

Attachment A: Staff Report

March 5, 2013 - Board of Supervisors Hearing
Legistar Item No. 13-0023

TITLE:

County of El Dorado's Draft Pollutant Load Reduction Plan Presentation

PURPOSE:

Transportation recommending the Board receive a presentation and provide direction on the County of El Dorado's Draft Pollutant Load Reduction Plan (PLRP) for the Lake Tahoe Basin. The PLRP is a Regional Water Quality Control Board, Lahontan Region Municipal National Pollution Discharge Elimination System (NPDES) Permit Board Order # R6T-2011-101A1 requirement.

BACKGROUND:

Tahoe NPDES Permit and Water Quality Regulation History

The Water Quality Act of 1987 added Section 402(p) to the Clean Water Act (CWA) (33U.S.C. §1251-1387) that requires the United States Environmental Protection Agency (U.S. EPA) to establish regulations setting forth NPDES requirements for storm water discharges in two phases; Phase I and Phase II. The Tahoe Basin is covered under Phase I storm water regulations which include the following:

- 1) Municipal Separate Storm Sewer Systems (MS4s) serving a population of 100,000 or more;
- 2) Storm water discharges associated with ten categories of industrial activities, including construction activities disturbing more than five acres; and,
- 3) Municipalities whose storm water discharges contribute to violations of water quality standards or is a significant contributor of pollutants to waters of the United States may also be issued a NPDES permit under Phase I. Consequently, the Tahoe NPDES Permit was brought into the Phase I program by NPDES permitting authorities with respect to Lake Tahoe.

The Phase I regulations were published on November 16, 1990 (55 Fed. Reg. 47990) and the Phase II Final Rule was published on December 8, 1999 (64 Fed. Reg. 68722).

The CWA allows the U.S. EPA to authorize states with an approved environmental regulatory program to administer the NPDES program in lieu of the U.S. EPA. The State of California is an authorized State.

The Porter-Cologne Water Quality Control Act (California Water Code) authorizes the State Water Resources Control Board through the Regional Water Boards, to regulate and control the discharge of wastes that could affect the quality of waters of the State, including waters of the United States, and tributaries thereto.

On October 12, 2005 the Regional Water Quality Control Board, Lahontan Region (Lahontan) adopted Board Order No. R6T-2005-0026, which replaced Order No. 6-

00-82, adopted by Lahontan on October 12, 2000. This NPDES Permit continued the effluent limit based regulations for the following pollutants of concern:

Table 1 - Board Order No. R6T-2005-0026 Effluent Limits

Constituent	Units	Land Treatment /Infiltration Systems	Surface Waters
Total Nitrogen	mg/L as N	5.0	0.5
Total Phosphorus	mg/L as P	1.0	0.1
Turbidity	NTU	200	20
Oil and Grease	mg/L	40	2.0
Total Iron	mg/L	4.0	0.5

Furthermore, notwithstanding the various other administrative regulations within this Permit, the permanent storm water runoff collection, treatment, and/or infiltration disposal facilities (Best Management Practices) were required to be designed, installed, and maintained for a discharge of storm water runoff from a 20-year, 1 hour design storm (approximately 1 inch of rainfall) from all impervious surfaces.

Total Maximum Daily Load History

Lake Tahoe is a national treasure and was designated by the U.S. EPA as an Outstanding National Resource Water (ONRW). In order to establish long term water clarity trends and to monitor the health of Lake Tahoe, Lake Tahoe clarity measurements have been taken consistently since 1968. The long-term trend had shown a historically declining condition, but the trend has exhibited moderate improvement, particularly over the last decade (2002 – 2011).

Under CWA § 303(d), States are required to identify a list of impaired water bodies and develop and implement Total Maximum Daily Loads (TMDLs) for these water bodies (33 USC § 1313(d)(1)). Lake Tahoe is listed on the CWA § 303(d) impaired water bodies list. The TMDL process identifies the maximum load of a particular pollutant that a water body is able to assimilate while fully supporting its designated uses (fishing, swimming, drinking water, etc.). The Lake Tahoe TMDL has an endpoint target of the mean annual water clarity of 97.4 feet, which was the measured clarity during the period from 1967 to 1971.

From 2001 to 2010, Lahontan completed an extensive TMDL analysis for Lake Tahoe. The findings of the analysis determined that an increased emphasis should be placed on controlling very fine sediment particles (FSP), which are less than 16 micrometers in diameter, from the urban areas surrounding Lake Tahoe. One identified source of very fine sediment particles from the analysis related to winter roadway operations and the sanding applications to enhance the safety of motorists in the winter months.

As a result of this analysis, on November 16, 2010 Lahontan adopted an amendment to its Water Quality Control Plan (Basin Plan) to incorporate a TMDL for Lake Tahoe. The amendment was approved by the State Water Board on April 19, 2011 and the TMDL was approved by the U.S. EPA on August 17, 2011. Lahontan adopted Basin Plan Amendments (BPA), which modified their water quality protection mandates to focus local Basin jurisdictions' efforts toward controlling fine sediment loading as well as total nitrogen, and total phosphorus.

In March 2011, Lahontan issued Board Order 13267 (Order), which required each jurisdiction covered under the Permit to calculate their respective baseline pollutant loading estimates for fine sediment, total nitrogen and total phosphorus. This was a major TMDL milestone. The period of time from October 1, 2003 to May 1, 2004 is defined by the Order as the baseline condition and is the point of reference for estimating baseline pollutant loading. The County's Baseline Pollutant Load Estimate Report outlined the results of the County's findings in response to that Order. The County's baseline pollutant loading estimates are presented below in Table 2.

Table 2 – County's Baseline Pollutant Loading Estimates

Total Area (acres) ¹	Surface Runoff (acre-feet / year)	Pollutant Loading				
		TSS	FSP	TP	TN	Units
19,738	1,302 - 1,410 -	767,000	439,000	2,300	9,000	lb / year
		±49,000 ³	±28,000 ³	±300 ³	±600 ³	lb / year
		348	199	1.0	4.1	metric tons / year
		-	2.2E+19	-	-	# particles / year ²

1. Both Urban and Non-Urban land uses (as defined for the TMDL) were included in the total area.
2. 1 kg FSP = 1.1×10^{14} particles FSP
3. Represents the range in values originally submitted in County's Jurisdiction Specific Baseline Pollutant Load Estimate Report

Along with the BPA, an updated NPDES Permit was adopted, requiring the local jurisdictions to participate in the Lake Clarity Crediting Program (LCCP) (See *Current Permit History* Section below). The LCCP is an entirely new administrative process to plan for, track, monitor and report on pollutants of concern.

Current Permit History

In December 2011, Lahontan adopted an updated Municipal NPDES Permit Board Order #R6T-2011-0101A1 (Permit) (Attachment D) for the three California Local Jurisdictions around Lake Tahoe (County of El Dorado, County of Placer and City of South Lake Tahoe). The Local Jurisdictions subsequently appealed the Permit and after extensive negotiations, an amended Permit was adopted by Lahontan in October 2012.

Section IV of this Permit incorporates approved load reduction requirements as effluent limits for municipal storm water discharges in the Lake Tahoe Hydrologic Unit and requires the preparation of Pollutant Load Reduction Plans (PLRPs) to meet established waste load reduction requirements. The PLRP, which outlines the County's strategy to reduce its baseline FSP pollutant load by 10%, its baseline total phosphorous (TP) pollutant load by 7%, and its baseline total nitrogen (TN) pollutant load by 8% by September 30, 2016, is due to Lahontan by March 15, 2013. The PLRP (Attachment B) presented as part of this item satisfies that requirement.

DISCUSSION:

Pollutant Load Reduction Plan

Based upon the County's Baseline Pollutant Load Calculations as shown in Table 2, and the above-mentioned Permit requirements, the County is required to obtain 220 credits by September 30, 2016. A credit is defined as 200 pounds of fine sediment particles less than 16 μm in diameter. Essentially, one credit of fine sediment can fit into a box approximately sized 1 ft. x 1 ft. x 1.5 ft. Therefore, the County needs 220 boxes of fine sediment to comply with the current LCCP requirements within the Permit.

The County's strategy to demonstrate compliance with this requirement is to register five (5) Urban Planning Catchments (UPCs) through the LCCP. The five (5) UPCs (Apalachee, Montgomery Estates Area 1, Christmas Valley, Angora 3 and Sawmill/Echo View) have been retrofitted with water quality and erosion control Best Management Practices (BMP's) through the Tahoe Regional Planning Agency Environmental Improvement Program (EIP). The individual EIP Projects were constructed between 2004 (baseline period) and 2012. By utilizing the Pollutant Load Reduction Model (PLRM), as developed by Lahontan, the County has calculated it will achieve 251 credits when it registers the water quality and erosion control improvements constructed in the five (5) UPCs. See Table 3 below for specific detail on the total load reduction estimates from the five (5) UPCs. The County does not propose to obtain credit from improved sweeping practices or advanced abrasives practices during this Permit term. All of the credit will be obtained from infiltration improvements, road shoulder condition improvements and private property BMPs.

Table 3 – County’s Baseline & Expected Condition Pollutant Loading Estimates

Project Area	TMDL UPC	Pollutant Load (lbs/yr)						Ibs FSP Reduced	Credits	Baseline Load	% of Baseline Reduced
		TSS	FSP	TP	SRP	TN	DIN				
Angora	1	19,506	10,333	57	9	260	31	1,887	9	12,220	15%
Christmas Valley	2	9,358	5,043	29	8	125	14	12,910	65	17,956	72%
Apalachee	3	49,219	28,752	128	19	564	69	22,399	112	44,469	50%
Montgomery Estates	4	12,881	7,212	35	5	156	19	4,938	25	18,832	26%
Echo View / Sawmill	5	17,373	11,896	33	4	112	14	8,127	41	20,023	41%
Total		108,337	63,236	283	45	1,217	148	50,261	251	113,500	

Summary	Pollutant Load (kg)							Credits
Achieved	49,141	28,683	128	20	552	67	22,798	251
Required			73		327		19,958	220
% Attainment			176%		169%		114%	114%

CONCLUSION:

Section IV.C. of the Permit requires the County to develop a PLRP that demonstrates how it will reduce its baseline FSP pollutant load by 10%, its baseline TP pollutant load by 7% and its baseline TN pollutant load by 8% by September 30, 2016. Transportation has demonstrated within the PLRP (Attachment B) how it will reduce its pollutant loads as required within the Permit.

NEXT STEPS:

1. Obtain further direction from the Board on the PLRP submittal to Lahontan; and,
2. Transportation will return to the Board on March 12, 2013 requesting authorization to submit the PLRP to Lahontan for approval pursuant to Section IV.C of the Permit.

CONTACT:

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