COUNTY OF EL DORADO DEPARTMENT OF TRANSPORTATION

TAHOE ENGINEERING:
924B Emerald Bay Road
South Lake Tahoe, CA 96150
Phone: (530) 573-7900
Fax: (530) 541-7049

JAMES W. WARE, P.E.
Director of Transportation

Internet Web Site:
http://www.edcgov.us/dot

MAIN OFFICE:
2850 Fairlane Court
Placerville CA 95667
Phone: (530) 621-5900
Fax: (530) 626-0387

March 15, 2011

Ms. Jeanine Townsend
Clerk to the Board
State Water Resources Control Board
P.O. Box 100
Sacramento, CA 95812-2000

RE: County of El Dorado Comment Letter - Lake Tahoe TMDL and Basin Plan Amendment Lahontan Board Resolution R6T-2010

Dear Ms. Townsend:

The County of El Dorado (County) appreciates the opportunity to review and comment on the Lahontan Regional Water Quality Control Board's (Lahontan) Basin Plan Amendments (BPA) and the Final Lake Tahoe Total Maximum Daily Load (TMDL) Report to the State Water Resources Control Board (Water Board). This letter addresses concerns and questions that the County believes were not adequately responded to from the Lahontan staff during the development of the TMDL and Basin Plan Amendment and recites the County's concerns within the letter dated November 15, 2010, to the Lahontan Board (enclosed).

The adoption of the BPA and the TMDL, along with the upcoming amendments to the next municipal NPDES permit will bring about unprecedented changes to the way that storm water is managed in the Tahoe Basin. Therefore, the County believes that it is imperative that the Water Board carefully considers all comments, questions, and feedback received from stakeholders on the Lake Tahoe TMDL prior to moving forward with approval and subsequent adoption by the Environmental Protection Agency (EPA).

In general, the County is supportive of the majority of the proposed amendments including the new approach of replacing numeric effluent limits with pollutant loads. However, the County does have outstanding comments and questions that were not properly addressed or responded to as part of our previous letters to Lahontan; hence, we offer this formal comment submittal to the Water Board for your review and formal response. The comments and questions have been separated out into several subject matters for ease of review.

A. Scientific Analysis

The County appreciates the enormous efforts with respect to the scientific analysis related to the TMDL and believes that the supporting documents and extensive modeling efforts provide a great opportunity to move forward with the County's storm water program. Being that said, we are still concerned with some aspects of the scientific analysis and the modeling efforts behind the development of the TMDL, which is now being embedded into the Basin Plan Amendment. These concerns are related to the following subjects within the June 2010 Final Lake Tahoe Total Maximum Daily Load Technical Report (Report):

1. Land Use Hydrology Analysis

The Report provides a thorough analysis with respect to land uses related to hydrology within the Tahoe Basin. The hydrologic component of this analysis appears to be in line with standard engineering principles, in that, within the urban areas for typical annual storm events the storm water peaks and volumes have higher values per watershed area than the non-urban or forested land use areas. This is a well known hydrologic impact from development, which is mostly related to impervious coverage percentages and efficient storm water conveyance system connectivity. However, the hydrologic analysis also shows a shift to greater storm water peaks and volumes per acre of watershed from the non-urban land uses during greater storm event intervals (i.e. 10 year, 25 year, 50 year, 100 year etc...). This is also a well known hydrologic result, which is based on watershed connectivity and size. Furthermore on this topic, the Report provides a thorough analysis on the percentage of annual flow volumes per land use. Within Table 4-30 of this Report there is a summary of the land use volumes with a sum total for urban land use of 10% or 4.58×10^7 m^3 and 90% or 4.02×10^8 m^3 for non-urban land use of the total annual volume entering Lake Tahoe. This percentage difference appears to be in line with standard engineering principals, in that, the non-urban watershed areas contribute the majority of the annual hydrograph flows based on the ratio of non-urban to urban watershed size being greater than a factor of 10.

2. Land Use Pollutant Loading Analysis

The Report provides a thorough analysis with respect to land uses related to pollutant concentrations within the Tahoe Basin. Table 4-23 within the Report provides various land uses and their corresponding Event Mean Concentrations (EMC's). For most of the urban land use areas, EMC's ranged from 56.4 mg/l to 951.5 mg/l of Total Suspended Sediment (TSS), whereby most of the non-urban land use areas had EMC's that ranged from 14 mg/l to 1,015.2 mg/l (TSS). Therefore, the average EMC's are roughly the same within this range for both urban and non-urban. The Report further estimates, within Table 4-40, a total fine load % from urban land uses of 49% and 51% from the non-urban land uses.

Within the Report (Figure 4-3) and as quantified within the BPA in Table 5.18-1, the percentage of fine particles coming from the Urban land uses is estimated at 72% or 348×10^{18} particles and the percentage coming from the non-urban land uses is estimated at 9% or 41×10^{18} particles of the total fine sediment entering Lake Tahoe.

Based on the annual flow volumes entering the Lake (Item 1) and related land use concentrations with associated % allocations of loads (i.e. 49% from Urban and 51% from non-urban) (Item 2), the County is unclear how the TMDL analysis reconciled the relationship between the non-urban fine sediment loads to 9% from a land use that produces 90% with 51% of the fine sediment load of the annual storm water flows. Conversely how only 10%, with 49% of the fine sediment loads for the annual storm water flows, produces 72% of the fine sediment loads from the urban land use. The County requests that this hydrologic water quality loading conundrum be resolved, which is not clear in the Report nor has this issue been properly addressed by Lahontan staff. Furthermore, the County would like to understand the sediment characterization with respect to the TMDL and BPA allocation of 72% of fine particles as estimated in the Report. Does the 72% include the entire spectrum of the sediment mass from the watersheds with the differentiation of naturally occurring and anthropogenic? If so, what is the sediment characterization percentage of each source?

3. TMDL Lake Model

It is our understanding that the Secchi disk measurements (Transparency) over the course of 36 years (1968 to 2004) provided the basis for the clarity challenge. The TMDL clarity challenge is the first type of TMDL in the country, which is based on the aesthetic-recreation beneficial use requirements within the Clean Water Act. The current regulated threshold was set at 97.4 feet, which represents the average lake transparency value measured between 1968 and 1971 from the Secchi Disk. Within the Report, and within the BPA, this threshold is recited and that a reduction of fine sediment from the urban areas will need to be set at 71% of the total baseline amount or 0.71 times 348 x 10^{18} equal to a 247 x 10^{18} particle reduction. The Lake Clarity Model estimated that the TMDL attainment will take approximately 65 years. As depicted in figure 1-1 of the Report, the trend analysis from the Secchi disk measurements provides the depth reductions over the 36 year period. Further evaluation of this trend shows a decline of approximately 1 foot per year during the first 25 years, then a gradual increase rate of clarity per year, yet still declining during the next 11 years. The first regression analysis completed for this trend provided a linear relationship over time with an average rate of decline of 1 foot/year. However, after further peer review and analysis, the regression was updated to reflect a best fit curvilinear regression over the entire 36 year period. This curvilinear regression better represents the trend. The interesting trend within this analysis is the flattening of the rate of decline over the last 11 years. Another interesting trend within this analysis is the result of clarity loss from large annual events such as in 1983 and1996. During theses large annual event years, the Secchi measurements depicted an approximate 10 foot loss of depth in Lake clarity. Thence, following the large annual event years a gradual increase in clarity depth.

Based on the Secchi Disk analysis, the County would like to understand what percentage of the large event year loss of clarity measurements are attributed to the non-urban land use volumes and load and what percentage of this loss of clarity measurement is attributed to the urban land uses? Also, based on the last 11 years of Secchi Disk measurement, can the flattening of the curve related to the rate of clarity be attributed to the extensive water quality and erosion control Projects that the County and other jurisdictions have constructed over the last 20 years? If so, what is the percentage that can be contributed to the urban land use water quality erosion control Projects and what is the percentage related to the non-urban land uses?

The County would like to know from the State Board, what is the ideal aesthetics of the Lake Clarity value that is economically, physically, and politically feasible, which still satisfies the regulations and is based on a quantifiable sedimentation measurement approach? For instance, would achieving sustained 70 feet annual lake clarity be acceptable, if this is the best we can achieve? This subject was brought to the attention of Lahontan during their extensive peer review of the Report.

4. Lake Clarity Model and Watershed Model Linkage

As part of the TMDL scientific analysis both models were utilized and calibrated using actual monitoring data from which a direct linkage was accomplished per se. This was truly an enormous accomplishment with respect to providing a watershed model that can be used to further calibrate from field measurements and link this to the Lake Clarity Model in order to assess the attainment threshold values that can be quantifiable. The County agrees with this model approach and ability to provide direct inputs into the Lake Model, which was one of several stated goals within Section

4.3.2 of the Report. From this analysis, using the watershed model, a further loading breakdown of the 72% urban fine sediment estimate was provided with respect to % load allocations to each jurisdiction.

The County's portion of the 72% baseline load estimate was set at 12% or 348 x 10^{18} particles times 0.12 equal to 417 x 10^{17} particles. From which, based on the proposed BPA, we would be required to reduce by 71% over 65 years or 297 x 10^{17} particles. After several iterations of comments and a thorough peer review of the Report, Lahontan eliminated the baseline % allocations to each jurisdiction and required each jurisdiction to calculate their own baseline load using the Report land use values and our own model or water quality loading methodologies. This was mostly due to inconsistencies with the watershed model some of which have been commented herein.

5. Pollutant Load Reduction Model (PLRM)

Within Section 11 – Implementation Actions by Source Category of the July 2010 Final TMDL Report, more specifically Section 11.3.1 – Urban Uplands, and included within the BPA, the Lahontan Board is requiring all implementing agencies, other than the USFS, to use a pollutant load reduction model as developed by a private consultant under Contract with Lahontan and NDEP or an approved equivalent to generate the baseline loads and future credits for load reductions. This model is still being tested by the implementing agencies, has not been thoroughly calibrated, and includes additional load parameters that were not included within the original water shed model, has not been linked to the Lake Clarity Model, and has not been approved by the EPA. The County is unclear why the previous water shed model is now being abandoned, which was approved by the EPA and used as the basis to estimate the initial baseline load allocations with direct linkages to the Lake Clarity Model from which the County is now being regulated.

The County would like the State Board to clarify the issues raised within items 4 and 5, for it has huge ramifications on the County and other jurisdiction with respect to providing justifiable and quantifiable numbers to comply with current BPA load reduction numbers. This inquiry was mentioned at the November 16, 2010 Lahontan Board meeting by Board Member Amy Horne, Ph. D from Truckee. She posed the question to Lahontan Staff with respect to using a different model to generate the baseline loads, which will be different from the baseline loads within the BPA and included within the Lake Clarity Model, and how the new numbers, if considerably different, will change the Lake Clarity Model estimates for overall reductions to meet the TMDL desired conditions. Unfortunately, this question was not adequately addressed by the Lahontan staff or their scientific consultants, who developed the Lake Clarity Model. In essence, the implied answer is, the baseline load from the surrounding water sheds, which drain into the Lake, do not matter. What matters is that the Lake Clarity Model estimate says we need to reduce all pollutants causing the clarity decline by x percentage amount, end of discussion. Therefore, the County would like to know what, if the Lake Clarity Model is wrong? Will the County be required to increase its storm water load reduction efforts to make up the difference? Will the State provide additional funding to assist the County with respect to this difference or allow the County to keep to the current reduction levels without change or regulatory consequence?

B. Fairness

1. There are various items being required of the County within this BPA, such as the Pollutant Load Reduction Model (PLRM), Rapid Assessment Measurement (RAM) tools, and monitoring protocols as developed by the State, which have not been thoroughly vetted to determine costs,

staffing levels, efficiencies, and accuracies in coordination with achieving the desired conditions within the BPA. Yet these tools are being mandated by Lahontan in order to obtain load reduction credits for which the County will be held responsible.

2. Within the current BPA, the TMDL requirements for utilizing the extensive models, tools, and monitoring protocols are not being required of the United States Forrest Service, who manages the majority of the non-urban land use. The opinion taken on this exclusion is that the Lake Tahoe Basin Management Unit Forest Practices will be able to achieve the TMDL goals based on their land management practices as it relates to natural storm water runoff. The County is unclear as to the full rationale behind this exclusion.

If the County is required to use the un-tested/un-calibrated and non EPA approved PLRM, RAM tools, and monitoring protocols to achieve the desired conditions within the BPA, will the County be held responsible? How will the State mandated PLRM, RAM tools, and monitoring protocols provide direct measurable linkages to Lake Clarity Model in order to achieve the desired conditions? Also, will the State provide funding assistance to the County in order to use the State required PLRM, RAM tools, and monitoring protocols to achieve the desired conditions within the BPA? Or, must the County make a mandates claim against the State so as to obtain the necessary additional funds to achieve the requirements for the TMDL desired conditions using State mandated models, tools, and monitoring protocols?

Based on the non-urban land use percentages for fine sediment reductions, which are still in question, and given the fact that all government agencies are required under the Clean Water Act to comply with the storm water regulations, will the State Water Board place the same requirements within the BPA on the USFS and other Federal or State land owners?

C. Economic Impacts

1. As depicted within the Report and with the BPA, the estimated costs associated with achieving the TMDL desired conditions for Lake Clarity are at levels that the Basin has not realized yet for the Storm Water program, over $100 million/year for 15 years. For instance, the County has received funding from Sate and Federal grants with local funding for the past 10 years (2000-2010) to the sum of approximately $35 million or an average of $3.5 million per year. During the peak EIP Storm Water Program funding years (FY 03/04 to FY 07/08) the County received approximately $5 million per year. During these peak years the California Tahoe Conservancy, United States Forest Service, and TRPA mitigation funds with County funding was flush with cash. Therefore, if the total TMDL load reduction estimates are correct, and the County % load reduction allocations are correct, and the associated costs to comply with the requirements are correct, we would need approximately $10 million/year to achieve the Lake Clarity Challenge goal within the 15 years. The County is under the opinion that even in the best of financial times between the State, Federal, and local governments, that this funding expectation is not feasible. Furthermore, in this current State, Federal and local economic crisis, the feasibility of obtaining this level of funding is drastically diminished.

2. William W. Lewis Jr. completed a thorough peer review of the TMDL documents as part of the Lahontan peer review efforts. One of his comments echoes the County's concerns with respect to the financial burden being placed on the implementing agencies to achieve the desired conditions. From his peer review he states "My overall concern about the implementation

phase of source control is its enormous cost. Given the financial realities of the current economy, it might be good to have a companion document, of small size, outlining the results that could be obtained for expenditures of 50 percent or 25 percent of the proposed expenditure. Thus, in the event of a financial hardship, source control could proceed, and still could be meaningful."

Expanding on William W. Lewis Jr.'s recommendation, the County would like to know, if the State would be willing to accept a tiered pollutant reduction plan with milestone goals dependant on the financial abilities of the County to achieve the required goals? Also, will the State assist the County during the financial hardship times in order to meet the required goals of the Lahontan Basin Plan Amendment?

The following County comments and concerns were provided to Lahontan on November 15, 2010, as part of the comment period related to the Lahontan Board process to adopt the TMDL and BPA on November 16, 2010. The comments and concerns were not adequately addressed by Lahontan, which deferred the responses until the development of the NPDES Permit, with the exception of the associated costs within the $100 million/year price tag.

D. Future NPDES Permit / TMDL Concerns

1. Future NPDES Permit / TMDL Responsibilities

   The County is unclear as to the level of responsibility we will be required to undertake for managing storm water within our jurisdictional boundaries.

   a. There are many parcels that are owned and managed by the State and Federal governmental entities that discharge directly into the County's public rights-of-way. Will the County be responsible to manage this off-site storm water?

   b. The County is concerned with respect to the level of data collection and reporting requirements identified within the BPA and TMDL documents. Will the County be responsible to report on all storm water activities within our jurisdiction? Will the County be responsible to use the accounting, tracking and crediting tools as developed by Lahontan or can the County provide the necessary accounting, tracking and crediting data using our own storm water management tools, which we feel are equivalent? Who will be the responsible party to gather, house, and evaluate all the data?

   c. The County is concerned with the monitoring responsibilities as identified within the BPA and TMDL documents. Who will be the responsible party to calibrate, update, and disseminate the data collected as part of the Regional Storm Water Monitoring Program (RSWMP)? Will the County be responsible to comply with all storm water monitoring protocols and reporting as defined within the RSWMP?

2. Future NPDES Permit / TMDL Liability

   The County is very concerned with respect to the future liability placed upon the County under the future NPDES Permit and consequences of non-compliance.

   a. If the County is unsuccessful in obtaining Local, State and Federal funding to comply

with the future NPDES Permit conditions, will the County be afforded a variance or a phased implementation approach to the permit conditions commensurate with the available funding?

3. Future NPDES Permit / TMDL Cost Implications

   The County is very concerned with the costs associated with the future NPDES Permit conditions under the current BPA and TMDL proposal.

   a. Based on the estimated costs within the "Lake Tahoe TMDL Pollutant Reduction Opportunity Report" as developed by Lahontan and NDEP, the County would need to expend up to $10 million per year over the course of 15 years in order to comply with the Lake Clarity Challenge numbers for reducing fine sediment, phosphorus, and nitrogen. This number also includes the operations and maintenance costs associated with the capital improvements. However, this number does not include the costs associated with planning, design, construction, and post construction costs for capital improvements and the long term costs for the storm water management thereof.

   At the November 16, 2010, Lahontan Board meeting, the comment related to inclusive costs of planning, design, construction, and post construction was answered by the Lahontan staff, with the exception of the long term costs for storm water management. Therefore, the County would like the State Board to address the cost issues related to long term storm water management. This is a significant associated cost, which if not funded will result in failure for the County to sustain the level of compliance with respect to the TMDL desired condition.

   b. The costs associated with using the specific Lahontan created tools have not been thoroughly addressed within the BPA and TMDL documents. The County would like a cost analysis completed with the data collection operation, data management, and implementation of the tools so as to understand the cost implications to the County's current Storm Water Management Program.

   c. Will the State provide funding assistance to the county in order to achieve the goals within the BPA and TMDL? Or, must the County make a mandates claim against the State?

   d. Will the Federal Government through the Environmental Protection Agency (EPA) provide funding assistance in order to achieve the goals within the BPA and TMDL?

Respectfully, we again ask the Water Board to consider and respond to all of our comments and questions so that we can be better informed to make key management decisions during this difficult economic period.

If you have any questions on this submittal please don't hesitate to call me (530) 621-5651 or Steve Kooyman, P.E. at (530) 573-7910.

Sincerely,

Ray Nutting
Chairman, Board of Supervisors
El Dorado County

Enclosure – November 15, 2010, Lahontan Regional Water Quality Control Board