevent discharge of hazardous materials from the site to any watercourse, drainage system, or adjacent property, and to protect watercourses and adjacent properties by hazardous materials, which may result from, permitted grading. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

## **Part 6. Design Standards**

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### **15.48.490 Excavation.**

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Excavations shall be constructed or protected so that they do not endanger life or property. (Ord. 5056- B, 2000)

### **15.48.500 Excavation slope.**

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The slope of cut surfaces of permanent excavations shall not be steeper than two horizontal to one vertical exclusive of terraces and exclusive of rounding described herein. Steeper slopes will be permitted in competent bedrock provided such slope inclinations are in accordance with recommendations contained in the geotechnical or geological report. The bedding planes, foliation planes or principal joint sets in any formation when dipping towards the cut face shall not be daylighted by the cut slope unless the soils and geologic investigations contain recommendations for steeper cut slopes. Cut slopes shall be rounded into the existing terrain to produce a contoured transition from cut face to natural ground. (Ord. 5056- B, 2000)

### **15.48.510 Fill placement.**

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Fills shall be constructed in layers. The loose thickness of each layer of fill material before compaction shall not exceed eight inches. Completed fills shall be stable masses of well-integrated material bonded to adjacent materials and to the materials on which they rest. Fills shall be competent to support anticipated loads and be stable at the design slopes shown on the plans. Proper surface and subsurface drainage and other appropriate measures shall be taken to ensure the continuing integrity of fills. Earth materials shall be used which have no more than minor amounts of organic substances and have no rock or similar irreducible material with a maximum dimension greater than twelve (12) inches. Larger material may be used with the approval of the community development resource agency and the geotechnical engineer. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

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**15.48.520 Fill compaction.**

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All fills shall be compacted throughout their full extent to a minimum of ninety (90) percent of maximum density as determined by the appropriate Caltrans standard method or other alternate methods approved by the community development resource agency. Tests to determine the density of compacted fills shall be made on the basis of not less than one test for each two-foot vertical lift of the fill but not less than one test for each one thousand (1,000) cubic yards of material placed. Additional density tests at a point approximately one foot below the fill slope surface shall be made on the basis of not less than one test for each one thousand (1,000) square feet in slope surface but not less than one test for each ten (10) foot vertical increase of slope height. All tests shall be reasonably uniformly distributed within the fill or fill slope surface. Results of such testing and location of tests shall be presented in the periodic and final reports. Compaction may be less than ninety (90) percent of maximum density, as determined by the above test, within six inches of the slope surface when such surface material is placed and compacted by a method acceptable to the community development resource agency for the planting of the slopes. Compaction of temporary stockpile fills, to be used for a period of not greater than six months, shall not be required, except where the community development resource agency determines that compaction is necessary as a safety measure to aid in preventing saturation, sliding, or erosion of the fill. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

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**15.48.530 Ground preparation for fill placement.**

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The natural ground surface shall be prepared to receive fill by removing vegetation, noncomplying fill, top soil, and other unsuitable material, and where slopes are six horizontal to one vertical or steeper, by benching into competent material in a manner acceptable to the community development resource agency. The keyway under the toe, if specified, shall be at least fifteen (15) feet wide. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

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**15.48.540 Fill slopes.**

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The slope of permanent fills shall not be steeper than two horizontal to one vertical exclusive of terraces and exclusive of roundings described herein, unless a soils report supports a steeper slope, but shall not exceed one and one-half horizontal to one vertical unless the fill is reinforced as recommended by the geotechnical engineer. The community development resource agency may require that the fill be constructed with an exposed surface flatter than two horizontal to one vertical or may require such other measures as he or she deems necessary for stability and safety. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

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**15.48.550 Adjacent structures protection.**

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Footings which may be affected by any excavation shall be underpinned or otherwise protected against settlement and shall be protected against lateral movement. Fills or other surcharge loads shall not be placed adjacent to any building or structure unless such building or structure is capable of withstanding the additional loads caused by such fill or surcharge. The rights of coterminous owners shall be as set forth in Section 832 of the Civil Code of the state of California. (Ord. 5056- B, 2000)

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**15.48.560 Setbacks—General.**

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Unless otherwise recommended in a soil or geologic investigation report, Appendix 33 of the latest county adopted version of the Uniform Building Code shall be used for establishing setbacks for property boundaries, buildings and structures other than fences and retaining walls. (Ord. 5407-B § 15, 2006; Ord. 5056- B, 2000)

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**15.48.570 Drainage—General.**

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Any drainage structure(s) or device(s) carrying surface water runoff required by this article shall be designed and constructed in accordance with standards herein, the current Placer County flood control and water conservation district stormwater management manual and criteria authorized by the agency director. (Ord. 5407-B § 16, 2006; Ord. 5056- B, 2000)

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**15.48.580 Drainage discharge requirements.**

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All drainage facilities shall be designed and engineered to carry surface and subsurface waters to the nearest adequate street, storm drain, natural watercourse, or other juncture. (Ord. 5373- B, 2005; Ord. 5056- B, 2000)

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**15.48.590 Drainage—Water accumulation.**

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All areas shall be graded and drained so that drainage will not cause erosion or endanger the stability of any cut or fill slope or any building or structure. (Ord. 5056- B, 2000)

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**15.48.600 Drainage protection of adjoining property.**

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When surface drainage is discharged onto any adjoining property, it shall be discharged in such a manner that it will not cause erosion or endanger any cut or fill slope or any building or structure. (Ord. 5056- B, 2000)

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**15.48.610 Terrace drainage.**

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Terraces at least eight feet in width shall be established at not more than twenty-five (25) feet in height intervals for all cut and fill slopes exceeding thirty (30) feet in height. Where only one terrace is required, it shall be at approximately mid-height. Suitable access shall be provided to permit proper cleaning and maintenance of terraces and terrace drains. Swales or ditches on terraces shall have a minimum depth of one foot, a minimum longitudinal grade of four percent, a maximum longitudinal grade of twelve (12) percent. Down-drains or drainage outlets shall be provided at approximately three hundred (300) foot intervals along the drainage terrace. Down-drains and drainage outlets shall be of approved materials and of adequate capacity to convey the intercepted waters to the point of disposal. If the drainage discharges onto natural ground, adequate erosion protection shall be provided. (Ord. 5056- B, 2000)

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**15.48.620 Subsurface drainage.**

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Cut and fill slopes shall be provided with surface and/or subsurface drainage as necessary for stability. (Ord. 5056- B, 2000)

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**15.48.630 Erosion and sediment control.**

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The following shall apply to the control of erosion and sediment from grading operations:

A. Grading plans shall be designed with long-term erosion and sediment control as a primary consideration. Erosion prevention and source control are to be emphasized over sediment controls and treatment.

B. Grading operations shall provide erosion and sediment control measures, except upon a clear demonstration, to the satisfaction of the community development resource agency that at no stage of the work

will there be any substantial risk of increased sediment discharge from the site. Temporary mulch, revegetation, or other stabilization methods shall be applied to areas where permanent revegetation or landscaping cannot be immediately implemented. Unless otherwise exempted in this article, grading activity must be scheduled to ensure completion or winterization by October 15th of each year.

C. Grading activity shall be conducted such that the smallest practicable area of erodible land is exposed at any one time during grading operations and the time of exposure is minimized. Land disturbance shall be limited to the minimum area necessary for construction.

D. Natural features, including vegetation, terrain, watercourses and similar resources shall be protected and preserved wherever possible. Units of grading shall be clearly defined and marked to prevent damage by construction equipment.

E. Permanent vegetation and structures for erosion and sediment control shall be installed as soon as possible.

F. Adequate provision shall be made for effective maintenance of temporary and permanent erosion and sediment control structures and vegetation. Sediment and other construction-related wastes shall be retained and properly managed on the site or properly disposed of off-site.

G. No topsoil shall be removed from the site unless otherwise directed or approved by the community development resource agency. Topsoil overburden shall be stockpiled and redistributed where appropriate within the graded area after rough grading to provide a suitable base for seeding and planting. Runoff from the stockpiled area shall be controlled to prevent erosion and resultant sedimentation of receiving water.

H. Runoff shall not be discharged from the site in quantities or at velocities substantially above those which occurred before grading except into drainage facilities, whose design has been specifically approved by the community development resource agency.

I. The permittee shall take reasonable precautions to ensure that vehicles do not track or spill earth materials into public streets and shall immediately remove such materials if this occurs.

J. All cut and fill slopes shall be adequately stabilized to prevent erosion and failure through temporary and permanent means.

K. Control measures shall be employed to prevent transport of dust off the project site or into any drainage course or water body. (Ord. 5407-B § 17, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

#### **15.48.640 Emergency conditions.**

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Should increased sediment discharge occur or become imminent, the permittee shall take all necessary steps to control or reduce such discharge. Such steps may include construction of additional facilities or removal or alteration of facilities required by approved erosion and sediment control plans. Facilities removed or altered shall be restored as soon as possible afterward or appropriate changes in the plan shall be immediately required pursuant to this article. The permittee shall take prompt action to resolve emergency problems; otherwise the community development resource agency may institute abatement proceedings pursuant to provisions of Section 15.48.700(B) of this article. (Ord. 5407-B § 18, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

#### **15.48.650 Erosion and sediment control plans.**

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Erosion and sediment control plans prepared pursuant to this article shall comply with all of the following:

A. The erosion and sediment control plan need not be a separate sheet if all facilities and measures can be shown on the grading sheets without obscuring the clarity of either the grading plan or the erosion and sediment control plan.

B. An erosion and sediment control plan shall be required whenever:

1. The graded portion of the site includes more than ten thousand (10,000) square feet of area having a slope greater than ten (10) percent;
2. Clearing and grubbing of areas of one acre or more regardless of slope;
3. There is a significant risk that more than two thousand five hundred (2,500) square feet will be unprotected or inadequately protected from erosion during any portion of the rainy season;
4. Grading will occur within fifty (50) feet of any watercourse;
5. The community development resource agency determines that the grading will or may pose a significant erosion, or sediment discharge hazard for any reason; or
6. The site is located within the Tahoe Basin.

C. Except as provided in Section 15.48.120 of this article, sediment and erosion control measures must be in place or be capable of being placed within twenty-four (24) hours, in the opinion of the agency director, by October 15th. The agency director may require suspension of any and all grading activities between October 15 and May 1 without prior notice.

D. The applicant shall submit with the erosion and sediment control plans a detailed cost estimate covering this work.

E. Erosion and sediment control plans shall include an effective revegetation program to stabilize all disturbed areas, which will not be otherwise protected. All such areas where grading has been completed between April 1 and October 15 shall be planted by November 1st. Graded areas completed at other times of the year shall be planted within fifteen (15) days. If revegetation is infeasible or cannot be expected to stabilize an erodible area with assurance during any part of the rainy season and the unstable area exceeds two thousand five hundred (2,500) square feet, additional erosion and sediment control measures or irrigation of planted slopes may be required as appropriate to prevent increased sediment discharge.

F. Erosion and sediment control plans shall be designed to prevent increased discharge of sediment at all stages of grading and development from initial disturbance of the ground to project completion. Every feasible effort shall be made to ensure that site stabilization is permanent. Plans shall indicate the implementation period and the stage of construction where applicable.

G. Erosion and sediment control plans shall comply with the recommendations of the responsible civil engineer, geotechnical engineer, engineering geologist, or landscape architect involved in preparation of the grading plans.

H. The structural and hydraulic adequacy of all stormwater containment or conveyance facilities shown on the erosion and sediment control plans shall be verified by a civil engineer, and he or she shall so attest on the plans. Sufficient calculations and supporting material to demonstrate such adequacy shall accompany the plans when submitted.

I. Erosion and sediment control plans shall be designed to meet anticipated field conditions.

J. Erosion and sediment control plans shall provide for inspection and repair of all erosion and sediment control facilities at the close of each working day during the rainy season and for specific sediment cleanout and vegetation maintenance criteria.

K. Erosion and sediment control plans shall comply with any and all standards and specifications adopted herein for the control of erosion and sedimentation on grading sites. These standards and specifications shall be in general compliance with the current Erosion and Sediment Control Guidelines for Developing Areas of the Sierras, published by the High Sierra Resource Conservation District. (Ord. 5407-B § 19, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

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**15.48.660 Vehicular ways—General.**

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Vehicular ways shall conform to the grading requirements of this article. (Ord. 5056- B, 2000)

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**15.48.670 Vehicular ways—Drainage.**

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Vehicular ways shall be graded and drained in such a manner that will not allow erosion or endanger the stability of any adjacent slope. Surface discharge onto adjoining property shall be controlled in such a manner that it does not cause erosion or endanger existing improvements. Bridges and culverts installed in watercourses may be reviewed by the Placer County Flood Control and Water Conservation district and must be approved by the agency director and any other required permitting agency. (Ord. 5407-B § 20, 2006; Ord. 5056- B, 2000)

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**Part 7. Improvement Security**

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**15.48.680 Security required.**

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A. As a condition for the issuance of a permit, the community development resource agency may require the deposit of improvement security in sufficient amount deemed necessary to assure performance of the work in the event of default on the part of permittee or, in the case of a subdivision, where the permittee does not proceed with preparation and obtaining the approval of a final map. Such security shall be in a form acceptable to Placer County.

B. In the case of subdivisions, the improvement security shall remain in effect until final inspections have been made of all grading work and the board of supervisors of Placer County has accepted the subdivision improvements.

C. For projects other than subdivisions, the improvement security shall remain in effect until final inspections have been made and all grading work has been approved by the community development resource agency.

D. In addition to the improvement security, the community development resource agency may also require the deposit of maintenance security in sufficient amount deemed necessary to guarantee and maintain the grading work and to assure the proper functioning of drainage systems and adequate erosion and sedimentation control. Such maintenance security shall be in a form acceptable to Placer County and shall remain in effect for a period of one year after the date of acceptance of the improvements as designated in subsections B and C of this section.

E. Any deposit required by the community development resource agency pursuant to this article shall be payable to the Placer County community development resource agency.

F. Upon satisfaction of applicable provisions of this article, the improvement and maintenance security deposits will be released. However, upon failure to complete the work, failure to comply with all of the terms of the permit, or failure of the completed site to function properly to provide proper drainage or erosion and sedimentation control, the county may do the required work, or cause it to be done and collect from the permittee or surety all costs incurred thereto, including administrative, inspection and legal costs. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

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**Part 8. Enforcement**

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**15.48.690 Violations.**

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Failure to comply with the following shall constitute a violation of this article:

A. All orders issued by the community development resource agency pursuant to the provisions of this article;

- B. All conditions placed on grading permits;
- C. All rules and regulations of Placer County. (Ord. 5407- B, 2006; Ord. 5373- B, 2005; Ord. 5056- B, 2000)

### **15.48.700 Nuisance.**

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A. Established Nuisances Per Se. The board of supervisors of Placer County ordains that the following violations of this article constitute public nuisances:

- 1. A violation has altered natural drainage patterns and has or will cause flooding to adjacent property; or
- 2. A violation has created a threat to public health, safety or welfare.

B. Nuisance Abatement Procedure. In accordance with California Government Code Section 25845, the Placer County board of supervisors establishes the procedure for abatement of a nuisance. Upon the discovery of a nuisance, county staff shall comply with the following procedures:

1. Upon discovery of a nuisance, the owner of the parcel, and anyone known to be in possession of the parcel shall be given notice of the nuisance abatement proceeding. The notice shall provide for an opportunity to appear and be heard before the board of supervisors prior to the abatement of the nuisance by county.

2. Notwithstanding the foregoing, nothing in this article shall prohibit the summary abatement of a nuisance upon order of the board of supervisors, or upon order of any other county officer authorized by law to summarily abate nuisances, if the board or officer determines that the nuisance constitutes an immediate threat to public health or safety.

3. In any action to abate a nuisance, whether by administrative proceedings, judicial proceedings or summary abatement, the owner of the parcel upon which the nuisance is found to exist shall be liable for all costs of abatement incurred by the county, including, but not limited to, administrative costs, and any and all costs incurred in abatement of nuisance. Recovery of costs pursuant to this subsection shall be in addition to and shall not limit any prevailing party's right to recover costs pursuant to Sections 1032 and 1033.5 of the Code of Civil Procedure or any other provision of law. A prevailing party may also recover attorneys' fees in any action, administrative proceeding, or special proceeding to abate a nuisance, if the county elects at the initiation of the individual action or proceeding, to seek recovery of its own attorneys' fees. In no action, administrative proceeding, or special proceeding shall an award of attorneys' fees to a prevailing party exceed the amount of reasonable attorneys' fees incurred by the county in the action or proceeding.

4. If the property owner fails to pay the costs of the abatement upon demand by the county, the board of supervisors may order the cost of the abatement to be specially assessed against the parcel. The assessment may be collected at the same time and in the same manner as ordinary county taxes are collected, and shall be subject to the same penalties and the same procedure and sale in case of delinquency as are provided for ordinary county taxes. All laws applicable to the levy, collection, and enforcement of county taxes shall be applicable to this special assessment.

5. If the board of supervisors specially assesses the cost of the abatement against the parcel, the board also may cause a notice of abatement lien to be recorded. The notice shall, at a minimum, identify the record owner or possessor of property, set forth the last known address of the record owner or possessor, set forth the date upon which abatement of the nuisance was ordered by the board of supervisors and the date the abatement was complete, and include a description of the real property subject to the lien and the amount of the abatement cost.

However, if the board of supervisors does not cause the recordation of a notice of abatement lien pursuant to subsection (B)(5) of this section, and any real property to which the costs of abatement relates has been transferred or conveyed to a bona fide purchaser for value, or a lien on a bona fide encumbrance for value has been created and attaches to that property, prior to the date on which the first installment of county taxes would

become delinquent, then the cost of abatement shall be transferred to the unsecured roll for collection.

6. Recordation of a notice of abatement lien pursuant to subsection (B)(5) of this section, has the same effect as recordation of an abstract of a money judgment recorded pursuant to Article 2 (commencing with Section 697.310) of Chapter 2 of Division 2 of Title 9 of Part 2 of the Code of Civil Procedure. The lien created has the same priority as a judgment lien on real property and continues in effect until released. Upon order of the board of supervisors, or any other county officer authorized by the board of supervisors to act upon its behalf, an abatement lien created under this section may be released or subordinated in the same manner as a judgment lien on real property may be released or subordinated.

7. The board of supervisors may delegate the hearing required by subsection (B)(1) of this section prior to abatement of a public nuisance, to a hearing board designated by the board of supervisors. The hearing board shall make a written recommendation to the board of supervisors. The board of supervisors may adopt the recommendation without further notice of hearing, or may set the matter for a de novo hearing before the board of supervisors.

8. The board of supervisors may, by ordinance, delegate to a hearing officer appointed pursuant to Government Code Section 27720 the powers and duties specified by this section.

C. Upon entry of a second or subsequent civil or criminal judgment within a two-year period finding that an owner of property is responsible for a condition that may be abated in accordance with this article enacted pursuant to California Government Code Section 25845, except for conditions abated pursuant to Section 17980 of the health and safety code, the court may order the owner to pay treble the costs of the abatement. (Ord. 5056-B, 2000)

#### **15.48.710 Stop work orders.**

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A. Whenever any person is performing work in violation of the provisions of this article, the agency director may issue a written order to the responsible party to stop work on the portion of the work where the violation has occurred or upon which the danger exists. If there are no persons present on the premises, the notice may be posted in a conspicuous place. The notice shall state the nature of the violation.

B. Upon receipt of such stop work order, the person performing the work shall:

1. Stop work immediately; and
2. Within twenty-four (24) hours, provide the agency director with a list of remedies which can be immediately undertaken to bring the work into compliance with this article; and
3. Within twenty-four (24) hours after approval of a remedy by the agency director, undertake, at the violator's sole expense, such action as is necessary to bring the work into compliance with this article.

C. If the responsible party fails to comply with the stop work order served pursuant to this section, the county may use any and all remedies available to it under this article, in law, or in equity, including but not limited to: shutting down all work on the site, performing the corrective work either with county crews or by contract, or arresting the responsible party for violation of this article. (Ord. 5407-B § 20, 2006; Ord. 5056-B, 2000)

#### **15.48.720 Misdemeanor violation.**

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Notwithstanding any other provisions of this code, any person violating any provisions of this article shall be guilty and punishable as provided in Section 1.24.010 of a misdemeanor. Each such person shall be charged with a separate offense for each and every day or portion thereof during which any violation of this article is committed, continued or permitted. Upon conviction of any such violation such person shall be punishable by a fine of not more than one thousand dollars (\$1,000.00) or by imprisonment in the county jail for not more than

six months, or by both such fine and imprisonment. (Ord. 5056- B, 2000)

**15.48.730 Investigation fees/work without a permit.**

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Whenever any work for which a permit is required by this article has been commenced without first obtaining the permit, the agency director shall require an investigation before issuing a permit for such work. In this case, the violator shall be charged for the department's labor and costs incurred during the investigation, in addition to the regular permit fees. (Ord. 5407-B § 22, 2006: Ord. 5056- B, 2000)

**15.48.740 Community development resource agency director delegation.**

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The agency director shall be authorized to delegate any of his or her duties under this article to other county officer(s). (Ord. 5407-B § 23, 2006)

# Appendix – E



## Stormwater Management Plan

## Placer County Stormwater Quality Program

### Description

Placer County is a designated municipal permittee under the U.S. Environmental Protection Agency's National Pollutant Discharge Elimination System (NPDES), which regulates stormwater flows into natural water bodies. The NPDES regulations require permitted areas to implement specific activities and actions to eliminate or control stormwater pollution. Under the Phase I NPDES program, Placer County shares a permit with El Dorado County and the City of South Lake Tahoe for the Lake Tahoe watershed area. Under the Phase II NPDES program Placer County is permitted in the western county area (including Foresthill and Colfax) and in the Truckee River Basin.

The goal of the stormwater quality program is:

- To reduce pollutants in stormwater runoff
- Eliminate non-stormwater discharges
- Lessen the long-term impacts of stormwater discharges from development, business and municipal activities.
- Educate the public about stormwater impacts
- [Map of NPDES Phase I and Phase II Permit Areas](#)

### I'm Looking for Information on:

- [Reporting a water quality concern](#)
- Water quality requirements for construction
  - [State Construction General Permit and SWPPP requirements](#) (pdf 2.3 Mb)
  - [Placer County Stormwater Quality Ordinance](#)
  - [Placer County Grading Ordinance](#)
  - [Tahoe Basin Construction Permit](#)
- Placer County's Stormwater Quality Program
  - [Map of Municipal Phase 1 and Phase 2 Permit Areas](#)
  - [West County and Truckee Municipal Permit](#)
  - [Tahoe Basin Municipal Permit](#)
  - [Placer County Stormwater Quality Ordinance](#)
- Water Quality Monitoring
  - [Truckee River Water Quality Monitoring Program](#)
- [Education and Outreach](#)
- Additional resources
  - Fun for Kids
    - [State Water Board Games and Activities](#)
    - [EPA - Kid's Page](#)
  - State/Federal
    - [State Construction General Permit and SWPPP requirements](#) (pdf 2.3 Mb)
    - [Caltrans](#)
    - [EPA Region 9](#)
    - [State Water Resource Control Board \(SWRCB\) \(Main Page\)](#)
    - [State Water Resource Control Board \(SWRCB\) \(Stormwater Information\)](#)
    - [State Water Resource Control Board \(SWRCB\) including Attachment 4](#)
    - [State Water Board Stormwater Definitions](#)
    - [Central Valley Regional Water Quality Control Board](#)
    - [Lahontan Regional Water Quality Control Board](#)
    - [Federal Environmental Protection Agency \(EPA\) Office of Water](#)
  - Cities and Counties:
    - [Sacramento County](#)
    - [City of Sacramento](#)
    - [City of Auburn](#)
    - [City of Lincoln](#)

- [Town of Loomis](#)
- [Town of Truckee](#)
- [City of Rocklin](#)
- [City of Roseville](#)
- [El Dorado County](#)
- [City of South Lake Tahoe](#)
- Materials and resources
  - [California Stormwater Quality Association \(CASQA\) Best Management Practices Handbook](#)
  - [Low Impact Development \(LID\) Guidebook](#)
  - [APWA News](#)
  - [EPA Training](#)
  - [Water Boards Education](#)
  - [Landscape Product Fact Sheets](#)
  - [Stormwater Journal](#)
  - [International Stormwater BMP database](#)
  - [Construction BMP List](#) (pdf 15 Kb)
  - [River Friendly Landscaping](#)
  - [Vegetation Establishment Guidelines for the Sierra Nevada Foothills and Mountains](#) (784 Kb)
- Miscellaneous Sites
  - [Federal Water Pollution Control Act](#)
  - [Tahoe Regional Planning Agency \(TRPA\)](#)
  - [California State University at Sacramento](#)
  - [California Stormwater Quality Association \(CASQA\) Stormwater Best Management Practice Handbooks](#)
  - [Sacramento County and South Placer Design Manual](#) (pdf 8.96 Mb)
  - [River Friendly Car Washing](#)
  - [Car Wash Fund Raising Option](#)
  - [Placer Nature Center](#)
  - [STAR ECO Station: Environmental Science Museum & Exotic Wildlife Rescue Facility](#)
  - [Placer County Resource Conservation District](#)
  - [Creek Watch – Citizen Science App](#)
- [Frequently Asked Questions \(FAQ's\)](#)
- [Training opportunities and events](#)

Pdf files require the [Adobe Acrobat Reader](#) to view and print

## Contact Placer County Stormwater Quality Program

### Email

[Stormwater Quality Program](#)

### Mailing Address

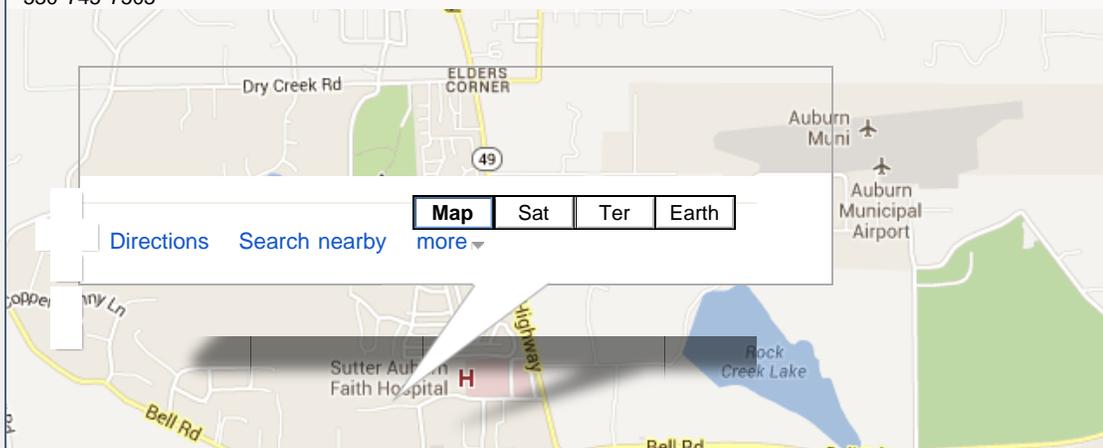
Placer County Floodplain Management  
3091 County Center Drive, Suite 220  
Auburn, CA 95603

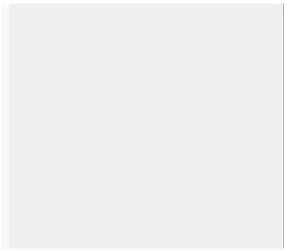
### Office Address

Placer County Floodplain Management  
3091 County Center Drive, Suite 220  
Auburn, CA 95603

### Phone

530-745-7503





- Home
- Residents
- Business
- Visitors
- Online Services
- Board of Supervisors
- Administration
- Emergency

County Government

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# Appendix – F

## **Ten Things You Can Do to Prevent Stormwater Runoff Pollution**

- ⇒ Never dump anything down storm drains or into waterways.
- ⇒ Use fertilizers, herbicides, and pesticides sparingly; don't overwater your lawn.
- ⇒ Take your car to the car wash instead of washing it in the driveway.
- ⇒ Dispose of used auto fluids and batteries at designated drop-off or recycling locations. Use an absorbent like kitty litter or sand to soak up oil and antifreeze spills. Sweep up the mixture, bag it and place it in the garbage.
- ⇒ Pick up after your pet; dispose of waste in a trash receptacle.
- ⇒ Have your septic tank professionally inspected every 3 years and pumped regularly (every 3-5 years).
- ⇒ Prevent soil erosion, vegetate bare spots and avoid overgrazing of horses and livestock.
- ⇒ During construction activities, minimize disturbed areas, stabilize slopes, avoid disturbing natural channels and limit the amount of dirt tracked out of the project site.
- ⇒ Cover piles of loose landscaping materials, such as sand, bark and dirt.
- ⇒ Do not disturb vegetation or soil in and around natural waterways.



## **View our other informational brochures:**

### Homeowners:

- ⇒ Homeowners Information
- ⇒ Best Management Practices for Homeowners
- ⇒ Used Oil/Household Hazardous Waste

### Construction:

- ⇒ Best Management Practices for the West Slope/ Truckee River Watershed
- ⇒ Best Management Practices for the Tahoe Basin
- ⇒ Construction Processes for Stormwater Quality Protection

### Post-Construction:

- ⇒ BMP Sizing

### Business/Industrial:

- ⇒ Stormwater Compliance for Automotive Businesses
- ⇒ Retail and Non-Retail Gasoline Outlets
- ⇒ Best Management Practices for Mobile Cleaners
- ⇒ Tips for Using Concrete and Mortar
- ⇒ Landscaping, Gardening and Pest Control for Businesses
- ⇒ Stormwater Pollution Prevention for the Food Service Industry
- ⇒ Car Washing Best Management Practices
- ⇒ Portable Toilet Companies

### **Available on our website:**

<http://www.placer.ca.gov/Stormwater>

**To Report a Water Quality Issue:  
Call (530) 745-7555**



# PLACER COUNTY'S STORMWATER QUALITY PROGRAM



Public Information Brochure

April 2013

The goal of Placer County's Stormwater Quality Program is to protect the health of all of the County's creeks, streams, rivers, and lakes.



Placer County is subject to Federal and State regulations for Stormwater Quality. The regulations are incorporated into Placer

County's Stormwater Quality Program which includes educational outreach to inform members of the public and businesses of the effects of their activities, controls on construction activities, standards for design of new developments, and a program to assure that County operations themselves are clean. County Ordinance 8.28 effectively prohibits the disposal of anything except clean water into our ditches, creeks, and streams. The County implements the program countywide. The cities of Auburn, Colfax, Lincoln, Loomis, Rocklin, and Roseville, each have their own separate permits. The County has three state permitted areas: Tahoe, Truckee, and Western Placer. In addition, the County has a water quality monitoring plan for the Truckee River Watershed which requires ongoing monitoring in Martis Creek, Squaw Valley, Alpine Meadows, and the Truckee River.

### ***Impacts of Stormwater Discharges on Water Bodies***

#### ***What is stormwater runoff?***

Stormwater runoff occurs when precipitation from rain or snowmelt flows over the ground. Impervious surfaces like driveways, sidewalks, and roads prevent stormwater from naturally soaking into the ground.

#### ***Why is stormwater runoff a problem?***

Stormwater can pick up debris, chemicals, dirt, and other pollutants and rapidly flow in large quantities into a storm drain system or directly to a lake, stream, river or wetland.

**Stormwater is not treated and flows directly into natural waterways. Contaminants harm fish and wildlife and pollute the water we use for swimming, fishing, and providing drinking water.**

#### ***Non-Stormwater Discharges:***

Pollutants such as motor oil, grease, automotive fluids, pesticides, fertilizers, pet wastes, sediment, and litter can have many adverse effects on plants, fish, animals and people.

Household hazardous wastes such as insecticides, pesticides, paint, solvents, used motor oil and other auto fluids can poison aquatic life. People and wildlife can become sick or die from eating diseased fish and shellfish or ingesting polluted water.



Sediment can cloud the water and make it difficult or impossible for salmon to spawn and aquatic plants to grow.

Debris such as plastic bags, six-pack rings, bottles and cigarette butts can choke, suffocate or entangle aquatic life like fish, turtles and birds.



Bacteria and other pathogens can wash into swimming areas and create health hazards.

Excess nutrients can cause algae blooms. When algae die, they sink to the bottom and decompose in a process that removes oxygen from the water. Fish and other aquatic organisms cannot exist in water with low dissolved oxygen levels.

#### ***Contact Information:***

**Stormwater Quality Program**  
**(530) 745-7557**  
**[stormwtrquality@placer.ca.gov](mailto:stormwtrquality@placer.ca.gov)**  
**3091 County Center Drive, Suite 220,**  
**Auburn, CA 95603**  
**<http://www.placer.ca.gov/Stormwater>**

#### ***Other Program Information:***

**Household Hazardous Waste Disposal**  
**and Recycling Information**  
**(916) 543-3960**  
**<http://www.placer.ca.gov/recycle>**

## ***Diez Cosas Que Puedes Hacer para Prevenir Contaminación del Agua de Tormenta***

- ⇒ Nunca deseches nada en los desagües o en canales.
- ⇒ Utilice fertilizantes, herbicidas, y pesticidas escasamente; no sobre riegue su césped.
- ⇒ Lleve su coche al túnel de lavados en vez de lavarlo en la calle.
- ⇒ Disponga de baterías usadas y líquidos de automóvil en una facilidad de disposición o recícelos. Use un absorbente como arcilla granulada o arena, para absorber derrames de anticongelante y petróleo. Recoja la mezcla de arena y líquido, empáquela y colóquela en un basurero.
- ⇒ Recoja los excrementos de sus animales domésticos; y coloque los en un bote de basura.
- ⇒ Profesionalmente inspeccione su fosa séptica cada 3 años y bombéalo con regularidad (cada 3-5 años).
- ⇒ Prevenga la erosión de la tierra, resiembra los puntos secos en su césped y evite sobre pastar los caballos y ganado.
- ⇒ Durante actividades de construcción, minimice interrupción de áreas naturales, establezca cuestas, evite interrumpir canales naturales y limite la cantidad de tierra rastreada del sitio de proyecto.
- ⇒ Cubre los materiales sueltos de jardín, como arena, corteza, y tierra.
- ⇒ No interrumpa la vegetación o el suelo alrededor de canales naturales.



## ***Vea nuestros otros folletos informativos:***

### Propietarios:

- ⇒ Información de Propietarios en Español
- ⇒ Best Management Practices for Homeowners
- ⇒ Used Oil/Household Hazardous Waste

### Construcción:

- ⇒ Best Management Practices for the West Slope/ Truckee River Watershed
- ⇒ Best Management Practices for the Tahoe Basin
- ⇒ Procesos de Construcción para Protección de Calidad Agua de tormenta en Español

### Después de Construcción :

- ⇒ BMP Sizing

### Comercial/Industrial:

- ⇒ Agua de tormenta Compliance for Automotive Businesses
- ⇒ Retail and Non-Retail Gasoline Outlets
- ⇒ Best Management Practices for Mobile Cleaners
- ⇒ Tips for Using Concrete and Mortar
- ⇒ Landscaping, Gardening and Pest Control for Businesses
- ⇒ Prevención de Contaminación de Agua de tormenta para la Industria de Servicio de Comida en Español
- ⇒ Car Washing Best Management Practices
- ⇒ Portable Toilet Companies

### ***Disponible en nuestro sitio Web:***

<http://www.placer.ca.gov/Stormwater>

### **Para Preguntas de Calidad Acuática:**

**Llame (530) 745-7557**



# CONDADO DE PLACER PROGRAMA DE CALIDAD DEL AGUA DE TORMENTA



Folleto de Información Público

Abril 2013

**El objetivo del Programa Calidad de Agua de Tormenta del Condado de Placer es proteger la salud de todos los arroyos, corrientes, ríos, y lagos del**



**Condado.**

El Condado de Placer esta sujeto a regulaciones Federales y Estatales por la Calidad de Agua de Tormenta.

Las regulaciones son incorporadas en el Programa de Condado "Agua de tormenta Quality" que incluye servicio informativo para informar a negocios y miembros del público de los efectos de sus actividades, mandos en actividades de construcción, estándares para el diseño del nuevo desarrollo, y un programa para asegurar que las operaciones del mismo Condado sean limpias. La Ordenanza 8.28 del Condado prohíbe con eficacia la disposición de algo excepto el agua limpia en nuestras zanjas, arroyos, y corrientes. El Condado pone en práctica este programa por todo el condado. Las ciudades de Auburn, Colfax, Lincoln, Loomis, Rocklin, y Roseville también tienen sus propios permisos separados. El Condado tiene tres áreas con permiso estatal: Tahoe, Truckee, y Placer Occidental. Además, el Condado tiene un plan de supervisión de calidad acuático para la Línea divisoria de aguas del Río Truckee que requiere la supervisión en curso en el Arroyo Martis, Squaw Valley, Alpine Meadows y el Río Truckee.

### ***Impactos de Descargas de Agua de Tormenta en Cuerpos Acuáticos***

#### ***¿Que es el escurrimiento de agua de tormenta?***

El escurrimiento de agua de tormenta ocurre cuando la precipitación de lluvia o deshielo fluye sobre la tierra. Las superficies impermeables como banquetas, aceras, y caminos previenen el agua de tormenta que empape naturalmente en la tierra.

#### ***¿Por qué es un problema el escurrimiento de agua de tormenta?***

Agua de tormenta puede recoger escombros, productos químicos, tierra, y otros contaminadores y rápidamente fluir en cantidades grandes en un sistema de desagüe de tormenta o directamente a un lago, arroyo, río o pantano. **Agua de tormenta no esta tratada y fluye directamente en canales naturales. Los contaminantes dañan al pescado y fauna y contaminan el agua que usamos para natación, pesca, y agua potable.**

#### ***Otros tipos de descargas:***

Los contaminadores, como petróleo de motor, grasa, fluidos automovilísticos, pesticidas, fertilizantes, excremento de animales, sedimento, y basura pueden tener muchos efectos adversos en plantas, pescado, animales y la gente. La residuos domésticos peligrosos como insecticidas, pesticidas, pintura, solventes, petróleo de motor usado y otros fluidos automovilísticos pueden envenenar la vida acuática. La gente y la fauna pueden enfermarse o morir por comer pescados y mariscos enfermos o ingerir el agua contaminada.



El sedimento puede anublar el agua y hacerla difícil o imposible para que desovaren los el salmones y para que crezcan las plantas acuáticas.

Los escombros, como bolsas de plástico, anillos plásticos de caja de seis, botellas y colillas pueden atascar, asfixiar o enredar la vida acuática como los pescados, tortugas y aves.



Las bacterias y otros patógenos pueden fluir en áreas nadadoras y crear peligros para la salud. Los nutrientes excedentes pueden causar flores de algas. Cuando las algas mueren, se hunden al fondo y se descomponen en un proceso que quita el oxígeno del agua. El pescado y otros organismos acuáticos no pueden existir en el agua con niveles de oxígeno disueltos bajos.

#### ***Información de Contacto:***

**Stormwater Quality Program**  
**(530) 745-7557**  
**stormwtrquality@placer.ca.gov**  
**3091 County Center Drive, Suite 220,**  
**Auburn, CA 95603**  
**<http://www.placer.ca.gov/Stormwater>**

#### ***Otra Información de Programa:***

**Información de Reciclaje y Eliminación de desechos peligrosos**  
**(530) 745-2300**  
**3091 County Center Drive, Suite 230,**  
**Auburn, CA 95603**  
**[http://www.placer.ca.gov/Departments/hhs/env\\_health.aspx](http://www.placer.ca.gov/Departments/hhs/env_health.aspx)**

## Stormwater Pollution

The goal of Placer County's Stormwater Quality Program is to protect the health of all of the County's creeks, streams, rivers, and lakes.

### What is stormwater runoff?

Stormwater runoff occurs when precipitation from rain or snowmelt flows over the ground. Impervious surfaces like driveways, sidewalks, and roads prevent stormwater from naturally soaking into the ground.

### Why is stormwater runoff a problem?

As rainwater flows over driveways, lawns, and sidewalks, it picks up debris, such as chemicals, dirt, pet waste and other pollutants. These pollutants flow into the storm drain system. Unlike water in sanitary sewers, anything that enters a storm drain flows directly to natural water bodies like lakes, rivers, and streams without being treated. Contaminants harm fish and wildlife and pollute the water we use for swimming, fishing, and drinking.

**Discharge of pollutants into the storm drainage system or surrounding water bodies is prohibited. Release of any 'non-stormwater' discharge is illegal.**

(County Ordinance Ch 8.28 found at <http://qcode.us/codes/placercounty/>)



### To report a water quality problem

Call the Placer County Stormwater Quality at (530) 745-7500

Or Email:  
[stormwtrquality@placer.ca.gov](mailto:stormwtrquality@placer.ca.gov)



### Placer County Department of Public Works Stormwater Quality Division

3091 County Center Drive, Suite 220  
Auburn CA, 95603

Phone: (530) 745-7500

Or visit us on the web at  
<http://www.placer.ca.gov/Departments/Works/StrmWtr.aspx>

## Placer County Stormwater Quality Division



## Best Management Practices for Snow Removal

*Tips to help you prevent  
water pollution.*

March 2010

# Best Management Practices for Snow Removal

## Snow Storage

Snow that collects on roads is often full of contaminants such as sand, gravel, oil, antifreeze, broken pavement and garbage. Dumping contaminated snow into lakes, rivers and other waterbodies is the same as dumping contaminated rainwater into those waterways. You would never put wastes or pollutants into lakes or streams, so don't let them enter the storm drains. Plan ahead for snow storage and techniques to keep it from impacting our waterways. Follow these easy tips to help prevent water pollution while removing snow.



## Best Management Practices

Snow storage should be located such that dirty snow melt will not be washed into drainage ditches, wetlands or streams. If snow melt will go into drainage install temporary filtering barriers (such as BioBags, *not* straw bales) at appropriate intervals in ditches to slow down water and allow sediments to settle.

Snow that falls on residential, commercial, and industrial lands should be maintained on-site.

Have a buffer zone around streams or wetlands. A buffer should be:

⇒ 50-100 ft around a wetland or waterbody, depending on slope steepness, quality of

buffer zone, and size and nature of wetland or waterbody.

⇒ The buffer can be maintained in a naturally vegetated state, incursions into it will affect only 25% or less of its area over time.



**There is a difference between your sink drain and the storm drain...**

*The Sanitary Sewer System, connected to your sinks, toilets, and floor drains, collects and treats wastewater prior to releasing it back into the environment.*

*The Storm Drainage System, found in streets, parking lots, and roadside ditches, drains directly to local waterways with no treatment.*

**Remember:**

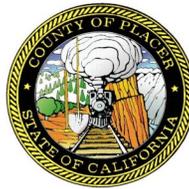
- ◆ Pollutants left open to the environment wash directly into the storm drainage system.
- ◆ Allowing pollutants to enter the storm drainage system harms the environment and is also illegal.

**Employee Training**

- ◆ Train all employees upon hiring and each year thereafter.
- ◆ Post these Best Management Practices where employees can see them.
- ◆ Mark storm drain openings with a message that discourages illegal dumping, such as "No dumping! Flows to Creek."

**For more information...**

- City of Auburn Public Works:  
(530) 823-4211
- City of Lincoln Public Works:  
(916) 434-2450
- Town of Loomis Public Works:  
(916) 652-1848
- City of Rocklin Public Services:  
(916) 625-5500
- City of Roseville Environmental Utilities:  
(916) 774-5700
- Placer County Environmental Health/Food Facility Inspections: (530) 745-2300
- CASQA (California Stormwater Quality Association): <http://www.casqa.org>



**Placer County Stormwater Quality Division**

3091 County Center Drive, Suite 220  
Auburn, CA 95603

(530) 745-7557

[stormwtrquality@placer.ca.gov](mailto:stormwtrquality@placer.ca.gov)

<http://www.placer.ca.gov/Stormwater>

Stormwater Pollution Prevention for the

**Food Service Industry**



**Placer County  
Stormwater Quality Division**

# Clean Stormwater is Important to All of Us

In recent years, federal and state regulations have been created to protect stormwater quality by requiring local jurisdictions to implement stormwater management programs. These programs must include educational outreach to inform the public and businesses of the effects of their activities on stormwater quality. Local ordinances are being put into place to prohibit the disposal of anything except clean rainwater into storm drainage systems.



The Food Service Industry can introduce pollutants to stormwater runoff that drains to lakes, rivers, and streams. It is essential that your business take the necessary steps, using the Best Management Practices described in this brochure, to prevent pollutants from entering the storm drainage system.

## Best Management Practices

### Grease and Oil

- ◆ Collect grease and oil in covered leak-free bins. Schedule regular pickups with your local rendering service.
- ◆ Never dump grease, oil, sauces, or fats into the sink drain, storm drain, or dumpster. Dumping oil or grease down the sink can cause severe blockages in the sewer.

### Landscaping

- ◆ Minimize use of pesticides and fertilizers. Do not apply in wet weather or allow irrigation to run off.
- ◆ Do not blow, rake, or sweep landscape wastes into the street or gutter.



### Dumpster Waste

- ◆ Provide a containment area for your dumpster that prevents wind and rain from transporting loose trash or liquids to the storm drain.
- ◆ Replace leaky dumpsters. Keep dumpster lid closed when not in use.
- ◆ Avoid overfilling dumpster by regular service pickups.



### Food Waste

- ◆ Wrap food wastes in plastic bags and place them in the dumpster.
- ◆ Meat fat should be collected in a covered, leak-free tallow bin.

### Parking and Storage Areas

- ◆ Keep parking and storage areas free from trash and debris.
- ◆ Keep areas around storm drains clean.

### Spills

- ◆ Train employees to properly clean up spills.
- ◆ Keep clean up materials such as rags, cat litter, and other absorbents handy and accessible. Sweep up or absorb the spill, bag the waste, and place in dumpster.
- ◆ Store cleaning fluids indoors so leaks and spills can't reach the storm drain.

### Wash Water

- ◆ Sweep, vacuum, or mop outdoor areas instead of hosing or pressure washing. Sweep or vacuum parking lots and drive thru areas regularly.
- ◆ Clean equipment under cover and in a contained runoff area. Be sure to use a mop sink that drains to the sanitary sewer when washing equipment. Never pour wash water outside.
- ◆ Use an approved contract service to clean large kitchen floor mats.



## Hay una diferencia entre su desagüe de fregadero y el desagüe tormentoso...

*El Sistema de Alcantarilla Sanitario, relacionado con sus fregaderos, taza de su baño, y desagües, colecta y trata agua desechada antes de liberarla al medio ambiente.*

*El Sistema de Avenamiento Tormentoso, que se encuentra en calles, estacionamientos, y zanjas que bordean el camino, drena*

*directamente a canales locales sin ser tratada.*

### Recuerde:

- ◆ Los contaminadores descubiertos al medio ambiente se lavan directamente en el sistema de drenaje tormentoso.
- ◆ Permitted que contaminadores entren en el sistema de drenaje tormentoso daña el ambiente y también es ilegal.

### Formación de Empleado

- ◆ Entrene a todos los empleados desde que los alquile y cada año a partir después.
- ◆ Fije estas Mejores Prácticas de Dirección donde los empleados pueden verlas.
- ◆ Marque los drenajes de desagües con un mensaje que disuade el desecho de cosas ilegales (no agua pura), como "¡Ningún vertido! Fluye al Arroyo."

### Para más información...

- Trabajos Públicos de la Ciudad de Auburn:  
(530) 823-4211
- Trabajos Públicos de la Ciudad de Lincoln:  
(916) 434-2450
- Trabajos Públicos de la Pueblo de Loomis:  
(916) 652-1848
- Trabajos Públicos de la Ciudad de Rocklin:  
(916) 625-5500
- Dept. de Utilidades de la Ciudad de Roseville:  
(916) 774-5700
- Dept. de Inspecciones de Instalación de Salud/  
Comida del Condado de Placer : (530) 745-2300

CASQA (Asociación de Calidad de Agua de California): <http://www.casqa.org>



### Prevención de Contaminación de Agua de Tormeta para el Condado de Placer

3091 County Center Drive, Suite 220  
Auburn, CA 95603

(530) 745-7557

[stormwater@placer.ca.gov](mailto:stormwater@placer.ca.gov)

<http://www.placer.ca.gov/Stormwater>

## Prevención de Contaminación de Agua de Tormeta para el

## Industria de Servicio de Comida



División de Calidad de Agua  
del Condado de Placer

# Agua de Tormenta limpia es Importante para Todos nosotros

En años recientes, regulaciones federales y estatales han sido creadas para proteger la calidad de agua de tormenta que requieren jurisdicciones locales poner en práctica programas de manejo del agua de tormenta. Estas programas deben incluir educativo para informar el público y los negocios de los efectos de sus actividades de la calidad agua de tormenta. Ordenanzas locales están siendo puestas en el lugar para prohibir la disposición de algo excepto el agua de lluvia limpia en sistemas de drenajes tormentosos.



La Industria de Servicio de Comida puede introducir contaminadores al escurrimiento de agua de tormenta que drena a lagos, ríos, y corrientes. Es esencial que su negocio tome las medidas necesarias, usando las Mejores Prácticas de Dirección descritas en este folleto, para impedir a contaminadores entrar en el sistema de drenaje tormentoso.

## Las Mejores Prácticas de Dirección

### Grasa y Petróleo

- ◆ Coloca la grasa y el petróleo en recipientes sin agujeros. Programe recogidas regulares con su servicio de eliminación local.
- ◆ Nunca vierta la grasa, petróleo, salsas, o grasas en el desagüe de fregadero, desagüe tormentoso, o contenedor. Vertiendo el petróleo o la grasa en el fregadero puede causar bloqueos severos en la alcantarilla..

### Ajardinamiento

- ◆ Minimice el uso de pesticidas y fertilizantes. No los use en estaciones húmedos o permita que irrigación se escape.
- ◆ No sople, rastrille, o barra la basura de paisaje en la calle o canal.



### Basura de Contenedor

- ◆ Proporcione un área para su contenedor que impide al viento y la lluvia transportar basura suelta o líquidos al desagüe tormentoso.
- ◆ Reemplace contenedores agujereados. Mantenga la tapa de contenedor cerrada cuando no en el uso.
- ◆ Evite sobrellenar el contenedor por recogidas de servicio regulares.

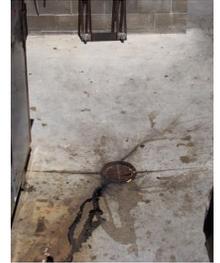


### Basura de Comida

- ◆ Envuelve desechos de comida en bolsas de plástico y los coloca en el contenedor.
- ◆ La grasa de carne debería ser coleccionada en un recipiente de sebo cubierto, sin agujero.

### El Aparcamiento y Áreas de Almacenaje

- ◆ Mantenga estacionamientos y áreas de almacenaje libres de basura y escombros.
- ◆ Guarde áreas alrededor del desagüe tormentoso limpio.



### Vertidos

- ◆ Entrene a empleados correctamente limpiar vertidos.
- ◆ Mantenga materiales de limpieza, como harapos, arcilla granulada, y otros absorbentes prácticos y accesibles. Barra o absorba el vertido, empaquete la basura, y ponga en el contenedor.
- ◆ Guarde fluidos de limpieza adentro para que liquidadas y vertidos no pueden alcanzar el desagüe tormentoso.

### Agua de Lavar

- ◆ Barre, vacua, o trapea áreas al aire libre en vez de limpiar con una manga o lavado de presión. Barre estacionamientos y paseos “drive thru” con regularidad.
- ◆ Limpie equipo bajo de una tapa y en un área de desempate contenida. Esté seguro de usar un fregadero de trapear que drena a la alcantarilla sanitaria cuando lava el equipo.
- ◆ Nunca tire el agua de lavar afuera.

# Tahoe Basin Construction Site BEST MANAGEMENT PRACTICES

## SCHEDULING

Call (530) 581-6205 48 hours in advance of construction activities for inspection of BMPs. Construction is normally allowed May 1st through October 15th, sites must be winterized by October 15th.

## DUMPSTERS

Always cover dumpsters and locate them away from drainage inlets and gutters. Areas around dumpsters should be swept daily. Perimeter controls should be installed around dumpsters.

## CHEMICAL TOILETS

Chemical toilets are to be located in such a manner that if they are either damaged or knocked over the contents could not enter a stormwater drainage system.

## PAINT AND STUCCO

All paint and stucco materials stored on the site must be contained and covered. It is illegal for contractors to wash out painting equipment in the street or dump any residues in the sewer or the storm drain. Paint brushes and spray guns should be washed/cleaned out into a hazardous materials drum or back into original containers and disposed of properly.

## PERIMETER FENCING CONTROLS

Properly installed silt fences and straw wattles are acceptable perimeter controls, and should be used downslope of all disturbed areas. Use wattles across driveways. These may need to have gravel bags placed on top to weigh them down. Keep extra absorbent materials and/or a wet/dry vacuum on site to quickly pick up unintended spills. The construction limits of every project site are required to be identified with 48" construction fencing, typically orange plastic, located no more than 12 feet from the adjacent construction area.

## STORM DRAINS

Storm drains must be protected at all times with perimeter controls, such as sand bags, gravel bags or wattles.

## CONSTRUCTION SITE OVERVIEW FOR TAHOE BASIN

Protecting clean water improves our quality of life and preserves the local environment for our children and future generations. Unintentional spills at work sites can flow into storm drains and pollute waterways. These spills are prohibited by law. The drawing illustrates BMPs that should be used at all construction sites to protect storm drains and minimize pollution. Proper construction site BMPs are dynamic. As the construction progresses, the proper BMP method and location may change. All site BMPs must be checked and maintained daily, and revised as needed.

## TREE PROTECTION

48" orange tree protective fencing is required around the dripline of every tree to remain within the construction zone. If construction is within dripline, then fencing should still be used to the extent practical and 2" boards should be strapped temporarily around the trunk for protection. Trees to be removed that are 6" diameter at breast height (dbh) or larger must be shown on Tahoe Regional Planning Agency (TRPA)-stamped plans as approved for removal.

## CONCRETE TRUCKS/PUMPERS

Pumpers should be surrounded by perimeter controls, such as gravel bags, sand bags or straw wattles. Tarps should be placed beneath concrete pumpers. Residual materials must be cleaned up as well. Debris should be disposed of properly. Concrete washouts not allowed unless addressed in TRPA permit.

## STABILIZED CONSTRUCTION ACCESS

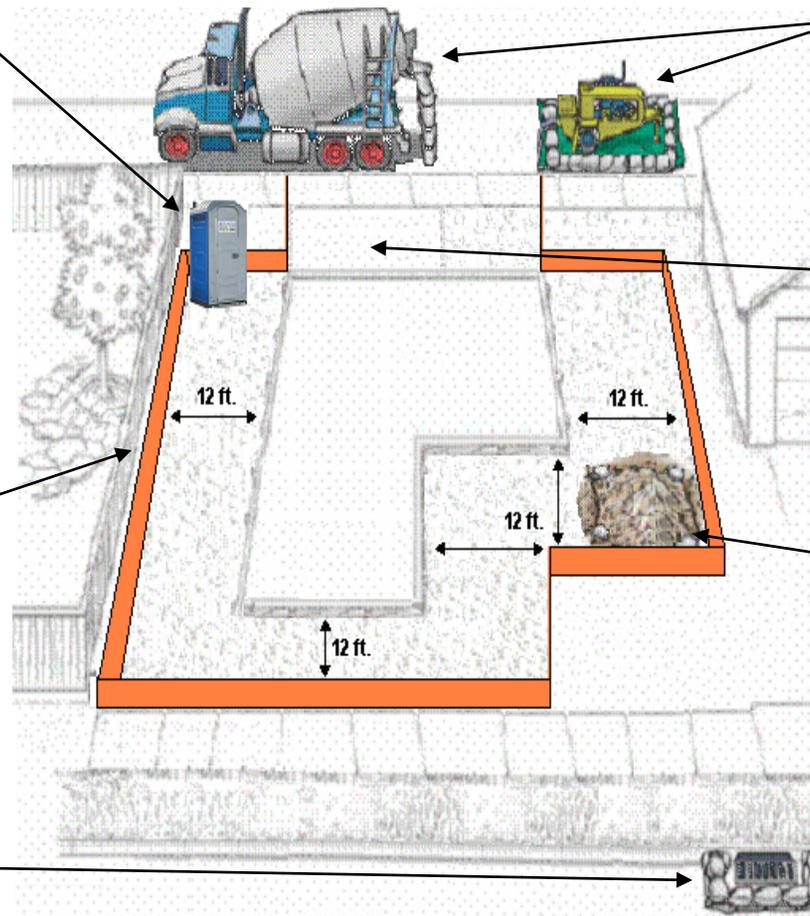
Require all construction vehicles and equipment to use one designated, stabilized entrance/exit to prevent vehicles from tracking mud onto roadways. When possible, prohibit vehicle/equipment parking on unpaved or non-stabilized areas. Tracks and trails left by vehicle/equipment leading to and from the site should be cleaned up immediately using dry clean up methods (i.e. sweeping).

## DIRT AND GRADING

Mounds of dirt or gravel should be covered with plastic sheeting and contained with a filter fabric fence or staked straw wattles. Provide dust control as needed.

## BUILDING MATERIALS/STAGING AREAS

Staging areas should be limited to the driveway and existing hard surface areas such as concrete or asphalt. Don't disturb any more area than you absolutely have to.



PLACER COUNTY  
STORMWATER QUALITY DIVISION



For more information call Placer County Stormwater Quality Division at 530-745-7557, or speak to your jobsite inspector. For additional info visit: Placer County Stormwater website at <http://www.placer.ca.gov/Stormwater> Tahoe Regional Planning Agency (TRPA) website at <http://www.trpa.org> or call TRPA at (775) 588-4547

Dear Building Permit Holder:

As you may be aware, Placer County is subject to State and Federal laws as well as its own ordinance, prohibiting the discharge from your property of anything except clean rainwater into our stormdrains and waterways. In addition to these laws the County enforces many of the TRPA construction regulations concerning Best Management Practices (BMPs) in the Lake Tahoe Basin. The County has added stormwater quality inspection components to building construction sites. Your building site will be subject to these inspections. During an inspection, the inspectors will evaluate your site for conditions that may result in discharges of pollutants to stormwater. All types of potential contaminants from jobsites are prohibited, including sediment, oil and all other vehicle fluids, concrete washout, paint, landscaping materials, fertilizers, pesticides, trash, etc. Additionally, sites where one acre or more of ground is disturbed\*, or smaller sites that are part of a larger development (such as a subdivision or shopping center) where disturbance is cumulatively one acre or more, are required by State law to obtain a construction stormwater permit from the Regional Water Quality Control Board (western Placer County (916) 464-3291, and Tahoe/Truckee (530) 542-5400).

Following are some of the items inspectors will review:

- Evidence of sediment or muddy water running off from the site
  - Compliance with County grading permits
  - Potential for contaminated runoff in the event of rainfall (e.g. vehicle fuel or fluid leaks, material spills, paint waste, unprotected stockpiles, etc.)
  - Stabilized construction access is installed and maintained and there is no mud, debris, or trash on the adjacent roads
  - Erosion controls (mulching, blankets, etc.) and perimeter controls (wattles, silt fences, etc.) are on site or properly installed and maintained
  - Construction materials are properly stored (covered when not in use, out of the right-of-way, secondary containment if needed, spoil disposed of properly, etc.)
  - Dust control measures are being effectively applied
  - A cement/stucco washout containment area is provided and used (not typically allowed in the Tahoe Basin)
  - Dumpsters are covered, cleaned-up and emptied regularly to keep the site trash free
  - Portable toilets are out of the street and away from drainage paths, so that liquid cannot enter the storm drain system if they are knocked over
- All operational storm drain inlets are effectively protected from sediment inflow.

If the inspectors identify an *actual or potential* discharge of any pollutant, the jobsite operator and /or owner will be asked to correct the situation.

For more information, please speak to your site inspector or call the Stormwater Quality Division of the Placer County Department of Public Works at (530) 745-7555.

\*Disturbed areas include: areas where vegetation is removed, areas that are to be graded or paved, building sites, access and parking areas, storage areas, and anywhere else that existing ground is disrupted.

cleaning onto the ground or into a street, gutter, or storm drain.

### Changing Oil and Other Fluids

- ◆ Change vehicle fluids indoors and only on floors constructed of non-porous materials, or only in areas where spills can be captured and disposed of properly. Avoid working over asphalt and dirt surfaces that absorb vehicle fluids.
- ◆ If vehicle fluids must be removed outdoors, always use a drip pan.
- ◆ Transfer fluids drained from vehicles to a designated waste storage area as soon as possible.
- ◆ Never pour vehicle fluids or other hazardous waste into storm drains, sewers, or into dumpsters where they could leak out. These substances should be kept in designated waste storage containers until recycled or disposed of properly.

### Car Washing

- ◆ If car washing is a central activity for your business, you must use a covered wash pad that drains to the sanitary sewer. Treat and recycle wash water. Also install an oil/grit separator if required by the sewer agency.
- ◆ If car washing is an occasional activity of your business, avoid washing vehicles on site. Take vehicles to a commercial car wash or provide your customers with a courtesy voucher for a properly equipped commercial car wash.

### Placer County Stormwater Quality Division

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Phone: (530) 745-7557  
3091 County Center Drive, Suite 220  
Auburn, CA 95603  
Email: [stormwtrquality@placer.ca.gov](mailto:stormwtrquality@placer.ca.gov)  
Or visit us on the web at  
<http://www.placer.ca.gov/Stormwater>



### Household Hazardous Waste Disposal and Recycling

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Phone: (916) 543-3960  
Or visit us on the web at  
<http://www.placer.ca.gov/recycle>

Revised February 2013

# Stormwater Quality for Automotive Businesses



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Placer County Stormwater Quality Division



# Stormwater Quality for Automotive Businesses

## What every owner or manager should know...

Automotive related business owners, managers, and employees should be aware that the discharge of pollutants from their businesses' activities into the storm drainage system, or into surrounding water bodies, is prohibited by local ordinance and state and federal law. Such discharges can result in severe penalties. Typical pollutants generated by automotive businesses include wastewater from car washing, motor oil, brake dust, sanding waste, filler residue, paints, thinners, plating wastes, and other automotive fluids. It is your responsibility to keep pollutants from your business out of the storm drainage system and local waterways. Local sewer service providers may allow discharge of wastes to the sewer system with an appropriate permit.



## The Basics

Stormwater regulations include two basic requirements:

- ◆ Only rain water may be discharged to a storm drain.
- ◆ Minimize the contact of rainfall and runoff with pollutant sources. Do this by maintaining a clean facility, keeping materials covered, and managing wastes responsibly.

## Education and Training

Train all employees upon hiring on stormwater quality and proper methods for handling and disposing of hazardous waste. Ensure that all employees understand and utilize the appropriate disposal methods for all types of wastes and

waste water. Post signs and mark storm drains, floor drains, and plumbing fixtures to remind employees of the importance of using proper disposal methods.



## Materials Storage

- ◆ Store hazardous materials and wastes under cover and with secondary containment to prevent spills or leaks from reaching the storm drain system.
- ◆ Keep dumpster lids closed and keep lids on waste containers.
- ◆ Keep storage areas clean and dry.
- ◆ Conduct regular inspections to detect and correct any leaks and spills immediately.
- ◆ Store batteries securely to avoid breakage and spills. Shelving should be secured to the wall. Store used batteries indoors in plastic trays to contain potential leaks. Recycle old batteries.

## Keeping a Clean Shop

Good housekeeping makes it easier to detect spills and potential problems.

- ◆ Never hose down or pressure wash work areas unless the resulting wash water is contained, treated, and disposed of properly.
- ◆ Sweep or vacuum the shop floor frequently. Pick up sweepings and dispose of them in a trash receptacle. Use mopping as an alternative to hosing down work areas. Mop water must be disposed of in the sanitary sewer.
- ◆ Keep parking lots clean in order to prevent mobilization of oils, residues, and debris by subsequent rainfall.
- ◆ Residue from the sanding of fillers is a common

auto body shop pollutant—it should be collected and disposed of in a trash receptacle.

- ◆ Collect all metal filings, dust, and paint chips from grinding, shaving, and sanding, and dispose of the waste in a trash receptacle.
- ◆ Use drip pans under leaking vehicles to capture fluids.
- ◆ Keep fully stocked spill kits available at all times and make sure that employees know when and how to use them.

## Hazardous Materials and Wastes

Hazardous wastes may never be discharged to the sanitary sewer or storm drain. All hazardous materials and hazardous wastes must be stored, used, and disposed of according to federal, state,



and local laws, including, but not limited to, fire codes, and hazardous materials and waste laws. Contact the Western Placer Waste Management Authority for more details.

## Parts Cleaning and Radiator Flushing

- ◆ Use a licensed service to haul and recycle or dispose of wastes.
- ◆ Designate specific areas or service bays for engine parts or radiator cleaning. Do not wash or rinse parts outdoors.
- ◆ Use self-contained sinks and tanks when working with solvents.
- ◆ Never discharge cleaning solutions or waste water from steam cleaning or engine/parts

# Appendix – G

BMP's- TRPA requires that temporary and permanent BMP's be part of every project, and that they be designed, installed and maintained as per their "Handbook of Best Management Practices". The County's review of BMP's has been limited to verifying that the plans contain such features (they may not be the appropriate BMP's, or that they have not been sized properly), and that the calculation sheet is included. In the field, Building Dept. staff verify that temporary BMP's are installed and maintained, and permanent BMP's are installed before releasing securities. There are numerous aspects of our current practice in this area that concern TRPA.

**Enforcement-** TRPA staff seemed particularly concerned about the County's role in enforcement of their violations, as related to the activities permitted under the MOU. The County's role has been limited to enforcement of County rules and compliance with County permits. The MOU says that the County "shall have authority and responsibility to take any and all administrative steps to enforce the standards of the TRPA Code authorized by this MOU, including the processing of Code violations involving unpermitted activities" (emphasized). However, this same section goes on to say that violations which "cannot be resolved at the staff level" will be referred to TRPA for their formal notice of violation procedure. The County does not actively seek out violations nor perform regular compliance inspections; violations of County and TRPA rules are generally handled on a complaint basis.

### **W's Possible Expanded Role:**

W could assist in addressing the deficiencies described above by invoking a more comprehensive review of existing plans. Driveway, grading, drainage, BMP, and vegetation issues could be examined for conformance to TRPA requirements. We could also perform regular compliance inspections during the active construction phases of projects. If we do get involved with field inspection, I recommend that we take responsibility for all of the B's inspections, including pre-grade and final approvals. However, because this effort is substantially greater than that being performed now, we will need *at least one more full-time person dedicated to this task*. It should also be noted that the demand for this work peaks at the same time as our other peak construction and development demand, therefore, current staff could not take on this additional responsibility. I'm also unsure where we might place another person in the West Shore office without additional space. As for increased enforcement, I suggest that we make a modification to the MOU's that would limit our enforcement role to compliance with the permitting that we perform under the MOU, and nothing beyond. Either that, or Planning's Code Enforcement Division should expand on the additional responsibility of chasing after unpermitted TRPA Code violations.

I understand that the number of applications subject to the MOU process is around 600-800 per year. I don't know how many include grading and BMP compliance matters; I was unable to get that information. The MOU authorizes the County to collect TRPA fees, which are higher than those that we would normally collect for the same types of projects covered. We should look carefully at the fees authorized and the needs of each Department based on the expected TRPA role, to see how meeting those expectations can be met.

MEMORANDUM OF UNDERSTANDING  
BETWEEN TAHOE REGIONAL PLANNING AGENCY AND  
THE COUNTY OF PLACER

March 1992

This Memorandum of Understanding is entered into this 25th day of March, 1992, by and between the TAHOE REGIONAL PLANNING AGENCY (TRPA), through its Executive Director as authorized by the Governing Board, and the COUNTY OF PLACER (COUNTY), by and through its Chairman of the Board of Supervisors, as authorized by the Board of Supervisors.

All activities described in this Memorandum of Understanding (MOU) shall be in accordance with the Regional Plan package of TRPA as adopted by Ordinance No. 9-9, as amended from time to time. All activities undertaken by COUNTY pursuant to the MOU shall comply with applicable Best Management Practices (BMPs), and all provisions of the TRPA Code of Ordinances (Code), as it may be amended from time to time, except for the procedural provisions replaced by this MOU, and such guidelines as may be adopted by TRPA.

This MOU sets forth the responsibilities of the parties with regard to the processing of permits for new construction of single or multiple-family residential structures not exceeding four units, in accordance with the desire of the parties to provide a regulatory structure which is consistent with the most efficient possible use of public resources.

RECITALS

TRPA is required by the Tahoe Regional Planning Compact (P.L. 96-551, 94 Stat. 3233, Cal. Govt. Code 66801; NRS 277.200) to regulate activities within the Tahoe Basin which may have a substantial effect on the natural resources of the Basin. The Bistate Compact, Article VI(a) requires TRPA to define which activities are exempt from TRPA review and approval.

Given the existing comprehensive regulatory structure of COUNTY as it pertains to construction of new residential structures within the County of Placer, and consistent with the mandate of the Compact to defer land use regulation to local government wherever feasible, COUNTY and TRPA agree that COUNTY shall review construction of new single and multiple-family structures of four units or less) to be constructed within the COUNTY limits of Placer County. Such review by the COUNTY shall include application of all applicable regulations, including specifically the residential allocation limits, to residential construction projects otherwise subject to TRPA review. As long as the applicable TRPA regulations are being complied with and enforced, such activities shall be deemed a qualified exempt activity under TRPA regulations.

IS NOW THEREFORE UNDERSTOOD AND AGREED BY THE PARTIES:

With the exception of those applications requiring TRPA Governing Board approval (Chapter 4, Appendix A) or TRPA scenic review (Chapter 30), all applications for new construction of single and multiple-family residential structures (four units or less) located on vacant parcels within the COUNTY limits are hereby exempt under Chapter 4 of the TRPA Code and shall be reviewed COUNTY.

COUNTY shall administer, in accordance with the provisions of this agreement, all standards of the TRPA Code as applicable to construction of new residential projects, as authorized by this MOU.

COUNTY shall utilize the TRPA Project Review Conformance Checklist in its review of projects, as authorized by this MOU. A copy of said checklist is attached hereto and incorporated herein as if fully set forth.

COUNTY shall coordinate with TRPA to determine whether there have been any previous TRPA actions with regard to the subject parcels and the effect of any action on the pending applications.

COUNTY shall be authorized to collect application and mitigation fees, security deposits, and other designated fees on behalf of TRPA in accordance with fee schedules to be provided to COUNTY by TRPA. Such fee schedules shall be sufficient in detail to provide specific information concerning fee calculation to assist COUNTY in performing fee collection activities. Furthermore, COUNTY shall be authorized to retain a percentage of all application fees collected to offset COUNTY's costs of administering the provisions of this MOU. Such percentage shall be mutually agreed upon in writing by TRPA and COUNTY, and may be amended from time to time by mutual agreement of the Executive Director and the Chairman of the Board of supervisors.

Mitigation fees collected by COUNTY on behalf of TRPA pursuant to this MOU shall be paid to TRPA on a monthly basis under procedures mutually agreed upon with the finance officers of the parties hereto.

Prior to COUNTY receiving any applications for review or permit issuance for structures as authorized by this MOU, the property owner/applicant shall secure from TRPA an IPES score and coverage verification for all new single-family residential projects or a Bailey land capability verification for construction of any new multiple-family residential projects. Such verifications shall be obtained in written form from TRPA to be submitted to COUNTY by the applicant.

Nothing in this MOU shall be construed to limit the authority of COUNTY to administer state or local regulations or to impose reasonable conditions of approval on any application. Further, nothing in this MOU shall be deemed to limit the land use regulatory powers of either COUNTY or TRPA.

The COUNTY and TRPA staff shall review quarterly the implementation of this MOU and shall report to their respective governing boards following such reviews.

In carrying out the intent of this MOU, COUNTY and TRPA shall adhere to all provisions contained within TRPA Code Chapter 38 relating to accounting and tracking of coverage, allocations, and any other applicable procedures. All project accounting and tracking shall be completed by COUNTY and transmitted to TRPA to be included in its permanent accounting and tracking records. In carrying out the provisions of this MOU, COUNTY shall utilize tracking forms provided by TRPA to record all inspections, verifications, and other project review activities. COUNTY shall submit completed tracking forms to TRPA on a monthly basis.

COUNTY shall perform compliance inspections to ensure that the residential projects permitted under this MOU are constructed in accordance with the plans previously submitted and approved.

COUNTY shall have authority and responsibility to take any and all administrative steps to enforce the standards of the TRPA Code as authorized by this MOU.

In the event litigation is necessary to enforce provisions of the TRPA Code, COUNTY shall contact TRPA legal counsel. If a show cause hearing is required, COUNTY is authorized to institute legal action.

In final inspection, if the project has been constructed in accordance with permit, COUNTY shall be authorized to release the security deposit to the project applicant.

In the event an applicant desires to appeal any administrative action or decision on the part of COUNTY, such appeal shall be to TRPA.

Any exempt activity set forth herein shall be considered a project requiring a review if the Executive Director determines that, because of unusual circumstances or failure to comply with this MOU, the activity may have a substantial effect on the land, air, water, space, or any other natural resource in the region.

This MOU shall continue until sixty (60) days' written notice of termination is given by either party. Both parties hereby agree to cooperate in good faith to carry out the provisions of this MOU to achieve the objectives set forth in the Recitals herein.

None of the duties set forth in this MOU shall be assigned, transferred, or contracted by COUNTY without the prior written approval of TRPA.

d: 4-7-92

COUNTY OF PLACER

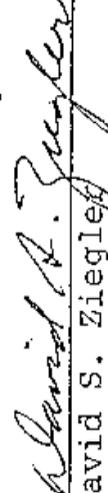


Mike Fluty

Chairman of the Board

TAHOE REGIONAL PLANNING AGENCY

d: 4-2-92



David S. Ziegler

Executive Director

100

RECEIVED

MAR 13 1995

APPENDIX R

PLANNING & COMM. DEPT.

MEMORANDUM OF UNDERSTANDING  
BETWEEN TAHOE REGIONAL PLANNING AGENCY AND  
PLACER COUNTY

February 1995

This Memorandum of Understanding is entered into this 7th day of February 1995, by and between the TAHOE REGIONAL PLANNING AGENCY (TRPA), through its Executive Director as authorized by the Governing Board, and PLACER COUNTY (COUNTY), by and through its Chairman of the Board of Supervisors, as authorized by the Board of Supervisors.

All activities described in this Memorandum of Understanding (MOU) shall be in accordance with the Regional Plan package of TRPA as adopted by Ordinance No. 99-9, as amended from time to time. All activities undertaken by COUNTY pursuant to the MOU shall comply with applicable Best Management Practices (BMPs), and all provisions of the TRPA Code of Ordinances (Code), as it may be amended from time to time, except for the procedural provisions replaced by this MOU, and such guidelines as may be adopted by TRPA.

This MOU sets forth the responsibilities of the parties with regard to the processing of permits for new construction of single or multiple-family residential structures (four units or less), and additions/modifications of existing residential structures, in accordance with the desire of the parties to provide a regulatory structure which is consistent with the most efficient possible use of public resources.

CITATIONS

TRPA is required by the Tahoe Regional Planning Compact (P.L. 96-551, 94 Stat. 3233, Cal. Govt. Code 66801; NRS 277.200) to regulate activities within the Tahoe Basin which may have a substantial effect on the natural resources of the Basin. The bistate Compact, Article VI(a) requires TRPA to define which activities are exempt from TRPA review and approval.

Given the existing comprehensive regulatory structure of COUNTY as it pertains to construction of residential structures within the County of Placer, and consistent with the mandate of the Compact to defer land use regulation to local government wherever feasible, COUNTY and TRPA agree that COUNTY shall review construction of new single and multiple-family structures (four units or less), and additions/modifications to existing single and multiple-family structures to be constructed within the COUNTY limits of Placer County. Such review by COUNTY shall include application of all applicable TRPA regulations to residential construction projects otherwise subject to TRPA review. As long as the applicable TRPA regulations are being applied with and enforced, such activities shall be deemed a qualified exempt activity under TRPA regulations.

IT IS NOW THEREFORE UNDERSTOOD AND AGREED BY THE PARTIES:

. With the exception of those applications requiring TRPA Governing Board approval (Chapter 4, Appendix A), all applications for residential additions/modifications and new construction of single and multiple-family residential structures (four units or less), including Qualified Exempt residential activities, located within the County limits are hereby exempt under Chapter 4 of the TRPA Code and shall be reviewed by COUNTY.

. COUNTY shall administer, in accordance with the provisions of this agreement, all standards of the TRPA Code as applicable to construction of residential projects, as authorized by this MOU.

COUNTY shall utilize the TRPA Project Review Conformance Checklist and Procedural Guidelines in its review of projects, as authorized by this MOU.

. All applications for coverage and/or development right transfers/banking and subdivisions, including lot line adjustments, shall continue to be reviewed and approved by TRPA.

. COUNTY shall be authorized to collect application and mitigation fees, security deposits, and other designated fees on behalf of TRPA in accordance with fee schedules to be provided to COUNTY by TRPA. Such fee schedules shall be sufficient in detail to provide specific information concerning fee calculation to assist COUNTY in performing fee collection activities.

. Furthermore, COUNTY shall be authorized to retain a percentage of all application fees collected to offset COUNTY's costs of administering the provisions of this MOU. Such percentage shall be mutually agreed upon in writing by TRPA and COUNTY, and may be amended from time to time by mutual agreement of the TRPA Executive Director and the Chairman of the Board of supervisors.

. All mitigation fees collected by COUNTY on behalf of TRPA pursuant to this MOU shall be paid to TRPA on a monthly basis under procedures mutually agreed upon by the finance officers of the parties hereto.

. Prior to COUNTY receiving any applications for new single-family residential projects as authorized by this MOU, the property owner/applicant shall secure from TRPA an IPES score and allowable coverage verification. Said verification shall be obtained in written form from TRPA to be submitted to COUNTY by the applicant. Prior to COUNTY receiving any applications for projects involving additions or modifications to existing single-family or multiple-family residential structures, or new multiple-family residential structures (four units or less), TRPA will conduct a site assessment of the subject site to verify the Bailey land capability classification, existing coverage, prior TRPA actions affecting the subject parcel, and/or BMP and other review requirements.

. Nothing in this MOU shall be construed to limit the authority of COUNTY to administer state or local regulations or to impose reasonable conditions of approval on any application. Further, nothing in this MOU shall be deemed to limit the land use regulatory powers of either COUNTY or TRPA.

6. The COUNTY staff and TRPA staff shall review quarterly the implementation of this MOU and shall report to their respective governing boards on the results of such review.

7. In carrying out the intent of this MOU, COUNTY and TRPA shall adhere to all provisions contained within TRPA Code Chapter 38 relating to accounting and tracking of coverage, allocations, and any other applicable procedures. All project accounting and tracking shall be completed by COUNTY and transmitted to TRPA to be included in its permanent accounting and tracking records. In carrying out the provisions of this MOU, COUNTY shall utilize tracking forms provided by TRPA to record all inspections, verifications, and other project review activities. COUNTY shall submit completed tracking forms to TRPA on a monthly basis.

8. COUNTY shall perform compliance inspections to ensure that the residential projects and Qualified Exempt activities permitted under this MOU are constructed in accordance with the plans previously submitted and approved.

COUNTY shall have authority and responsibility to take any and all administrative steps to enforce the standards of the TRPA Code as authorized by this MOU, including the processing of Code violations involving unpermitted residential activities. Upon discovery of a TRPA Code violation, COUNTY shall immediately notify the TRPA Environmental Compliance Division in writing to coordinate compliance procedures. Settlements of TRPA Code violations involving civil penalties must be approved by TRPA. If a TRPA Code violation cannot be resolved at the County Building Department staff level, COUNTY shall contact TRPA to institute TRPA's formal notice of violation procedure.

Upon final inspection, if the project has been constructed in accordance with the permit, COUNTY shall be authorized to release the security deposit to the project applicant.

In the event an applicant desires to appeal any administrative action or decision on the part of COUNTY dealing with TRPA regulations, such appeal shall be to TRPA.

Any exempt activity set forth herein shall be considered a project requiring TRPA review if the TRPA Executive Director determines that, because unusual circumstances or failure to comply with this MOU, the activity may have a substantial effect on the land, air, water, space, or any other natural resource of the region.

This MOU shall continue until sixty (60) days' written notice of termination is given by either party. Both parties hereby agree to cooperate in good faith to carry out the provisions of this MOU to achieve the objectives set forth in the Recitals herein.

None of the duties set forth in this MOU shall be assigned, transferred, subcontracted by COUNTY without the prior written approval of TRPA.

PLACER COUNTY

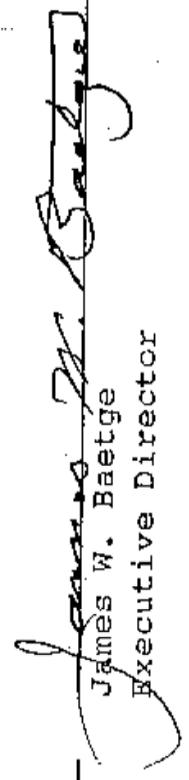
Dated: 2-17-95



Ron Lichau, Chairman  
Placer County Board of Supervisors

SAHOE REGIONAL PLANNING AGENCY

Dated: 2-27-95



James W. Baetge  
Executive Director

APPENDIX DD

MEMORANDUM OF UNDERSTANDING  
BETWEEN TAHOE REGIONAL PLANNING AGENCY  
AND THE COUNTY OF PLACER  
DECEMBER 1997

This Memorandum of Understanding is entered into this 17<sup>th</sup> day of December, 1997 by and between the TAHOE REGIONAL PLANNING AGENCY (TRPA) through its Executive Director as authorized by the Governing Board, and the COUNTY OF PLACER (COUNTY), by and through its Board of Supervisors.

All activities described in this Memorandum of Understanding (MOU) shall be in accordance with the Regional Plan package of TRPA as adopted by Ordinance No. 94-22, as amended from time to time. All activities undertaken by the COUNTY pursuant to the MOU shall comply with all provisions of the TRPA Code of Ordinances (Code), as it may be amended from time to time, except for the procedural provisions replaced by this MOU, and such guidelines as may be adopted by TRPA.

This MOU sets forth the responsibilities of the parties with regard to the regulation of signage and related activities, in accordance with the desire of the parties to provide a regulatory structure which is consistent with the most efficient possible use of public resources.

RECITALS

- A. TRPA is required by the Tahoe Regional Planning Compact (P.L. 96-551, 94 Stat. 3233, Cal. Govt. Code 66801; NRS 277.200) to regulate activities within the Tahoe Basin which may have a substantial effect on the natural resources of the Basin. The bi-state Compact, Article VI(a) required TRPA to define which activities are exempt from TRPA review and approval.
- B. Given the existing comprehensive regulatory structure of the COUNTY as it pertains to the installation of signs within the Placer County portion of the Tahoe Region (hereafter referred to as "Placer County,") and consistent with the mandate of the Compact to defer land use regulation to local government wherever feasible, the COUNTY and TRPA agree that the COUNTY shall review signage and related activities within Placer County boundaries. Such review by the COUNTY shall include application of all applicable TRPA regulations to signage projects otherwise subjected to TRPA review. As long as the applicable TRPA regulations are being complied with and enforced, such activities shall be deemed an exempt activity under TRPA regulations.

IT IS NOW THEREFORE UNDERSTOOD AND AGREED BY THE PARTIES:

1. Effective December 17, 1997, signage reviewed and approved by the COUNTY, consistent with Chapter 26 of the Code as amended by Chapter 18 of Placer County Design Standards and Guidelines, shall be exempt from TRPA review except as set forth in paragraphs 2 and 3 below. All applications for signage and related activities will be reviewed by the COUNTY through its normal and customary review process, including the review and recommendations of the local Design Review Committee, and final action by COUNTY staff (Design/Site Review Committee [D/SRC]), except for signs or other activities exempt by statute from COUNTY review, in which case TRPA shall review said signs. In the event the COUNTY is not able to determine whether or not an application is to be reviewed by the COUNTY or TRPA, the COUNTY shall consult TRPA consistent with provisions established for that purpose by the County Manager or his designee and the Executive Director or his designee.
2. Amortization of signs pursuant to the Chapter 26 schedule will be the sole responsibility of TRPA to administer and enforce in accordance with the provisions of Chapter 26.
3. The COUNTY and TRPA shall jointly review all proposed sign projects involving exemption or exceptions from any provision of the Sign Ordinance, or involving any additional or relocation of land coverage. These projects shall be subject to the procedures established for joint review of such applications by the Placer County Manager or his designee and the Executive Director or his designee.
4. The COUNTY and TRPA staff shall review semi-annually the implementation of this MOU and shall report annually to their respective governing boards.
5. The COUNTY shall perform compliance inspections to ensure that the sign and project activities permitted under this MOU are constructed in accordance with the plans previously submitted and approved.

The COUNTY shall have authority and responsibility to take any and all administrative steps to enforce the standards of the adopted ordinances as authorized by this MOU, including the processing of Code violations involving unpermitted sign activities.

In the event litigation is necessary to enforce provisions of the TRPA Code, the COUNTY shall contact TRPA Legal Counsel. If a show cause hearing is required, the COUNTY is authorized to institute legal action.
6. In the event an applicant desires to appeal any administrative action or decision on the part of the COUNTY, acting on behalf of TRPA, such appeal shall be to TRPA.

Any exempt activity set forth herein shall be considered a project requiring TRPA review if the Executive Director of TRPA determines that, because of unusual circumstances or failure to comply with the MOU, the activity may have a substantial effect on the land, air, water, space, or any other natural resource of the Region.

7. This MOU shall continue until sixty (60) days' written notice of termination is given by either party. Both parties hereby agree to cooperate in good faith to carry out the provisions of this MOU to achieve the objectives set forth in the Recitals herein.
8. None of the duties set forth in this MOU shall be assigned, transferred, or subcontracted by the COUNTY without the prior written approval of TRPA.
9. None of this MOU shall be construed to limit the authority of the COUNTY to administer state or local regulations, or to impose reasonable conditions of approval on any application. Further, nothing in this MOU shall be deemed to limit the regulatory powers of either the COUNTY or TRPA.
10. In carrying out the intent of this MOU, the COUNTY and TRPA shall adhere to all provisions contained within TRPA Code Chapter 38 relating to accounting and tracking of coverage and any other applicable procedures. All project accounting and tracking shall be completed by the COUNTY and transmitted to TRPA to be included in its permanent accounting and tracking records. In carrying out the provisions of this MOU, the COUNTY shall utilize tracking forms provided by TRPA to record all inspections, verifications, and other project review activities. The COUNTY shall submit completed tracking forms to TRPA on a monthly basis.

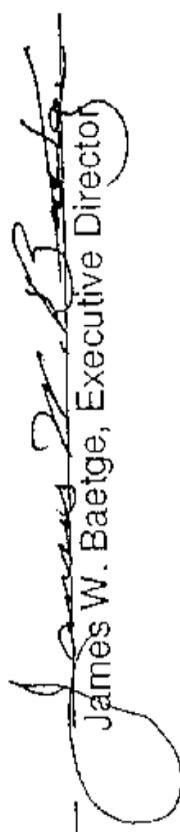
COUNTY OF PLACER

Dated: \_\_\_\_\_

Chairman, Board of Supervisors

TAHOE REGIONAL PLANNING AGENCY

Dated: 1-5-98

  
James W. Baetge, Executive Director

APPENDIX LL

MEMORANDUM OF UNDERSTANDING BETWEEN  
TAHOE REGIONAL PLANNING AGENCY AND  
THE COUNTY OF PLACER

This Memorandum of Understanding is entered into this \_\_\_\_\_ day of \_\_\_\_\_, 2000, by and between the TAHOE REGIONAL PLANNING AGENCY (TRPA), through its Executive Director as authorized by the Governing Board, and the COUNTY OF PLACER (COUNTY), by and through its Chairman of the Board of Supervisors, as authorized by the Board of Supervisors.

All activities described in this Memorandum of Understanding (MOU) shall be in accordance with the Regional Plan package of TRPA as adopted by Ordinance No. 87-9, as amended from time to time. All activities undertaken by COUNTY pursuant to the MOU shall comply with applicable Best Management Practices (BMPs), and all provisions of the TRPA Code of Ordinances (Code), as it may be amended from time to time, except for the procedural provisions replaced by this MOU, and such guidelines as may be adopted by TRPA.

RECITALS

- A. TRPA is required by the Tahoe Regional Planning Compact (P.L. 96-551, 94 Stat. 3233, Cal Govt. Code 66801; NRS 277.200) to regulate activities within the Tahoe Basin which may have a substantial effect on the natural resources of the Basin. The bistate Compact, Article VI(a) requires TRPA to define which activities are exempt from TRPA review and approval.
- B. Given the existing comprehensive regulatory structure of COUNTY as it pertains to review of projects, within the County of Placer and consistent with the mandate of the Compact to defer land use regulation to local government wherever feasible, COUNTY and TRPA agree that COUNTY shall review those activities listed under 12 of this MOU to be undertaken within the COUNTY limits of Placer County. Such review by the COUNTY shall include application of all applicable TRPA regulations to such activities otherwise subject to TRPA review. As long as the applicable TRPA regulations are being complied with and enforced, such activities shall be deemed a qualified exempt activity under TRPA regulations.

IT IS NOW THEREFORE UNDERSTOOD AND AGREED BY THE PARTIES:

- 1. With the exception of those applications requiring TRPA Governing Board or Hearings Officer approval (Chapter 4, Appendix A), all applications for those activities listed under 12 of this MOU located within the COUNTY limits are hereby exempt under Chapter 4 of the TRPA Code and shall be reviewed by COUNTY.

2. COUNTY shall administer, in accordance with the provisions of this agreement, all standards of the TRPA Code as applicable to the activities as authorized by this MOU.  
  
COUNTY shall utilize the TRPA Project Review Conformance Checklist and Procedural Guidelines in its review of projects, as authorized by this MOU.  
  
COUNTY shall coordinate with TRPA to determine whether there have been any previous TRPA actions with regard to the subject parcels and the effect of any such action on the pending applications.
3. COUNTY shall be authorized to collect application and mitigation fees, security deposits, and other designated fees on behalf of TRPA in accordance with fee schedules to be provided to COUNTY by TRPA. Such fee schedules shall be sufficient in detail to provide specific information concerning fee calculations to assist COUNTY in performing fee collection activities. Furthermore, COUNTY shall be authorized to retain a percentage of all application fees collected to offset COUNTY's costs of administering the provisions of this MOU.  
  
percentage shall be mutually agreed. Such percentage shall be the original fee established by TRPA, which will go to the COUNTY, with a ten percent surcharge to cover administrative and monitoring costs to TRPA. This fee schedule may be amended from time to time by mutual agreement of the Executive Director and the County Executive Officer.  
  
All mitigation fees collected by COUNTY on behalf of TRPA pursuant to this MOU shall be paid to TRPA on a monthly basis under procedures mutually agree upon by the finance officers of the parties hereto.
4. The existing MOUs between the COUNTY and TRPA shall remain in full force and effect.
5. Nothing in this MOU shall be construed to limit the authority of COUNTY to administer state or local regulations or to impose reasonable conditions of approval on any application. Further, nothing in this MOU shall be deemed to limit the land use regulatory powers of either COUNTY or TRPA.
6. The COUNTY and TRPA staff shall review quarterly the implementation of this MOU and shall report to their respective governing boards following such reviews.
7. In carrying out the intent of this MOU, COUNTY and TRPA shall adhere to all provisions contained within TRPA Code Chapter 38 relating to accounting and tracking of coverage, allocations, and any other applicable procedures. All project accounting and tracking shall be completed by COUNTY and transmitted to TRPA to be included in its permanent accounting and tracking records. In carrying out the provisions of this MOU, COUNTY shall utilize tracking forms provided by TRPA to record all inspections, verifications, and other project review activities. COUNTY shall submit completed tracking forms to TRPA on a monthly basis.
8. COUNTY shall perform compliance inspections to ensure that the projects and activities permitted under this MOU are constructed in accordance with the plans previously submitted and approved.

COUNTY shall have authority and responsibility to take any and all administrative steps to enforce the standards of the TRPA Code as authorized by this MOU, including the processing of Code violations involving unpermitted activities.

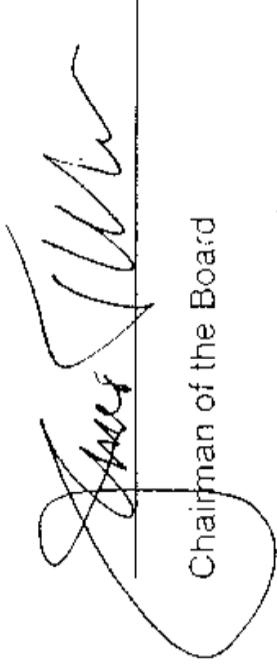
Settlements of violations involving civil penalties must be approved by TRPA. If a violation cannot be resolved at the staff level, COUNTY shall contact TRPA to institute the formal notice of violation procedure.

9. Any activity set forth herein shall be considered a project requiring TRPA review if the Executive Director determines that, because of unusual circumstances or failure to comply with this MOU, the activity may have a substantial effect on the land, air, water, space, or any other natural resource of the region.
10. This MOU shall continue until sixty (60) days written notice of termination is given by either party. Both parties hereby agree to cooperate in good faith to carry out the provisions of this MOU to achieve the objectives set forth in the Recitals herein.
11. None of the duties set forth in this MOU shall be assigned, transferred, or subcontracted by COUNTY without the prior written approval of TRPA.
12. Activities to be reviewed, permitted and enforced by the COUNTY :
  - a. Multi-person Dwellings (new, additions/modifications)
  - b. Nursing and Personal Care facilities (new, additions/modifications)
  - c. Residential Care facilities (new, additions/modifications)
  - d. Minor Additions/Modifications to Tourist Accommodation Uses
  - e. Existing Use/Structure Verifications
  - f. Coverage Transfers
  - g. Unit of Use Transfers
  - h. Allocation Transfers
  - i. Development Right Transfers
  - j. Banking (coverage, units of use, residential development rights)
  - k. Temporary Activities
  - l. Temporary Uses
  - m. Temporary Structures
  - n. Site Assessments
  - o. Recreation (new, additions/modifications)
  - p. Public Service (new, additions/modifications)

Note: Placer County shall not process any application in which the County is the applicant or where there exists a conflict of interest. Review by the County would be limited to only those projects identified in Chapter 4, Appendix A of the TRPA Code as staff level review. Any of the activities listed in Chapter 4, Appendix A as Hearings Officer or Governing Board level would be retained by the TRPA. Any project listed in the categories above requiring a higher level of environmental documentation than Categorical Exempt as defined under the California Environmental Quality Act (CEQA) shall automatically require TRPA review and approval. For those applications in which Placer County does not have jurisdiction (i.e., Federal, State and Schools), the application shall require TRPA review and approval

COUNTY OF PLACER

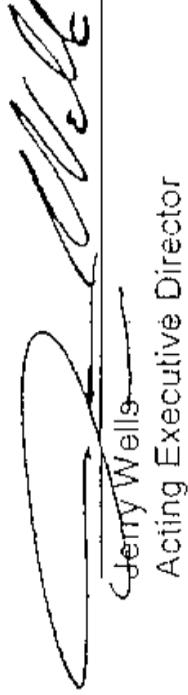
Dated: 4-4-00



Chairman of the Board

TAHOE REGIONAL PLANNING AGENCY

Dated: 4-28-00



Gerry Wells  
Acting Executive Director

# Appendix – H



# County of Placer

## Stormwater Quality Construction Activity Compliance Inspection/Violation Form

<input type="checkbox"/> First Notice <input type="checkbox"/> Second Notice <input type="checkbox"/> Third or More Notice		Follow-Up Inspection Due Date: _____	
Corrections required? <input type="checkbox"/> Yes <input type="checkbox"/> no		Corrections completed from prior report? <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> n/a	
<b>Project Information</b>		<b>Inspection Information</b>	
Project Name/APN: _____		Date: _____	
Project/Owners Name: _____		Time: _____ AM / PM	
Contractor's Name: _____		Inspector: _____	
Project Location: _____		Field & Weather Conditions during inspection : _____	

Project Specifications (Check all that apply):  
 Large site (>1 acre)     Greater than 30% slopes     Close to a watercourse     History of non-compliance

### Inspection Checklist

Inspection Points	Yes	No	N/A	
If site has disturbed more than an acre, is there a State Permit and a SWPPP available on site?				If yes, WDID # _____ If no, State notified on _____
Prior to rain event is there a REAP available?				
Is the project in the correct Risk Level 1-2-3				If no, State notified on _____
<b>Soil Stabilization &amp; Sediment Control Practices</b>				<b>Discharge Risk Potential</b>
Are BMP's implemented on inactive disturbed site?				<input type="checkbox"/> Minor <input type="checkbox"/> Major <input type="checkbox"/> None
Are construction materials properly stored (covered when not in use, out of the right-of-way, secondary containment provided if needed, excess disposed of properly and off the ground, etc.)?				<input type="checkbox"/> Minor <input type="checkbox"/> Major <input type="checkbox"/> None
Any erosion observed?				<input type="checkbox"/> Minor <input type="checkbox"/> Major
Are erosion controls (mulching, seeding, blankets, etc.) and perimeter controls (wattles, silt fences, etc.) properly installed and maintained?				<input type="checkbox"/> Minor <input type="checkbox"/> Major <input type="checkbox"/> None
Are storm drain inlets protected?				<input type="checkbox"/> Minor <input type="checkbox"/> Major <input type="checkbox"/> None
Is there evidence of sediment or muddy water running off from the site? Do They have an NEL/ NAL exceedance?				<input type="checkbox"/> Minor <input type="checkbox"/> Major    If yes, State notified date _____
Is sediment currently discharging from the site?				<input type="checkbox"/> Minor <input type="checkbox"/> Major
Where is sediment currently being discharged? Check all that apply:				<input type="checkbox"/> Drain inlet <input type="checkbox"/> Gutter <input type="checkbox"/> Drainage Swale <input type="checkbox"/> Creek <input type="checkbox"/> Wetland <input type="checkbox"/> Vernal Pool <input type="checkbox"/> Other
<b>Tracking, Wind Controls and Stockpile Management</b>				<b>Discharge Risk Potential</b>
Is a rockered construction access installed, maintained, and no mud, debris, trash on public roads?				<input type="checkbox"/> Minor <input type="checkbox"/> Major <input type="checkbox"/> None
Are wind control measures being effectively applied? Are stockpiled materials covered?				<input type="checkbox"/> Dust Tracking <input type="checkbox"/> Stockpile protection <input type="checkbox"/> Loading/Unloading of materials <input type="checkbox"/> Other
<b>Non-Stormwater and Waste Disposal Management</b>				<b>Discharge Risk Potential</b>
Is a concrete/stucco/paint washout provided and used?				<input type="checkbox"/> Minor <input type="checkbox"/> Major <input type="checkbox"/> None
Is there a potential for polluted runoff in the event of rainfall? (e.g. vehicle fuel or fluid leaks, material spills, paint waste, unprotected stockpiles, etc.)?				<input type="checkbox"/> Minor <input type="checkbox"/> Major
Is there evidence that there has been a non-stormwater discharge?				<input type="checkbox"/> Minor <input type="checkbox"/> Major
Are dumpsters covered or tarped, cleaned-up and emptied regularly to keep the site free from trash?				<input type="checkbox"/> Minor <input type="checkbox"/> Major <input type="checkbox"/> None
Are portable toilets out of the street and away from drainage paths, so that liquid cannot enter the storm drain system? Are they secured so they will not blow over in the wind?				<input type="checkbox"/> Minor <input type="checkbox"/> Major
Site housekeeping acceptable?				<input type="checkbox"/> Minor <input type="checkbox"/> Major

Inspection OK         Stop Work Ordered per Grading Ordinance 15.48.110  
Inspection not OK   

**ACTION TAKEN:**     No Action taken: All was in compliance at site so no follow up action is necessary.  
 Verbal Warning: Informed owner/builder of Stormwater pollution and/or BMP violations  
 Written Warning: Gave owner/builder copy of Inspection violation form.

**Summary of follow up enforcement action:**  Follow up inspection     Urgency abatement     Issue citation     May need grading permit  
Grading Permit Contact info: CDRA's Engineering & Surveying (530) 745-7542 (South Placer County) or (530) 581-6227 (Tahoe)

**Explanation/Additional Comments:** (more room on back) \_\_\_\_\_

Inspector Signature \_\_\_\_\_ Date \_\_\_\_\_ Phone \_\_\_\_\_

**Explanation/Additional Comments:**

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**Enforcement Options for Stormwater Inspectors:**

These enforcement processes may or may not be used sequentially, depending upon the severity of the violation.

- **Verbal Warning:** The inspector is responsible for providing verbal warnings to educate people that their practices may be contributing to Stormwater pollution. Verbal warnings may be provided through discussion with owner, tenant, or contractor, or through providing educational materials. Verbal warning authority comes from the Stormwater ordinance.
- **Written Warning:** The inspector is responsible for issuing written warnings, although the inspector may ask for assistance in determining if a written warning is appropriate. Written warnings are issued when verbal warnings are ineffective, or if a situation is serious enough to need prompt attention. A written warning is the first step in the formal enforcement process, requires specific additional information, and will result in a citation if the circumstances are not corrected within the timeframe specified in the warning. Written warnings authority comes from the Stormwater ordinance.
- **Stop Work Notice:** The inspector may issue a stop work notice to cease operations that are actively polluting. Stop work notice authority comes from the grading ordinance.
- **Citation Recommendations:** in the event that verbal and/or written warning(s) do not achieve compliance, or in the event that a violation appears particularly bad, the inspector may make a recommendation to the Stormwater Coordinator and Chief Building Official that a citation be issued. This will result in further evaluation of the circumstances by the Stormwater Coordinator, Code Enforcement personnel, and possibly others. A citation may result in a fine and/or corrective action. Citation authority comes from the Stormwater and zoning ordinances.
- **Urgency Abatement:** In the event that the inspector observes a serious active pollution condition and the responsible party cannot be located, a recommendation for 'urgency abatement' may be made to the Chief Building Official and the Stormwater Coordinator. The urgency abatement process is similar to the nuisance abatement process, but with accelerated timeframes. Urgency abatement authority comes from the Stormwater ordinance.

**Stormwater Quality Information**

- ◆ **Water Quality Violation:** State and Federal regulations prohibit all polluted discharges to the storm drain system. Such discharges are also in violation of Placer County Stormwater Quality Ordinance, Article 8.28 of the Placer County Code which can be viewed at <http://qcode.us/codes/placercounty> . The County also has grading permit requirements which are described in Grading Ordinance Article 15.48.
- ◆ **State Permit Requirements:** Sites where one acre or more are disturbed are required by the State to obtain a construction stormwater permit from the State Water Resources Control Board. Go to: [http://www.waterboards.ca.gov/water\\_issues/programs/stormwater/construction.shtml](http://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.shtml) for permit information. Disturbed areas include all area where vegetation is removed including areas to the paved or graded, building sites, parking areas, storage areas and access roads.  
  
For general stormwater program information, please see the Placer County Stormwater Program webpage at <http://www.placer.ca.gov/stormwater> or call the Stormwater Quality Division at (530) 745-7555.

**Helpful Websites:**

California Stormwater Quality Association	<a href="http://www.casqa.org">www.casqa.org</a>
Central Valley Regional Water Quality Control Board	<a href="http://www.waterboards.ca.gov/centralvalley/">http://www.waterboards.ca.gov/centralvalley/</a>
Lahontan Regional Water Quality Control Board	<a href="http://www.waterboards.ca.gov/lahontan/">http://www.waterboards.ca.gov/lahontan/</a>
Lake Tahoe Best Management Practices	<a href="http://www.tahoebmp.org">www.tahoebmp.org</a>
Tahoe Regional Planning Agency	<a href="http://www.trpa.org">www.trpa.org</a>
Sediment Source Control Handbook	<a href="http://www.waterboards.ca.gov/lahontan/water_issues/available_documents/carec.shtml">http://www.waterboards.ca.gov/lahontan/water_issues/available_documents/carec.shtml</a>

COUNTY OF PLACER  
TAHOE BASIN  
STORMWATER QUALITY  
CONSTRUCTION SITE PRIORITIZATION PLAN

As required under the Lahontan Region and Water Quality Control Board Municipal Permit, Order Number R6T-2005-0026, NPDES No. CAG616001 the County is to submit a detailed plan to conduct site prioritization. Prioritization will be based on:

1. Soil erosion potential (using TRPA land classification as a minimum guide);
2. Steepness of site slope;
3. Project size and type;
4. Stage of construction;
5. Proximity to the Lake or water way
6. Sites and/or contractors with a previous history of non-compliance.

Placer County currently uses a database system to input construction and grading permit information. This database currently identifies project size and type but does not identify adequately any of the other five prioritization factors. Inclusion of this information will be through addition in the database of site priority.

Site priority will be established when the permit is initiated. The permit application will be reviewed for the above six factors. This will be done through a reviewer checklist (i.e. checklist will address each factor such as "Is site within 50 feet of water way?"). If the permit meets any of the checklist criteria, it will be given a "High" priority. All others will be rated as "Standard." During the permit review or during actual construction/grading activities it will be possible for the priority to change (such as site conditions change or initial permit features change).

The database is maintained on a continuous basis as permits are initiated and issued. An actual report with construction and grading permit inventory and prioritization will be completed annually for the May 1 report.

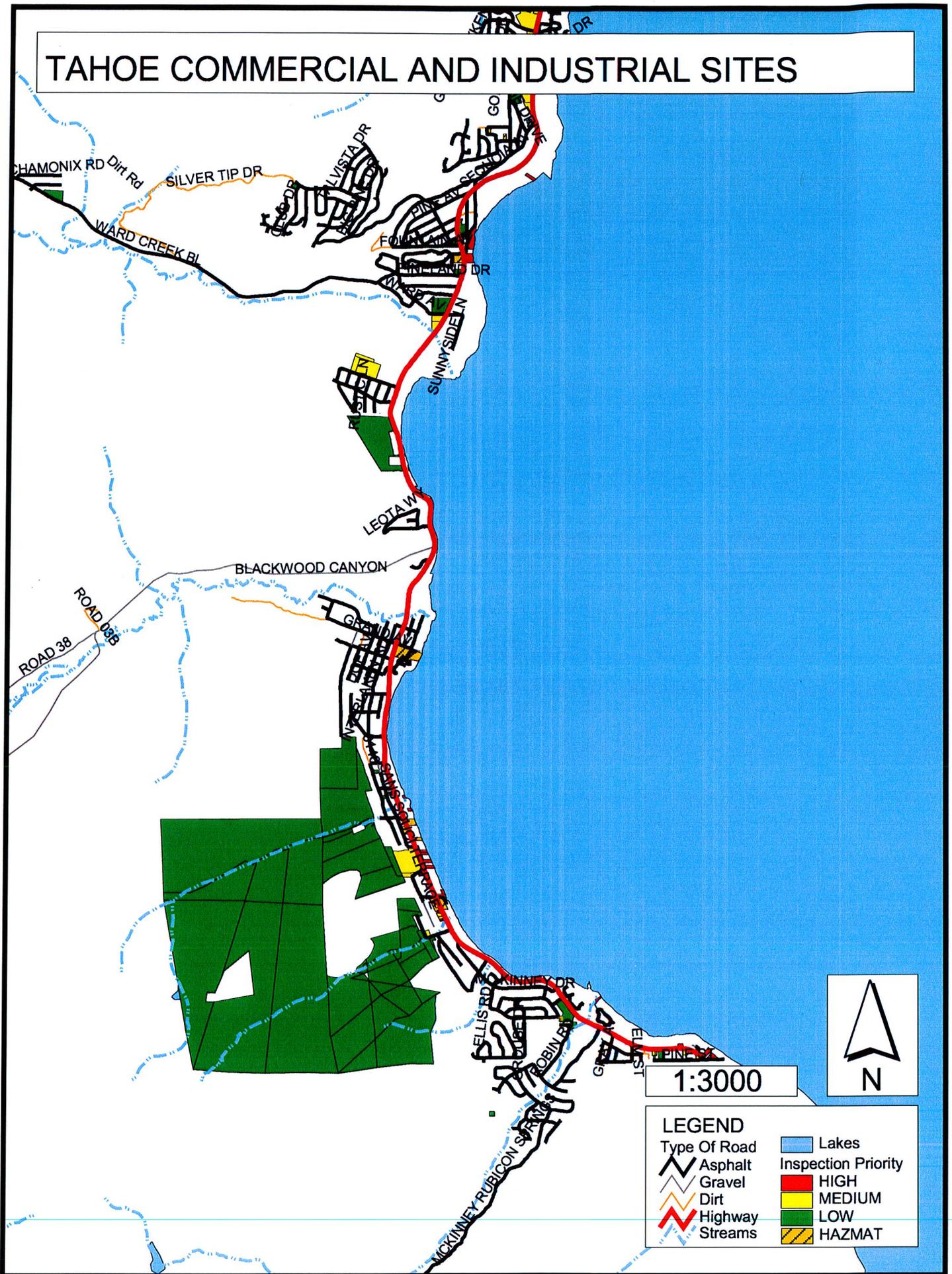
# Appendix – I

TAHOE COMMERCIAL/INDUSTRIAL/MUNICIPAL  
DATABASE AND INSPECTIONS

UNIQUE_PCID	Permit	City	APN	Priority	Land Use	Site Address	Name of Business	Type of Business	Approximate Size of Lot	Bare Soil	Materials on Site	Pottential Pollutants	Weather Conditions	A	B	C	D	E	Total	
1	Tahoe		083-010-060-000	Low	SKI FACILITY	No Address on File	0	0	3.400000	0	0	0	0	0	0	0	0	0	0	0
2	Tahoe		083-010-064-000	Low	SKI FACILITY	No Address on File	0	0	6.000000	0	0	0	0	0	0	0	0	0	0	0
3	Tahoe		083-010-068-000	Med	WAREHOUSE	4110 Saint Moritz Road	0	0	4.500000	0	0	0	0	0	0	0	0	0	0	0
4	Tahoe		083-100-004-000	Low	UTILITIES, PUBLIC & PRIVATE	1780 Sequaia Ave	unknown	Unknown	0.000000	none	? Chemicals for water trea	unknown	0	5	2	0	0	0	0	7
5	Tahoe		083-106-003-000	Med	RESTAURANTS, COCKTAIL LOUNGES	1785 Lake Blvd.	West Shore Rental	Rental store/ Retail	0.000000	200	none	unpaved parking and drivin	clear, 75	3	2	3	0	0	0	8
6	Tahoe		083-107-009-000	Low	HOTELS, MOTELS, RESORTS	1690 Lake blvd.	The Cottage Inn	Motel	2.000000	none	none	typical parking lot pollutant	clear, 75	2	2	1	0	0	0	5
7	Tahoe		083-108-004-000	Med	COMMERCIAL STORE	1780 Lake Blvd.	Sunnyside Market	grocery, deli	0.000000	none	unknown	fine sediments, oils	clear, 75	5	3	0	0	0	0	8
8	Tahoe		083-108-005-000	Low	COMMERCIAL STORE	1778 lake blvd.	no business/ vacant	none	0.000000	none	none	typical parking lot pollutant	clear, 75	2	2	1	0	0	0	5
9	Tahoe		083-108-010-000	Low	SERVICE STATION	1790 Lake Blvd.	none	empty lot	0.000000	1,000	none	fine sediments	clear, 75	5	0	0	0	0	0	5
10	Tahoe		083-108-011-000	Med	OFFICE GENERAL	1760 Lake Blvd	Tahoe Park Realty	Misc. Office	0.000000	300	none	typical parking lot pollutant	clear, 75	3	3	2	0	0	0	8
11	Tahoe		083-143-001-000	Low	UTILITIES, PUBLIC & PRIVATE	440 Upper Road	Unknown	Unknown	0.000000	2,000	Sodium Hypochlorite	fine sediments	clear, 75	2	1	2	1	0	0	6
12	Tahoe		083-170-001-000	Low	CHURCHES	855 Lake Blvd.	Parking lot for church	Church	3.780000	none	none	typical Parking lot pollutant	clear, 75	2	1	2	0	0	0	5
13	Tahoe		083-171-003-000	Low	CHURCHES	855 Lake Blvd.	St. Nicholas church	Church	4.500000	none	none	typical parking lot pollutant	clear, 75	2	1	2	0	0	0	5
14	Tahoe		083-182-004-000	Low	SCHOOLS	1035 Lake Blvd.	Corpus Christi Church	Church	0.000000	none	none	typical parking lot pollutant	clear, 75	2	1	2	0	0	0	5
15	Tahoe		083-182-014-000	Low	CHURCHES	905 Lake Blvd.	Corpus Christi Church	Church	0.000000	none	none	typical parking lot pollutant	clear, 75	2	1	2	0	0	0	5
16	Tahoe		083-263-013-000	Low	UTILITIES, PUBLIC & PRIVATE	1045 Skyline Drive	Water Pump Station and Tank	Municipal	0.000000	none	?	?	clear, 72	1	1	1	0	0	0	3
17	Tahoe		083-340-031-000	Low	LODGES, HALLS	487 Club Drive	none	none	0.000000	none	none	none	clear, 72	0	0	0	0	0	0	0
21	Tahoe		084-110-019-000	Low	RESTAURANTS, COCKTAIL LOUNGES	2255 Lake Blvd.	Chase International Real Estate	Real Estate	1.300000	none	typical parking lot pollutar	fine sediments	clear, 73	3	2	0	0	0	0	5
22	Tahoe		084-140-026-000	Low	PARKING LOTS	1995 Lake Blvd	Sunnyside Resort Parking Lot	Marina and Resort	1.000000	none	typical parking lot pollutar	fine sediments	clear, 73	3	2	0	0	0	0	5
23	Tahoe		084-140-028-000	Low	HOTELS, MOTELS, RESORTS	1890 Lake Blvd.	Sunnyside restaurant and Lodge	restaurant and lodge	0.000000	none	grease, garbage	fine sediments, oils	Clear, 73	5	2	0	0	0	0	7
24	Tahoe		084-160-001-000	Low	UTILITIES, PUBLIC & PRIVATE	2155 Lake Blvd.	Kilner Park	Public Park	6.400000	none	none	typical parking lot pollutant	clear, 73	3	2	0	0	0	0	5
25	Tahoe		085-280-070-000	Low	UTILITIES, PUBLIC & PRIVATE	No Address on File	Elizabeth Williams Park	Public Park	0.000000	Beach	none	typical potential pollutants	clear, 73	5	0	0	0	0	0	5
26	Tahoe		085-280-071-000	Low	UTILITIES, PUBLIC & PRIVATE	No Address on File	Elizabeth Williams Park	Public Park	0.000000	beach	none	typical potential pollutants	clear, 73	5	0	0	0	0	0	5
27	Tahoe		085-400-036-000	Med	COMMON AREA	4000 Lake Blvd	Fleur Du Lac Estates and Private	Homeowners Association	7.100000	None	None	fine sediments, pool chlorin	clear, 73	5	5	0	0	0	0	10
28	Tahoe		090-041-006-000	Med	UTILITIES, PUBLIC & PRIVATE	No Address on File	0	0	1.250000	0	0	0	0	0	0	0	0	0	0	0
29	Tahoe		090-041-038-000	High	MISCELLANEOUS COMM'L	8197 Speckled Ave	Rockwood. Inc	Excavation/Tree Removal	0.000000	2,000	Wood Chips, Firewood, Ro	Hydrolic Oil, Grease, Diesel	clear, 78	1	4	4	4	0	0	13



# TAHOE COMMERCIAL AND INDUSTRIAL SITES

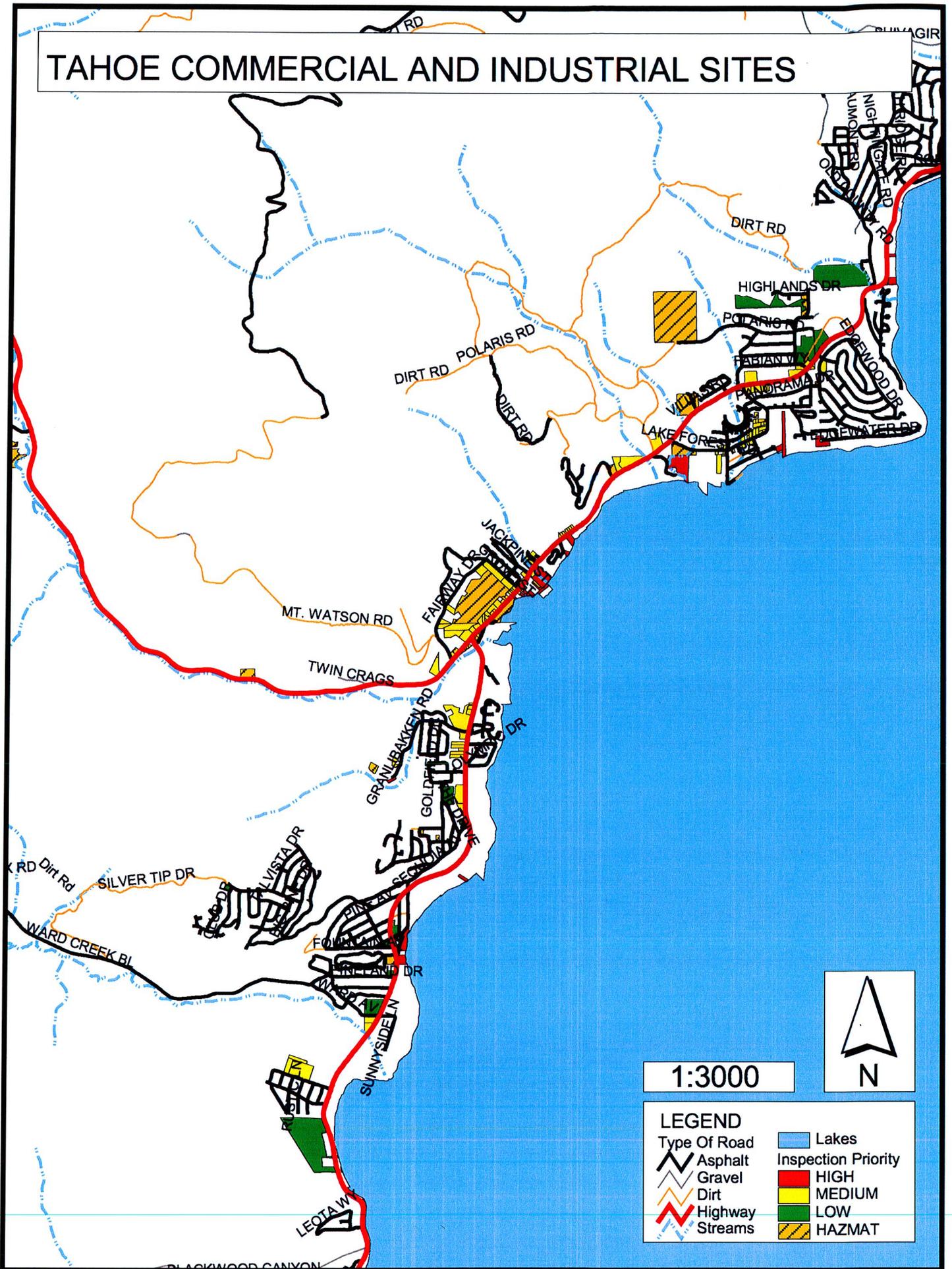


1:3000

LEGEND	
Type Of Road	Lakes
Asphalt	Inspection Priority
Gravel	HIGH
Dirt	MEDIUM
Highway	LOW
Streams	HAZMAT



# TAHOE COMMERCIAL AND INDUSTRIAL SITES

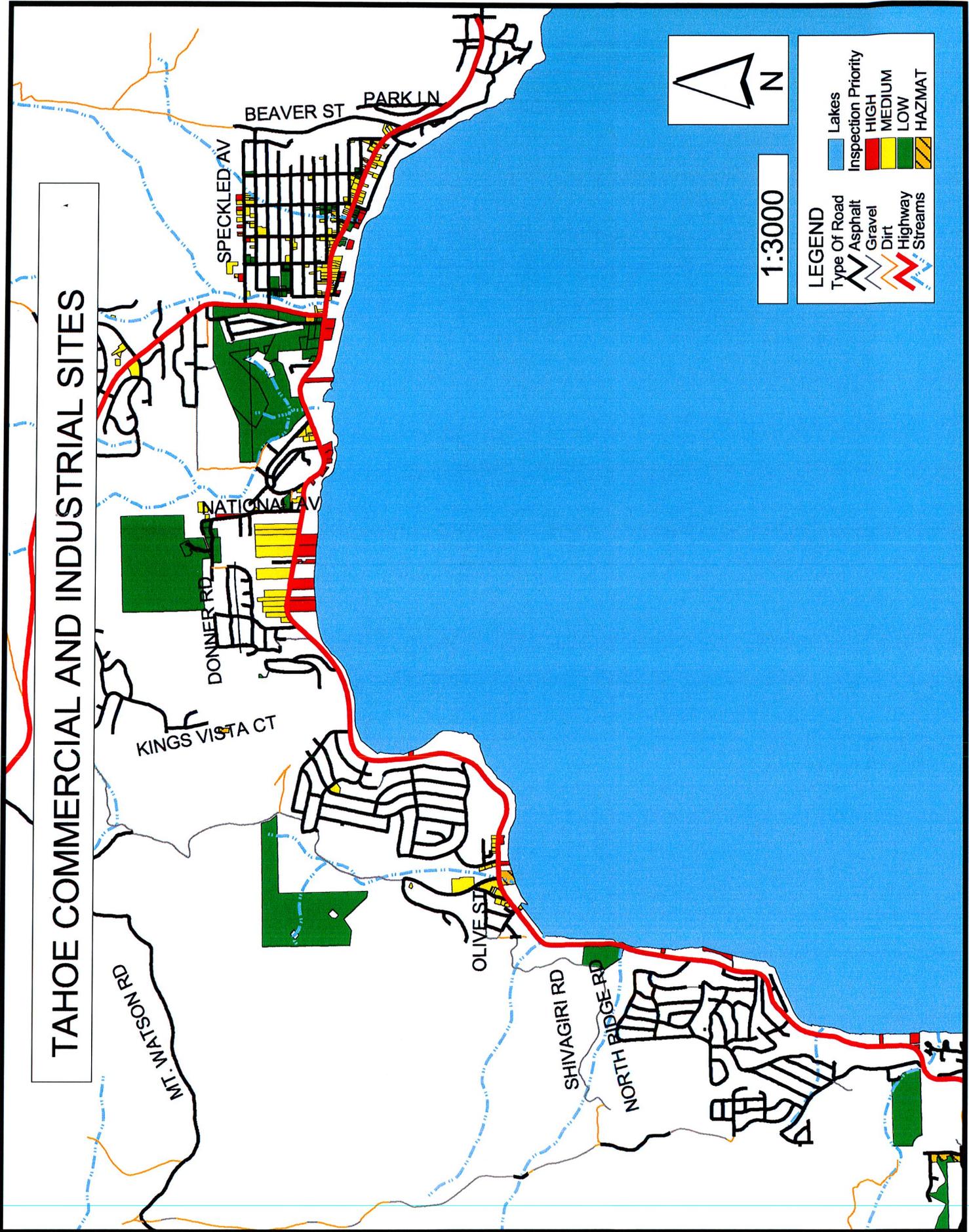


1:3000



LEGEND	
Type Of Road	Lakes
Asphalt	Inspection Priority
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Dirt	MEDIUM
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# TAHOE COMMERCIAL AND INDUSTRIAL SITES

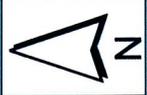
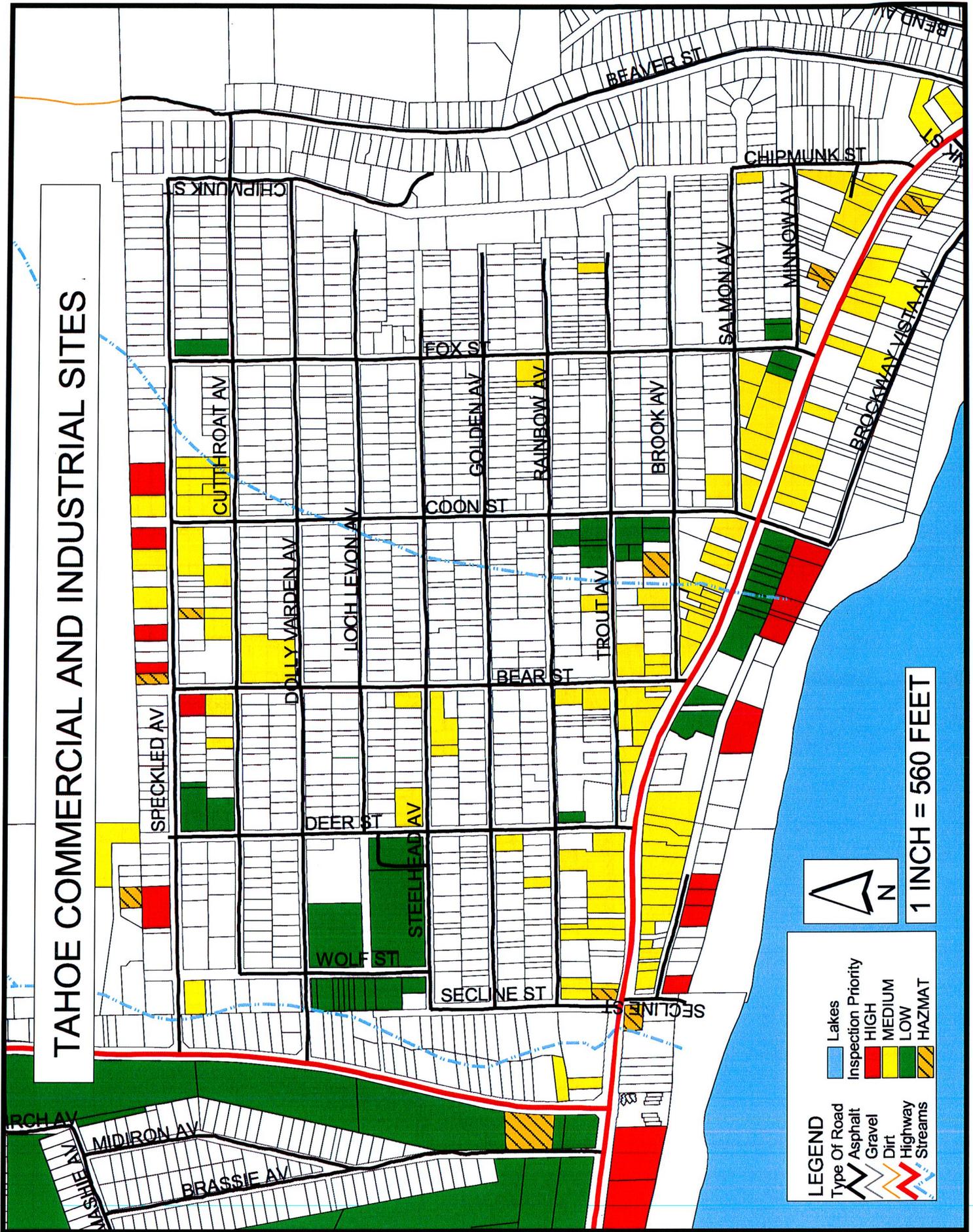


1:3000

LEGEND  
Type Of Road  
Asphalt  
Gravel  
Dirt  
Highway  
Streams

Lakes  
Inspection Priority  
HIGH  
MEDIUM  
LOW  
HAZMAT

# TAHOE COMMERCIAL AND INDUSTRIAL SITES



1 INCH = 560 FEET

**LEGEND**

- Lakes
- Type Of Road
  - Asphalt
  - Gravel
  - Dirt
  - Highway
  - Streams
- Inspection Priority
  - HIGH
  - MEDIUM
  - LOW
  - HAZMAT

# Appendix – J



# County of Placer

## Stormwater Quality Industrial and Commercial Activity Compliance Inspection/Violation Form

<input type="checkbox"/> First Notice	<input type="checkbox"/> Second Notice	<input type="checkbox"/> Third or More Notice	Follow-Up Inspection Due Date:
<b>Corrections required?</b> <input type="checkbox"/> Yes <input type="checkbox"/> no		<b>Corrections completed from prior report?</b> <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> n/a	
<b>Business Information</b>		<b>Inspection Information</b>	
Parcel APN	Map I.D. #	Date:	
Owner's Name:		Time:	AM / PM
Business Name:		Inspector:	
Address of Business Site:		Field & Weather Conditions:	

Business Specifications (Check all that apply):  
 Industrial  Commercial  History of non-compliance

### Inspection Checklist

Inspection Points	Yes	No	N/A	
Is there an activity believed to require a State Industrial Permit?				If yes, Subsector Code and SIC# _____ State/Env. Health notified on _____
<b>Parking/Storage Area Maintenance</b>				<b>Discharge Risk Potential</b>
Are Parking areas and walkways swept and cleaned of pollutants such as sediment, grease, and oils.				<input type="checkbox"/> Minor <input type="checkbox"/> Major <input type="checkbox"/> None
Are storm drain inlets cleaned of debris and pollutants? Are the Storm Drains Marked?				<input type="checkbox"/> Minor <input type="checkbox"/> Major <input type="checkbox"/> None
If there is a slotted channel drain at the driveway is it being maintained so it is affectively controlling discharges?				<input type="checkbox"/> Minor <input type="checkbox"/> Major <input type="checkbox"/> None
Are any slopes eroding on the site which would cause sediment to discharge from the site.				<input type="checkbox"/> Minor <input type="checkbox"/> Major <input type="checkbox"/> None
In snow areas is snow being stored away from drainage paths, waterways and wetlands?				<input type="checkbox"/> Minor <input type="checkbox"/> Major <input type="checkbox"/> None
<b>Maintenance of Long Term Best Management Practices</b>				
Does the site have a detention/ sediment basin, storm vault, or underground storm water feature? If so verify maintenance schedule with owner.				<input type="checkbox"/> Minor <input type="checkbox"/> Major <input type="checkbox"/> None
Does the site have Drain Inlet inserts that need maintenance?				<input type="checkbox"/> Minor <input type="checkbox"/> Major <input type="checkbox"/> None
<b>Tracking and Wind Controls</b>				
Is there evidence or a potential of pollutant tracking off of the site?				<input type="checkbox"/> Minor <input type="checkbox"/> Major <input type="checkbox"/> None
Are wind control measures being effectively applied?				<input type="checkbox"/> Minor <input type="checkbox"/> Major <input type="checkbox"/> None
<b>Non-Stormwater and Waste Disposal Management</b>				
Are spill cleanup materials located at or near potential spill locations?				<input type="checkbox"/> Minor <input type="checkbox"/> Major <input type="checkbox"/> None
Are spills being cleaned up and disposed of properly?				<input type="checkbox"/> Minor <input type="checkbox"/> Major <input type="checkbox"/> None
Are materials properly stored under cover or in secondary containment when not in use?				<input type="checkbox"/> Minor <input type="checkbox"/> Major <input type="checkbox"/> None
Are dumpster lids closed and trash collection areas cleaned				<input type="checkbox"/> Minor <input type="checkbox"/> Major <input type="checkbox"/> None
Is Vehicle maintenance and washing being performed where water flows into a BMP?				<input type="checkbox"/> Minor <input type="checkbox"/> Major <input type="checkbox"/> None
Is there any observed sediment or illicit discharge on the property?				<input type="checkbox"/> Minor <input type="checkbox"/> Major <input type="checkbox"/> None

Inspection OK  (no shaded boxes checked, no action taken)  
 Inspection not OK  (shaded box (es) checked, describe action taken)  BMP Brochure Distributed to Property

#### ACTION TAKEN:

- No Action taken: All was in compliance at site so no follow up action is necessary.
- Verbal Warning: Informed owner/builder of Stormwater pollution and/or BMP violations
- Written Warning: Gave owner/builder copy of Inspection violation form.

Other: \_\_\_\_\_

**Summary of follow up and enforcement actions taken( if violation is observed).**  Follow up inspection  Urgency abatement  Issue citation

**Explanation/Additional Comments:** (more room on back) \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Inspector Signature \_\_\_\_\_ Date \_\_\_\_\_ Phone \_\_\_\_\_

**Explanation/Additional Comments:**


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**Enforcement Options for Stormwater Inspectors:**

These enforcement processes may or may not be used sequentially, depending upon the severity of the violation.

- **Verbal Warning:** The inspector is responsible for providing verbal warnings to educate people that their practices may be contributing to Stormwater pollution. Verbal warnings may be provided through discussion with owner, tenant, or contractor, or through providing educational materials. Verbal warning authority comes from the Stormwater ordinance.
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**Stormwater Quality Information**

- ◆ **Water Quality Violation:** State and Federal regulations prohibit all polluted discharges to the storm drain system. Such discharges are also in violation of Placer County Stormwater Quality Ordinance, Article 8.28 of the Placer County Code which can be viewed at <http://qcode.us/codes/placercounty>. The County also has grading permit requirements which are described in Grading Ordinance Article 15.48.
- ◆ **State Permit Requirements:** The Industrial Storm Water General Permit Order 97-03-DWQ is an NPDES permit that regulates discharges associated with 10 broad categories of industrial activities. For permit information and forms please enter the following link which will direct you to the California State Waterboards website at [http://www.waterboards.ca.gov/water\\_issues/programs/stormwater/gen\\_indus.shtml](http://www.waterboards.ca.gov/water_issues/programs/stormwater/gen_indus.shtml)
- ◆ For general stormwater program information, please see the Placer County Stormwater Program webpage at <http://www.placer.ca.gov/Departments/Works/StrmWtr.aspx> or call the Stormwater Quality Division at (530) 745-7500.

**Helpful Websites:**

California Stormwater Quality Association	<a href="http://www.casqa.org">www.casqa.org</a>
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Lahontan Regional Water Quality Control Board	<a href="http://www.waterboards.ca.gov/lahontan/">http://www.waterboards.ca.gov/lahontan/</a>
Lake Tahoe Best Management Practices	<a href="http://www.tahoebmp.org">www.tahoebmp.org</a>
Tahoe Regional Planning Agency	<a href="http://www.trpa.org">www.trpa.org</a>
Sediment Source Control Handbook	<a href="http://www.waterboards.ca.gov/lahontan/water_issues/available_documents/carec.shtml">http://www.waterboards.ca.gov/lahontan/water_issues/available_documents/carec.shtml</a>

# Appendix – K

# County of Placer



## Lake Tahoe Pollutant Load Reduction Plan

March 15, 2013

Revised May 15 2013

Prepared for:

**Lahontan Regional Water Quality Control Board**

Prepared by:

**Placer County Department of Public Works**

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## **LIST OF ACRONYMS**

<b>BMP</b>	Best Management Practices, e.g. stormwater control measures
<b>County</b>	County of Placer
<b>FSP</b>	Fine Sediment Particles
<b>GIS</b>	Geographic Information System
<b>Lahontan</b>	Lahontan Region Water Quality Control Board
<b>MS4</b>	Municipal Separate Storm Sewer System
<b>NDEP</b>	Nevada Department of Environmental Protection
<b>NPDES</b>	National Pollutant Discharge Elimination System
<b>O&amp;M</b>	Operations and Maintenance
<b>PLRM</b>	Pollutant Load Reduction Model
<b>PLRP</b>	Pollutant Load Reduction Plan
<b>ROW</b>	Right of Way
<b>SEZ</b>	Stream Environment Zone
<b>TMDL</b>	Total Maximum Daily Load
<b>TN</b>	Total Nitrogen
<b>TP</b>	Total Phosphorus
<b>TRPA</b>	Tahoe Regional Planning Agency
<b>UPC</b>	Urban Planning Catchment
<b>WQIP</b>	Water Quality Improvement Project

## 1.0 BACKGROUND

The California Regional Water Quality Control Board-Lahontan Region (Lahontan) incorporated Total Maximum Daily Load (TMDL) pollutant load reduction requirements into the updated Lake Tahoe Municipal National Pollutant Discharge Elimination System (NPDES) Permit. This permit (Board Order R6T-2011-0101, NPDES Permit Number CAG616001) regulates stormwater discharges from each of the three California Lake Tahoe Basin jurisdictions (El Dorado County, Placer County and the City of South Lake Tahoe).

The municipal separate storm sewer system (MS4) infrastructure in Placer County consists of collection, conveyance, and treatment facilities. Federal rules require operators of MS4 systems to implement programs to control pollution in stormwater runoff. California regulates MS4s through municipal NPDES permits, and for this document, Lahontan Board Order R6T-2011-0101 is referred to as the MS4 permit.

The MS4 permit requires the County of Placer (County) to prepare a Pollutant Load Reduction Plan (PLRP) by March 15, 2013 detailing the County's approach for meeting pollutant load reduction requirements promulgated by the TMDL. In summary, the TMDL requires reducing fine sediment (less than 16 microns in size) discharge from the Lake Tahoe Basin portion of Placer County by a minimum of 10 percent (expressed by weight and no. of particles) by September, 2016.

This document presents Placer County's PLRP, which includes the following:

- 1) Four selected strategies for achieving the required load reduction;
  - a. Registration of catchments associated with completed water quality improvement projects
  - b. Improved sweeper technology implementation
  - c. Enhanced operations & maintenance (O&M) management
  - d. Credit for private best management practices (BMPs) from commercial/mixed use development/redevelopment projects
- 2) Estimated load reductions based on proposed strategies;
- 3) Estimated annual timeline for load reductions; and,
- 4) Annual adaptive management process.

### 1.1 BASELINE LOAD ESTIMATE

In 2011, Lahontan issued an *Order to Submit Technical Reports in Accordance with California Water Code – Lake Tahoe Urban Stormwater Implementation* (13267 Order) to the County and the other Tahoe Basin MS4 permittees (El Dorado County and City of South Lake Tahoe). The 13267 Order required Placer County to estimate a baseline pollutant load discharged to Lake Tahoe for fine sediment particles (FSP), total phosphorus (TP), and total nitrogen (TN). The

period of time from October 1, 2003 to May 1, 2004 is defined by the 13267 Order, and the MS4 permit, as the **Baseline Condition** and the point of reference for estimating baseline pollutant loading.

Placer County contracted with the US Army Corps of Engineers for the development of the *Placer County Stormwater TMDL Strategy Technical Report*, dated July 12, 2011 (Strategy Report, 2011). Based on the assessment methods summarized in this report, Placer County's baseline load estimate was computed (Section 2, page 10), and is shown in Table 1.1, below.

**Table 1.1 – Placer County Baseline Pollutant Load Estimate**

Urban Area (acres)	Surface Runoff (acre-feet/year)	Pollutant Loading			
		FSP	TP	TN	Units
5,738	1,491	516,000	2,450	10,220	lb/year
		234,053	1111	4635	Kg/year
		2.6E+19	n/a	n/a	# particles/year <sup>1</sup>

<sup>1</sup> One kg FSP =  $1.1 \times 10^{14}$  particles FSP (Lahontan and NDEP 2011, Equation: 0.3)

This baseline load estimate for Placer County is considered accurate unless during the permit period, new information becomes available to justify refining the estimate.

## 1.2 LOAD REDUCTION REQUIREMENTS

Through the Lake Tahoe TMDL, Lahontan established five-year load reduction targets to assess each California jurisdiction's progress towards meeting overall load reduction goals (Lahontan 2010: p. 10-4). Load reduction targets for FSP, TP, and TN have been established based on attainment of California's Lake Tahoe transparency standard (roughly a clarity depth of 97 feet) over an estimated 65-year implementation period.

The MS4 permit requires a 10 percent FSP reduction, 7 percent TP reduction, and an 8 percent TN reduction from baseline pollutant loading which must be earned by September 30, 2016 and maintained for subsequent water years.

Lahontan has developed the Lake Clarity Crediting Program to support the Lake Tahoe TMDL. This crediting program specifies the process to connect implementation of water quality improvement actions to corresponding estimated pollutant load reductions (Lahontan and NDEP 2011). Through this program, Lake Clarity Credits have been defined as a mechanism to provide flexibility for regulated jurisdictions to achieve required load reductions. Lahontan intends to use the Lake Clarity Crediting Program as an accounting system for Lake Clarity Credits to track compliance with stormwater regulatory measures.

Table 1.2 displays Placer County’s load reduction requirements for this MS4 permit term. In terms of crediting and tracking, Placer County is expected to obtain 260 Lake Clarity Credits. One Lake Clarity Credit =  $1.0 \times 10^{16}$  particles FSP (Lahontan and NDEP 2011, Equation: 0.2).

**Table 1.2 – 2016 Load Reduction Requirements**

Parameter	Baseline Load (kg/year)	Required Percent Reduction	Required Load Reduction (kg/year)	Allowable Load (kg/year)
Fine Sediment Particles (mass)	234,053	10%	23,405	210,648
Fine Sediment Particles (# of particles)	2.6E+19	10%	2.6E+18	2.34E+19
Total Phosphorus	1,111	7%	78	1,033
Total Nitrogen	4,635	8%	371	4,264

### 1.3 SUPPORTING INFORMATION

The Placer County Strategy Report identified potentially feasible and cost effective actions to meet anticipated TMDL reductions and to inform the load reduction planning process.

The Strategy Report categorized and analyzed water quality improvement actions as three primary load reduction methodologies:

1. Road maintenance operations for water quality;
2. Public water quality improvement projects (WQIPs); and
3. Private parcel BMPs implemented through retrofit or redevelopment

The Strategy Report completed an existing conditions assessment that estimated load reductions Placer County could achieve by registering, or calculating Lake Clarity Credits from completed WQIPs since 2004 (baseline) and those WQIPs scheduled for completion by 2016. Load reduction estimates for these projects were developed using the Pollutant Load Reduction Model (PLRM), which is the same modeling tool used to estimate the baseline pollutant load. The PLRM is a publicly available long-term continuous simulation model used to evaluate and compare alternatives for storm water quality improvement projects in the Tahoe Basin. The PLRM links urban stormwater hydrology and site specific land use conditions to estimate average annual pollutant loading from urban drainage catchments under varying scenarios (NHC et al. 2009).

While the Strategy Report contains the supporting analysis and assumptions that informed the estimated load reductions of this PLRP, the listed WQIPs and associated load reduction estimates are being updated in the PLRP. The load reduction numbers, calculated in 2010,

require updating based on actual project implementation to date. Specifically, projects were omitted from the Strategy Report (Homewood Phase 1 and 1A, Snow Creek Restoration, Griff Creek SEZ, and Kings Beach WQIP) and these are/will be completed by 2016, offering opportunities for additional lake clarity credits. Page 4.8 of the Strategy Report specifies that the percent FSP reduction as a result of project implementation can be estimated based on similarities to modeled WQIPs and on best professional judgment. This technique was employed to update the load reduction estimates for projects not included in the Strategy Report, to reflect current 2013 project conditions.

After calculating the 2004 baseline conditions and estimating the pollutant load reduction as a result of WQIPs, the Strategy Report assessed two additional load reduction methodologies (road maintenance operations and private parcel BMP implementation), which included varying levels of execution. The results identified potential load reduction approaches Placer County could consider in meeting load reduction requirements. At least one strategy, specifically single-family private parcel BMP implementation (particularly those properties not hydraulically connected) was not considered cost-effective, as a large investment of resources would yield minimal results toward load reduction targets. Based on these analyses, Placer County will focus on capturing clarity credit for private property BMPs where they are implemented as part of larger, commercial or mixed-use developments or redevelopment projects.

In summary, Placer County intends to meet the TMDL requirements in this permit term through registration of WQIP catchments, implementing pollutant control management measures in road maintenance operations, and quantifying clarity credits from completed private development and redevelopment projects located in registered catchments.

## 2.0 CATCHMENT REGISTRATION

This section summarizes the County's list of project catchments that will be registered, per the Clarity Crediting Program, and the expected sediment load reduction achieved for each. The catchments are divided into completed projects from the baseline year 2004 through the 2012 construction season, and those projects in the design stage for anticipated completion by 2016.

### 2.1 COMPLETED PROJECT CATCHMENTS

To date, the County's approach for reducing stormwater pollutant loads has focused on implementation of public Rights-of-Way (ROW) Water Quality Improvement Projects (WQIPs) in accordance with TRPA's Environmental Improvement Program.

Since the Lake Tahoe TMDL 2004 baseline period, Placer County has completed sixteen WQIPs. Performance estimates for the completed WQIPs were previously computed in the Strategy Report, and are presented in Table 2.1. Pollutant load reduction estimates are derived from PLRM modeling of three Placer County WQIPs: Tahoe Estates, Dollar Point and Tahoe Pines Area C, then through extrapolation of watershed characteristics and best professional judgment.

The following are standard input assumptions used for Placer County WQIP catchment estimates utilizing PLRM modeling:

- Street sweeping is conducted on a regular basis, with a minimum frequency of 1-2 times per year.
- Sweeping maintenance, using a mechanical broom sweeper for all secondary roads.
- Private property BMP implementation percentages are based on BMP data supplied to Placer County by TRPA.

Should significant private property projects be completed during the permit term, such as commercial and/or mixed use development or redevelopment projects, additional lake clarity credits may be pursued as these projects can typically be shown to have a high impact to improving stormwater within a catchment. Additional credits will be justified by changing the appropriate private property completion percentage input parameters in the PLRM.

**Table 2.1 – Completed WQIP Catchment Credit Estimates**

Water Quality Improvement Project	Year Completed	Load Reduction Estimates (Pounds/Year)	Lake Clarity Credits
		FSP	
Dollar Point	2008	3,241	16.2
Lake Forest Meadow	2009-2010	2,184	11
Timberland	2004	551	3
Upper Cutthroat	2005	398	2
Lake Tahoe Park	2004	804	4
Tahoe Pines – Area A	2007	1,195	6
Tahoe Pines – Area B	2009	43	.25
Tahoe Pines – Area C	2011	1,704	9
Tahoe Estates	2009	3,112	16
West Sunnyside Phase I	2008	1,305	7
Fox Clean Water Pipe	2010	400	2
Tahoe City Residential	2011	969	5
Brockway	2012	2,022	10
Homewood Phase 1 & 1A	2012	3,800	19
Beaver Street Retrofit	2007	928	5
Lake Forest Highlands	2012	1,000	5
<b>Totals:</b>		<b>22,919</b>	<b>120</b>
<b>Percentage of Required Credits:</b>		<b>120/260</b>	<b>46.2%</b>

Note: 1 Lake Clarity Credit = 200.42 pounds of FSP

Once these project areas are individually modeled using PLRM, the actual load reductions and credits may be different from the extrapolated estimates shown in Table 2.1.

## 2.2 PROPOSED PROJECT CATCHMENTS

Placer County anticipates completion of six WQIPs in various stages of planning and design. These additional WQIPs are intended to be constructed within the permit term (by September 2016). The six WQIPs include:

**Table 2.2 – Proposed WQIP Catchment Credit Estimates**

Water Quality Improvement Project	Year Completed	Load Reduction Estimates (Pounds/Year)	Lake Clarity Credits
		FSP	
Lake Forest Panorama	2014-2015	6,040	30
West Sunnyside Phase II	2015	1,414	7
Snow Creek Restoration	2013	1,800	9
Kings Beach CCIP	2013-2016	10,508	52
Griff Creek	2014	900	4.5
Kings Beach WIP <sup>1</sup>	2014-2016	3,000	15
<b>Totals:</b>		<b>20,659</b>	<b>117</b>
<b>Percentage of Required Credits:</b>		<b>117/260</b>	<b>45.0%</b>

<sup>1</sup> Kings Beach WIP includes two sub watershed projects within the Kings Beach planning area.

The proposed WQIPs include addressing pollutant runoff from the densest urban area in Placer County within the Tahoe Basin (Kings Beach) and also a major project addressing the runoff from a dense commercial land use area (Lake Forest Panorama) with integrated SEZ restoration and outfall reconstruction components. These two projects treat areas within intervening zone watersheds that discharge stormwater directly to Lake Tahoe or streams flowing to Lake Tahoe. Consequently, the WQIPs are predicted to provide a large percentage of the overall fine sediment load reduction at the end of the permit term in 2016. The Griff Creek and Snow Creek restoration projects are expected to achieve sediment load reduction through altering drainage connectivity and reduction of overland runoff volumes.

Pollutant reduction estimates in Table 2.2 are derived from preliminary project PLRM models that typically reflect the preferred alternative for project design, and based on the extrapolated amount of sediment removal that has been computed from similar projects. Similarly, the Griff Creek and Snow Creek restoration projects pollutant load reduction estimates were extrapolated based on the square footage of the tributary areas and the change in connectivity. Additional refinement and quality assurance of these PLRM models will occur after project construction to ensure the models appropriately represent the functions of the constructed water quality improvements. Final load reduction numbers registered with the Lake Clarity Crediting Program may differ from the estimates presented in Table 2.2.

## 3.0 POLLUTANT CONTROL MANAGEMENT MEASURES

Management controls proposed to meet the sediment load reduction include the following measures:

- Utilizing an abrasive supply with negligible FSP and high hardness content in the source material.
- Improved sediment recovery through an increase in the frequency of sweeping operations in targeted, registered catchment project areas.
- Purchasing a new, high-efficiency vacuum assist sweeper to improve the overall efficiency of sweeping operations.
- Treatment Best Management Practices.
- Implementation of private property Best Management Practices

### 3.1 CHANGE ABRASIVE SOURCE MATERIAL

Preliminary results from a recent Caltrans study (Caltrans, 2010) indicates that considerations in the abrasive material supplier can result in an overall decrease in the amount of FSP mobilized during winter traction operations.

The Caltrans study indicates that the abrasive material previously used by Placer County through the 2011-2012 winter season (#002 in Caltrans study) has comparably high amounts of FSP relative to other available sources. The deicing sand (#022 in Caltrans study) has approximately 0.01 percent FSP, compared to the (average) 0.3 percent FSP contained in previous abrasive sources that Placer County utilized, as shown in Table 3.1, below. Placer County has recently changed to the low-FSP content abrasive source (#022 in Caltrans Study) for 2012-2013 winter operations.

As part of the pollution load reduction plan, Placer County will need to determine the appropriate method for registering the change in road abrasive supply as a jurisdiction-wide action. On-going studies currently being conducted by Caltrans will help to quantify this management control measure in terms of Lake Clarity Credit.

The small percentages of FSP within an abrasive supply can become a relatively significant load when calculating total abrasives applied Countywide. By simply switching to an abrasive supply (#022) with a lower percentage of FSP, the total seasonal amount of FSP applied to Placer County roads will be reduced by approximately 4,817 pounds per year (Table 3.1). The actual load reduction in the County's baseline load from this action would be less than 4,817 pounds of FSP if fate and transport of material applied to County roads is considered. However, using this estimated reduced amount of FSP in the abrasives applied to Placer County secondary roads per annual year, the Lake Clarity Credit would translate to approximately 24 credits, or account for about 9 % (24/260) of the required load reduction annually.

**Table 3.1 – Estimated FSP Applied to Placer County Roads from Winter Abrasives**

Abrasive Supply	FSP Count (particle count / kg abrasive) <sup>1</sup>	FSP Mass (kg FSP / kg abrasive) <sup>2</sup>	FSP Percentage by Mass in Abrasive Supply	Average Annual County Abrasives Applied (kg)	FSP Applied (kg/year)	FSP Applied Difference From Baseline (lb/year)	Lake Clarity Credit (Year)
Typical Baseline Source #002	3.68E+11	0.0030	0.30%	754,500	2,260	4,817	24
Deicing Sand – Source #022	6.94E+09	0.0001	0.01%	754,500	75		

<sup>1</sup> Caltrans 2010: p. 4-1

<sup>2</sup> One kg FSP =  $1.1 \times 10^{14}$  particles FSP (Lahontan and NDEP 2011: Equation 0.3)

This pollutant control management measure is already in-place. For the 2012-2013 winter season Placer County changed its abrasive supply to the deicing sand identified in the Caltrans study as source #022.

The load reduction benefit that may be realized from this action is not proposed for registration with this PLRP term, unless circumstances in 2016 require Placer County to take credit for this action to meet load reduction requirements. A consistent methodology among the jurisdictions should be developed to adequately capture the reduction in sediment loading by discriminating and assessing the fines percentage in an abrasives supply source. The County intends to take credit for this action, perhaps as part of a future PLRP, once the following programmatic steps are completed:

- The methods and associated level of effort for registering and tracking the performance of jurisdictional management actions with the Lake Clarity Crediting Program are better defined.
- Updates to the PLRM Road Methodology to assess abrasive type are completed.
- Additional research, some of which is currently being conducted by Caltrans and El Dorado County, to assess the load reduction benefit of various road abrasive materials in terms of resistance to pulverization (hardness component) into FSP.

### **3.2 INCREASE FREQUENCY OF SWEEPING**

Various sweeping scenarios evaluated the Strategy Report suggest augmentation of current sweeping operations could be a viable pollutant load reduction action. More frequent and targeted sweeping activities during the current permit term should help Placer County achieve pollutant load reductions.

Specifically, Placer County is proposing to increase sweeping from a minimal 1-2 times during spring and summer months, to twice per month during winter months (November through April) in addition to 1-2 times during the spring and summer months. The secondary roads that will be targeted will be those streets within the 16 completed project catchments (listed in Table 2.1).

As noted in PLRP Section 2, the Strategy Report baseline assumptions for estimating the pollutant load reductions in Placer County assume a sweeping frequency of 1-2 per year. By increasing the sweeping frequency from this baseline to twice monthly during the winter months (defined as November through April) in addition to 1-2 times during the spring/summer months, Placer County could capture a conservative estimate of approximately 10% more FSP. Based on the 16 registered catchment sediment load reduction total, 22,919 pounds/year, an additional 10% (2,292) translates to about 11 Lake Clarity credits or  $11/260 = 4.2\%$  of the total permit term load reduction. The additional Lake Clarity credits will simply be computed by changing the PLRM Road Conditions editor to reflect the new sweeping program. The computed delta, or change in load reduction will be requested during annual reporting and catchment registration with Lahontan.

This proposed sweeping frequency is not the highest sweeping frequency interval that can be modeled by the PLRM. The proposed frequency still allows Placer County a future option of increasing sweeping frequency to what is currently the highest aim: sweeping after every winter abrasive application. Due to limited resources at this time, Placer County cannot commit to that standard. However, if PLRM computations show that the proposed level of increased sweeping will not be sufficient to capture enough lake clarity credits from the completed water quality improvement projects, than a program of strategic sweeping after every winter abrasive application may be pursued.

Another option currently under consideration, likely for subsequent permit terms, would be the purchase and installation of EPOKE, or similar, abrasives spreaders on County trucks. These spreaders would be used as a management tool to limit the amount of abrasives applied to secondary roads, and strategically limit FSP from this source. Again, a consistent methodology would need to be developed to train County personnel in this application technique and to track the load reduction between jurisdictions to allow for Lake Clarity Credit to be computed.

### **3.3 PURCHASE NEW HIGH-EFFICIENCY SWEEPER**

Placer County determined that limited capital equipment funds in this permit term would be judiciously spent with the purchase of at least one new sweeper. Placer County has ordered a 2013 Elgin Eagle high-efficiency model, equipped with a vacuum assist. This model meets the definition of a high-efficiency sweeper (Sutherland 2011: p. 4). This is the highest order-type sweeper that can be modeled using the PLRM estimation techniques.

A second, high-efficiency sweeper may be purchased prior to the end of the permit term in 2016. Purchasing a second sweeper would be dependent upon the utilization rate of the sweeper, maintenance requirements and on personnel.

The sediment load reduction estimates computed in the Placer County Strategy Report were based on sweeping with a mechanical broom sweeper. With the addition of the Elgin Eagle to the County fleet, the streets within the registered catchments will be swept with the County's new sweeper a minimum of twice per month in the winter months (November through April), as road and weather conditions allow, and once or twice during spring/summer months.

By utilizing a high-efficiency sweeper, Placer County will model sweeper performance in PLRM from this action using the "High-Efficiency Vacuum-Assisted Dry Sweeper" option. Load reduction estimates from PLRM simulations for the 16 registered catchments utilizing the high-efficiency sweeper as opposed to the mechanical broom modeled in the PLRM estimates from the Strategy Report will result in an estimated difference of 15 Lake Clarity Credits or  $15/260 = 5.8\%$  of the total permit term load reduction. The additional Lake Clarity credits will simply be computed by changing the PLRM Road Conditions editor to reflect the different sweeper. The computed delta, or change in load reduction will be requested during annual reporting and catchment registration with Lahontan.

### **3.4 TREATMENT BEST MANAGEMENT PRACTICES**

Between 2004 and 2012, Placer County constructed 16 WQIPs in the Lake Tahoe basin. Six planned WQIPs are proposed for construction before 2016, which, when combined with the completed projects, are expected to achieve the for the required 10% reduction in FSP. These WQIPs include best management practices (BMPs) such as dry basins, wet basins, sediment traps, and infiltration basins, channels, and inlets. Each BMP is evaluated through the PLRM catchment modeling and registration. Sediment load reduction estimates described in the Placer County Strategy Report were based on the type of BMP along with the area treated within the watershed. Project BMP features and those BMPs installed on private properties within catchment areas are expected to provide a substantial portion of required load reductions.

### **3.6 PRIVATE PROPERTY BEST MANAGEMENT PRACTICES**

Private property BMPs are an important type of source control. All properties within the catchment areas with BMP and source control certificates, as recognized by TRPA, will be included in PLRM modeling. Initial baseline load estimates incorporated average regional private property BMP conditions. However, TRPA's BMP database shows that private property BMPs may be implemented at a higher level than reflected in baseline modeling. Placer County will account for this in PLRM catchment modeling, to maximize load reduction credits. The County will also continue to promote private property BMP installation in proposed project areas and through public education and outreach efforts.

### **3.6 MANAGEMENT MEASURES PERFORMANCE SUMMARY**

Using Lake Clarity Credits as the defining performance metric, the PLRM analysis estimates that the County can obtain 26 (10%) Lake Clarity Credits through pollutant load reducing management measures, which does not include potential credits determined for changing abrasive type. As previously noted, a methodology needs to be developed to earn credits from this management measure. While the County will likely obtain the majority of the required

Clarity Credits (91.2%) through the implementation and registration of WQIPs, the estimates for Lake Clarity Credits were only based on employing pollutant control management measures within the 16 existing completed WQIPs. If necessary, Placer County will explore registering additional catchments where enhanced management measures are deployed to earn additional credits.

Due to the uncertainty of future individual WQIP performance and construction scheduling, estimates based on preliminary PLRM models, which in some cases reflect the preferred alternative for project design, the actual computed Clarity Credits may vary. The selected pollutant control management measures will offer flexibility if needed, and the County can adjust these practices. Additionally, Lake Clarity Credits could be reduced if County operations and maintenance activities are unable to sustain load reductions at the levels estimated by the supporting assumptions. This approach allows flexible and adaptable load reduction measures to be deployed as necessary to meet the MS4 permit requirements during the permit term.

Table 3.2 summarizes the estimated load reductions and associated Lake Clarity Credits the County anticipates achieving with pollutant control management measures.

To reiterate, there is flexibility and adaptability constructed into these measures. Note that the change in abrasive type, while included in the summary table below, is not part of the total Lake Clarity Credits estimated for this permit term. Additionally, any development or redevelopment private property BMPs that would be required through Placer County approvals (such as redevelopment projects in the Kings Beach commercial core or JMA Ventures Homewood Mountain Resort) and which result in measurable reduced pollutant loading are also not part of the total Lake Clarity Credits estimated for this permit term. However, credits associated with those actions may be available to be incorporated during the permit term.

**Table 3.2 – Pollutant Control Management Measures Summary**

Action	Load Reduction Estimates (lbs/year)	Lake Clarity Credits
	FSP	
Change Abrasive Type	3,234	16
Increase Frequency of Sweeping	2,405	11
Utilize New High-Efficiency Sweeper	3,006	15
<b>Management Measures Total <sup>1</sup></b>	<b>5,411</b>	<b>26</b>
<b>Percentage of Required Credits</b>	<b>26/260</b>	<b>10%</b>

<sup>1</sup>Does not include changing abrasive type as it is assumed a credit methodology will not be developed within the current permit term.

## 4.0 CATCHMENT REGISTRATION SCHEDULE

Placer County intends to register all the water quality improvement projects completed from 2004 listed in Table 2.1, and those projects currently in the design stages listed in Table 2.2.

Table 4.1 below summarizes the catchment registration schedule for the water quality improvement projects.

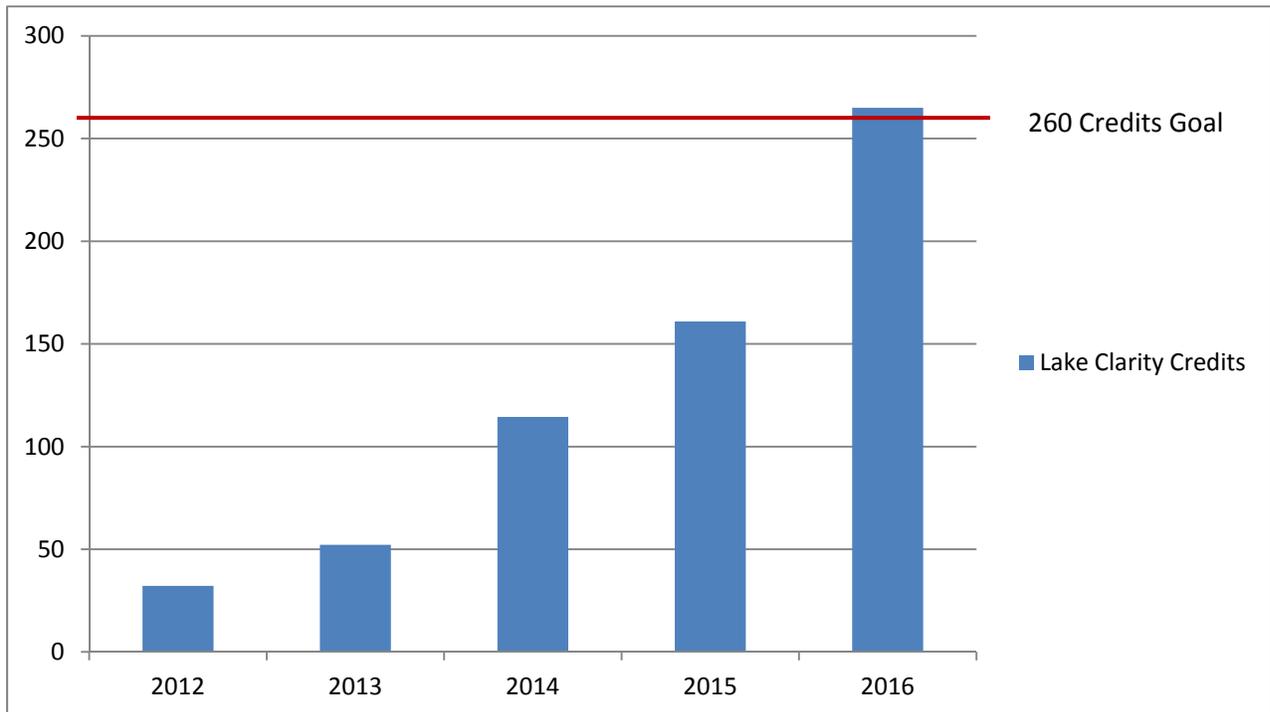
**Table 4.1 – Catchment Registration Schedule**

<b>Catchment Registration Year</b>	<b>Associated Project:</b>
2012	Dollar Point
	Tahoe Estates
2013	Timberland
	Upper Cutthroat
	Beaver Street Retrofit
	Brockway
2014	West Sunnyside Phase I
	Tahoe Pines – Area A
	Tahoe Pines – Area B
	Tahoe Pines – Area C
	Fox Clean Water Pipe
	Lake Forest Meadow
2015	Tahoe City Residential
	Lake Tahoe Park
	Homewood Phase 1 and 1A
	Lake Forest Highlands
	Snow Creek Restoration
	Griff Creek
2016	Lake Forest Panorama
	West Sunnyside Phase II
	Kings Beach CCIP
	Kings Beach WIP

## 5.0 LOAD REDUCTION SCHEDULE

The County's catchment registration schedule will attain at least 260 Lake Clarity Credits by the end of the MS4 permit term in 2016. Load reduction performance estimates, which are used to estimate anticipated Lake Clarity Credits, are based on the PLRM results and estimates presented in previous sections of this report. Figure 5.1 presents estimated Lake Clarity Credits categorized based on the timing of water quality improvement actions.

**Figure 5.1 – Placer County Pollutant Load Reduction Schedule**



Registration Schedule by year:

2012 – Completed Water Quality Improvement Projects (WQIP) catchment registered

2013 – Completed WQIP catchments registered and purchase of new sweeper

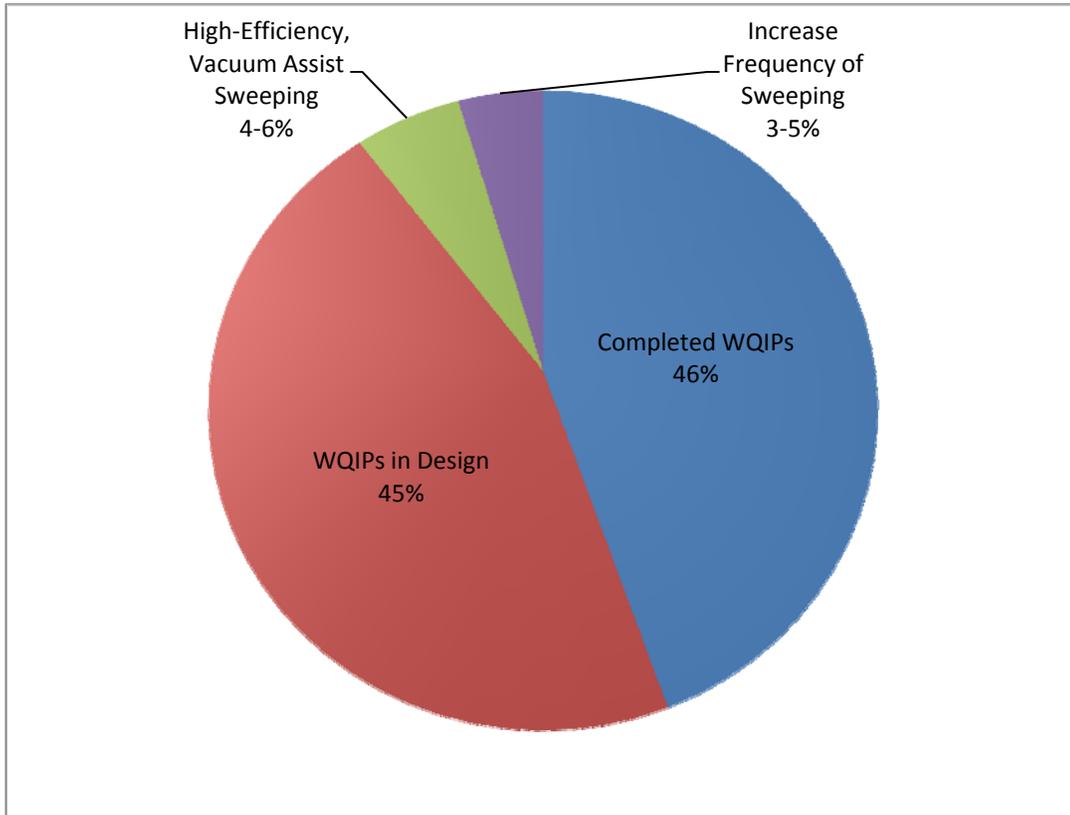
2014 – Completed WQIP catchments registered and increased sweeping

2015 – New and Completed WQIP catchments registered and increased sweeping

2016 - New and Completed WQIP catchments registered and increased sweeping

As shown in Figure 5.2, the majority of Lake Clarity Credits Placer County anticipates during the permit term are associated with completed WQIPs and WQIPs that are currently in design and that will complete construction in the summer of 2016.

**Figure 5.2 – Estimated Credits Categorized by Action**



## 6.0 ADAPTIVE MANAGEMENT

Since 2009, the County has been mapping storm water improvements with a geographic information system (GIS) tool that allows County staff to review and assess its stormwater infrastructure and treatment systems. The County will continue to track abrasive applications and materials recovered by sweeping and vactoring, which helps identify areas with high pollutant loading. County staff and consultants will continue to inspect facilities during large runoff events, to determine whether constructed source control, conveyance, and treatment measures are functioning as designed. County staff will also complete annual storm water system, construction and commercial, industrial, and municipal site inspections required in the MS4 permit. With a stormwater ordinance in place, the County has the ability to control pollutant and fine sediment discharges generated within our jurisdiction.

These existing tools and processes form the foundation of the County's internal approach to assess its stormwater management activities. The tools can also support assessments and reporting of load reduction progress during the implementation of this PLRP.

If PLRM computations for subsequent catchment registration show that the proposed level of increased sweeping will not be sufficient to capture enough lake clarity credits from the completed water quality improvement projects, than a program of strategic sweeping after every winter abrasive application may be pursued.

As mentioned in previous sections of this PLRP, a number of the estimated load reductions are based on preliminary PLRM models that will require additional refinement and quality assurance prior to registration with the Lake Clarity Crediting Program. In addition, if water quality maintenance activities in response to field inspection assessments are not sufficient to maintain the Lake Clarity Credits estimated by the stormwater modeling, awarded Lake Clarity Credits may be reduced.

The County will update its load reduction schedule annually, after catchment registration activities are completed, to track and assess progress towards obtainment of the required load reductions by 2016.

## 7.0 REFERENCES

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# County of Placer



## Lake Tahoe Pollutant Load Reduction

### Progress Report

September 27, 2013

Prepared for:

**Lahontan Regional Water Quality Control Board**

Prepared by:

**Placer County Department of Public Works**

## **Introduction/ Background**

The California Regional Water Quality Control Board-Lahontan Region (Lahontan) incorporated Total Maximum Daily Load (TMDL) pollutant load reduction requirements into the updated Lake Tahoe Municipal National Pollutant Discharge Elimination System (NPDES) Permit. This permit (Board Order R6T-2011-0101, NPDES Permit Number CAG616001) regulates stormwater discharges from each of the three California Lake Tahoe Basin jurisdictions (El Dorado County, Placer County and the City of South Lake Tahoe).

The municipal separate storm sewer system (MS4) infrastructure in Placer County consists of collection, conveyance, and treatment facilities. Federal rules require operators of MS4 systems to implement programs to control pollution in stormwater runoff. California regulates MS4s through municipal NPDES permits, and for this document, Lahontan Board Order R6T-2011-0101 is referred to as the MS4 permit.

The MS4 permit required the County of Placer (County) to prepare a Pollutant Load Reduction Plan (PLRP) by March 15, 2013 detailing the County's approach for meeting pollutant load reduction requirements promulgated by the TMDL. In summary, the TMDL requires reducing fine sediment (less than 16 microns in size) discharge from the Lake Tahoe Basin portion of Placer County by a minimum of 10 percent (expressed by weight and no. of particles) by September, 2016. Required fine sediment, total phosphorus and total nitrogen load reductions are based upon estimated 2004 baseline load estimates.

The MS4 permit further requires that the County prepare and submit a Pollutant Load Reduction Progress Report by October 1, 2013, describing and quantifying TMDL load reduction actions taken between May 1, 2004 and October 15, 2011. Specifically, permit Section IV.F, *Pollutant Load Reduction Progress*, reads as follows:

*"To demonstrate pollutant load reduction progress, each Permittee shall submit a Progress Report by October 1, 2013. The Progress Report shall include:*

- 1. A list of erosion control and storm water treatment projects the Permittee completed between the May 1, 2004 and October 15, 2011.*
- 2. Pollutant load reduction estimates for all erosion control and storm water projects and any other load reduction actions up to October 15, 2011. The report shall compare the pollutant load estimates for work completed with the pollutant load reduction requirements described in Section IV.B above."*

Permit Section IV.B, as referenced in the above MS4 permit excerpt defines the TMDL load reduction requirements applicable to each jurisdiction regulated under the MS4 permit. For Placer County, the required ten percent fine sediment load reduction equates to 260 Lake Clarity Credits. Such credits are evaluated and measured in accordance with the *Lake Clarity Crediting Program (LCCP) Handbook*, incorporated as Attachment D to the MS4 permit. Permit Section IV.B, *Pollutant Load Reduction Requirements and Water Quality-Based Effluent Limits*, reads as follows:

*“For the first five year milestone, jurisdiction-specific waste load reduction requirements, incorporated into this Permit as average annual particle number- and mass-based effluent limits (Table IV.B.1), are calculated by multiplying the percentage of reduction required by the urban uplands for each pollutant by each jurisdiction’s individual baseline load. Each jurisdiction must reduce fine sediment particle (FSP), total phosphorus (TP), and total nitrogen (TN) loads by 10%, 7%, and 8%, respectively, by September 30, 2016.*

**Table IV.B.1 – Maximum average annual particle number- and mass-based effluent limits for Fine Sediment Particles (FSP) Total Phosphorus (TP) and Total Nitrogen (TN) to meet the first five year TMDL milestone**

<b>Jurisdiction</b>	<b>Baseline FSP (# of particles)</b>	<b>FSP Allowable Load</b>	<b>Baseline TP (kg)</b>	<b>TP Allowable Load</b>	<b>Baseline TN (kg)</b>	<b>TN Allowable Load</b>
El Dorado County	$2.2 \times 10^{19}$	$2.0 \times 10^{19}$	1043	970	4082	3755
Placer County	$2.6 \times 10^{19}$	$2.3 \times 10^{19}$	1111	1033	4635	4264
City of South Lake Tahoe	$1.9 \times 10^{19}$	$1.7 \times 10^{19}$	789	734	3361	3092

*Pollutant load reductions shall be measured in accordance with the processes outlined in the Lake Clarity Crediting Program Handbook (Attachment D). To demonstrate compliance with the average annual fine sediment particle pollutant load reduction requirements outlined in Table IV.B.1, each Permittee must earn and maintain Lake Clarity Credits in accordance with Table IV.B.2 for water year October 1, 2015 to September 30, 2016, and for subsequent water years.*

**Table IV.B.2 – Minimum Lake Clarity Credit Requirements**

<b>Jurisdiction</b>	<b>Min. Lake Clarity Credit Requirement*</b>
El Dorado County	220
Placer County	260
City of South Lake Tahoe	190

*\*The Lake Clarity Crediting Program Handbook defines one (1) Lake Clarity Credit as equal to  $1.0 \times 10^{16}$  fine sediment particles with a diameter less than 16 micrometers”*

**TMDL Load Reduction Estimates**

Placer County's *Lake Tahoe Pollutant Load Reduction Plan*, dated March 15, 2013 and revised May 15, 2013, describes the County's approach to achieving fine sediment, total phosphorus and total nitrogen load reductions required in the MS4 permit. As indicated therein, approximately 33 percent of the required load reduction credits are expected from thirteen water quality improvement projects constructed by Placer County between 2004 (baseline conditions) and 2011 (MS4 permit adoption). Load reduction estimates for these completed projects were initially generated through use of the prescribed Pollutant Load Reduction Model (PLRM) for three of these completed project areas, with results extrapolated to the other listed project areas. The County's Pollutant Load Reduction Plan, *Table 2.1, Completed WQIP Catchment Credit Estimates* (modified to show only 2004-2011 projects), summarizes projects and load reduction estimates for each:

**Table 2.1 – Completed WQIP Catchment Credit Estimates**

Water Quality Improvement Project	Year Completed	Load Reduction Estimates (Pounds/Year)	Lake Clarity Credits
		FSP	
Timberland	2004	551	3
Lake Tahoe Park	2004	804	4
Upper Cutthroat	2005	398	2
Tahoe Pines – Area A	2007	1,195	6
Beaver Street Retrofit	2007	928	5
Dollar Point	2008	3,241	16.2
West Sunnyside Phase I	2008	1,305	7
Tahoe Pines – Area B	2009	43	.25
Tahoe Estates	2009	3,112	16
Lake Forest Meadow	2009-2010	2,184	11
Fox Clean Water Pipe	2010	400	2
Tahoe Pines – Area C	2011	1,704	9
Tahoe City Residential	2011	969	5
<b>Totals:</b>		<b>16,834</b>	<b>86.45</b>
<b>Percentage of Required Credits:</b>		<b>86.45/260</b>	<b>33.3%</b>

Note: 1 Lake Clarity Credit = 200.42 pounds of FSP

**Lake Clarity Credit Implementation Schedule**

The County’s *Lake Tahoe Pollutant Load Reduction Plan, Table 4.1, Catchment Registration Schedule*, sets forth an MS4 permit-term schedule for registration of project area load reduction credits, which includes all projects constructed after 2004. Table 4.1 is shown below, with 2004-2011 completed projects shown in ***bold italics***:

**Table 4.1 – Catchment Registration Schedule**

<b>Catchment Registration Year</b>	<b>Associated Project:</b>
2012	<b><i>Dollar Point</i></b>
	<b><i>Tahoe Estates</i></b>
2013	<b><i>Timberland</i></b>
	<b><i>Upper Cutthroat</i></b>
	<b><i>Beaver Street Retrofit</i></b>
	Brockway
2014	<b><i>West Sunnyside Phase I</i></b>
	<b><i>Tahoe Pines – Area A</i></b>
	<b><i>Tahoe Pines – Area B</i></b>
	<b><i>Tahoe Pines – Area C</i></b>
	<b><i>Fox Clean Water Pipe</i></b>
	<b><i>Lake Forest Meadow</i></b>
2015	<b><i>Tahoe City Residential</i></b>
	<b><i>Lake Tahoe Park</i></b>
	Homewood Phase 1 and 1A
	Lake Forest Highlands
	Snow Creek Restoration
	Griff Creek
2016	Lake Forest Panorama
	West Sunnyside Phase II
	Kings Beach CCIP
	Kings Beach WIP

## Lake Clarity Credit Implementation Status

The Lake Clarity Crediting Program appended to the MS4 permit prescribes use of specific tools for modeling TMDL load reductions, assessing BMP and roadway conditions, and for accounting and tracking load reduction credits. These tools were developed independently and within different timeframes. As such, these tools are not completely aligned and lack integration that would facilitate their use by implementers.

Following adoption of the MS4 permit in 2011, the Lahontan Water Board initiated consulting efforts to further improve and integrate these tools, and informed implementers (MS4 permittees) that catchment registration should wait until the improved credit accounting and tracking tool is available. Since this tool is not currently available, the Clarity Credit progress being reported herein is based upon the concept of having modeled load reduction results ready for registration. The following table shows the 2004-2011 project areas/catchments, their schedules for registration, their registration status, and a comparison of estimated-to-modeled clarity credits.

<b>2004-2011 Project/Catchment Area</b>	<b>PLRP Estimated Lake Clarity Credits</b>	<b>Proposed Registration Year</b>	<b>Registration Ready?</b>	<b>PLRM Modeled Lake Clarity Credits</b>	<b>% of Required Credits (260)</b>
Dollar Point	16.2	2012	Yes	16.2	6%
Tahoe Estates	16	2012	Yes	16	6%
Timberland	3	2013	No		0%
Upper Cutthroat	2	2013	Yes	12.4	5%
Beaver Street Retrofit	5	2013	No		0%
West Sunnyside Phase I	7	2014	No		0%
Tahoe Pines – Area A	6	2014	No		0%
Tahoe Pines – Area B	0.25	2014	No		0%
Tahoe Pines – Area C	9	2014	Yes	9	3%
Fox Clean Water Pipe	2	2014	No		0%
Lake Forest Meadow	11	2014	No		0%
Tahoe City Residential	5	2015	No		0%
Lake Tahoe Park	4	2015	No		0%
Totals	<b>86.45</b>			<b>53.6</b>	<b>21%</b>

# Appendix – L

LAKE TAHOE EROSION CONTROL PROJECTS - SUMMARY OF SPRING MONITORING INSPECTIONS -

Proj #	PROJECT NAME / Location	Description and Location	Size (ft)			2010 Spring Conditions	S10 Sed Acc (in)	S10 Sed Vol (yacs)	S10 Priority	S 10 Complete	S10 Completed Priority
			L	W	D						
<b>Kingswood West Subdivision (Kingswood West I &amp; II)</b>											
A	<b>KINGSWOOD WEST I</b>										
0	Regency & North National	24"x36" DI @ NE corner	24	36	ok	0	0.0000	1	X	1	
-	Regency & North National	24"x36" DI @ NW corner	24	36	ok	0	0.0000	1	X	1	
-	Regency Way	Culvert 3.80' E of Straton Way at creek			ok	0	0.0000	2	X	2	
1	Regency Way	58' of Rock Lined Channel on N. side 2950' E. of Straton Way running along the road			moderate sed accum	1.5	0.0000	3			
2	Regency Way	25' of Rock Lined Channel on S. side 2950' E. of Straton Way running along the road			moderate sed accum	1.5	0.0000	3			
3	Regency Way	227' of Rock Lined Channel on N. side 1970' E. of Straton Way running along the road			moderate sed accum	1.5	0.0000	3			
4	Regency Way	165' of Rock Lined Channel on S. side 1970' E. of Straton Way running along the road			moderate sed accum	1.5	0.0000	3			
5	Regency Way	18" C.M.P. S. side 1300' E. of Straton Way at gate			9" of sed accum	9	0.0000	3			
6	Regency Way	8' X 9' Rock Apron S. side 1350' E. of Straton Way	96	108	moderate sed accum	1.5	0.3333	3			
7	Regency Way	78' of Channel on S. side 1250' E. of Straton Way running along the road			moderate sed accum	1.5	0.0000	3			
8	Regency Way & Straton Way	24"x36" DI N side on Regency 1500' E of Straton	24	36	3.5" of sed accum	3.5	0.0648	1			
9	Regency Way & Straton Way	DBL 24"x36" DI 800' from Straton Way on Regency Way (South side)	24	36	1" of sed accum	1	0.0185	1			
10	Regency Way & Straton Way	S side DI	24	36	3.5" of sed accum	3.5	0.0648	1			
11	Regency Way & Straton Way	N side RLC	24	36	moderate sed accum	1.5	0.0278	3			
-	Regency Way & Stafford Way	24"x36" DI SW corner	24	36	ok	0	0.0000	1	X	1	
12	Regency Way & Stafford Way	162' of Rock Lined Channel on N. side Perpendicular to Regency Way			moderate sed accum	1.5	0.0000	3			
13	Regency Way & Stafford Way	18" C.M.P. on W. side			12" of sed accum	12	0.0654	3			
14	Regency Way	24"x36" DI 200' W of Stratford	24	36	1.5" of sed accum	1.5	0.0278	1			
-	Regency Way	202' of Rock Lined Channel on N. side Perpendicular to Regency Way 200' W. of Stratford			ok			2	X	2	
-	Regency Way	18" C.M.P. 200' W. of Stratford			ok	0	0.0000	2	X	2	
-	Regency Way & Kings Way	AC dike at SE cor intx.			ok	0	0.0000	3	X	3	
-	Regency Way & Kings Way	24" C.M.P. on W. side			ok	0	0.0000	2	X	2	
15	Regency Way & Kings Way	The rock-lined ditch flowing to & from culvert xing			moderate sed accum	1.5	0.0000	3			
-	Kings Way	4.8 X 6.8 C.M.P. 188' N. of Regency Way	57	81	ok			2	X	2	
16	Kings Way	D.I. On W. side 420' from Regency Way			moderate sed accum	1.5	0.0000	1			
17	Kings Way	RLC E side 420' from Regency Way running perpendicular to Kings way			moderate sed accum	1.5	0.0000	3			
-	Kings Way	24"x36" DI 180' W. of Jester Court	24	36	ok	0	0.0000	1	X	1	
-	Jester Ct.	40' of Rock Lined Channel on N. side of Jester Court 75' from Kings Way intersection			ok	0	0.0000	2	X	2	
-	Straton	24"x36" DI N side of Jester	24	36	ok	0	0.0000	1	X	1	
-	Straton	Large crossing under Straton			ok	0	0.0000	2	X	2	
-	Straton Way	24"x36" DI S side of Stratford 300' W. of intx next to "1177"	24	36	ok	0	0.0000	1	X	1	
18	Kings Way & Kings Vista Ct.	24"x36" DI E on Kings Vista Ct.	24	36	6.5" of sed accum	6.5	0.1204	1			
-	Kings Way & Kings Vista Ct.	24"x36" DI W on Kings Vista Ct.	24	36	ok	0	0.0000	1	X	1	
-	Kings Way	24"x36 DI S of Kings way. @ 1361	24	36	ok	0	0.0000	1	X	1	
19	Kings Way & Lords Way	24"x36" DI SE corner of intx	24	36	3" of sed accum	3	0.0556	1			
-	Kings Way & Lords Way	Culvert pipe outlet SW corner of intx by "1331"			ok			2	X	2	
-	Regency Way	7.5' X 11.5' Interlocking Erosion Control Channel 150' N. of Regency Way along Rock Lined Channel on Dirt Rd.	90	138	ok			3	X	3	
1050	<b>KINGSWOOD WEST II</b>										
-	Kings Way				ok	0	0.0000	3	X	3	

LAKE TAHOE EROSION CONTROL PROJECTS - SUMMARY OF SPRING MONITORING INSPECTIONS

Proj #	PROJECT NAME / Location	Description and Location			Size (in)			2010 Spring Conditions	S10 Sed Acc (in)	S10 Sed Vol (yds3)	S10 Priority	S 10 Complete	S10 Completed Priority
		L	W	D	L	W	D						
-	Stafford Way & Lords Way	24"x36" D.I. @ SW cor.	24	36				ok	0	0.0000	1	X	1
20	Stafford Way & Lords Way	200' of Rock Lined Channel on N.E. corner						minor sed accum	0.5	0.0000	3		
-	Cromwell Lane	280' of Rock Lined Channel on W. side running N. at the end of the lane						ok			2	X	2
21	Queens Way	24"x36" DI on N. side 220' E. of Kings Way	24	36				2" of sed accum	2	0.0370	1		
-	Brockway Ct & Whitehall	24 x 40 DI NW cor	24	40				ok	0	0.0000	1	X	1
-	Brockway Ct & Whitehall	24" CMP SW @ 1000 Whitehall						ok	0	0.0000	3	X	3
-	Stewart Wy & Forest Glenn	24" CMP xing rd N to S	24					ok	0	0.0000	3	X	3
-	Kingswood & Forest Glenn	48 x 48" DI in NE cor	48	48				ok	0	0.0000	1	X	1
-	Kingswood & Forest Glenn	40 x 40 DI SE cor	40	40				ok	0	0.0000	1	X	1
-	Kingswood & Forest Glenn	24" CMP NE cor						ok	0	0.0000	3	X	3
-	Kingswood & Forest Glenn	24" CMP NW cor						ok	0	0.0000	3	X	3
22	Nottingham & Kingswood	36" DI in SW cor	36					7" of sed accum	7	0.1527	1		
-	Nottingham & Kingswood	24" CMP SE cor	24					ok	0	0.0000	3	X	3
-	7838 Lincoln Green	48" CMP xing rd at creek	48					ok	0	0.0000	2	X	2
-	Lincold Green & Nottingham	24" CMP xing rd	24					ok	0	0.0000	3	X	3
-	Hwy 267 & Pinedrop Ln.	24" CMP NW cor	24					ok	0	0.0000	3	X	3
23	Hwy 267 & Pinedrop Ln.	RLD NW cor						minor sed accum	0.5	0.0000	3	X	3
-	Hwy 267 & Pinedrop Ln.	24" CMP SW cor	24					ok	0	0.0000	3	X	3
-	Hwy 267 & North Ave.	24" CMP NW cor	24					ok	0	0.0000	3	X	3
B	Kings Beach (Brockway, Fox I & II, Kingswood East, Kings Beach, Beaver Street (O), Upper Cutthroat (O), Deer and Grift Creek I & II)												
????	BROCKWAY												
1	Whitcap Lane	Culvert under dirt driveway on North side of road						moderate sed accum	1.5	0.0000	3		
2	Harbor Avenue	Drainage channel on East side of Road						moderate sed accum	1.5	0.0000	3	X	3
-	Harbor Avenue	AC Swale starting at Wave on East side of Road						ok	0	0.0000	3	X	3
-	Harbor Avenue	12" Driveway culvert crossing at 150			12			ok	0	0.0000	2	X	2
-	Harbor Avenue	12" Driveway culvert crossing at 10' south of "150"			12			ok	0	0.0000	2	X	2
3	Harbor Avenue	Sweep						sweep			2		
4	Harbor Avenue and Lake Street	AC Swale on East side of Harbor						minor sed accum	0.5	0.0000	2		
-	Harbor Avenue and Lake Street	12" Culvert on SE side of Harbor			12			ok	0	0.0000	2	X	2
5	Speedboat Avenue	AC swale headed south on East side of road from "9859"						minor pine needle accum			2		
6	Speedboat Avenue	12" culvert across from "70"			12			moderate sed accum	1.5	0.0036	3		
7	Speedboat Avenue	Channel headed west from culvert crossing						minor sed accum	0.5	0.0000	2		
-	Speedboat Avenue	48" Sediment Can @ "70"			48			ok	0	0.0000	1	X	1
-	Speedboat Avenue	10" Culvert @ "70"			10			ok	0	0.0000	2	X	2
8	Speedboat Avenue	36x36 DI @ "70"	36	36				3" of sed accum	3	0.0833	1		
9	Speedboat Avenue	AC Swale on West side of Road						minor sed accum	0.5	0.0000	2		
10	Dip	RLC headed south across dip						minor sed accum	0.5	0.0000	3		
-	Dip	18" culvert crossing under road			18			ok	0	0.0000	2	X	2
11	Dip	36x18 DI	36	18				6" of sed accum	6	0.9833	1		
12	Dip	AC dike						moderate sed accum	1.5	0.0000	2		
13	Dip	AC dike						moderate sed accum	1.5	0.0000	2		
14	Dip	Sweep						sweep			3		
15	Speedboat Avenue	AC dike on south side						minor sed accum	0.5	0.0000	2		
-	Yacht Avenue	12" Culvert headed to RLC on Dip			12			ok	0	0.0000	3	X	3
-	Yacht Avenue	Sweep						ok	0	0.0000	3	X	3

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Proj #	PROJECT NAME / Location	Description and Location	Size (in)			2010 Spring Conditions	S10 Sed Acc (in)	S10 Sed Vol (yds3)	S10 Priority	S 10 Complete	S10 Completed Priority
			L	W	D						
-	Yacht Avenue	RLC				ok	0	0.0000	2	X	2
-	Yacht Avenue	18" culvert crossing under road at RLC			18	ok	0	0.0000	2	X	2
16	Islet	Sweep				minor sed accum	0.5	0.0000	2		
-	Cove	Sweep				ok	0	0.0000	3	X	3
1100	FOX STREET I										
-	Fox St & HWY 28	DBL 24" X 96" D.I. @ NE cor	24	96		ok	0	0.0000	1	X	1
-	Fox St & HWY 28	24" X 36" D.I. @ NW cor	24	36		ok	0	0.0000	1	X	1
-	Fox St & HWY 28	24" X 36" D.I. @ S. side of HWY	24	36		ok	0	0.0000	1	X	1
-	HWY 28	24" X 36" D.I. on S. side of HWY in front of Thrift Store	24	36		ok	0	0.0000	1	X	1
17	Brockway Vista	24" X 36" DI on N side of HWY	24	36		7" of sed accum	0	0.0000	1	X	1
-	Brockway Vista	24" X 36" DI on N side 120' West of "8714"	24	36		ok	0	0.0000	1	X	1
-	Brockway Vista	24" X 36" DI on S side 120' West of "8714"	24	36		ok	0	0.0000	1	X	1
1150	FOX STREET II										
18	Chipmunk St.	RLD E side access from Blue Waters Lodge				moderate sed accum	1.5	0.0000	3		
-	Chipmunk & Minnow	36" grated sed. trap @ NE cor.	36			ok	0	0.0000	1	X	1
-	Chipmunk & Minnow	15" CMP outlet @ SE cor	15			ok	0	0.0000	2	X	2
-	Chipmunk & Minnow	15" dwy culvert 25' S. of SE cor	15			ok	0	0.0000	2	X	2
-	Chipmunk St. & Minnow Ave.	215' A.C. Swale E. side 20' N of intx.				ok	0	0.0000	3	X	3
19	Chipmunk & Minnow	RLC from SE cor of intx to alley				moderate sed accum	1.5	0.0000	3		
-	Chipmunk & Church	Two (2) 18" dwy culverts on E. side				ok	0	0.0000	2	X	2
20	Chipmunk & HWY	Dwy culvert @ "212"	24	36		moderate sed accum	1.5	0.0000	3		
-	Chipmunk & HWY	24" X 36" D.I. @ NW cor				ok	0	0.0000	1	X	1
-	Chipmunk & HWY	Dbl 72" DI @ NE corner	72			ok	0	0.0000	1	X	1
21	Chipmunk & HWY	100' of Rock Lined Channel on E. side 40' N of intx.				minor sed accum	0.5	0.0000	3		
22	Chipmunk & HWY	80' of Rock Lined Channel on E. side 170' N of intx.				minor sed accum	0.5	0.0000	3		
23	Chipmunk & HWY	20' of Rock Lined Channel on E. side 280' N of intx.				minor sed accum	0.5	0.0000	3		
24	Chipmunk & HWY	185' of Rock Lined Channel on E. side 290' N of intx.				minor sed accum	0.5	0.0000	3		
-	Chipmunk & HWY	12" x 18" DI N side 610' W of intx.	12	18		ok	0	0.0000	1	X	1
-	Chipmunk & HWY	D.I. 560' W. of intx.				ok	0	0.0000	1	X	1
-	Chipmunk & HWY	D.I. N. side 580' W. of intx.				ok	0	0.0000	1	X	1
-	Chipmunk & HWY	D.I. N. side 610' W. of intx.				ok	0	0.0000	2	X	2
-	Chipmunk St. & Brockway Vista	24" Culvert	24			ok	0	0.0000	2	X	2
-	Chipmunk St. & Brockway Vista	24" NW DI	24			ok	0	0.0000	1	X	1
-	Brockway Vista	Modified AC swale from Chipmunk to grass-lined swale				ok	0	0.0000	3	X	3
25	Brockway Vista	24" X 36" D.I. across from "8754" on N. side	24	36		1" of sed accum	1	0.0185	1		
26	Brockway Vista	24" X 42" D.I. Across from "8770"	24	42		4.5" of sed accum	4.5	0.0972	1		
27	Brockway Vista	DI across from "8774" on N side	24	36		14" of sed accum	14	0.2583	1		
-	Brockway Vista	Outfall @ "8744"				ok	0	0.0000	2	X	2
-	Brockway Vista	24" x 42" DI @ "8723"	24	42		ok	0	0.0000	1	X	1
-	Brockway Vista	last DI before outfall @ Hall property				ok	0	0.0000	1	X	1
-	Brockway Vista	AC swale access from "8780"				ok	0	0.0000	3	X	3
1150	KINGSWOOD EAST										
-	HWY 267 & Griff Ln.	Dbl 36" DI	36			ok	0	0.0000	1	X	1
-	HWY 267 & Cambridge Dr.	24" CMP NE cor	24			ok	0	0.0000	2	X	2
28	HWY 267 & Cambridge Dr.	24" CMP SE cor	24			heavy sed accum	8	0.0776	2		
29	HWY 267 & Cambridge Dr.	24 x 40 DI 50' S of intx on E side	24	40		moderate sed accum	1.5	0.0309	2		
-	HWY 267 & Cambridge Dr.	24" CMP SW cor	24			ok	0	0.0000	2	X	2
-	Cambridge	AC curb N side				ok	0	0.0000	3	X	3
-	Cambridge	Dbl 48" CMP king rd at creek				ok	0	0.0000	1	X	1
30	Commonwealth & Lake Vista	24 x 40 DI NE cor	24	40		1" of sed accum	1	0.0206	1	X	1

LAKE TAHOE EROSION CONTROL PROJECTS - SUMMARY OF SPRING MONITORING INSPECTIONS -

Proj #	PROJECT NAME / Location	Description and Location	Size (in)			2010 Spring Conditions	S10 Sed Acc (in)	S10 Sed Vol (yds3)	S10 Priority	S 10 Complete	S10 Completed Priority
			L	W	D						
-	Commonwealth & Lake Vista	24" CMP NE cor	24			ok	0.0000	3	X	3	
-	Commonwealth & Lake Vista	24" CMP SE cor	24			ok	0.0000	3	X	3	
31	Commonwealth & Salisbury	24 x 40 DI NE cor	24	40		3" of sed accum	0.0817	1			
-	Commonwealth & Salisbury	24" CMP NE cor	24			ok	0.0000	2	X	2	
32	Commonwealth & Windsor	24 x 40 DI NE cor	24	40		2.5" of sed accum	0.0514	1			
-	Commonwealth & Windsor	24 x 40 DI NW cor	24	40		ok	0.0000	1	X	1	
33	1035 Salisbury	24 x 40 DI N side	24	40		ok	0.0000	1	X	1	
34	1040 Bristol	24 x 40 DI S side	24	40		8.5" of sed accum	0.1749	1			
-	Salisbury & Bristol	24 x 40 DI N side	24	40		1.5" of sed accum	0.0309	1			
-	Salisbury & Bristol	24" CMP SE cor	24			ok	0.0000	2	X	2	
35	Canterbury	36" CMP xing rd at creek	36			3" of sed accum	0.0654	3			
-	Canterbury & Stewart	24 x 40 DI NW cor	24	40		ok	0.0000	1	X	1	
-	Canterbury & Stewart	24" CMP SW cor	24			ok	0.0000	2	X	2	
-	<b>KINGS BEACH</b>										
-	Fox St. & Speckled	ditch leading to culvert				ok	0.0000	3	X	3	
36	Fox St. & Speckled	Culvert @ SW cor.				ok	0.0000	2	X	2	
37	Fox St. & Speckled	36" grated sediment trap @ NE cor	36			.5" sed accum	0.0000	2			
-	Fox St. & Culthroat	36" grated sediment trap @ NE cor	36			1" of sed accum	0.0218	1			
-	Fox St. & Culthroat	Culvert xing on E. side.	36			ok	0.0000	1	X	1	
38	Fox St.	RLC between Culthroat and Dolly Varden				ok	0.0000	2	X	2	
-	Fox St. & Dolly Varden	36" grated sediment trap @ NE cor	36			minor sed accum	0.0000	3			
-	Fox St. & Dolly Varden	15" Culvert xing on E. side	15			ok	0.0000	2	X	2	
-	Fox St.	A.C. Swale on E. side between Dolly Varden and Loch Leven				ok	0.0000	3	X	3	
-	Fox St. & Loch Leven	36" grated sed. trap @ NE cor.	36			ok	0.0000	1	X	1	
-	Fox St. & Loch Leven	18" Culvert xing Fox	18			ok	0.0000	2	X	2	
-	Fox St. & Steelhead	36" grated sediment trap @ NE cor	36			ok	0.0000	1	X	1	
39	Fox St. & Steelhead	rock-lined ditch @ NE cor.	36			minor sed accum	0.0000	3			
40	Fox St. & Steelhead	12" culvert crossing Fox	12			12" of sed accum	0.0291	2			
-	Fox St. & Golden	36" sed. trap 25' E. of NE cor.	36			ok	0.0000	1	X	1	
-	Fox St. & Golden	36" grated sediment trap @ NE cor	36			ok	0.0000	1	X	1	
-	Fox St. & Golden	47sm A.C. Swale NE of inb.	36			ok	0.0000	3	X	3	
41	Fox St. & Rainbow	parking barrier on E side Fox b/w Rainbow & Trout				needs repair		3			
-	Fox St. & Rainbow	36" grated sed. trap @ NE cor.	36			ok	0.0000	1	X	1	
42	Fox St. & Rainbow	Dwy culvert @ '370'	36			ok	0.0000	3			
-	Fox St. & Trout	36" grated sed. trap @ NE corner of inb	36			1.5" of sed accum	0.0000	3			
-	Fox St. & Trout	A.C. Swale NE corner of inb. Running along Fox St.				ok	0.0000	1	X	1	
-	Fox St.	AC Swale on E. side between Trout and Brook				ok	0.0000	3	X	3	
-	Fox St. & Brook	36" grated sed. trap @ NE cor.	36			ok	0.0000	1	X	1	
-	Fox St. & Brook	Jensen interceptor box 50' S. of ctr. of inb.				ok	0.0000	3	X	3	
-	Fox St.	176sm A.C. Swale E. side between Salmon Ave. & Brook Ave.				ok	0.0000	3	X	3	
-	Fox St.	162sm A.C. Swale E. side between Salmon Ave & Brook Ave.				ok	0.0000	2	X	2	
43	Fox St. & Salmon	36" grated sed. trap @ NE cor.	36			7" of sed accum	0.1527	1			
44	Fox St. & Salmon	Detention basin @ SE cor				Trash		3			
-	Fox St. & HWY 28	24" X 36" grated D.I. @ NW cor.	24	36		ok	0.0000	1	X	1	
-	Fox St. & HWY 28	24" X 48" grated DBL D.I. @ NE cor.	24	48		ok	0.0000	1	X	1	
-	Coon St. & Salmon	24" Culvert xing @ NE cor.	24			ok	0.0000	2	X	2	
-	Coon St. & Salmon	36" grated sed. Trap E. side 18m S. of inb.	36			ok	0.0000	1	X	1	

LAKE TAHOE EROSION CONTROL PROJECTS - SUMMARY OF SPRING MONITORING INSPECTIONS -

Proj #	PROJECT NAME / Location	Description and Location	Size (in)			2010 Spring Conditions	S10 Sed Acc (in)	S10 Sed Vol (yds <sup>3</sup> )	S10 Priority	S 10 Complete	S10 Completed Priority
			L	W	D						
-	Coon St.	79sm A.C. Swale W. side between Salmon Ave. & Brook Ave.				0	0.0000	3	X	3	
45	Coon St. & Brook	36" grated sed. trap @ NE cor.	36		ok	7" of sed accum	0.1527	1			
-	Coon St. & Brook	24" culvert	24		ok	0	0.0000	2	X	2	
-	Coon St.	Riser in Basin SW corner of Street Sediment Basin between Brook and Trout			ok	0	0.0000	3	X	3	
-	Coon St.	Vegetated swale on W. side between Brook and Trout			ok	0	0.0000	3	X	3	
-	Coon St.	Sed trap @ basin			ok	0	0.0000	1	X	1	
-	Coon St. & Trout	Detention basin @ SE cor			ok	0	0.0000	3	X	3	
46	Coon St. & Trout	36" grated sed. trap @ NE cor.	36		ok	1" of sed accum	0.0218	1			
-	Coon St. & Trout	30" Culvert xing W. side of intx.	30		ok	0	0.0000	3	X	3	
-	Coon St. & Trout	15sm A.C. Swale E. side 50m N. of intx.	36		ok	0	0.0000	3	X	3	
47	Coon St. & Rainbow	36" grated sed. trap @ NE cor.	36		ok	1" of sed accum	0.0218	1			
-	Coon St. & Rainbow	Culverts to/from headwall			ok	0	0.0000	2	X	2	
48	Coon St. & Rainbow	136sm A.C. Swale NE side of intx. Running along Rainbow Ave.			minor sed accum	0.5	0.0000	2			
-	Coon St. & Rainbow	37sm A.C. Swale E. side 30m N. of intx.			ok	0	0.0000	3	X	3	
-	Coon St. & Golden	36" grated sed. trap @ NE cor.	36		ok	0	0.0000	1	X	1	
-	Coon St. & Steelhead	36" grated sed. trap @ NE cor.	36		ok	0	0.0000	1	X	1	
-	Coon St. & Loch Leven	Culvert xing @ creek			ok	0	0.0000	2	X	2	
-	Coon St. & Loch Leven	36" grated sed. trap @ NE cor.	36		ok	0	0.0000	1	X	1	
-	Coon St. & Loch Leven	36" grated sed. trap @ NW cor.	36		ok	0	0.0000	1	X	1	
-	Coon St. & Loch Leven	24" Culvert xing 10m S. of intx.	24		ok	0	0.0000	2	X	2	
49	Coon St. & Dolly Varden	48sm A.C. Swale SW corner of intx.			minor sed accum	0.5	0.0000	2			
50	Coon St. & Dolly Varden	15sm A.C. Swale N. side 30m E. of intx.			minor sed accum	0.5	0.0000	2			
-	Coon St. & Cuthroat	24"X24" D.I. @ NE cor.	24	24	ok	0	0.0000	1	X	1	
-	Coon St. & Cuthroat	18" Culvert xing N. of intx.	18		ok	0	0.0000	2	X	2	
-	Coon St. & Cuthroat	Medium Rock Rip-Rap Slope Protection NW corner of intx			ok	0	0.0000	3	X	3	
-	Coon St. & Cuthroat	15" Culvert NE of intx	15		ok	0	0.0000	2	X	2	
-	Bear St. & Speckled	24" grated sed. trap @ NE cor.	24		ok	0	0.0000	1	X	1	
-	Bear St. & Speckled	culvert @ SE cor.			ok	0	0.0000	2	X	2	
-	Bear St. & Speckled	28m A.C. Swale SE of intx.			ok	0	0.0000	3	X	3	
-	Bear St. & Speckled	36" D.I. SE	36		ok	0	0.0000	1	X	1	
-	Bear St. & Speckled	AC dike on S side of Speckled			ok	0	0.0000	3	X	3	
-	Bear St. & Speckled	culvert @ NE cor.			ok	0	0.0000	2	X	2	
-	Bear St. & Cuthroat	36" grated sed. trap @ NE cor.	36		ok	0	0.0000	1	X	1	
-	Bear St. & Dolly Varden	36" grated sed. trap @ NW cor.	36		ok	0	0.0000	1	X	1	
-	Bear St. & Dolly Varden	36" grated sed. trap @ NE cor.	36		ok	0	0.0000	1	X	1	
-	Bear St. & Dolly Varden	RLC E. side 20m S. of intx.			ok	0	0.0000	3	X	3	
-	Bear St. & Loch Leven	36" grated sed. trap @ NE cor.	36		ok	0	0.0000	1	X	1	
-	Bear St. & Loch Leven	36" grated sed. trap @ NW cor.	36		ok	0	0.0000	1	X	1	
-	Bear St. & Loch Leven	Jensen Interceptor box 50' S. of intx.			ok	0	0.0000	3	X	3	
51	Bear St. & Loch Leven	69sm A.C. Swale W. side S.W. of intx.			3" of sed accum	3	0.0000	3			
52	Bear St. & Loch Leven	49sm A.C. Swale N.E. of intx.			3" of sed accum	3	0.0000	3			
-	Bear St. & Loch Leven	Erosion control blanket/netting			ok	0	0.0000	3	X	3	
-	Bear St. & Steelhead	Detention basin @ NE cor.			ok	0	0.0000	3	X	3	
-	Bear St. & Steelhead	36" grated sed. trap on E. side of st. @ NW cor. of basin (mid-	36		ok	0	0.0000	1	X	1	
-	Bear St. & Steelhead	36" grated sed. trap @ NE cor.	36		ok	0	0.0000	1	X	1	
53	Bear St. & Steelhead	24"X36" D.I. @ NW cor	24	36	ok	2	0.0370	1			
54	Bear St. & Steelhead	18" Culvert xing W. side of intx.	18		1" of sed accum.	1	0.0055	3			
55	Bear St. & Golden	15" Culvert E. side 60m N. of intx.	15		15" of sed accum.	15	0.0568	2			

LAKE TAHOE EROSION CONTROL PROJECTS - SUMMARY OF SPRING MONITORING INSPECTIONS .

Proj #	PROJECT NAME / Location	Description and Location			Size (in)			2010 Spring Conditions	S10 Sed Acc (in)	S10 Sed Vol (yds3)	S10 Priority	S10 Complete	S10 Completed Priority
		L	W	D	L	W	D						
-	Bear St. & Golden												
-	Bear St. & Golden						ok	0	0.0000	2	X	2	
56	Bear St. & Golden						ok	0	0.0000	2	X	2	
57	Bear St. & Rainbow						3" of sed accum.	3	0.0164	3			
58	Bear St. & Rainbow						1" of sed accum.	1	0.0055	3			
59	Bear St. & Rainbow						1" of sed accum.	1	0.0055	3			
-	Bear St						ok	0	0.0000	2	X	2	
-	Bear St. & Trout						minor sed accum	0.5	0.0000	2			
-	Bear St. & Trout				24	24	ok	0	0.0000	1	X	1	
-	Bear St. & Brook						ok	0	0.0000	3	X	3	
-	Bear & HWY 28				24	36	ok	0	0.0000	1	X	1	
-	Bear & HWY 28				24	36	ok	0	0.0000	1	X	1	
60	Speckled Ave				24	36	ok	0	0.0000	1	X	1	
-	Speckled Ave						6" of sed accum.	6	0.1309	1			
-	Speckled Ave						ok	0	0.0000	2	X	2	
61	Speckled Ave						ok	0	0.0000	3	X	3	
62	Speckled Ave						minor sed accum	0.5	0.0000	3			
-	Speckled Ave						minor sed accum	0.5	0.0000	3			
-	Speckled Ave						ok	0	0.0000	2	X	2	
-	Speckled Ave				15		ok	0	0.0000	2	X	2	
63	Speckled Ave						ok	0	0.0000	1	X	1	
64	Speckled Ave						1" of sed accum.	2	0.0000	2			
-	Speckled Ave						2" of sed accum.	2	0.0000	2			
65	Speckled Ave						ok	0	0.0000	3	X	3	
66	Culthroat Ave						minor sed accum	0.5	0.0000	3			
-	Culthroat Ave						minor sed accum	0.5	0.0000	3			
67	Culthroat Ave				24		ok	0	0.0000	2	X	2	
-	Culthroat Ave				12	36	1" of sed accum.	1	0.0093	1			
68	Steelhead Ave.						ok	0	0.0000	3	X	3	
-	Steelhead Ave.				12		12" of sed accum	12	0.0291	2			
-	Steelhead Ave.				36		ok	0	0.0000	3	X	3	
69	Steelhead Ave.						minor sed accum	0.5	0.0000	2			
70	Steelhead Ave.				12		1" of sed accum	1	0.0024	3			
-	Steelhead Ave.				12		ok	0	0.0000	2	X	2	
71	Steelhead Ave.						minor sed accum	0.5	0.0000	2			
72	Steelhead Ave.						minor sed accum	0.5	0.0000	2			
-	Golden Ave.						ok	0	0.0000	3	X	3	
73	Golden Ave.				36		minor sed accum	0.5	0.0000	2			
74	Rainbow Ave.						minor sed accum	0.5	0.0000	2			
75	Rainbow Ave						12" of sed accum	12	0.0000	3	X	3	
-	Trout Ave.						ok	0	0.0000	3	X	3	
-	Trout Ave.						ok	0	0.0000	3	X	3	
-	Trout Ave.						ok	0	0.0000	3	X	3	
-	Brook Ave.						ok	0	0.0000	3	X	3	
1250	BEAVER STREET						ok	0	0.0000	3	X	3	
-	Beaver Street						ok	0	0.0000	3	X	3	
-	AC Swale						ok	0	0.0000	3	X	3	
-	Beaver to Chipmunk						ok	0	0.0000	3	X	3	

LAKE TAHOE EROSION CONTROL PROJECTS - SUMMARY OF SPRING MONITORING INSPECTIONS -

Proj #	PROJECT NAME / Location	Description and Location	Size (in)		2010 Spring Conditions	S10 Sed Acc (in)	S10 Sed Vol (yds <sup>3</sup> )	S10 Priority	S10 Complete	S10 Completed Priority
			L	W						
-	Beaver St	36" Sediment Trap in front of "591"			ok	0	0.0000	1	X	1
-	Beaver St	Sediment Trap at "594"			ok	0	0.0000	1	X	1
-	Beaver St	Sediment Trap in front of "600"			ok	0	0.0000	1	X	1
-	Beaver St	12" dwy culvert at "610"			ok	0	0.0000	2	X	2
76	Beaver St	AC dike in front of "618" and "600"			minor sed accum	0.5	0.0000	2		
-	Beaver St	2-36" DBL Sediment Trap N of "618"			ok	0	0.0000	1	X	1
-	Beaver St	36" Sediment Trap across from "645"			ok	0	0.0000	1	X	1
-	Beaver St	36" Sediment Trap across from "645"			ok	0	0.0000	1	X	1
-	Beaver St	18" dwy culvert at "660"			ok	0	0.0000	3	X	3
-	Chipmunk	42" Sediment Basin & RLC			ok	0	0.0000	1	X	1
77	Chipmunk	36" x 24" DI @ "452"	36	24	5' of sed accum	5	0.0926	1		
78	Chipmunk	swale on E side			moderate sed accum	1.5	0.0000	3		
-	Chipmunk & Golden	48" NE DI			ok	0	0.0000	1	X	1
-	Chipmunk & Golden	36" x 24" NW DI	36	24	ok	0	0.0000	1	X	1
-	Chipmunk & Golden	12' & 30" SW Outlet Culverts	12	30	ok	0	0.0000	2	X	2
-	Chipmunk & Golden	Rock-lined channel			ok	0	0.0000	3	X	3
-	Chipmunk & Golden	slot drain			ok	0	0.0000	1	X	1
-	Golden	lower portion of RLC			ok	0	0.0000	3	X	3
-	Chipmunk & Salmon	Basin			ok	0	0.0000	3	X	3
-	Steelhead	Small AC swales across street			ok	0	0.0000	3	X	3
1300	UPPER CUTTHROAT									
-	Cuthroat and Beaver	AC swale E side of Beaver			ok	0	0.0000	3	X	3
-	Cuthroat and Beaver	Dbl 36" Dis E. side of Beaver	36	36	ok	0	0.0000	1	X	1
-	Cuthroat and Beaver	Dbl 36" Dis E. side of Beaver	36	36	ok	0	0.0000	1	X	1
-	Cuthroat and Beaver	culvert xing FS road on E side of Beaver			ok	0	0.0000	2	X	2
79	Cuthroat Ave	Curb and Gutter on S. Side			minor sed accum	0.5	0.0000	2		
80	Cuthroat and Beaver	AC swale N. Side of Road Starting at intersection between Beaver and Fox			minor sed accum	0.5	0.0000	2		
-	Cuthroat	12" Driveway culvert beginning at green house on corner of Cuthroat and Beaver			ok	0	0.0000	2	X	2
-	Cuthroat	18"x24" DI on S. side across from 8877	18	24	ok	0	0.0000	1	X	1
-	Cuthroat	RLC S. side toward chipmunk intersection			ok	0	0.0000	3	X	3
-	Cuthroat	24"x24" DI N. side across from RLC	24	24	ok	0	0.0000	1	X	1
-	Cuthroat and Chipmunk	36" Sed can at end of RLC			ok	0	0.0000	1	X	1
-	Cuthroat and Chipmunk	24" x36" DI NE corner of Inx	24	36	ok	0	0.0000	1	X	1
-	Cuthroat and Chipmunk	24" x 36" DI SE corner of Inx	24	36	ok	0	0.0000	1	X	1
-	Cuthroat	24" x36" DI S. side at basin	24	36	ok	0	0.0000	1	X	1
-	Cuthroat	24" x 36" DI N. side at basin	24	36	ok	0	0.0000	1	X	1
-	Cuthroat	10' x6" slot drain	120	6	ok	0	0.0000	1	X	1
-	Cuthroat	Basin			ok	0	0.0000	3	X	3
-	Cuthroat	48" sed can in basin			ok	0	0.0000	1	X	1
81	Cuthroat	24x24 DI at near "8797"	24	24	8' of sed accum	8	0.0988	1	X	1
-	Cuthroat & Fox	36" DI NE	24	36	ok	0	0.0000	1	X	1
-	Cuthroat & Fox	24x36 DI SE	24	36	ok	0	0.0000	1	X	1
-	Chipmunk and Dolly Varden	36" NE corner of Inx			ok	0	0.0000	1	X	1
82	Chipmunk and Dolly Varden	36" NW corner of Inx			Trash			1		
-	Chipmunk and Dolly Varden	18" culvert crossing chipmunk			ok	0	0.0000	2	X	2
83	Dolly Varden	AC swale on N. side of road			minor sed accum	0.5	0.0000	2		
84	Dolly Varden	Curb and Gutter on S. Side			minor sed accum	0.5	0.0000	3		

LAKE TAHOE EROSION CONTROL PROJECTS - SUMMARY OF SPRING MONITORING INSPECTIONS

Proj #	PROJECT NAME / Location	Description and Location	Size (in)			2010 Spring Conditions	S:10 Sed Acc (in)	S:10 Sed Vol (yds3)	S:10 Priority	S:10 Complete	S:10 Completed Priority
			L	W	D						
-	Dolly Varden	24" x36" DI on N. side at '8867"	24	36		ok	0	0.0000	1	X	1
-	Dolly Varden	24" x36" DI on S. side across from '8867"	24	36		ok	0	0.0000	1	X	1
-	Dolly Varden	15"x6" slot drain at '8867"	180	6		ok	0	0.0000	1	X	1
-	Dolly Varden	24" x36" DI on S side near '8841"	24	36		ok	0	0.0000	1	X	1
85	Dolly Varden	Cross country channel				ok	0	0.0000	3	X	3
86	Dolly Varden	5' x 6" slot drain at '8848"	60	6		5" of sed accum	5	0.0386	1	X	1
-	Dolly Varden	24" x36" DI on S. side across from '8843"	24	36		5" of sed accum	5	0.0926	1	X	1
-	Dolly Varden	24" x 36" DI on S. side across from '8805"	24	36		ok	0	0.0000	1	X	1
-	Dolly Varden	RLC across from '8805"				ok	0	0.0000	3	X	3
-	Dolly Varden	24" x 36" DI at '8761"	24	36		ok	0	0.0000	1	X	1
-	Dolly Varden	24" x 24" DI near '8761"	24	24		ok	0	0.0000	1	X	1
-	Dolly Varden	Infiltration field				ok	0	0.0000	3	X	3
-	Dolly Varden	24" x36" DI exiting infiltration field	24	36		ok	0	0.0000	1	X	1
-	Dolly Varden and Fox	36" sed can on NE corner of intx		36		ok	0	0.0000	1	X	1
1350	KINGS BEACH CCUIP										
1400	DEER STREET										
87	Deer & Steelhead	culvert on W side under Steelhead									
88	Deer St	130' AC Dike on W. side between Speckled and Cutthroat				minor sed accum	0.5	0.0000	3		
-	Deer St. & Cutthroat	24" C.M.P. from N.E. corner to S.W. corner to Basin				minor sed accum	0.5	0.0000	2		
-	Deer St. & Cutthroat	Rock lined N.E. corner of intx.				ok	0	0.0000	2	X	2
-	Deer and Cutthroat	Dwy culvert on NE cor				ok	0	0.0000	3	X	3
-	Deer and Cutthroat	Dwy culvert on W. end of st.				ok	0	0.0000	3	X	3
-	Deer and Cutthroat	36" sed can on NE corner of intx		36		ok	0	0.0000	1	X	1
-	Deer and Cutthroat	24" grated sediment trap @ NE cor.	24			couldn't find			1		
-	Deer St.	24" C.M.P. and Rock Lined Ditch W. side between Dolly Varden Ave. & Cutthroat Ave.	24			ok	0	0.0000	3	X	3
89	Deer St.	215' of A.C. Dike E. side between Dolly Varden Ave. & Cutthroat Ave.				minor sed accum	0.5	0.0000	2		
90	Deer St. & Dolly Varden	18" C.M.P. W/ Rock Basin. S. of intx.	18			trash in cmp			2		
-	Deer St. and Dolly Varden	18" culvert crossing E. side under Dolly Varden	18			ok	0	0.0000	2	X	2
91	Deer St	RLC on W. Side between Dolly Varden and Loch Leven				minor sed accum	0.5	0.0000	3		
92	Deer & Loch Leven	Dwy culvert on E. side of st. btwn. D. Varden & Loch Leven				minor sed accum	0.5	0.0000	3		
93	Deer & Loch Leven	100' S. of intx. on W. side of st., rock-lined ditch				buildup of pine cones and pine needles			3		
-	Deer & Loch Leven	Culvert on E. side of st. @ intx.				ok	0	0.0000	2	X	2
-	Deer St.	30" C.M.P. and Rock Lined Ditch W. side between Steelhead Ave. & Loch Leven				ok	0	0.0000	2	X	2
-	Deer St. and Steelhead	24" Sed trap on NW cor of intx	24			ok	0	0.0000	1	X	1
-	Deer St. and Steelhead	CMP on E side				ok	0	0.0000	3	X	3
94	Golden & Deer Sts	36" sediment trap @ NE cor	36			36" of sed accum	36	0.7854	1	X	1
-	Golden & Deer Sts	24" sed trap @ NE cor.	24			ok	0	0.0000	1	X	1
-	Golden & Deer Sts	24" sed trap @ NW corner				ok	0	0.0000	1	X	1
-	Deer and Golden	AC swale on NE cor of intx	24			ok	0	0.0000	1	X	1
-	Deer St.	R-lined ditch on E. side (btwn Golden & Rainbow)				ok	0	0.0000	3	X	3
95	Deer St.					minor sed accum	0.5	0.0000	3		
-	Deer St. & Golden Ave	30" C.M.P. from N.W. corner to SE corner				ok	0	0.0000	2	X	2
96	Rainbow Ave	60" sed can at '8317"	60			Trash			1		
97	Rainbow Ave	43" X 27" C.M.P. A. N. side crosses street 150' E. of Deer St.				7" of sed accum	7	0.0000	3		

LAKE TAHOE EROSION CONTROL PROJECTS - SUMMARY OF SPRING MONITORING INSPECTIONS

Proj #	PROJECT NAME / Location	Description and Location	Size (in)		2010 Spring Conditions	S10 Sed Acc (in)	S10 Sed Vol (yds3)	S10 Priority	S 10 Complete	S:10 Completed Priority
			L	W						
1450	<b>GRIFF CREEK I</b>									
98	Fire Sta. access rd	RLC on E. side of road			minor sed accum	0.5	0.0000			
-	Fire Sta. access rd	30" culvert inlet W. of gabeson wall		30	ok	0	0.0000		X	2
-	Fire Sta. access rd	24" x 36" DI	24	36	can't find					1
-	HWY 28 @ Griff Cr.	DBI. 24"x36" D.I. on N. side of HWY	24	36	ok	0	0.0000		X	1
-	HWY 28 @ Griff Cr.	24"x36" D.I. on N. side of HWY	24	36	ok	0	0.0000		X	1
-	HWY 28 @ Griff Cr.	Wood guard rail on N. side of HWY			ok	0	0.0000		X	3
-	Secline St	300' R-lined ditch along W. side, N. of HWY			ok	0	0.0000		X	3
-	Secline St	Wooden parking barriers along W. side, N. of HWY			ok	0	0.0000		X	3
-	HWY 28 @ Griff Cr.	Three (3) 71"x47"CSPA culverts and two (2) 30"CMP culverts xing HWY @ creek	71	47	ok	0	0.0000		X	2
-	Outfall	Creek outfall			ok	0	0.0000		X	3
-	HWY 28 @ Griff Cr.	Riser W/ Rock Bowl W side N of intx			ok	0	0.0000		X	3
-	Griff Creek	remove sign			ok	0	0.0000		X	3
1500	<b>GRIFF CREEK II</b>									
-	Secline St. & Rainbow Ave.	18" C.M.P. xing intx. NE to SW		18	ok	0	0.0000		X	2
-	Secline St. & Rainbow Ave.	72" sed. trap @ NE cor.		72	ok	0	0.0000		X	1
99	Secline St. & Rainbow Ave.	160' A.C. Dike NE corner of intx. running along N side of Rainbow Ave.			minor sed accum	0.5	0.0000			2
100	Secline St. & Rainbow Ave.	260' A.C. Dike NE corner of intx. running along E side of Secline St.			minor sed accum	0.5	0.0000			2
-	Secline St. & Golden Ave.	72" sed. trap @ NE cor		72	ok	0	0.0000		X	1
101	Secline St. & Golden Ave.	100' Rock-lined ditch NE corner			moderate sed accum	1.5	0.0000			3
102	Secline St. & Golden Ave.	12" C.M.P. E side 140' N of intx.		12	2" of sed accum	2	0.0048			3
-	Secline St. & Golden Ave.	155' A.C. Dike SE corner of intx. running along S side of Golden Ave.			ok	0	0.0000		X	3
103	Secline St. & Golden Ave.	150' A.C. Dike NE corner of intx. running along N side of Golden Ave.			moderate sed accum	1.5	0.0000			2
-	Secline St. & Steelhead Ave.	100' Rock-lined ditch SE corner			ok	0	0.0000		X	3
-	Secline St. & Steelhead Ave.	178' A.C. Dike SE corner of intx. running along S side of Steelhead Ave.			ok	0	0.0000		X	3
-	Steelhead Ave. & Secline St.	25' Rock-lined ditch NW corner			ok	0	0.0000		X	3
-	Steelhead Ave. & Secline St.	A.C. Paving Drain NW corner			ok	0	0.0000		X	3
-	Wolf St. & Dolly Varden Ave.	Overside Drain S side 180' W of intx.			ok	0	0.0000		X	1
-	Wolf St. & Dolly Varden Ave.	192' A.C. Dike S side 180' W of intx.			ok	0	0.0000		X	3
-	Wolf St. & Dolly Varden Ave.	80' Rock-lined ditch N side 50' W of intx.			ok	0	0.0000		X	3
-	Wolf St. & Dolly Varden Ave.	103' A.C. Dike N side 240' W of intx.			ok	0	0.0000		X	3
-	Wolf St. and Dolly Varden	36" DI at NW corner of intx.		36	ok	0	0.0000		X	1
-	Wolf St. & Dolly Varden Ave.	18" C.M.P. xing NW corner W/ GMP pipe inlet		18	ok	0	0.0000		X	2
-	Wolf St. & Dolly Varden Ave.	170' A.C. Dike SW side of intx.			ok	0	0.0000		X	3
-	Wolf St	413' Rock-lined ditch W side between Cutthroat and Dolly Varden			ok	0	0.0000		X	3
104	Wolf St	215' Rock-lined ditch E side between Cutthroat and Dolly Varden			pine needles and pine cone buildup					3
-	Dolly Varden Ave. & Northshore Blvd.	double 72" Sediment cans N side 30' E of intx.		72	ok				X	1
-	Wolf St. & Cutthroat Ave.	36" Sediment Trap W. side		36	ok	0	0.0000		X	1
-	Wolf St. & Cutthroat Ave.	18" C.M.P. W/ GMP Pipe Inlet xing N side of intx.		18	ok	0	0.0000		X	2
-	Wolf St	120' Rock-lined W. side between speckled and Dolly Varden			ok	0	0.0000		X	3
-	Wolf St.	250' Rock-lined ditch E. side between speckled and cutthroat			ok	0	0.0000		X	3

LAKE TAHOE EROSION CONTROL PROJECTS - SUMMARY OF SPRING MONITORING INSPECTIONS

Proj #	PROJECT NAME / Location	Description and Location	Size (in)		2010 Spring Conditions	S10 Sed Acc (in)	S10 Sed Vol (yds3)	S10 Priority	S10 Complete	S10 Completed Priority
			L	W						
-	Wolf St. & Speckled Ave.	Overside Drain S side 175' W of intx. (Double culvert under Speckled)			ok	0	0.0000	1	X	1
-	Wolf St. & Steelhead Ave.	AC dike @ NW cor			ok	0	0.0000	3	X	3
-	Wolf St. & Speckled Ave.	100' A.C. Dike SW corner of intx.			ok	0	0.0000	3	X	3
-	Wolf St. & Speckled Ave.	160' A.C. Dike S side 175' W of intx.			ok	0	0.0000	3	X	3
-	Wolf St. & Speckled Ave.	36" Sediment Trap N side 100' W of intx.		36	ok	0	0.0000	1	X	1
-	Wolf St. & Speckled Ave.	Rock Apron N side 105' W of intx.			ok	0	0.0000	3	X	3
105	Wolf St. & Speckled Ave.	18" Culvert xing 175' W of intx.			18" 7" of sed accum	7	0.0382	3	X	3
-	Wolf St. & Speckled Ave.	10" Rock-lined ditch N side 180' W of intx.			ok	0	0.0000	3	X	3
-	Wolf St. & Speckled Ave.	134' A.C. Dike N side 190' W of intx.			ok	0	0.0000	3	X	3
-	Wolf St. & Speckled Ave.	72" Sediment Trap SE corner of intx.		72	ok	0	0.0000	1	X	1
-	Wolf St. & Speckled Ave.	18" Culvert xing E side of intx.		18	ok	0	0.0000	2	X	2
-	Wolf St. & Speckled Ave.	60" Sediment Trap NE corner of intx.		60	ok	0	0.0000	1	X	1
-	Wolf St. & Speckled Ave.	47" Rock-lined ditch N side 40' E of intx.			ok	0	0.0000	3	X	3
106	Wolf St. & Speckled Ave.	DWY 18" Culvert N side 90' E of intx.		18	7" of sed accum	7	0.0382	3	X	3
-	Wolf St. & Speckled Ave.	83" Rock-lined ditch N side 110' E of intx.			ok	0	0.0000	3	X	3
107	Wolf St. & Speckled Ave.	DWY 12" Culvert N side 200' E of intx.		12	7" of sed accum	7	0.0170	3	X	3
-	Wolf St. & Speckled Ave.	35" Rock-lined ditch N side 220' E of intx.			ok	0	0.0000	3	X	3
C	Tahoe Vista (National, Snow Creek, Estates Drive, and Tamarack Road)									
1550	NATIONAL AVE.									
#	National Ave.	Fence			missing			3		
#	National Ave.	Sign			missing			3		
1	National Ave.	AC Dike W side from end of road running S to Toyon			minor sed accum	0.5	0.0000	2		
-	National Ave.	18x40 DI W side by Trailer Park	18	40	ok	0	0.0000	1	X	1
-	National Ave. & Grey	18x40 DI W side 20' N Grey intx	18	40	ok	0	0.0000	1	X	1
-	National Ave. & Grey	18x40 DI NW corner of intx	18	40	ok	0	0.0000	1	X	1
-	National Ave. & Toyon	18x40 DI NW corner of intx	18	40	ok	0	0.0000	1	X	1
2	National Ave.	Conc. Curb & Gutter W side from Toyon to Basin			moderate sed accum	1.5	0.0000	2		
-	National Ave.	18x40 DI S of Toyon W side across from "380"	18	40	ok	0	0.0000	1	X	1
-	National Ave.	Veg. Channel W/ weir W side from "380" to Basin			ok	0	0.0000	3	X	3
-	National Ave.	Swale E side			ok	0	0.0000	3	X	3
-	National Ave.	18x40 DI W side across from "326"	18	40	ok	0	0.0000	1	X	1
-	National Ave.	18x40 DI W side at Basin	18	40	ok	0	0.0000	1	X	1
3	National Ave.	Fence Broken and Missing gate			Fence still broken and missing gate			3		
4	National Ave.	Sign			Sign Taken Down but Posts still remain			3		
5	National Ave. & HWY 28	36" DI NW corner of intx		36	1" of sed accum.	1	0.0218	1	X	1
-	National Ave. & HWY 28	36x30 DI NE corner of intx	36	30	ok	0	0.0000	1	X	1
-	National Ave. & HWY 28	24x36 DI next to handicapped parking NE corner of intx	24	36	ok	0	0.0000	1	X	1
-	Agatham & Hwy 28 (West)	24 x 40 DI NW corner	24	40	ok	0	0.0000	1	X	1
-	Agatham & Hwy 28 (West)	24 x 40 DI NE corner	24	40	ok	0	0.0000	1	X	1
6	Agatham & Hwy 28 (West)	70' x 2' slot across Agatham at intx.	840	2	5" of sed accum	5	0.1600	1		
7	Pino Grande & Hwy 28	100' E of intx on hwy 24 x 40 DI	24	40	1" of sed accum.	1	0.0208	1		
1600	SNOW CREEK				can't find snow creek					

LAKE TAHOE EROSION CONTROL PROJECTS - SUMMARY OF SPRING MONITORING INSPECTIONS

Proj #	PROJECT NAME / Location	Description and Location	Size (ft)		2010 Spring Conditions	S10 Sed Acc (in)	S10 Sed Vol (yds3)	S10 Priority	S 10 Complete	S10 Completed Priority
			L	W						
-	Snow Creek & State Hwy. 28	Mountable Dike N of intx			ok	0	0.0000	3	X	3
-	Snow Creek & State Hwy. 28	36" Sediment Trap (West) N side 23m W of intx		36	ok	0	0.0000	1	X	1
-	Snow Creek & State Hwy. 28	9m 450mm Galv. CMP W/ Rock Rip-Rap N side 23m W of intx running NE from Sediment trap (West) to Storm Drain Outfall			ok	0	0.0000	2	X	2
-	Snow Creek & State Hwy. 28	36" Sediment Trap (East) N side 19m E and 13m N of intx		36	ok	0	0.0000	1	X	1
-	Snow Creek & State Hwy. 28	7.5m 450mm Galv. CMP running N from Sediment Trap (East) to Rock Rip-Rap			ok	0	0.0000	2	X	2
-	Snow Creek & State Hwy. 28	2.745m X 1.220m Box culvert (center) center of Snow Creek under State Hwy. 29	98	43	ok	0	0.0000	2	X	2
-	Snow Creek & State Hwy. 28	Two (2) 3.050m X 0.915m Box Culvert (Right & Left side) along center of Snow Creek Under Hwy. 29	109	32	ok	0	0.0000	2	X	2
1650	ESTATES DRIVE									
-	Estates Dr.	road			ok	0	0.0000	3	X	3
-	Estates & Wildwood	RLC N. side Wildwood & Estates / Dwy culv "6499"			ok	0	0.0000	3	X	3
-	Estates Dr.	RLD from "260" to "346"			ok	0	0.0000	3	X	3
-	Estates Dr.	RLD @ "298"			ok	0	0.0000	3	X	3
-	Estates Dr.	Rock-lined ditch in front of "575"			ok	0	0.0000	3	X	3
-	Estates Dr.	Rock-lined ditch in front of "320"			ok	0	0.0000	3	X	3
8	Estates Dr. & Idlewood	24" X 36" D.I. @ NE cor (50' N of intx. On E side)	24	36	1" of sed accum	1	0.0185	1		
-	Estates Dr. & Idlewood	24" X 36" Dbl D.I. @ SW cor	24	36	ok	0	0.0000	1	X	1
9	Estates Dr. & Idlewood	Dbl. sed. traps on W. side of St. N. of intx.			minor sed accum	0.5	0.0000	1		
-	Estates Dr. & Idlewood	Dbl. sed. traps on E. side of St. S. of intx.			ok	0	0.0000	1	X	1
10	Estates Dr. & Idlewood	15" AC Dike in front of "440"			moderate sed accum	1.5	0.0000	2		
11	Estates Dr. & Idlewood	24" X 42" D.I. @ NW cor.	24	42	7" of sed accum	7	0.1512	1		
-	Estates Dr. & Idlewood	24" X 42" D.I. @ "516"	24	42	ok	0	0.0000	1	X	1
12	Estates Dr. & Idlewood	Overside drain @ "440"			18" of sed accum	18	0.0000	1		
-	Estates Dr. & Idlewood	18" C.S.P. Culvert xing S of intx.		18	ok	0	0.0000	3	X	3
-	Estates Dr. & Idlewood	36" C.S.P. Culvert xing W of intx.		36	ok	0	0.0000	3	X	3
-	Estates Dr. & Idlewood	18" C.S.P. Culvert xing 80' N of intx.		18	ok	0	0.0000	3	X	3
-	Estates Dr. & Idlewood	24" C.S.P. Culvert W side 95' N of intx.		24	ok	0	0.0000	3	X	3
13	Estates Dr. & Idlewood	55' Rock-lined ditch W side 145' N of intx.			minor sed accum	0.5	0.0000	3		
14	Estates Dr. & Idlewood	Over size Drain W side 155' N of intx.			minor sed accum	0.5	0.0000	1		
-	Estates Dr. & Idlewood	24" C.S.P. Culvert W side 200' N of intx.		24	ok	0	0.0000	3	X	3
-	Estates Dr. & Idlewood	70' Rock-lined ditch W side 245' N of intx.			moderate sed accum	1.5	0.0000	3		
15	Estates Dr. & Idlewood	24" C.S.P. Culvert W side 315' N of intx.		24	ok	0	0.0000	3	X	3

LAKE TAHOE EROSION CONTROL PROJECTS - SUMMARY OF SPRING MONITORING INSPECTIONS

Proj #	PROJECT NAME / Location	Description and Location	Size (in)			2010 Spring Conditions	S10 Sed Acc (in)	S10 Sed Vol (yds3)	S10 Priority	S10 Complete	S10 Completed Priority
			L	W	D						
16	Estates Dr. & Idlewood	A.C. Dike on Both sides of the road running from Idlewood Rd. to Wildwood Rd.				moderate sed accum	1.5	0.0000	2		
17	Estates Dr. & Wildwood Rd.	95' Rock-lined ditch W side 65' S of intx.				minor sed accum	0.5	0.0000	3		
-	Estates Dr. & Wildwood Rd.	24" C.S.P. Culvert xing W of intx.			24	ok	0	0.0000	2	X	2
18	Estates Dr. & Wildwood Rd.	Rock-lined ditch NW corner of intx.				minor sed accum	0.5	0.0000	3		
-	Wildwood Rd	18" C.S.P. Culvert N side @ "6499"			18	ok	0	0.0000	2	X	2
19	Wildwood Rd	25' Rock-lined ditch N side @ "6499"				minor sed accum	0.5	0.0000	3		
-	Wildwood Rd	18" C.S.P. Culvert N side @ "6487"			18	ok	0	0.0000	2	X	2
20	Wildwood Rd	150' Rock-lined ditch N side Across from "6472"				minor sed accum	0.5	0.0000	3		
21	Estates Dr. & Wildwood Rd.	A.C. Dike W side running from Wildwood Rd. to Donner Rd.				moderate sed accum	1.5	0.0000	2		
22	Estates Dr. & Donner Rd.	A.C. Dike E side starting 60' S of Donner Rd. and continues around corner onto N side of Donner Rd.				moderate sed accum	1.5	0.0000	2		
-	Estates Dr. & Tamarack	Grated x-culvert xing Tamarack Rd. on W. side of Estates Dr.				ok	0	0.0000	1	X	1
23	Estates Dr. & Tamarack	24" X 42" D.I. @ SW corner	24	42		5" of sed accum	5	0.1000	1		
24	Estates Dr. & Tamarack	Slot Drain				3" of sed accum	3	0.0000	1		
25	Estates Dr. & Tamarack	24" X 42" D.I. @ NW cor	24	42		3" of sed accum	3	0.0648	1		
26	Estates Dr. & Tamarack Rd.	A.C. Dike on Both sides of the road running from Tamarack Rd. to Idlewood Rd.				heavy pine needle buildup, minor sed accum			3		
27	Estates Dr. & HWY 28	24" X 42" D.I. @ Estates	24	42		3" of sed accum	3	0.0648	1		
-	Estates Dr. & HWY 28	Detention basin				ok	0	0.0000	3	X	3
-	Estates Dr. & HWY 28	Sediment trap in detention basin				looks ok	1		1	X	1
-	Estates Dr. & HWY 28	SDMH W side 120' N of intx.				ok	0	0.0000	3	X	3
-	Estates Dr. & HWY 28	SDMH W side 300' N of intx.				ok	0	0.0000	3	X	3
28	Estates Dr. & HWY 28	18" C.S.P. Culvert xing 300' N of intx.			18	ok	0	0.0000	2	X	2
-	Estates Dr. & HWY 28	115' Rock Lined Ditch E side 335' N of intx.				minor sed accum	0.5	0.0000	3		
-	Estates Dr. & HWY 28	18" C.S.P. Culvert E side 450' N of intx.			18	ok	0	0.0000	2	X	2
29	Estates Dr. & HWY 28	115' Rock Lined Ditch E side 475' N of intx.				minor sed accum	0.5	0.0000	3		
30	Estates Dr. & HWY 28	A.C. Dike W side running from HWY 28 to Wild Rose Dr.				moderate sed accum	1.5	0.0000	2		
31	Estates Dr. & HWY 28	A.C. Dike E side running around Sediment Basin and continuing 140' N				minor sed accum, moderate accum of pine needles	0.5	0.0000	3		
32	Estates Dr. & Wild Rose Dr.	170' Rock Lined Ditch E side of intx				minor sed accum	0.5	0.0000	3		
33	Estates Dr. & Wild Rose Dr.	A.C. Dike W side running from Wild Rose Dr. to Tamarack Rd.				minor sed accum	0.5	0.0000	2		
-	Estates Dr. & Idlewood	5' X 2' Outfall Culvert xing HWY at Drain Structure	60	12		ok	0	0.0000	1	X	1
34	HWY28 E of Estates Dr.	Outlet to Lake				minor sed accum	0.5	0.0000	3		
35	HWY28 E of Estates Dr.	RLC through private property CMP				minor sed accum	0.5	0.0000	3		
-	HWY28 E of Estates Dr.	SDMH 50' N of House on private property				ok	0	0.0000	2	X	2
-	HWY28 E of Estates Dr.	SDMH 65' SW of House on private property				ok	0	0.0000	2	X	2
-	HWY28 E of Estates Dr.	Storm Drain Junction Structure N side of HWY 28				ok	0	0.0000	3	X	3
-	HWY28 E of Estates Dr.	two (2) SDMH S side of HWY 28 S of Drain Structure				ok	0	0.0000	3	X	3
1700	TAMARACK ROAD	street				ok	0	0.0000	3	X	3
36	Mountain Circle	AC Dike along "518"				moderate sed accum	1.5	0.0000	2		
37	Mountain Circle & Idlewood	Outlet in SW corner				minor sed accum	0.5	0.0000	3		
-	Mountain Cir. & Idlewood	24" X 42" drop inlet @ NW cor	24	42		ok	0	0.0000	1	X	1
38	Tamarack Road	A.C. Dike N side from Wild Rose Dr. to Estates Dr.				minor sed accum	0.5	0.0000	2		
39	Wild Rose Dr. & Mountain Cir.	A.C. Dike N side of intx. Running along Mountain Cir.				minor sed accum	0.5	0.0000	2		

LAKE TAHOE EROSION CONTROL PROJECTS - SUMMARY OF SPRING MONITORING INSPECTIONS -

Proj #	PROJECT NAME / Location	Description and Location	Size (in)			2010 Spring Conditions	S10 Sed Acc (in)	S10 Sed Vol (yds.3)	S10 Priority	S 10 Complete	S10 Completed Priority
			L	W	D						
40	Wild Rose Dr. & Mountain Cir.	40' Infiltration Trench S side 130' E of intx.									
41	Wild Rose Dr. & Mountain Cir.	A.C. Dike W side from Mountain Cir. S 290'				0.5	0.0000	3			
42	Wild Rose Dr. & Mountain Cir.	40' Infiltration Trench W side 295' S of intx.				0.5	0.0000	2			
D	<b>Agate Bay (Agate Road I, II, &amp; III, Nile Road)</b>					0.5	0.0000	3			
1	Agate Rd	dwy trap at "421"	24	36		1.5	0.0278	1			
-	Agate Rd	Detention Basin next to "422"				0	0.0000	3	X	3	
-	Agate Rd	AC ditch on N. side of street nr Ophir St.				0	0.0000	3	X	3	
-	Agate & Sudan	Culvert xing W side of intx				0	0.0000	2	X	2	
2	Agate & Sudan	AC dike e side						3			
-	Agate & Victoria	NW cor CMP				0	0.0000	1	X	1	
-	Dodowah & Granite	24' x 24" NE DI	24	24		0	0.0000	1	X	1	
-	Dodowah & Granite	NW Corner Sed Trap W	36			0	0.0000	1	X	1	
-	Dodowah & Granite	NW Corner Sed Trap E	36			0	0.0000	1	X	1	
-	Granite Rd. & Hwy 28	Dbl 36" sed traps @NW cor (W)	36			0	0.0000	1	X	1	
-	Granite Rd. & Hwy 28	Dbl 36" sed traps @NW cor (E)	36			0	0.0000	1	X	1	
3	Granite Rd.	AC Dike N side after the corner continues past Tripoli Rd.						3			
4	Granite Rd. (& Korieblu ?)	158' AC Dike SW corner of intx						3			
-	Granite Rd.	30' CMP xing Granite Rd. & continuing down the center of Tripoli Rd.	30			0	0.0000	3	X	3	
5	Granite Rd.	438' RLC and driveway CMP outlet						3			
6	Granite & Korieblu	NE cor CMP				1.5	0.0000	1			
-	Granite & Korieblu	NW Sed Trap	36			0	0.0000	1	X	1	
7	Granite & Korieblu	NW Inlet and outlet				0.5	0.0000	3			
8	Granite Rd. & Tripoli Rd.	A.C. Dike NE corner of intx. Continuing north on Granite Rd. to first drive way				0.5	0.0000	2			
9	Granite Rd. & Tripoli Rd.	D.I. NW corner of intx.				8	0.0000	1			
-	Granite Rd. & Tripoli Rd.	16' CMP Xing N of intx.	16			0	0.0000	3	X	3	
10	Granite Rd. & Tripoli Rd.	340' A.C. Dike S side of Granite Rd. W of intx.				0.5	0.0000	2			
11	Granite Rd. & Tripoli Rd.	47' Rock Lined Ditch NE corner of intx. Along Tripoli Rd.						3			
12	Granite Rd. & Tripoli Rd.	A.C. Dike N side				0.5	0.0000	2			
13	Tripoli & Angolia Rd.	21' CMP xing. road 600' E of intx.	21					2			
-	Tripoli & Angolia Rd.	A.C. Dike NE side				0	0.0000	3	X	3	
-	Tripoli & Angolia Rd.	36' Sediment Trap N side 625' E of intx. (W trap) @ "574"	36			0	0.0000	1	X	1	
-	Tripoli & Angolia Rd.	36' Sediment Trap N side 625' E of intx. (E trap) @ "574"	36			0	0.0000	1	X	1	
14	SW side of Tripoli	Rock-lined ditch that runs along the E side of "577"						3			
15	Angolia Rd.	A.C. Dike N side running from Tripoli Rd. to Agate Rd.	18	24				2			
-	Angolia Rd. & Agate Rd.	18' x 24" NW DI	18	24				1	X	1	
-	Angolia Rd. & Agate Rd.	18' x 24" SW DI	18	24				1	X	1	
-	Angolia Rd. & Agate Rd.	36" Sed trap NE Corner (No 1)	36			0	0.0000	1	X	1	
-	Angolia Rd. & Agate Rd.	36" Sed trap NE Corner (No 2)	36			0	0.0000	1	X	1	
16	Angolia Rd. & Agate Rd.	A.C. Dike NE corner				0.5	0.0000	2			
17	Angolia Rd. & Agate Rd.	RLD on E side Agate. S of intx.				0.5	0.0000	3			
-	Agate Rd. & Dodowah Rd.	24' CMP W side 100' N of intx.	24			0	0.0000	2	X	2	
18	Agate Rd. & Dodowah Rd.	85' Rock Lined Ditch NW corner				1.5	0.0000	3			
19	Agate Rd. & Dodowah Rd.	150' Rock Lined Ditch NE corner				1.5	0.0000	3			
-	Agate Rd. & Dodowah Rd.	36" CMP E side 120' N of intx.	36			0	0.0000	2	X	2	

LAKE TAHOE EROSION CONTROL PROJECTS - SUMMARY OF SPRING MONITORING INSPECTIONS -

Proj #	PROJECT NAME / Location	Description and Location	Size (in)		2010 Spring Conditions	S10 Sed Acc (in)	S10 Sed Vol (yds3)	S10 Priority	S10 Completa	S10 Completed Priority
			L	W						
-	Agate Rd. & Dodowah Rd.	36" CMP Sediment Trap NE corner	36	D	ok	0	0.0000	2	X	2
20	Agate Rd. & Dodowah Rd.	235' Rock Lined Ditch E side between Dodowah Rd. & Korlebu Ln.	15		minor sed accum	0.5	0.0000	3		2
-	Agate Rd. & Dodowah Rd.	15" CMP W side 40' E of intx.	15		ok	0	0.0000	2	X	2
21	Agate Rd. & Dodowah Rd.	19" Rock Lined Ditch W side 75' E of intx.	24		minor sed accum	0.5	0.0000	3		2
-	Agate Rd. & Dodowah Rd.	24" CMP W side 100' E of intx.	24		ok	0	0.0000	2	X	2
22	Agate Rd. & Dodowah Rd.	23" Rock Lined Ditch N side 75' E of intx. on Dodowah Rd.	18		minor sed accum	0.5	0.0000	3		2
-	Agate Rd. & Dodowah Rd.	18" CMP N side 100' E of intx.	18		ok	0	0.0000	3	X	3
23	Agate Rd. & Dodowah Rd.	50' Rock Lined Ditch N side 170' E of intx.	18		minor sed accum	0.5	0.0000	3		2
-	Agate Rd. & Dodowah Rd.	18" CMP N side 215' E of intx.	18		ok	0	0.0000	2	X	2
24	Agate Rd. & Dodowah Rd.	88" Rock Lined Ditch N side 190' E of intx.	18		minor sed accum	0.5	0.0000	3		2
-	Agate Rd. & Dodowah Rd.	18" CMP N side 315" E of intx.	18		ok	0	0.0000	2	X	2
25	Agate Rd. & Dodowah Rd.	66" Rock Lined Ditch N side 360' E of intx.	15		minor sed accum	0.5	0.0000	3		2
-	Agate Rd. & Dodowah Rd.	15" CMP N side 425" E of intx.	15		ok	0	0.0000	2	X	2
26	Agate & Korlebu	24" x 24" NW DI	24	24	3" of sed accum	3	0.0370	1		2
-	Agate Rd. & Korlebu Ln.	18" RCP xing E of intx.	18		ok	0	0.0000	2	X	2
-	Agate Rd. & Korlebu Ln.	36" Sediment Trap NE corner of intx.	36		ok	0	0.0000	1	X	1
-	Agate Rd. & Korlebu Ln.	18" CMP xing N of intx.	18		ok	0	0.0000	2	X	2
27	Agate Rd. & Korlebu Ln.	163' Rock Lined Ditch W side of intx.			moderate sed accum	1.5	0.0000	3		2
28	Agate Rd. & Korlebu Ln.	30' Rock Lined Ditch NE corner of intx.	12		moderate sed accum	1.5	0.0000	3		3
-	Agate Rd. & Korlebu Ln.	12" RCP W side 75' S of intx.	12		ok	0	0.0000	3	X	3
29	Agate Rd. & Korlebu Ln.	68" Rock Lined Ditch W side 100' S of intx.	36		moderate sed accum	1.5	0.0000	3		2
-	Agate Rd. & Korlebu Ln.	36" Sediment Trap W side 170' S of intx.	12		ok	0	0.0000	1	X	1
-	Agate Rd. & Korlebu Ln.	12" RCP xing 170' S of intx.	12		ok	0	0.0000	2	X	2
-	Agate Rd. & Korlebu Ln.	18" CMP E side 135' S of intx.	18		ok	0	0.0000	3	X	3
-	Agate Rd. & Korlebu Ln.	14" RCP W side 170' S of intx.	14		ok	0	0.0000	2	X	2
30	Agate Rd. & Korlebu Ln.	77' Rock Lined Ditch W side 205' S of intx.			minor sed accum	0.5	0.0000	3		2
-	Agate Rd. & Korlebu Ln.	12" CMP W side 265' S of intx	12		ok	0	0.0000	2	X	2
31	Agate Rd. & Korlebu Ln.	212' Rock Lined Ditch W side 300' S of intx.			moderate sed accum	1.5	0.0000	3		2
-	Agate Rd. & Korlebu Ln.	14" CMP W side 535' S of intx	14		ok	0	0.0000	2	X	2
32	Agate Rd. & Korlebu Ln.	60' Rock Lined Ditch W side 550' S of intx.			minor sed accum	0.5	0.0000	3		2
-	Agate Rd. & Korlebu Ln.	18" CMP W side 610' S of intx	18		ok	0	0.0000	2	X	2
-	Agate Rd. & Korlebu Ln.	18" CMP E side 285' S of intx	18		ok	0	0.0000	2	X	2
-	Agate Rd. & Korlebu Ln.	323' AC Swale E side 385' S of intx			ok	0	0.0000	3	X	3
-	Agate Rd. & Korlebu Ln.	18" CMP E side 710' S of intx	18		ok	0	0.0000	2	X	2
33	Agate Rd. & Korlebu Ln.	143' Rock Lined Ditch W side 635' S of intx.			minor sed accum	0.5	0.0000	3		2
34	Agate Rd. & Ophir St.	40' Rock Lined Ditch SW corner of intx.	18		minor sed accum	0.5	0.0000	3		2
-	Agate Rd. & Ophir St.	18" CMP xing W of intx	18		ok	0	0.0000	2	X	2
-	Agate Rd. & Ophir St.	18" CMP xing S of intx	18		ok	0	0.0000	2	X	2
-	Agate Rd. & Ophir St.	18" CMP S side 60' E of intx	18		ok	0	0.0000	2	X	2
-	Agate Rd. & Ophir St.	18" RCP xing intx. SE to NW	18		ok	0	0.0000	2	X	2
-	Agate Rd. & Ophir St.	36" Sediment Trap NE corner of intx.	36		ok	0	0.0000	1	X	1
-	Agate Rd. & Ophir St.	18" CMP 25' NE of intx.	18		ok	0	0.0000	2	X	2
-	Agate Rd. & Ophir St.	100' AC Swale NE corner of intx	18		ok	0	0.0000	3	X	3
-	Agate Rd. & Ophir St.	18" RCP W side 80' N of intx	18		ok	0	0.0000	2	X	2
35	Agate Rd. & Ophir St.	35' Rock Lined Ditch W side 95' N of intx.			minor sed accum	0.5	0.0000	3		2
-	Agate Rd. & Ophir St.	18" RCP W side 130' N of intx	18		ok	0	0.0000	2	X	2

LAKE TAHOE EROSION CONTROL PROJECTS - SUMMARY OF SPRING MONITORING INSPECTIONS

Proj #	PROJECT NAME / Location	Description and Location	Size (in)			2010 Spring Conditions	S10 Sed Acc (in)	S10 Sed Vol (yrs3)	S10 Priority	S 10 Complete	S10 Completed Priority
			L	W	D						
36	Agate Rd. & Ophir St.	310' Rock Lined Ditch N side 175' E of intx. heading west to Sediment Basin				0.5	0.0000	3			
-	Agate Rd. & Highway 28	36" NE DI							X	1	
-	Agate Rd. & Highway 28	36" NW DI							X	1	
37	Agate Rd. & Highway 28	132' AC Swale S side 120' E of intx				0.5	0.0000	2			
-	Agate Rd. & Highway 28	18" CMP SW corner of intx on S side of Agate Rd.				0	0.0000	2	X	2	
38	Agate Rd. & Highway 28	55' Rock Lined Ditch W side 200' N of intx.				0.5	0.0000	3			
-	Agate Rd. & Highway 28	24" CMP W side 180' N of intx				0	0.0000	2	X	2	
-	Agate Rd. & Highway 28	100' vegetated swale N side W of intx.				0	0.0000	3	X	3	
-	Agate Rd. & Highway 28	18" CMP xing W of intx				0	0.0000	2	X	2	
-	Agate Rd. & Highway 28	48" CMP Sediment Trap SW corner of intx				0	0.0000	2	X	2	
39	Agate Rd. & Highway 28	10' AC Swale E side 40' S of intx				0.5	0.0000	2			
40	Agate Rd. & Highway 28	15' AC Swale SW corner of intx				0.5	0.0000	2			
41	Agate Rd. & Highway 28	15' AC Swale 175' W of intx				0.5	0.0000	2			
-	Agate Rd. & Highway 28	Cast in Place Concrete Vault "A" NW corner of intx				0	0.0000	2	X	2	
-	Agate Rd. & Highway 28	2' X 6' Concrete Box Culvert Xing S of intx.	24	72		0	0.0000	2	X	2	
-	Agate Rd. & Highway 28	Cast in Place Concrete Vault "B" SE corner of intx				0	0.0000	2	X	2	
-	Agate Rd. & Highway 28	18" Slotted CMP S of Vault "B"				0	0.0000	1	X	1	
-	Agate Rd. & Highway 28	Sediment Trap W side 35' N of intx	18			0	0.0000	1	X	1	
42	Ophir & Granite Road	36" sed trap @ NW cor	48			1	0.0218	1	X	1	
-	Ophir & Granite Road	48" sed trap NE cor (N)	36			0	0.0000	1	X	1	
-	Ophir & Granite Road	48" sediment trap on NE cor (S)	48			0	0.0000	1	X	1	
43	Ophir & Granite Road	36" sed trap @ SW cor.	36			1.5	0.0327	1			
1800	NILE STREET										
-	Nile Street	AC Swale N. Side				0	0.0000	3	X	3	
-	Uplands	Grate @ "5777"				0	0.0000	1	X	1	
1850	AGATE BAY										
-	Hwy. 28 & Agate Bay Sun & Beach Club	18" CMP xing Hwy. 28 20' S of 6X6 Monument (on W side of Hwy.) to DI	18			0	0.0000	2	X	2	
-	Hwy. 28 & Agate Bay Sun & Beach Club	15 LF 24" CMP S of GO-DI 30 N of Lake	24			0	0.0000	2	X	2	
-	Hwy. 28 & Agate Bay Sun & Beach Club	20 LF RSP Outfall 15' S of DI				0	0.0000	2	X	2	
E	Carnelian Bay (Carnelian Woods)										
1900	CARNELIAN WOODS										
-	All Streets										
-	California St. & Hwy. 28	Dbi. 24" x 40" DI NE corner of intx	24	40		0	0.0000	3	X	3	
-	Center St. & HWY. 28	24" x 40" DI NW corner of intx	24	40		0	0.0000	1	X	1	
-	Center St. & HWY. 28	24" x 40" DI NE corner of intx	24	40		0	0.0000	1	X	1	
1	Center St. & HWY. 28	Curbs & Gutters both sides of street from Hwy. 28 to Nevada St.				0.5	0.0000	2			
-	Center St. & California	24" x 36" DI @ NE corner.	24	36		0	0.0000	1	X	1	
2	Flick St.	AC Dike on north side of street from Center St. to Tallac St.				0	0.0000	3			
-	Flick St.	Culvert xing Flick (N to S) 100' W of intx.				0	0.0000	2	X	2	
3	Flick St. & Center St.	Sed trap 100' SW of intx on S side	36			6	0.1309	1			

LAKE TAHOE EROSION CONTROL PROJECTS - SUMMARY OF SPRING MONITORING INSPECTIONS -

Proj #	PROJECT NAME / Location	Description and Location	Size (in)			2010 Spring Conditions	S10 Sed Acc (in)	S10 Sed Vol (yds <sup>3</sup> )	S10 Priority	S10 Completa	S10 Completed Priority
			L	W	D						
4	Flick St. & Center St.	30 LF 18" CMP W/FES xing intx 115' W of intx			18		0.0062	3			
5	Flick St. & Center St.	Rock Lined Channel to NW and SE of 18" Culvert 115' SW of intx				1.5	0.0000	3			
6	Flick St. & Tallac St.	Rock Lined Swale N of NE DI				0.5					
-	Flick St. & Tallac St.	culvert xing E side of intx from NE DI to SE RLS				8	0.0000	3			
7	Flick St. & Tallac St.	20' x 2" Slot Drain on E side of intx				0	0.0000	2	X	2	
8	Flick St. & Tallac St.	80 LF Rock Lined Swale SE corner of intx S of AC Downdrain	240	2		5	0.0514	1			
-	Flick St. & Tallac St.	Gabion Basket Sediment Trap 105' S of intx				1.5	0.0000	3			
-	Flick St. & Tallac St.	400 LF Rock Lined Swale starting from E side 135' S of intx after Sediment Trap and running S to Culvert under Hwy. 28				0	0.0000	3	X	3	
9	Flick St. & Tallac St.	42" seed trap @ NE corner			42	7	0.0000	3	X	3	
F	<b>Cedar Flat (Ridgewood, Carmelian Drive, Nighthorse Road, Forest Road, and Old County Road)</b>						0.2079	1			
1950	<b>RIDGEWOOD</b>										
-	North Ridge Dr.	Lower Treatment Basin				0	0.0000	3	X	3	
-	North Ridge Dr.	valley gutters & street				0	0.0000	3	X	3	
-	North Ridge Dr.	S AC Dike				0	0.0000	3	X	3	
1	North Ridge Dr.	Conc. gutter @ "520"				0	0.0000	3	X	3	
2	North Ridge Dr.	dwy culverts at "440" and "400"				0	0.0000	3	X	3	
-	North Ridge Dr. & Woodchuck Dr.	8" culvert @ "390"			8	1.5	0.0016	3			
3	North Ridge Dr. & Woodchuck Dr.	Sediment Basin W side of intx				0	0.0000	3	X	3	
-	North Ridge Dr. & Woodchuck Dr.	Sediment trap in sediment basin				1	0.0000	3			
4	Woodchuck Dr. & Wild Cherry Ln.	188 LF 24" CSP xing intx to the S, running E from the Sediment Basin to Rock Lined Ditch			24	0	0.0000	2	X	2	
-	Woodchuck Dr. & Wild Cherry Ln.	45 LF Rock Lined Ditch SW corner of intx				1.5	0.0000	3			
5	Woodchuck Dr. & Muletail Dr.	38 LF 24" CSP S side S of intx running E from RLD to RLD			24	0	0.0000	3	X	3	
-	Woodchuck Dr. & Wild Cherry Ln.	38 LF 18" CSP W/ Rip-Rap NE corner then xing to SE corner into RLD			18	0	0.0000	3	X	3	
6	Woodchuck Dr. & Muletail Dr.	13" Rock Lined Ditch W side 90' S of intx				0.5	0.0000	3			
-	Woodchuck Dr. & Muletail Dr.	62 LF Rock Lined Ditch SW corner of intx				0	0.0000	3	X	3	
-	Woodchuck Dr. & Muletail Dr.	AC Dike N side from Muletail Dr. to Silver Ridge Ln.				0	0.0000	3			
7	Woodchuck Dr. & Piney Wood Dr. (West)	40 LF 18" CSP W/ Rip-Rap NW corner then xing to SW corner into RLD			18	0	0.0000	2	X	2	
-	Woodchuck Dr. & Piney Wood Dr. (West)	55 LF 24" CSP SW corner then xing to NE corner from RLD to			24	0	0.0000	2	X	2	
-	Woodchuck Dr. & Piney Wood Dr. (West)	92 LF Rock Lined Ditch SW corner of intx running E				1.5	0.0000	3			
-	Woodchuck Dr. & Piney Wood Dr. (West)	32 LF 24" CSP S side 170' W of intx running E from RLD to RLD continuing E			24	0	0.0000	3	X	3	
-	Woodchuck Dr. & Piney Wood Dr. (West)	160 LF Rock Lined Ditch S side starting 135' W of intx and continuing E				0	0.0000	3	X	3	
-	Woodchuck Dr. & Piney Wood Dr. (West)	40 LF 24" CSP SE corner running E from RLD to RLD			24	0	0.0000	2	X	2	
-	Woodchuck Dr. & Piney Wood Dr. (West)	50 LF 18" CSP W/ Rip-Rap NE corner then Xing to SW corner of Piney Wood (East) intx into RLD			18	0	0.0000	3	X	3	
-	Woodchuck Dr. & Piney Wood Dr. (East)	34 LF Rock Lined Ditch SW corner				0	0.0000	3	X	3	
-	Woodchuck Dr. & Piney Wood Dr. (East)	42 LF 30" CSP from RLD on SW corner to RLD on SE corner			30	0	0.0000	2	X	2	
-	Woodchuck Dr. & Piney Wood Dr. (East)	22 LF Rock Lined Ditch SE corner				0	0.0000	3	X	3	
-	Woodchuck Dr. & Piney Wood Dr. (East)	55 LF 30" CSP S side 45' E running E of intx from RLD to RLD			30	0	0.0000	2	X	2	
-	Woodchuck Dr. & Piney Wood Dr. (East)	60 LF Rock Lined Ditch S side 100' E of intx				0	0.0000	3	X	3	
-	Woodchuck Dr. & Piney Wood Dr. (East)	30" SW CSP			30	0	0.0000	2	X	2	
-	Silver Ridge Ln. & North Ridge Dr.	130 LF 30" CSP starting 115' SW of intx then xing intx to N side from SDMH to RLD			30	0	0.0000	2	X	2	
-	Silver Ridge Ln. & North Ridge Dr.	186 LF Rock Lined Ditch N side of intx along North Ridge Dr.				0	0.0000	3	X	3	

LAKE TAHOE EROSION CONTROL PROJECTS - SUMMARY OF SPRING MONITORING INSPECTIONS

Proj #	PROJECT NAME / Location	Description and Location	Size (in)			2010 Spring Conditions	S10 Sed Acc (in)	S10 Sed Val (yras)	S10 Priority	S 10 Complete	S10 Completed Priority
			L	W	D						
8	Silver Ridge Ln. & North Ridge Dr.	AC Dike S side of North Ridge Dr. from intx to Sediment Basin						3			
-	Silver Ridge Ln. & North Ridge Dr.	73 LF 30" CSP starting 115' E of intx then xing intx to the SE from RLD to Sediment Basin		30		ok	0	2	X	2	
-	North Ridge Dr.	AC Dike S side of North Ridge Dr. from Silver Ridge Ln to Wildcherry Ln.				ok	0	3	X	3	
9	North Ridge Dr. & Piney Wood Rd.	30 LF 18" CSP N side 230' E of intx running NW from RLD to RLD		18		moderate sed accum	1.5	3			
10	North Ridge Dr. & Piney Wood Rd.	89 LF Rock Lined Ditch N side 120' E of intx				moderate sed accum	1.5	3			
-	North Ridge Dr. & Piney Wood Rd.	73 LF 18" CSP N side beginning 60' E of intx running SE from RLD to RLD		18		ok	0	3	X	3	
11	North Ridge Dr. & Piney Wood Rd.	80 LF Rock Lined Ditch N of intx				minor sed accum	0.5	3			
12	North Ridge Dr. & Piney Wood Rd.	Rock-lined ditch & AC swale on N. side of street @ intx w/ Piny Wood Rd.				sweep needles		3			
13	North Ridge Dr. & Piney Wood Rd.	707 LF Type "E" Curb & Gutter starting on NW corner and running NW along N side of street				sweep needles		3			
-	North Ridge Dr. & Wildcherry Ln.	AC Dike N side from end of curb & gutter 90' W of Wildcherry Ln. and continuing W				repair	0	3			
2000	<b>CARNELIAN DRIVE</b>										
-	Carnelian Circle & North Ridge Dr.	DI				ok	0	1	X	1	
-	Carnelian Circle	"940' 30" x 36" DI	30	36		ok	0	1	X	1	
14	Lardin Wy. & State Hwy. 28	DI NW corner				10" of sed accum	10	1			
15	Lardin Wy. & State Hwy. 28	DI NE corner of intx				2" of sed accum	2	1			
16	Lardin Wy. & State Hwy. 28	Sed trap 20' W of intx on N side Lardin				2" of sed accum	2	1			
17	Lardin Wy. & Robert Ave.	90 LF Rock Lined Ditch NW corner of intx running N along Lardin				moderate sed accum	1.5	3			
-	Lardin Wy. & Robert Ave.	Two (2) 24" CSP culverts W side 90' N of intx	24			ok	0	3	X	3	
18	Lardin Wy. & Robert Ave.	205 LF Rock Lined Ditch W side 120' N of intx				moderate sed accum	1.5	3			
-	Lardin Wy. & High St.	24" CSP & 24" CMP xing intx from NW corner to SW corner	24	24		ok	0	2	X	2	
19	Lardin Wy. & High St.	24" x 42" DI in SE corner	24	42		6.5" of sed accum	6.5	1			
-	Lardin Wy. & High St.	18" CMP N side 140' W of intx		18		ok	0	2	X	2	
20	Lardin Wy. & High St.	slot drain				2.5" of sed accum	2.5	1			
21	Lardin Wy. & High St.	250 LF Rock Lined Ditch N side of intx going NW through private property				moderate sed accum	1.5	3			
-	High St. & West Ct.	40 LF 24" CSP xing on W side of intx		24		ok	0	2	X	2	
22	High St. & West Ct.	185 LF Rock Lined Ditch W side from NW corner of intx running N				minor sed accum	0.5	3			
23	High St. & West Ct.	50 LF 24" CSP W side 140' N of intx		24		3" of sed accum	3	3			
24	High St. & West Ct.	130 LF Rock Lined Ditch W side 190' N of intx				minor sed accum	0.5	3			
25	High St. & West Ct.	"695" High St. 18" driveway culvert		18		crushed, 2 in sed	2	2			
26	High St. & Nightingale Rd.	260 LF Rock Lined Ditch starting on the NW corner of intx and continuing NW to Carnelian Dr.				minor sed accum	0.5	3			
27	High St. & Nightingale Rd.	CSP in NW corner				1" of sed accum	1	3			
28	Nightingale Rd & Carnelian Dr.	Rock Lined Ditch SW corner of intx running S along Nightingale Rd.				minor sed accum	0.5	3			
-	Carnelian Cir & Carnelian Cir.	DI NE corner	24	36		ok	0	1	X	1	
-	Carnelian Cir & Carnelian Cir.	CMP SW cor				ok	0	2	X	2	
29	Carnelian Cir & Carnelian Cir.	rock lined ditch SW cor running W				minor sed accum	0.5	3			
2050	<b>NIGHTINGALE</b>										
-	Summit Rd	Retaining wall N side				ok	0	3	X	3	
30	Nightingale Rd. & Summit Rd.	AC dike on W side of Nightingale 200' S of intx.				minor sed accum	0.5	2			

LAKE TAHOE EROSION CONTROL PROJECTS - SUMMARY OF SPRING MONITORING INSPECTIONS

Proj #	PROJECT NAME / Location	Description and Location	Size (in)			2010 Spring Conditions	S10 Sed Acc (in)	S10 Sed Vol (yds3)	S10 Priority	S10 Complete	S10 Completed Priority
			L	W	D						
-	Nightingale Rd	Dbl 24" X 36" D.I. across from "440"	24	36		ok	0	0.0000	1	X	1
-	Nightingale Rd	24" X 40" DI @ "4055"	24	40		ok	0	0.0000	1	X	1
-	Nightingale Rd	Dwy culvert @ "4055"				ok	0	0.0000	2	X	2
31	Nightingale Rd.	RLC from 4055 to intx Carnelian Ave.				minor sed accum	0.5	0.0000	3		
32	Nightingale Rd & Carnelian	18" CSP xing W of intx			18	1.5" of sed accum	1.5	0.0082	3		
33	Nightingale Rd & High St.	RLD S side Nightingale, W side High St.				moderate sed accum	1.5	0.0000	3		
34	Nightingale Rd.	dwy culverts @ "4075"				5" of sed accum	5	0.0000	3		
35	Nightingale Rd.	2 dwy culverts @ "4155"				moderate sed accum	1.5	0.0000	3		
<b>2100</b>	<b>FOREST ROAD</b>										
36	Robert Ave. & Lardin Wy.	Rock-lined ditch on E. & W. sides of Lardin Wy.				minor sed accum	0.5	0.0000	3		
-	Robert Ave. & Lardin Wy.	Sed Basin				ok	0	0.0000	3	X	3
-	485 High Street	24" X 42" sediment trap	24	42		ok	0	0.0000	1	X	1
37	470 High Street	24" X 42" sediment trap	24	42		1" of sed accum	1	0.0216	1	X	1
38	480 High St.	24" X 42" sediment trap	24	42		2" of sed accum	2	0.0432	1		
-	Between 490 and 565 High St.	24" X 42" sediment trap	24	42		needs repair	0	0.0000	1		
39	595 High Street	24" X 42" sediment trap	24	42		1.5" of sed accum	1-Jan	0.0324	1		
-	Summit Road	road	24	42		ok	0	0.0000	3	X	3
40	Fulton Crescent PV	18" X 40" DI at "725"	18	40		7.5" of sed accum	7.5	0.1157	1	X	1
-	Summit & Fulton Crescent	18 x 40 sed trap NE corner	18	40		ok	0	0.0000	1	X	1
-	Summit & Fulton Crescent	18" X 40" sediment trap NW cor of Summit	18	40		ok	0	0.0000	1	X	1
41	710 Fulton Crescent PV	36" sed trap	18	40		more than 3 in sed accum	3	0.0654	1	X	1
-	Forest Road	AC dike from Old County Rd. to Nightingale.				sweep for needles	0	0.0000	3		
42	Fulton Crescent & Summit Rd.	137" AC Dike W side 175' N of intx				sweep needles	0	0.0000	3		
-	Summit Rd. & Old County Rd.	60" CMP xing N of intx			60	ok	0	0.0000	2	X	2
-	Summit Rd. & Old County Rd.	RLD N of Summit				ok	0	0.0000	3	X	3
-	Summit Rd. & Old County Rd.	Two (2) Sediment Traps W side 60' N of intx				ok	0	0.0000	1	X	1
-	Summit Rd.	AC Dike N side of Summit. Old Cty to Nightingale				ok	0	0.0000	3	X	3
-	Summit Rd. & Old County Rd.	AC Dike S side of Summit Road from Old County Rd. to Nightingale Rd.				ok	0	0.0000	3	X	3
-	Summit Rd. & Old County Rd.	24" X 42" sed trap @ NE cor.	24	42		ok	0	0.0000	1	X	1
43	Dinah Rd.	3816 double squashed 36" culvert			36	E side is clogged, W side is fine	0	0.0000	2		
-	Nightingale Rd.	start at 495, 679 LF AC Dike W side running S of intx				ok	0	0.0000	3	X	3
44	435 Nightingale Rd.	18" CSP W side 490' N of intx			18	5" of sed accum	5	0.0273	3		
45	415 Nightingale Rd.	double squashed 36" cross culvert			36	sed buildup in front of N side			2		
-	Nightingale Rd. & Forest	AC Dike b/w Forest & Dinah, W side				ok	0	0.0000	3	X	3
-	Nightingale Rd. & Forest Rd.	600 Nightingale DI				ok	0	0.0000	1	X	1
-	Nightingale Rd.	300 LF 4' Retaining Wall W side 65' N of intx				ok	0	0.0000	3	X	3
46	Nightingale Rd.	R-lined ditch on S. side of Nightingale & W. of High St.				heavy sed accum, about 6 in	6	0.0000	3		
<b>2150</b>	<b>OLD COUNTY ROAD</b>										
47	Old County Rd	RLD @ "610"				4" of sed accum.	4	0.0000	3		
-	Old County Rd	"635" Dwy culv				ok	0	0.0000	2	X	2
48	Old County Rd	"595" S. Dwy culv				3" of sed accum.	3	0.0000	3		
-	Old County Rd. & Summit Rd.	Ditch on W side of Old County, S or intx.				ok	0	0.0000	3	X	3
-	Old County Rd. & Summit Rd.	AC dike at NE cor.				ok	0	0.0000	3	X	3

LAKE TAHOE EROSION CONTROL PROJECTS - SUMMARY OF SPRING MONITORING INSPECTIONS

Proj #	PROJECT NAME / Location	Description and Location	Size (in)			2010 Spring Conditions	S10 Sed Acc (in)	S10 Sed Vol (yds <sup>3</sup> )	S10 Priority	S 10 Complete	S10 Completed Priority
			L	W	D						
-	Old County Rd. & Lacrosse Dr.	Sediment Basin E side 130' NW of Lacrosse Dr.				0	0.0000	3	X	3	
-	Old County Rd. & Lacrosse Dr.	12" CMP E side 150' NW of Lacrosse Dr.			12	0	0.0000	2	X	2	
-	Old County Rd. & Lacrosse Dr.	50 LF Rock Lined Ditch E side 170' NW of Lacrosse Dr.				0	0.0000	3	X	3	
-	Old County Rd. & Lacrosse Dr.	Ditch 100' SE of inbx.				0	0.0000	3	X	3	
49	Old County Rd.	48" CMP xing road at Lacrosse Dr.			48	3	0.1164	3			
-	Old County Rd.	Gabion wall				0	0.0000	3	X	3	
-	Old County Rd.	AC curb @ gabion wall on W side				0	0.0000	3	X	3	
-	Old County Rd. & Summit Rd.	Ret. Wall				0	0.0000	3	X	3	
50	All Streets	Streets throughout subdivision need swept.				0	0.0000	3	X	3	
G	<b>Dollar Hill (Dollar Point)</b>										
????	<b>HIGHLANDS</b>										
1	Highlands Dr	AC Curb on S side						3			
2	Highlands Dr	AC curb on N side						3			
-	Highlands Dr	12" culvert on S side			12	0	0.0000	2	X	2	
-	Highlands Dr & Ct	culvert @ inbx				0	0.0000	2	X	2	
3	Highlands Dr	DI at "3115"				3	0.0000	1			
-	Highlands Dr	Culvert xing at "3115"				0	0.0000	3	X	3	
4	Country Club	AC Dike on W side						3			
-	Country Club and Village	18x36 DI NW	18	36		0	0.0000	1	X	1	
5	Country Club and Village	curb on N side of village rd				3	0.0000	2			
6	Village and Cedarwood	culvert xing cedarwood				2	0.0000	3			
-	Cedarwood	vegetated swale on N side				0	0.0000	3	X	3	
7	Heather & Polaris	culvert xing heather						2			
-	Polaris	vegetated swale on N side				0	0.0000	3	X	3	
8	Polaris	RLC at "3160"						3			
9	Polaris	Culvert at "3160"						2			
-	Village and Martin	Vegetated swale E side of Village				0	0.0000	3	X	3	
-	Village and Martin	culvert xing martin 12"			12	0	0.0000	2	X	2	
-	Martin	Vegetated swale, N side				0	0.0000	3	X	3	
10	Martin	RLC at "3095"				0.5	0.0000	3			
-	Old Mill	vegetated swale on E side				0	0.0000	3	X	3	
11	Watson	vegetated swale on N side				0.5	0.0000	3			
-	Watson	channel xing at "3100"				0	0.0000	3	X	3	
-	Fabian Way	vegetated swale on N side				0	0.0000	3	X	3	
-	Fabian Way	channel xing at "3095"				0	0.0000	3	X	3	
2200	<b>DOLLAR POINT</b>										
-	Edgewater Rd.	N Rock Wall				0	0.0000	3	X	3	
12	Edgewater Rd. & Dardanelles Ave. (west)	NW 36" x 40" DI	36	40		2.5	0.0772	1			
-	Edgewater Rd. & Dardanelles Ave. (west)	NW 24" x 36" DI	24	36		0	0.0000	1	X	1	
-	Edgewater Rd. & Dardanelles Ave. (west)	24" CMP NE cor			24	0	0.0000	2	X	2	

LAKE TAHOE EROSION CONTROL PROJECTS - SUMMARY OF SPRING MONITORING INSPECTIONS

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					L	W	D						
13	Edgewater Rd.	dwy culvert @ "3325"						2" of sed accum.			3		
-	Edgewater Rd.	36" x 40" DI on N side of "3328"			36	40		ok	0	0.0000	1	X	1
-	Edgewater Rd.	36" x 40" DI at "3399"			36	40		ok	0	0.0000	1	X	1
-	Edgewater Rd.	RLD W side b/w "3365" & "3375"						ok	0	0.0000	3	X	3
14	Edgewater Rd.	Dwy culvert @ "3375"						1.5" of sed accum.	1.5	0.0000	3	X	3
-	Edgewater Rd. & Dardanelles Ave. (east)	24" CMP NE cor				24		ok	0	0.0000	2	X	2
15	Edgewater Rd. & Dardanelles Ave. (east)	24" CMP NW cor				24		1" of sed accum.	1	0.0097	3		
16	Tahoma Ave.	36" x 36" DI at "30"			36	36		2" of sed accum. DI has been buried	2	0.0556	1		
-	Tahoma Ave.	RLD @ "94"						ok	0	0.0000	3	X	3
-	Tahoma Ave. & Diablo Wy.	24" x 36" NE DI			24	36		ok	0	0.0000	1	X	1
-	Tahoma Ave. & Diablo Wy.	RLD @ NW & NE cor						minor sed accum	0.5	0.0000	3		
17	Diablo	Dwy culvert @ "74"						6" of sed accum.	6	0.0000	3		
19	Observation	Dwy culvert @ "46"						1" of sed accum.	1	0.0000	3		
-	Tahoma & Observation	Gabion baskets on E side Observation						ok	0	0.0000	3	X	3
20	Mammoth Rd.	24" x 36" DI at "116"			24	36		1.5" of sed accum.	1	0.0000	3		
-	Mammoth Rd.	RLC at "116"						ok	0	0.0000	1	X	1
-	Mammoth Rd.	Culvert @ "124"						ok	0	0.0000	3	X	3
-	Mammoth Rd.	Culvert @ "126"						ok	0	0.0000	2	X	2
21	Mammoth Rd.	Culvert @ "128"						2" of sed accum.	2	0.0000	3	X	3
-	Mammoth Rd.	RLD b/w gabion baskets @ "138"						ok	0	0.0000	3	X	3
22	Edgecliff Way	24" x 36" DI 50' W of "315" on N side			24	36		2" of sed accum.	2	0.0370	1		
-	Marlette Dr.	24" x 36" DI at "114"			24	36		ok	0	0.0000	1	X	1
-	Roundridge Rd.	24" x 36" DI 25' E of inbx			24	36		ok	0	0.0000	1	X	1
23	Roundridge Rd.	AC ditch S of inbx.			24	36		repair needed			3		
-	Roundridge Rd. & Skyland Wy.	24" x 36" NW DI			24	36		ok	0	0.0000	1	X	1
7777	LAKE FOREST												
24	2895 Lake Forest Rd.	DI at LF Glass			30	30		1" of sed accum	1	0.0193	1		
-	Lake Forest and Aspen	24" CMP SW corner				24		ok	0	0.0000	3	X	3
-	Lake Forest and Aspen	grass lined ditch SW cor running S						ok	0	0.0000	3	X	3
25	2907 Lake Forest Dr.	DI on N side of road			30	30		2" of sed accum	2	0.0366	1		
-	Meadowbrook & Briarwood	24" CMP NE cor				24		ok	0	0.0000	3	X	3
26	Meadowbrook & Briarwood	24" CMP NW cor				24		2" of sed accum	2	0.0194	3		
27	Meadowbrook & Briarwood	AC ditch NW cor				24		minor sed accum	0.5	0.0000	2		
-	Meadowbrook Dr. & Meadowbrook Cr.	24" CMP NE cor				24		ok	0	0.0000	2	X	2
-	Meadowbrook Dr. & Meadowbrook Cr.	24" CMP NW cor				24		ok	0	0.0000	3	X	3
28	Meadowbrook Dr. & Meadowbrook Cr.	AC ditch NW cor				24		minor sed accum	0.5	0.0000	2		
-	Meadowbrook Dr. & Meadowbrook Cr.	rock lined slope NW cor						ok	0	0.0000	3	X	3
-	Meadowbrook & McComas	24" CMP NE cor				24		ok	0	0.0000	3	X	3
-	Meadowbrook & McComas	24" CMP NW cor				24		ok	0	0.0000	3	X	3
29	Meadowbrook & McComas	AC ditch NW cor				24		minor sed accum	0.5	0.0000	2		
-	Meadowbrook & McComas	AC ditch running N-S						ok	0	0.0000	3	X	3
30	3080 Meadowbrook	36" CMP xing road, N side			36	36		16" of sed accum	16	0.3461	2		
-	3080 Meadowbrook	36" CMP xing road, S side			36	36		ok	0	0.0000	2	X	2
-	Meadowbrook & Montemar	24" CMP NE cor				24		ok	0	0.0000	2	X	2
-	Meadowbrook & Montemar	24" CMP NW cor				24		ok	0	0.0000	2	X	2
31	Meadowbrook & Montemar	ditch NW cor				24		2" of sed accum	0	0.0000	3		
-	Meadowbrook & Montemar	rock lined slope N side from Montemar to Lake Forest						ok	0	0.0000	3	X	3
-	Lake Forest Rd. Meadowbrook to Panorama	vegetated ditch E side						ok	0	0.0000	3	X	3
32	Lake Forest & Panorama	24" CMP SE cor			24	36		6" of sed accum	6	0.0582	3	X	3
-	Lake Forest & Panorama	24" CMP NE cor			24	36		ok	0	0.0000	2	X	2

LAKE TAHOE EROSION CONTROL PROJECTS - SUMMARY OF SPRING MONITORING INSPECTIONS

Proj #	PROJECT NAME / Location	Description and Location	Size (in)			2010 Spring Conditions	S10 Sed Acc (in)	S10 Sed Vol (yes3)	S10 Priority	S 10 Complete	S10 Completed Priority
			L	W	D						
-	Lake Forest & Panorama	rock lined slope NE cor.				0	0.0000	3	X	3	
H	Burton Creek (Burton Cr Govt Ctr)										
2250	BURTON CR GOVT CTR										
1	Burton Creek	Slot drains	60	4		2	0.0103	1			
-	Administration Building	West Pond 27m SW of Admin. Bld.			2" of sed accum	0	0.0000	3	X	3	
-	Administration Building	Pond Overflow Release & Rock Lined Channel SW corner of West Pond			ok	0	0.0000	3	X	3	
-	Administration Building	Double Barrel Sediment Trap 9m N of NW side of West Pond			ok	0	0.0000	1	X	1	
-	Administration Building	DI 24m SW of building			ok	0	0.0000	1	X	1	
-	Administration Building	Precast Drain 34m S of SE corner of Admin			ok	0	0.0000	1	X	1	
2	Administration Building	17m Infiltration Trench running NW from Precast Drain			minor sed accum	0.5	0.0000	3			
3	Administration Building	12m Infiltration Trench running NE from Precast Drain			minor sed accum	0.5	0.0000	3			
4	Administration Building	15.6m 300mm HDPE running NE from Precast Drain to Sediment Trap			minor sed accum	0.5	0.0000	3			
5	Administration Building	Sediment Trap 25m SE from SE corner of Admin Building			minor sed accum	0.5	0.0000	1			
6	Administration Building	26m Curb & Gutter running SW from DI			minor sed accum	0.5	0.0000	2			
-	East Pond	East Pond 28m NE from CL of Hwy. 28			ok	0	0.0000	3	X	3	
-	East Pond	Sediment Trap 11m N of SDMH			ok	0	0.0000	1	X	1	
-	East Pond	DI on E side 10m W of East Pond			ok	0	0.0000	1	X	1	
-	East Pond	Stormwater Interceptor W side of E pond			ok	0	0.0000	3	X	3	
-	East Pond	Outlet Structure SE corner of East Pond			ok	0	0.0000	3	X	3	
-	Driveway & Hwy. 28	Double Barrel Sediment Trap NW corner of intx			ok	0	0.0000	1	X	1	
-	Driveway & Hwy. 28	Double Barrel Sediment Trap E side 20m NW of intx			ok	0	0.0000	1	X	1	
-	Parking Area	43m Rock Slope Protection SW corner of Parking Area			ok	0	0.0000	3	X	3	
7	Garage Area	Trench Drain xing road 75m NW of parking area from DI to DI			minor sed accum	0.5	0.0000	1			
-	Garage Area	DI SE corner of garage area entrance 12m W of DI		36	ok	0	0.0000	1	X	1	
8	Garage Area	61m 450mm HDPE W curb and gutter S side running from DI to DI in SW corner of garage area			minor sed accum	0.5	0.0000	2			
9	Garage Area	DI SE corner of garage area 20m SE from SE corner of Garage			minor sed accum	0.5	0.0000	1			
1	Tahoe City (Tahoe City)										
2300	TAHOE CITY										
-	Tahoe City Wetlands	Needs to be completely cleaned			ok	0	0.0000	3	X	3	
-	Grove St. & Hwy 28	24x36 DI on NE and NW side of intx	24	36	ok	0	0.0000	1	X	1	
-	Grove St and Bliss Ct	24" x24" DI on NE corner	24	24	ok	0	0.0000	1	X	1	
-	Grove St. & Bliss Ct.	Two (2) Double DI's on E and W side of Grove st. 500' N of Bliss Ct.			ok	0	0.0000	1	X	1	
-	Grove St Parking Lot	18"x24" SW DI	18	24	ok	0	0.0000	1	X	1	
1	Grove St. Parking Lot	18" x 24" NW DI	18	24	7" of sed accum	0	0.0648	1	X	1	
2	Grove St. & Tahoe St.	24" W DI		24	4" of sed accum	0	0.0368	1			
-	Grove St.	Sweep Streets			ok	0	0.0000	3	X	3	
3	Grove St.	24" x 24" DI across from lower school parking lot	24	24	14" of sed accum	0	0.1728	1			

LAKE TAHOE EROSION CONTROL PROJECTS - SUMMARY OF SPRING MONITORING INSPECTIONS

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		L	W	D	L	W	D						
-	Jack Pine St. & Hwy 28	DBL 24x42 DI on NW corner of intx	24	42			ok	0	0.0000	1	X	1	
-	Jack Pine St. & Hwy 28	15x72 GRATE @ NE Corner of intx	15	72			ok	0	0.0000	1	X	1	
-	Jack Pine St. & Hwy 28	24x42 DI @ NE Corner of intx	24	42			ok	0	0.0000	1	X	1	
-	JackPine & Red Cedar	40x40 DI	40	40			ok	0	0.0000	1	X	1	
-	JackPine & Red Cedar	18" Culvert crossing JackPine toward 40x40 DI					ok	0	0.0000	1	X	1	
4	Tahoe and Pioneer	Culvert crossing towards Grove street	18				ok	0	0.0000	2	X	2	
-	Tahoe and Pioneer	DI @ NE corner					2" of sed accum	2	0.0000	3			
5	Pioneer	Drainage Ditch on East side	24	36			ok	0	0.0000	1	X	1	
-	Pioneer and Judge Vernon	12" culvert crossing Pioneer					minor sed accum	0.5	0.0000	3			
-	Pioneer and Judge Vernon	12" Culvert crossing under Judge Vernon	12				ok	0	0.0000	3	X	3	
6	Grove and Judge Vernon	12" Culvert crossing Grove (south side of intersection)	12				ok	0	0.0000	2	X	2	
7	Grove and Judge Vernon	12" Culvert crossing under Judge Vernon	12				1" of sed accum	1	0.0024	3			
-	Tahoe Lake School	24x24 DI at Upper Parking Lot	24	24			ok	0	0.0024	3			
-	Tahoe Lake School	24" DI @ SW corner of lower parking lot					ok	0	0.0000	1	X	1	
8	Fairway and 89	24x36 DI on NE side of intx	24	36			ok	0	0.0000	1	X	1	
-	Fairway and 89	24x36 DI on NW side of intx	24	36			10" of sed accum	10	0.1852	1			
-	Fairway	24x36 DI 100ft N of intx w/ 89 on W side	24	36			ok	0	0.0000	1	X	1	
-	Fairway at TCPUD	24x36 DI on E side of street	24	36			ok	0	0.0000	1	X	1	
-	Fairway at TCPUD	24x36 DI on W side of street	24	36			ok	0	0.0000	1	X	1	
-	Fairway at TCPUD	24" CMP xing TCPUD parking lot	24	36			ok	0	0.0000	1	X	1	
-	Fairway at TCPUD	RLC on west side of road	24				ok	0	0.0000	3	X	3	
-	Fairway	18" culvert near intersection with Bunker					ok	0	0.0000	3	X	3	
-	Bunker	12" culvert crossing road near 810"	18				ok	0	0.0000	2	X	2	
-	Bunker	culvert crossing at elbow	12				ok	0	0.0000	2	X	2	
-	Bunker	culvert crossing near 635"					ok	0	0.0000	2	X	2	
9	Grove and Fairway	24x24 DI @ NW corner of intx	24	24			ok	0	0.0000	2	X	2	
-	Grove and Fairway	32" DI @ SW corner of INTX					2" of sed accum	2	0.0247	1			
-	Fairway	Culvert crossing at Frog Creek	32				ok	0	0.0000	1	X	1	
J	Bearing Drive (Bearing Drive)						ok	0	0.0000	2	X	2	
2350	BEARING DRIVE												
1	Olympic and Tavern	12" culvert crossing west side of intersection					repair			2			
-	Olympic Dr.	The ditch on the S. and W. side of the road (@ N/W elbow)					ok	0	0.0000	3	X	3	
-	Bearing Drive	24x36 DI on West side	24	36			ok	0	0.0000	1	X	1	
-	Bearing Drive	24x36 DI on East side	24	36			ok	0	0.0000	1	X	1	
K	Sunnyside (Holly Rd I & II, Tahoe Park Heights Dr, Tallmont, Timberland and Sequoia)												
2400	HOLLY ROAD I												
-	Holly Road & Alpine WY.	Vegetated swale S side of Alpine WY.					ok	0	0.0000	3	X	3	
-	Holly Road & Alpine WY.	Vegetated swale N side of Alpine WY.					ok	0	0.0000	3	X	3	
1	Holly Road & Alpine WY.	culvert xing N side					3" of sed accum	3	0.0000	3			
2	Holly Road & Alpine WY.	culvert xing S side					2" of sed accum	2	0.0000	3			
3	Holly Road	Culvert ~300' south of 750' Holly Rd.					4" of sed accum	4	0.0000	3			
-	Holly Road	Ditch on N side starting at chapel					ok	0	0.0000	3	X	3	

LAKE TAHOE EROSION CONTROL PROJECTS - SUMMARY OF SPRING MONITORING INSPECTIONS

Proj #	PROJECT NAME / Location	Description and Location	Size (in)			2010 Spring Conditions	S10 Sed Acc (in)	S10 Sed Vol (yds.3)	S10 Priority	S 10 Complete	S10 Completed Priority
			L	W	D						
4	795 Cathedral Ct.	driveway culvert				8 in sed accum, needs to be repaired	0.0000	2			
5	Chapel Ln.	RLD north side				minor sed accum	0.0000	3			
2450	HOLLY ROAD II										
-	Woodhill Ct.	AC Dike on N side				ok	0.0000	3	X	3	
6	Woodhill & Tahoe Woods	18x36 DI SW	18	36		2" of sed accum.	0.0278	1			
7	1220 Snowflower	12" Culvert			12	6" of pine needle accum.	0.0145	2			
8	Eidelweiss & Alpine Wy.	Culvert on W side of Eidelweiss				8" of pine needle accum.		2			
-	Alpine Wy.	AC Dike on N side bwn Eidelweiss & Alpine Wy.				ok	0.0000	3	X	3	
9	Alpine Wy.	AC Dike on N side bwn Eidelweiss & Alpine Wy. (duplicate for sweeping, rather than damage)				minor sed accum	0.0000	3			
10	Tahoe Woods & Alpine Wy.	18" x 36" NW DI	18	36		1" of sed accum.	0.0139	1			
-	Tahoe Woods	AC Dike on W side	18	36		ok	0.0000	3	X	3	
-	Tahoe Woods	18" x 36" DI across from 275 (N side)				ok	0.0000	1	X	1	
-	Tahoe Woods	AC Dike N side				ok	0.0000	3	X	3	
-	Tahoe Woods	AC Dike N side (duplicate for sweeping - multiple maintenance needs)				ok	0.0000	3	X	3	
11	Tahoe Woods & Woodhaven Ct.	Culvert on S side of intx				4" of sed accum		2			
-	Tahoe Woods & Woodhaven Ct.	24x36 DI SW	24	36		ok	0.0000	1	X	1	
-	Tahoe Woods & Woodhaven Ct.	AC channel				ok	0.0000	3	X	3	
-	Woodhaven Ct.	AC Dike on N side				ok	0.0000	3	X	3	
12	Sunnyside (Holy Rd I & II, Tahoe Park Heights Dr.	Sweep Streets				sweep		3			
13	Alpine Wy	Ditch on W side				minor sed accum	0.0000	3			
14	Alpine Wy	Ditch on N side				minor sed accum	0.0000	3			
-	Woodview	AC Dike N side				needs repair	0.0000	3			
15	Alpine Way	Dwy culvert @ "1325"				9" of sed accum		2			
16	Sequoia Ave & Woodland Wy	Culvert @ NW corner				under construction		2			
2500	TAHOE PARK HIGHTS DR										
-	Tahoe Park Heights Dr.	Gabion walls and AC ditch 1450' Ely from intx with Big Pine Dr.				ok	0.0000	3	X	3	
-	Tahoe Park Heights Dr.										
17	Tahoe Park Heights Dr.	Culvert xing road				ok	0.0000	2	X	2	
2600	LAKE TAHOE PARK	Ditch @ "1910"				moderate sed accum	0.0000	3			
2850	WEST SUNNYSIDE	Add features constructed in 2008/2007!!!									
2722	TALMONT										
-	Skyline Dr.	ditch on W side of road				ok	0.0000	3	X	3	
-	Skyline Dr.	DI @ "1075"			36	ok	0.0000	1	X	1	
-	Skyline Dr. & Tahoe Park Heights	Ditch on N side 500' from intx				ok	0.0000	3	X	3	
-	Big Pine Dr. & Tahoe Park Heights	36" x 40" DI 200' E of intx on W side	40	36		ok	0.0000	1	X	1	
-	Big Pine Dr.	RLD on W side				ok	0.0000	3	X	3	
-	Big Pine Dr.	RLC on N side				ok	0.0000	3	X	3	
-	Big Pine Dr. & Silver Tip Dr.	RLC				ok	0.0000	3	X	3	
-	Big Pine Dr.	40" x 40" DI @ "1035"	40	40		ok	0.0000	1	X	1	
-	Big Pine Dr. & Timber Dr.	36" culvert xing W side			36	ok	0.0000	2	X	2	

LAKE TAHOE EROSION CONTROL PROJECTS - SUMMARY OF SPRING MONITORING INSPECTIONS

Proj #	PROJECT NAME / Location	Description and Location	Size (in)			2010 Spring Conditions	S10 Sed Acc (in)	S10 Sed Vol (yds3)	S10 Priority	S 10 Completa	S10 Completed Priority
			L	W	D						
18	Cleanview Dr.	AC Dike on W side				minor sed accum	0.0000	2			
19	Cleanview Dr.	AC Dike on W side (duplicate for sweeping needs)				sweep		3			
-	Skyline Dr.	AC Dike on W side				ok	0.0000	3	X	3	
-	Big Pine Dr. & Shoreview Dr.	18" culvert xing inx		18		ok	0.0000	2	X	2	
-	Big Pine Dr. & Shoreview Dr.	Dbl. 36" x 24" DI	36	24		ok	0.0000	1	X	1	
-	Big Pine Dr. & Talvista Dr.	18" culvert xing inx		18		ok	0.0000	2	X	2	
-	Big Pine Dr. & Talvista Dr.	Dbl. 36" x 24" DI	36	24		ok	0.0000	1	X	1	
-	Talvista Dr. & Little John Wy.	18" culvert xing inx		18		ok	0.0000	2	X	2	
-	Talvista Dr. & Little John Wy.	Dbl. 36" x 24" DI @ NW cor	36	24		ok	0.0000	1	X	1	
20	Talvista Dr.	AC Dike				minor sed accum	0.0000	2			
-	Talvista Dr. & Silver Tip Dr.	36" x 40" NW DI	36	40		ok	0.0000	1	X	1	
-	Talvista Dr. & Silver Tip Dr.	NW AC Swale				ok	0.0000	3	X	3	
21	Silver Tip Dr. & Shoreview Dr.	18" culvert xing inx		18		3" of sed accum	0.0164	3			
22	Shoreview Dr. & Little John Wy.	18" culvert xing inx		18		1" of sed accum	0.0055	3			
-	Shoreview Dr. & Little John Wy.	Dbl. 36" x 24" DI	36	24		ok	0.0000	1	X	1	
23	Timber Dr. & Eastview Dr.	18" culvert xing inx		18		3" of sed accum	0.0164	3			
-	Shoreview Dr. & Timber Dr.	8" culvert NW xing inx		8		ok	0.0000	2	X	2	
-	Silver Tip Dr.	AC Swale N. Side				ok	0.0000	3	X	3	
-	Silver Tip Dr. & John Cain Dr.	18" culvert xing inx		18		ok	0.0000	2	X	2	
24	Silver Tip Dr. & Club Dr.	18" culvert xing inx		18		4" of sed accum	0.0218	2			
-	Club Dr. & Porter Wy.	18" culvert xing inx		18		ok	0.0000	2	X	2	
-	Montclair Dr.	24" x 36" di @ "295"	24	36		ok	0.0000	1	X	1	
25	John Cain Dr. & Sunrise Dr.	18" culvert xing inx		18		6" of sed accum	0.0327	3			
26	Talmon Cir	36" Culvert xing @ "255"		36		2" of sed accum	0.0436	3			
27	Talmon Cir. & Toboggan Rd.	36" Culvert SW		36		2" of sed accum	0.0436	3			
-	Pine Ridge Rd.	Ditch W side				ok	0.0000	3	X	3	
28	Pine Ridge Rd.	Culvert @ "835"		12		5" of sed accum	0.0121	2			
-	Tahoe Park Heights & Pine Ridge Rd.	36" Culvert xing inx.		36		ok	0.0000	2	X	2	
-	Tahoe Park Heights	12" Culvert xing @ "1930"		12		ok	0.0000	2	X	2	
29	SEQUOIA										
29	Sequoia	12" culvert xing private road		12		6" of sed accum.	0.0145	3			
30	Sequoia & 89	slot drain				4.5" of sed accum.	0.0000	1			
31	Tahoe Park Ave.	RLC on E side @ "1640"				minor sed accum	0.0000	3			
-	Tahoe Park Ave.	RLC on W side @ "1640"				ok	0.0000	3	X	3	
-	Tahoe Park Ave.	24" culvert xing street									
32				24		2" of sed accum.	0.0194	3			
-	Sequoia Ave.	RLC @ "1695"				ok	0.0000	3	X	3	
-	Sequoia Ave.	36" culvert xing street to detention basin		36		ok	0.0000	2	X	2	
-	Sequoia Ave.	36" culvert outlet into detention basin		36		ok	0.0000	2	X	2	

LAKE TAHOE EROSION CONTROL PROJECTS - SUMMARY OF SPRING MONITORING INSPECTIONS

Proj #	PROJECT NAME / Location	Description and Location	Size (in)			2010 Spring Conditions	S10 Sed Acc (in)	S10 Sed Vol (yds <sup>3</sup> )	S10 Priority	S 10 Complete	S10 Completed Priority
			L	W	D						
	Sequoia Ave.	Detention basin									
33	Sequoia Ave.	RLC from detention basin to lake				3"	0.0000	3			
-	Sequoia Ave.	2 culverts xing road, outlet to lake				ok	0		X	3	
34	Woodland	Sweep Streets				sweep		3			
3000	TIMBERLAND										
-	Sugarpine Rd.	Rock Retaining Wall both sides				ok	0	3	X	3	
-	Sugarpine Rd. & Quail Ln.	40' x 24" NW DI	40	24		12" of sed accum.	12	1			
-	Sugarpine Rd. & Quail Ln.	Dbl 40" x 24" SW DI (N)	40	24		ok	0	1	X	1	
-	Timberland Ln. & Cedar Ln.	Dbl 48" NW DI		48		ok	0	1	X	1	
36	Timberland Ln. & Cedar Ln.	40" x 24" NE DI	40	24		4" of sed accum.		1			
-	Sugarpine Rd. & Finch	Dbl. 48" DI 50' W of inlt (E)		48		ok	0	1	X	1	
-	Sugarpine Rd. & Finch	Dbl. 48" DI 50' W of inlt (W)		48		ok	0	1	X	1	
37	Sugarpine Rd. & Finch	5' x 15' Shot Drain crossing inlt	5	180		6" of sed accum.	6	1			
38	Sugarpine Rd. & 89	Dbl. 48" N DI (E)		48		7" of sed accum.	7	1			
39	Sugarpine Rd. & 89	Dbl. 48" N DI (W)		48		5" of sed accum.	5	1			
40	Sugarpine Rd. & 89	48" S DI		48		6.5" of sed accum.	6.5	1			
M	Tahoe Pines (Skyland I & II, Tahoe Swiss Village, Cherry St. and Tahoe Pines Areas B and C)	Add features in Skyland/St. Michaels Court, constructed in 2007 for Tahoe Pines Areas B and C									
3050	SKYLAND I										
-	Lectia Wy	580 LF Ret. Wall N side				ok	0	3	X	3	
-	Lectia Wy	culvert @ "315"				ok	0	2	X	2	
3100	SKYLAND II										
-	Lectia Way	RLD on S. side of street				ok	0	3	X	3	
-	Elizabeth Dr.	RLD on N side				ok	0	3	X	3	
3150	TAHOE SWISS VILLAGE										
1	Furka Pass	AC dike @ end				minor sed accum	0.5	3			
-	Furka Pass	Revegetation @ end on W. side of slope				ok	0	3	X	3	
2	Furka Pass	AC Dike N and S side of road from Simplon Pass to Interlaken Rd.				minor sed accum	0.5	3			
-	Furka Pass & Simplon Pass	30" culvert xing Furka Pass on W. side of Simplon Pass		30		ok	0	2	X	2	
-	Furka Pass & Simplon Pass	48" graded sed. trap @ SW cor		48		ok	0	1	X	1	
-	Furka Pass & Simplon Pass	60" graded sed. trap @ NW cor		60		ok	0	1	X	1	
-	Furka Pass & Simplon Pass	48" graded sed. trap on W. side of Simplon Pass 50' N. of inlt.		48		ok	0	1	X	1	
-	Simplon Pass	15" CMP Dwy culvert on W. side 400' N of Furka Pass		15		ok	0	2	X	2	
-	Simplon Pass	Revegetation and slope protection on W. side of street and @ end N. of Furka Pass				ok	0	3	X	3	
3	Simplon Pass	AC dike @ end N. of Furka Pass				minor sed accum	0.5	3			
-	Simplon Pass	18" CMP along W. side, S. of Furka Pass		18		ok	0	2	X	2	
4	Simplon Pass	AC dike along W. side, S. of Furka Pass				minor sed accum	0.5	3			
5	Simplon Pass	48" graded sed. trap @ "180"		48		6" of sed accum.	6	1			

LAKE TAHOE EROSION CONTROL PROJECTS - SUMMARY OF SPRING MONITORING INSPECTIONS -

Proj #	PROJECT NAME / Location	Description and Location	Size (in)			2010 Spring Conditions	S10 Sed Acc (in)	S10 Sed Vol (yds3)	S10 Priority	S10 Complete	S10 Completed Priority
			L	W	D						
-	Simplon Pass	Concrete channel S. of "190"				0					
6	Cherry St. & 89	60" S DI					0.0000	3	X	3	
-	Cherry & 89	NW Dbl 36" (E)						1			
-	Cherry & 89	NW Dbl 36" (W)				0	0.0000	1	X	1	
-	Cherry & 89	60" sed trap adjacent to Hwy near bike trail (#1)				0	0.0000	1	X	1	
7	Cherry & 89	RLD on S side of street				0	0.0000	1	X	1	
-	Cherry & 89	Culvert @ SW corner				0	0.0000	3			
-	Cherry & Interlaken	Dbl 24" DI N. on Cherry (W)				0	0.0000	1	X	2	
-	Cherry & Interlaken	Dbl 24" DI N. on Cherry (E)				0	0.0000	1	X	1	
-	Cherry & Interlaken	SW Single 36" DI				0	0.0000	1	X	1	
-	Cherry & Interlaken	SE Dbl 36" DI				0	0.0000	1	X	1	
8	Cherry & Interlaken	NE DI				3	0.0000	1	X	1	
-	Cherry St.	72" Grated sed. Trap (#2)				0	0.0000	1	X	1	
9	Cherry St.	60" graded sed trap (#3)				6	0.3636	1			
10	Lucerne	24" culvert xing 50' N. of Furka Pass				5	0.0465	3			
11	Grimsel Pass & HWY 89	12" CMP Culvert xing bike trail to HWY 89				4		3			
-	Grimsel Pass & Lucerne	28" X 20" CMPA (w/22L elbow)	28	20		0	0.0097	3	X	3	
12	Grimsel Pass & Lucerne	18" CMP culvert SW corner of inb				2	0.0109	3	X	3	
-	Grimsel Pass & Lucerne	18" CMP culvert SE of inb				0	0.0000	3	X	3	
13	Grimsel Pass & Interlaken	24" culvert xing Interlaken on S. side Grimsel Pass				2	0.0194	3			
14	Grimsel Pass & Interlaken	18" culvert xing Interlaken on NW side Grimsel Pass				2	0.0109	3			
-	Grimsel Pass & Interlaken	48" dbl SW graded sed. trap; N grate				0	0.0000	1	X	1	
15	Grimsel Pass & Interlaken	18" culvert NE side intx.				2	0.0109	3			
-	Grimsel Pass & Interlaken	48" dbl SW graded sed. trap; S grate				0	0.0000	1	X	1	
16	Grimsel Pass	AC dike on S. side of st. W. of Interlaken				0.5	0.0000	2			
17	Grimsel Pass	AC dike to dby on W. side of st. S. of elbow				0.5	0.0000	2			
-	Grimsel Pass & Interlaken	SDMH 200' S. of inb				0	0.0000	3	X	3	
-	Grimsel Pass & Interlaken	SDMH @ inb				0	0.0000	3	X	3	
-	Grimsel Pass & Furka Pass	48" graded sed. trap @ NW				0	0.0000	1	X	1	
18	Interlaken Rd.	AC dike on E. side of st. from Grumsel Pass to Furka Pass				0.5	0.0000	2			
19	Interlaken & Furka Pass	Two (2) culvert inlets @ SW cor (S)				0.5	0.0000	3			
20	Interlaken & Furka Pass	Two culvert inlets @ SW cor (W)				0.5	0.0000	3			
-	Interlaken & Furka Pass	24" culvert inlets @ SW cor (W)				0	0.0000	3	X	3	
-	Interlaken & Furka Pass	48" grate NW cor				0	0.0000	1	X	1	
-	Interlaken & Furka Pass	48" grate SW cor				0	0.0000	1	X	1	
-	Interlaken & Furka Pass	36" sed trap				0	0.0000	1	X	1	
-	Interlaken	4510' Interlaken				0	0.0000	1	X	1	
-	Interlaken Rd. & Simplon Pass	Two (2) driveway grates SE of inb(E)				0	0.0000	3	X	3	
-	Interlaken Rd. & Simplon Pass	Two grates SE of inb. (S)				0	0.0000	3	X	3	
-	Interlaken Rd. & Simplon Pass	Two grates SE of inb. (N)				0	0.0000	1	X	1	
-	All streets	Streets throughout subdivision need swept.				0	0.0000	1	X	1	
-	All streets	Streets throughout subdivision need swept.				0	0.0000	3	X	3	
N	Homewood (Fern St., Trout St., and										
3200	FERN STREET										
-	Fern and 89	SW DI				0	0.0000	1	X	1	
-	Fern and San Souci	NW DI	24	36		0	0.0000	1	X	1	
1	Fern and San Souci	SE DI	24	36		2	0.0370	1	X	1	
-	Fern and San Souci	1ft slot drain				0	0.0000	1	X	1	
3250	TROUT STREET										
-	Trout St & Hwy 89	SW DI				0	0.0000	1	X	1	
2	Trout St & Hwy 89	NW DI				1	0.0000	1	X	1	
3	Trout St & Sacramento St	Culvert xing Sacramento St				3	0.0000	3	X	3	

LAKE TAHOE EROSION CONTROL PROJECTS - SUMMARY OF SPRING MONITORING INSPECTIONS

Proj #	PROJECT NAME / Location	Description and Location	Size (in)			2010 Spring Conditions	S10 Sed Acc (in)	S10 Sed Vol (yds.3)	S10 Priority	S 10 Complete	S10 Completed Priority
			L	W	D						
3300	HOMWOOD CANYON										
1	Tahona Chambers Lodge, McKinney Estates, McKinney Rubicon, and Kailua Park I & II										
3350	CHAMBERS LODGE										
-	Ellis	DBI 36" grated sed. trap E. of "235"			36	ok	0.0000	1	X	1	
1	Fremont	RLD & dwy culvert @ "265"				minor in RLD, culvert has 4 in sed accum	0.0000	3			
-	Fremont	street				ok	0.0000	3	X	3	
2	McKinney & Fremont	24" x 42" DI @ SW cor	24	42		5" of sed accum	0.1080	1			
3	McKinney Dr.	Dwy culvert @ "6145"				at least 12" of sed accum	0.0000	2			
-	McKinney Dr.	Dwy culvert @ "6175"				ok	0.0000	2	X	2	
4	McKinney Dr.	RLD @ "6195"				5" of sed accum	0.0000	3			
5	McKinney Dr.	Dwy culvert @ "6255"				6" of sed accum	0.0000	3			
6	McKinney Dr.	Dwy culvert @ "6295"				8" of sed accum	0.0000	3			
7	McKinney Dr.	RLD b/w "6255" & "6295"				5" of sed accum	0.0000	3			
-	McKinney Dr.	dwy culvert @ "6325"??				ok	0.0000	3	X	3	
8	Lodge & Flicker	42" sed trap @ SE cor			42	1" of sed accum	0.0297	1			
3400	MCKINNEY ESTATES										
-	McKinney Creek Rd.	East Bridge railing				ok	0.0000	3	X	3	
-	McKinney Creek Rd.	West Bridge railing				ok	0.0000	3	X	3	
-	McKinney Court	Sweep Gutter				ok	0.0000	3	X	3	
-	McKinney & Talon	N DI				ok	0.0000	1	X	1	
-	McKinney & Talon	S DI				ok	0.0000	1	X	1	
-	Cascade Dr. & McKinney Cr.	72" sed trap S of bridge on W side (No. 1 of double cans-def S09)			72	ok	0.0000	1	X	1	
-	Cascade Dr. & McKinney Cr.	72" sed trap S of bridge on W side (No. 2 of double cans-def S09)			72	ok	0.0000	1	X	1	
-	Cascade Dr. & McKinney Cr.	Ditch 50' W of intx.				ok	0.0000	3	X	3	
-	Cascade Dr.	West Bridge railing				ok	0.0000	3	X	3	
-	Cascade Dr.	DBI sed cans @ "6615"				ok	0.0000	1	X	1	
-	Cascade Dr. and Springs	DBI sed 40" cans South corner grates			40	ok	0.0000	1	X	1	
-	Cascade Dr. and Springs	Culvert xing Springs Ct. to dbi cans				ok	0.0000	2	X	2	
9	Springs Ct.	Culvert @ "6710"				minor sed accum	0.0000	3			
-	Springs Ct.	Ditch near dwy culvert @ "6745"				ok	0.0000	3	X	3	
-	Springs Ct.	Culvert xing rd to dbi sed traps @ "6720" S side				ok	0.0000	2	X	2	
3450	MCKINNEY RUBICON										
3500	KAILUA PARK PHASE I										
-	Mck Ruben Spr Rd & HWY 89	N DI				ok	0.0000	1	X	1	
-	Mck Ruben Spr Rd & HWY 89	S DI				ok	0.0000	1	X	1	
-	Mck Ruben Spr Rd & HWY 89	2nd 36" sediment trap on S. side of road			36	ok	0.0000	1	X	1	
-	McKinney Rubicon Springs Rd	Roadside ditch and SEZ area				ok	0.0000	3	X	3	
-	McKinney Rubicon Springs Rd	Culvert 7 mi W of project sign				ok	0.0000	2	X	2	
3550	KAILUA PARK PHASE II										
10	Subdivision	Sweep Streets				sweep		3			
-	Deer and El Dorado	NW DI				ok	0.0000	1	X	1	
-	Deer and El Dorado	SW DI				ok	0.0000	1	X	1	
-	Gray and 89	N DI				ok	0.0000	1	X	1	
-	Gray and 89	S DI				ok	0.0000	1	X	1	
-	Gray and El Dorado	NE DI				ok	0.0000	1	X	1	
-	Gray and El Dorado	SE DI	24	36		ok	0.0000	1	X	1	
-	Gray and El Dorado	SW DI	24	36		ok	0.0000	1	X	1	
11	Gray and El Dorado	NW DI	24	36		1" of sed accum	0.0185	1	X	1	
-	Lewis and El Dorado	N DI				ok	0.0000	1	X	1	
12	Lewis and El Dorado	S DI				3" of sed accum	0.0000	1	X	1	

LAKE TAHOE EROSION CONTROL PROJECTS - SUMMARY OF SPRING MONITORING INSPECTIONS

Proj #	PROJECT NAME / Location	Description and Location	Size (in)			2010 Spring Conditions	S10 Sed Acc (in)	S10 Sed Vol (yds3)	S10 Priority	S10 Complets	S10 Completed Priority
			L	W	D						
-	McKinney Rubicon Springs Rd	Sediment Basin									
13	McKinney Rubicon Springs Rd	Culvert				0	0.0000	3	X	3	
-	McKinney Rubicon Springs Rd	Culvert from vault to sediment basin				4	0.0000	3			
14	McKinney Rubicon Springs Rd	rock-lined ditch on S. Side of road approx. 300' W. of HWY 89.				0	0.0000	2	X	2	
15	McKinney Rubicon Springs Rd	Rock-lined ditch on N side of rd. approx 300' W of 89				3	0.0000	3			
-	McKinney Rubicon Springs Rd	rock-lined ditch on E. side of road approx. 300' S. of HWY 89				3	0.0000	3	X	3	
-	McKinney Rubicon Springs Rd	both culverts from private dwy & rock-lined ditch on E. side of road				3	0.0000	3			
16	McKinney Rubicon Springs Rd	road				4	0.0000	3			
J	<b>Alpine Peaks (Alpine Peaks IA, IB, II, and Ward Creek)</b>										
2750	<b>WARD CREEK BLVD.</b>										
1	Ward Creek Blvd.	Rock retaining wall						3			
-	Ward Creek Blvd.	AC ditch on N side approx 500' W of Ward Ave.				0	0.0000	3	X	3	
-	Ward Creek Blvd.	RLC approx 1000' from Ward Ave.				0	0.0000	3	X	3	
-	Ward Creek Blvd.	Culvert crossing RLC				0	0.0000	2	X	2	
-	Ward Creek Blvd.	Culvert crossing Ward Creek Blvd. 100' E of Courchevel Inter.				0	0.0000	2	X	2	
????	<b>ALPINE PEAKS PHASE IA</b>										
-	Courchevel Rd	AC Dike N side				0	0.0000	3	X	3	
-	Courchevel Rd	RLD N side 550' W of Chamomix Rd.				0	0.0000	3	X	3	
-	Courchevel Rd	RLD across from "4001"				0	0.0000	3	X	3	
-	Courchevel Rd	Dbl DI @ "4022"				0	0.0000	1	X	1	
-	Courchevel Rd	Dbl D.I. at 4070 (W)				0	0.0000	1	X	1	
-	Courchevel Rd	Dbl D.I. at 4070 (E)				0	0.0000	1	X	1	
-	Courchevel Rd	Rock Slope Protection N side 300' W of Chamomix Rd.				0	0.0000	3	X	3	
-	Courchevel Rd & Chamomix Rd	DI N side 90' E of inbx				0	0.0000	1	X	1	
2	Courchevel Rd & Chamomix Rd	DI NW cor of inbx.				3	0.0000	1			
3	Courchevel Rd & Chamomix Rd	AC dike @ NE cor.				0.5	0.0000	2			
4	Chamomix Rd & Courchevel Rd.	AC dike @ NW cor.				0.5	0.0000	2			
5	Chamomix Rd.	AC dike @ end of cul-de-sac				0.5	0.0000	2			
-	Chamomix Rd.	AC dike @ culvert xing 400'W of inbx.				0	0.0000	3	X	3	
-	Kitzbuhel Ct	asphalt dike at end of court									
6						0.5	0.0000	2			
7	Courchevel Rd & Kitzbuhel Rd.	DI NW corner of inbx				9	0.1963	1			
8	Courchevel Rd & Kitzbuhel Rd.	asphalt dike @ NE cor. of inbx.				0.5	0.0000	2			
9	Courchevel Rd & Kitzbuhel Rd.	asphalt dike @ NW cor of inbx.				0.5	0.0000	2			
10	Courchevel Rd & Kitzbuhel Rd.	DI NE corner of inbx				2	0.0000	1			
-	Courchevel Rd & Kitzbuhel Rd.	AC around sed trap 20' E of inbx. @ wooden headwall				0	0.0000	3	X	3	
-	Courchevel Rd & Kitzbuhel Rd.	Rock Rip-Rap N side 45' E of inbx				0	0.0000	3	X	3	
-	Courchevel Rd & Kitzbuhel Rd.	DI N side 760' E of inbx				0	0.0000	1	X	1	
11	Courchevel Rd & Kitzbuhel Rd.	DI N side 1180' E of inbx				5	0.0000	1	X	1	
-	Courchevel Rd & Kitzbuhel Rd.	DI N side 1865' E of inbx.				0	0.0000	1	X	1	
-	Courchevel Rd & Kitzbuhel Rd.	RLD N side 1865' E of inbx				0	0.0000	3	X	3	
-	Courchevel Rd & Kitzbuhel Rd.	RLD S side 2050' E of inbx				0	0.0000	3	X	3	
-	Courchevel Rd & Kitzbuhel Rd.	DI N side 2175' E of inbx				0	0.0000	3	X	3	
-						36	0.0000	1	X	1	

LAKE TAHOE EROSION CONTROL PROJECTS - SUMMARY OF SPRING MONITORING INSPECTIONS -

Proj #	PROJECT NAME / Location	Description and Location	Size (in)			2010 Spring Conditions	S10 Sed Acc (in)	S10 Sed Vol (yrs3)	S10 Priority	S 10 Complete	S10 Completed Priority
			L	W	D						
-	Courchevel Rd & Kitzbuhel Rd	7.5' X 6.8' CMAP xing 2825' E of intx	90	81		0	0.0000	2	X	2	
-	Courchevel Rd & Kitzbuhel Rd	Rock Slope Treatment both sides 2995' E of intx				0	0.0000	3	X	3	
-	Courchevel Rd & Kitzbuhel Rd	DI N side 3209' E of intx						1	X	1	
-	Courchevel Rd & Kitzbuhel Rd	DI N side 3530' E of intx				0	0.0000	1	X	1	
-	Courchevel Rd & Kitzbuhel Rd	Rock Slope Treatment N side 4110' E of intx				0	0.0000	3	X	3	
-	Courchevel Rd & Kitzbuhel Rd	RLD N side 4645' E of intx				0	0.0000	3	X	3	
-	Courchevel Rd & Kitzbuhel Rd	DI N side 4945' E of intx				0	0.0000	1	X	1	
-	Courchevel Rd & Kitzbuhel Rd	30" CMP xing 4945' E of intx			30	0	0.0000	2	X	2	
-	Courchevel Rd & Kitzbuhel Rd	RLD N side 5245' E of intx				0	0.0000	3	X	3	
-	Courchevel Rd & Kitzbuhel Rd	PCC Headwall W/ Rock rip-rap N side 6110' E of intx				0	0.0000	3	X	3	
-	Courchevel Rd & Kitzbuhel Rd	DI N side 6650' E of intx				0	0.0000	1	X	1	
-	Courchevel Rd & Kitzbuhel Rd	Rock Slope Protection N side 7920' E of intx (1.5mi)				0	0.0000	3	X	3	
12	Courchevel Rd & Kitzbuhel Rd	V ditch N side 7210' E of intx				0.5	0.0000	3	X	3	
-	Courchevel Rd & Kitzbuhel Rd	30" CMP W/ rock rip-rap at outlet xing 7455' E of intx			30	0	0.0000	2	X	2	
??????	ALPINE PEAKS PHASE IB										
-	Ward Creek Blvd.	Sed trap 100' E. of JP#58146			36	0	0.0000	1	X	1	
-	Ward Creek Blvd.	Sed trap 100' W. of JP#58150				0	0.0000	1	X	1	
??????	ALPINE PEAKS PHASE II										
13	Courchevel Rd. & Verbier Rd. (West)	85 LF AC Dike N side 600' E of intx				0.5	0.0000	2			
-	Verbier Rd. & Courchevel Rd. (West)	326 LF Rock Breast Wall W side 60' N of intx				0	0.0000	3	X	3	
-	Courchevel Rd. & Verbier Rd. (West)	DI NW corner of intx			26	0	0.0000	1	X	1	
-	Courchevel Rd. & Verbier Rd. (West)	24" CMP xing from NW to SE corner of intx			24	0	0.0000	2	X	2	
14	Verbier Rd. (West)	AC Swale NW corner running S along Verbier Rd.				0.5	0.0000	2			
-	Verbier Rd.	Wood retaining wall W side 1480' N of intx				0	0.0000	3	X	3	
15	Verbier Rd. & Courchevel Rd. (East)	LF Rock Lined Ditch N side 225' NE of intx				0.5	0.0000	3			
16	Verbier Rd. & Courchevel Rd. (East)	AC Swale N side 210' W of intx				0.5	0.0000	2			
-	Courchevel Rd & Zermatt Rd.	DI NW of intx	24	36		0	0.0000	1	X	1	
-	Courchevel Rd. & Zermatt Rd.	Sed trap grate and invert				0	0.0000	1	X	1	
-	Courchevel Rd. & Zermatt Rd.	80 LF 42" CMP xing from NW corner to SE corner of intx			42	0	0.0000	3	X	3	
17	Courchevel Rd. & Zermatt Rd.	75 LF AC Curb & Gutter NE corner of intx				0.5	0.0000	2			
-	Courchevel Rd. & Zermatt Rd.	Rock slope protection NW corner of intx				0	0.0000	3	X	3	
-	Courchevel Rd. & Zermatt Rd.	Rock R/LC W side 270' N of intx				0	0.0000	3	X	3	
-	Courchevel Rd. & Zermatt Rd.	Rock R/LC W side 295' N of intx				0	0.0000	3	X	3	
18	Verbier Rd. & Courchevel Rd. (East)	AC Swale N side 210' W of intx				0.5	0.0000	2			
19	Courchevel Rd. & Zermatt Rd.	AC Dike W side N of intx				0.5	0.0000	2			
20	Courchevel Rd. & Zermatt Rd.	AC dike 350' E of intx				0.5	0.0000	2			
21	Courchevel Rd. & St Moritz Rd.	12 LF Rock Rip-Rap N side 160' W of intx				0.5	0.0000	3			
-	Courchevel Rd. & St Moritz Rd.	60 LF 42" CMP xing from SE to NE corner			42	0	0.0000	3	X	3	
-	Courchevel Rd. & St Moritz Rd.	Siltation Basin W/ Rock Rip-Rap NE corner of intx				0	0.0000	3	X	3	
22	Courchevel Rd. & St Moritz Rd.	DBI DI NE cor on intx (W)			36	1"	0.0218	1			
23	Courchevel Rd. & St Moritz Rd.	DBI DI NE cor on intx (E)				3"	0.0000	1			
-	Courchevel Rd. & St Moritz Rd.	Siltation Basin W/ Rock Rip-Rap N side 1120' E of intx				0	0.0000	3	X	3	
-	Courchevel Rd. & St Moritz Rd.	45 LF 24" CMP xing 1120' E of intx			24	0	0.0000	2	X	2	
-	Courchevel Rd. & St Moritz Rd.	DI 1120' E of intx, N side				0	0.0000	1	X	1	

