

JOINT WASTEWATER FACILITIES COMMITTEE  
MEETING AGENDA

Monday, August 3, 2009, 10:00 AM, at the  
Donner Summit Public Utility District, Board Room  
53823 Sherritt Lane, Soda Springs, CA. 95728

1. Call to Order - Chairman
2. Appointment of Committee Co-Chair- Committee
3. Approval of Minutes of the June 26, 2009 Committee Meeting
4. ECO:LOGIC – J. Hauser, R. Emerick  
DSPUD Wastewater Treatment and Disposal Facilities Plan Scope
5. Acceptance of Facilities Plan Scope- Committee
6. Correspondence
  - a. Letter dated July 2, 2009, from Mike Livak, Royal Gorge, Supporting Future Staged Additional Capacity
  - b. Letter dated July 10, 2009, from Wade Freedle, SLCWD Board President, Stating SLCWD's Request for 80 Additional EDUs
7. Project Updates
  - a. Cost estimate to expand anoxic zones in Plants 1 and 2
  - b. 2009 spring/summer biostimulation report
8. Next Meeting
9. Public Participation\*
10. Adjourn

\* Any member of the public desiring to address the Committee on a matter on the Agenda before or during the Committee's consideration of that item may do so. After receiving recognition from the Committee Chair, please give your Name and Address (City) and your comments or questions. In order that all interested parties have an opportunity to speak, please limit your comments to the specific topics of discussion.

**Draft**

**MINUTES OF THE MEETING  
JOINT WASTEWATER FACILITIES COMMITTEE**

**June 26, 2009**

10:05 a.m. – 12:30 p.m.

53823 Sherritt Lane, Soda Springs, California.

1. **Call to Order:** The meeting was called to order by Committee Chairman Wade Freedle at 10:05am.

Members of the Committee in attendance at the Donner Summit Public Utility District (DSPUD) Board Room were:

Wade Freedle – Committee Chairman and Pres. SLCWD Board of Directors  
Ulrich Luscher – SLCWD Board of Directors  
Bob Sherwood – DSPUD Board of Directors  
Blake Tresan – Resident Serene Lakes; Subcommittee Infrastructure

Staff and Consultants present:

Tom Skjelstad – General Manager DSPUD  
Jim King – Plant Manager DSPUD  
Bill Quesnel – Operations Manager Sierra Lakes County Water District (SLCWD)  
Robert Emerick – ECO:LOGIC Engineering  
Jeff Hauser - ECO:LOGIC Engineering

Guest present and identified were:

Bernard Pech, resident of Serene Lakes  
Peter Van Zant, 408 Broad St., Nevada City and previously on the South Yuba River Citizens League (SYRCL) Board  
Susan Snider, 11731 Stillwater Creek Rd., Yuba Head Waters Campaign Director SYRCL  
Cheryl LeBel, resident of Serene Lakes  
Chris Parker, Sugar Bowl  
Mike Livak, Royal Gorge

Recording Secretary: Anna Nickerson

2. **Appointment of Committee Co-Chair - Committee:**

No appointments were made.

**3. Memo to DSPUD Board of Directors from Tom Skjelstad, DSPUD General Manager:**

Mr. Skjelstad asked for any questions or comments. There were none.

**4. ECO:LOGIC – J. Hauser, Presentation of White Paper; Preliminary Investigation Wastewater Management Options:**

Opening comments were made by Mr. Bernard Pech. In his opinion the facility set forth in Mr. Geselbracht's memo has merit; the ideas were grounded on processes. He further commented that, in his opinion, the option of working with a combination of Waterworks and Brentwood makes more sense than starting from scratch. Mr. Pech also stated, "getting Brentwood in the picture working with Waterworks would be a good combination".

Mr. Wade Freedle explained that Eco:Logic's White Paper was a general overview of the facilities options within the industry for conditions typical of Donner Summit. A review of the White Paper would result in the "Facilities Plan", which will be a more detailed evaluation of the options identified in the White Paper. Mr. Freedle went on to say that Mr. Geselbracht's memo was a forward look to the "Facilities Plan" suggesting what might work for the plant. Mr. Freedle continued that DSPUD had been looking at facilities options and adding facilities since the late 90's, specifically 2002, when their wastewater discharge permit was reissued with tighter specifications. In 2009, DSPUD's permit had been reissued again with even tighter specifications and a five year deadline to meet the requirements. To date DSPUD has not met the requirements of either permit.

Mr. Ulrich Luscher asked Mr. Jeff Hauser to explain where Eco:Logic considered Waterworks' concept in their White Paper. First Mr. Hauser explained, in detail, DSPUD's current system. He went on to say that Waterworks' plan was to keep the current system and add an external pump system to recirculate plant effluent to reduce the plant's effluent nitrate concentration. Eco:Logic's response was to increase the "mixed liquor" internal recirculation rate to lower the nitrate concentration. In summary, Eco:Logic's response was a modification of Waterworks' idea of external recirculation to a less expensive internal recirculation with a similar result. Page 29, Item #1, of Eco:Logic's White Paper, was noted as Eco:Logic's internal recirculation approach. Discussion continued as to the differences and detailed requirements of both the external and internal approaches. Finally, Mr. Hauser summarized the processes that would need to be described, investigated and priced in the "Facilities Plan" study.

Mr. Tom Skjelstad and Mr. Jim King explained how they are currently examining expanding the anoxic basin in both plants. Additionally, DSPUD will begin feeding methanol under Mr. Hauser's guidance.

Mr. Peter Vanzant asked “what happens next?” Mr. Robert Emeric of Eco:Logic responded. He explained that due to the possibility of an algae bloom in the river, the District needs to first get nitrate levels down to 10 mg/L, as required by their permit, but that nitrate levels may need to be significantly below 10 mg/L to avoid any “contribution” to an algae bloom. Any “contribution” could result in a fine. The goal was to discuss the options in the White Paper and direct Eco:Logic what options they are authorized to investigate further.

Ms. Susan Sneider commented on the need for State requirements to protect against algae blooms. She stated that “if there is too much algae in the river then there is not enough oxygen in the water for aquatic life to survive.” Her concern, like Mr. Pech’s, was that the outcomes for the option scenarios in the White Paper are unknown. She also questioned the lack of financial information in the White Paper. Mr. Freedle explained that cost will be addressed in the Facilities Plan.

Mr. Emeric discussed how, in response to a possible algae bloom, DSPUD had monitored the algae levels in the Yuba River this year starting some weeks ago. Algae had been noted three weeks ago nine miles downstream from the District, and two weeks ago upstream near Lake Van Norden; DSPUD began storing effluent about two days ago and “got completely out of the river” (i.e. stopped discharging treated effluent into the river). The algae studies provide additional information that will help with the District’s decision on which facilities option to select.

Mr. Skjelstad said what was needed from Eco:Logic was as good a guarantee as possible to meet permit requirements and to assure that the plant effluent would meet permit requirements and protect against biostimulation. Further, he stated that if the District was in the river during an algae bloom the District would be considered a “contributor” and therefore subject to a fine.

Mr. Freedle summarized that the wastewater discharge alternatives will be part of the study for the Facilities Plan, and that DSPUD had been testing some of the options to meet current requirements.

5. **Discussion of White Paper – Committee; Accept White Paper; Identify options for further study by ECO:LOGIC; Next Steps**

Additional discussion followed regarding algae in the river. Mr. Hauser stressed “that algae can and will grow in the South Yuba River regardless of whether or not DSPUD discharges effluent to the river,” but that if algae is growing in the river, DSPUD cannot contribute to the growth by supplying nutrients through the discharge of effluent. Mr. Luscher responded that he was not convinced that the threat of an algae bloom and DSPUD’s possible contribution to that bloom was sufficient reason to require DSPUD to “get out of the river” during June. Mr. Hauser countered stating that the biostimulation study, that had been started, will determine the necessity for and the length of time that DSPUD would need to be out

of the river during June. The question remained, “can DSPUD remain in the river while algae growth is possible?” Mr. Hauser stated that a full-blown biostimulation study to support DSPUD’s being in the river during a bloom could be very costly to the District.

Table 4 of the White Paper, “Overall Wastewater Management Options,” was next reviewed and the following options were selected for further study:

- A. Wet Season Discharge to SYR, Seasonal Storage, Dry Season Irrigation  
– **Upgrade Existing IFAS 2–Stage** (Brentwood Accuweb System)  
(high recirculation) (similar to Waterworks’ suggestion)
- B. Wet Season Discharge to SYR, Seasonal Storage, Dry Season Irrigation  
– **Upgrade Existing IFAS 4–Stage** (Brentwood Accuweb System)  
(high recirculation) (additional tank for recirculation).
- C. Wet Season Discharge to SYR, Seasonal Storage, Dry Season Irrigation  
– **NEW IFAS 4-Stage** (new alternative)
- D. Wet Season Discharge to SYR, Seasonal Storage, Dry Season Irrigation  
– **Submerged Attached Growth** (similar to Tahoe Truckee Sanitation Agency, designed to meet more stringent discharge limits similar to DSPUD’s new requirements)
- E. Wet Season Discharge to SYR, Seasonal Storage, Dry Season Irrigation  
– **MBR (Membrane Bio-Reactor) 4-Stage** (top of the line system)

Additional considerations to be included in Eco:Logic’s Facilities Plan are:

- Infiltration and Inflow
- Equalization Storage
- Covering Basins to Conserve Heat
- Disinfection Alternative
- Solids Handling
- Planning for Future Growth
- Schedule for Future Work

Discussion was had regarding the issue of “Seasonal Storage”. Mr. Luscher and Mr. Pech voiced concerns about greatly increasing the amount of seasonal storage. It was agreed that Eco:Logic would conduct the facilities studies based on current limited storage capacities, with a separate analysis showing a range of storage options.

The ongoing need to reduce inflow and infiltration (I/I) in both Districts was also discussed. Considering the uncertainty of achieving significant I/I reduction, Eco:Logic stated that they would base their studies on roughly present I/I quantities.

## 6. Correspondence:

Mr. Freedle reported that he had received a suggestion to raise the dam at Lake Van Norden to be used to dilute the effluent being discharged into the river to

avoid a possible algae bloom. He felt it was an avenue that should be investigated by sending a letter to the owners, Royal Gorge and Sugar Bowl. Several environmental objections were made. Mr. Hauser commented that he felt that this was not a practical solution and had a low likelihood of success. Ms. Snider stated that SYRCL did not view the damming of Lake Van Norden to store water as "Meadow Restoration". Tom Skjelstad related a phone conversation he had with Gary Reedy, SYRCI, Science Director. Mr. Reedy wondered if Van Norden could be utilized to discharge or store DSPUD's treated effluent during the months when algal blooms were likely to occur. According to Tom Skjelstad, Mr. Reedy felt if done properly this scenario could provide meadow mitigation and wetland restoration.

It had been suggested to Mr. Freedle that other areas similar to DSPUD/SLCWD, such as Bear Valley, be looked at for comparison. Mr. Emeric noted that the main difference between DSPUD/SLCWD and Bear Valley was that Bear Valley had 106 million gallons of water storage, which they used to maintain a 20-1 effluent dilution rate.

7. **Next Meeting:** It was agreed that Eco:Logic would prepare a proposal (including scope, schedule and cost) to implement the Facilities Plan. The Committee would then meet again to act on the proposal.
8. **Public Participation** None
9. **Adjournment:** Mr. Freedle adjourned the meeting at 12:30 p.m.

July 20, 2009

Tom Skjelstad  
General Manager  
Donner Summit Public Utility District  
53823 Sheritt Lane  
Soda Springs, CA 95728

**RE: PROPOSAL FOR WASTEWATER TREATMENT AND DISPOSAL FACILITIES PLAN**

Dear Tom,

Attached herewith are the proposed scope and estimated staff hours and costs for preparing the DSPUD Wastewater Treatment and Disposal Facilities Plan.

The flows and loads on which the Facilities Plan will be based will be determined from growth allowances to be established by DSPUD and SLCWD.

Based on the results of the Preliminary Investigation of Wastewater Management Options, dated June 10, 2009 (the "white paper") and subsequent discussions, the Facilities Plan will include the investigation of five biological wastewater treatment options, as noted below:

1. Upgrade Existing IFAS, 2-Stage
2. Upgrade Existing IFAS, 4-Stage
3. New IFAS, 4-Stage
4. Submerged Attached Growth
5. MBR 4-Stage

The only disposal plan to be considered is wet season direct discharge to the South Yuba River, combined with seasonal storage to mitigate biostimulation in the river, and dry season spray irrigation. In accordance with the request of the Joint Wastewater Facilities Committee, a range of seasonal storage volumes will be considered, representing a corresponding range of costs and risks of biostimulation. The minimum seasonal storage considered will be use of the existing 1.5 Mgal Emergency Storage Tank. The biostimulation risk assessment will be based on the separate biostimulation study, which is currently underway.

In addition to addressing the main biological treatment system, the Facilities Plan will include assessments of all portions of the wastewater treatment plant, as well as the effluent storage and disposal systems. This will include evaluations of improvements to equalization storage, various chemical feed systems, effluent filtration, disinfection, and solids handling facilities. Where appropriate, alternative improvement schemes will be considered. In this regard, we appreciate the time you and Jim spent with us to go over all of the existing systems and the items to be studied in the Facilities Plan.

As indicated in the attached documents, the cost of the draft Facilities Plan is estimated to be approximately \$290,000. A detailed scope of work to prepare a final plan will be submitted once the

Tom Skjelstad  
DSPUD  
July 20, 2009  
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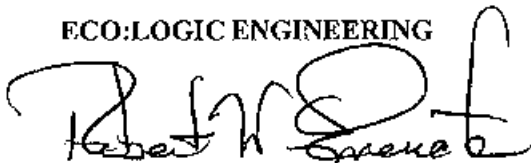
type and extent of comments to the draft facilities plan are realized after presentation to the District Board. A contingency allowance of \$29,000 is proposed to allow for minor changes to the scope of work requested by the District during preparation of the Facilities Plan. Subject to District approval, these contingency funds could be used to address revisions requested by the District to finalize the plan. The costs described herein do not include the cost of a geotechnical consultant to be retained separately by DSPUD, but coordinated by ECO:LOGIC, for evaluation of earthen reservoir sites. Because the geotechnical field work must be completed this summer or early fall, it is important to begin the investigation to identify potential sites as soon as possible.

We estimate that a draft of the Facilities Plan can be completed in approximately five months from authorization. The plan would then be finalized, after presentation to the District and receipt of review comments.

We would be happy to meet with you and others as you desire to discuss the proposed scope. We appreciate the continuing opportunity to assist DSPUD on this very important and challenging project.

Sincerely,

**ECO:LOGIC ENGINEERING**



Robert W. Emerick, Ph.D., P.E.  
Principal



# DSPUD Wastewater Treatment and Disposal Facilities Plan Scope

ECO:LOGIC Engineering

July 16, 2009

This document sets forth the scope of the DSPUD Wastewater Treatment and Disposal Facilities Plan project. The scope items below are arranged according to the major sections to be included in the Facilities Plan Report, followed by tasks related to the overall preparation and presentation of the study.

## 1. Introduction

A brief background and overview of the facilities planning effort and report will be provided.

## 2. Executive Summary

Key investigations and findings developed throughout the Facilities Plan will be summarized.

## 3. Climate

Many aspects of the proposed facilities are impacted by the climate at Donner Summit. Relevant data on typical and extreme temperatures, precipitation, snow accumulation, and evaporation will be summarized.

## 4. Wastewater Flows and Loads

Technical Memorandum No. 1 was prepared and submitted in draft form in May 2008. This memorandum will be updated with future flow and load projections based on growth allowances to be established by DSPUD and SLCWD. The key results of this memorandum will be summarized in the Facilities Plan and the complete memorandum will be included as an appendix.

## 5. Existing Facilities

Descriptions and relevant data for all of the existing wastewater treatment and disposal facilities will be set forth as a basis for consideration of improvements in subsequent sections.

## 6. Waste Discharge and Treatment Requirements

Key requirements of the existing NPDES Permit were summarized and discussed in the Preliminary Investigation of Wastewater Management Options, dated June 10, 2009. This document will be referenced in the Facilities Plan and included as an appendix. The adopted NPDES permit also will be included as an appendix.

## **7. Development and Screening of Alternatives**

The Preliminary Investigation of Wastewater Management Options, dated June 10, 2009, was used to develop and screen alternatives and will be included as an appendix to the Facilities Plan. The Facilities Plan will include a brief summary of the key findings of the Preliminary Investigation and subsequent discussions leading to the alternatives considered in the Facilities Plan.

## **8. Influent Flow Equalization**

Technical Memorandum No. 2 on Equalization Storage was submitted in draft form, dated April 23, 2009. The memorandum establishes storage volume requirements to attain various levels of equalized influent flow. The memorandum would be finalized and included as an appendix to the Facilities Plan. Within the Facilities Plan, further investigations would be developed to establish the recommended volume of storage and to assess the physical facilities required, including site locations and costs.

## **9. Biological Treatment**

Before delving into the analysis of specific biological treatment alternatives, key issues common to all alternatives would be addressed, including process temperatures and the need to add chemicals to support the biological process.

The process temperatures section will include a discussion on the importance of this matter, followed by consideration of the base case without temperature mitigation, and evaluation of basin covers and/or heating to mitigate low temperatures. Recommended temperature mitigation measures will be developed.

The importance of ammonia to build up and support the nitrifier population, methanol to support denitrification, and alkalinity addition to avoid acidic conditions will be established. Recommended storage, feed, and control facilities for each chemical will be developed. For alkalinity, it is presumed that the existing chemical silo and feed system will be adequate and it will not be necessary to investigate improvements to this system.

The following five biological treatment alternatives will then be investigated:

- a. Upgrade Existing IFAS, 2-Stage
- b. Upgrade Existing IFAS, 4-Stage
- c. New IFAS, 4-Stage
- d. Submerged Attached Growth
- e. MBR 4-Stage

The investigation of each alternative will include working with the relevant vendors and developing process design calculations to establish required facilities sizes and equipment requirements. The need for and proposed layout of new process basins and ancillary facilities

will be determined. Capital and operation and maintenance (O&M) costs will be evaluated for each alternative.

A summary cost comparison table will be developed and the alternatives will be evaluated with regard to non-monetary factors, such as reliability, flexibility, ease of implementation, ease of expansion, environmental impact, and public acceptability. A final ranking of alternatives would then be developed, leading to the apparent best alternative.

#### **10. Effluent Filtration**

District staff has indicated that the existing filtration system can become overloaded and experience undesirable frequent backwashes during events with high flows, solids carryover from the secondary clarifiers, and/or polymer addition to meet turbidity requirements. Options for correcting these deficiencies would be considered, including pre-filtration treatment (coagulation, flocculation, and possibly sedimentation) and improvements to the filtration system.

#### **11. Effluent Disinfection**

DSPUD currently uses gaseous chlorine for disinfection. The use of gaseous chlorine has inherent safety risks to plant personnel and the public. Additionally, chlorine can cause the creation of disinfection byproducts in amounts that may be unacceptable for river discharge. These issues and implications of them will be addressed. Estimated costs will be developed for installing a river effluent diffuser and flow monitoring station and for conducting a mixing study in the river, as needed to attain dilution credits for disinfection byproducts. It will be presumed that these costs will be necessary for continuing the use of chlorine.

District staff has indicated that the chlorine system at the plant has recently been upgraded and is working well. District staff further advises that a recent risk management plan for the use of chlorine, sulfur dioxide (for dechlorination), and ammonia has been completed. Based on these facts, it is anticipated that no improvements to the chlorine and sulfur dioxide storage, feed, and control facilities will be needed. The Facilities Plan effort will include a brief review of the existing risk management plan and verification of system capacity and adequacy of physical facilities. However, this scope does not include the evaluation of any improvements to these facilities nor consideration of sodium hypochlorite as an alternative to mitigate safety issues. If it is determined that improvements will be needed or that sodium hypochlorite should be investigated, the District will be advised so that additional work can be authorized.

As alternatives to chlorine, ozone and ultraviolet (UV) disinfection will be considered. Although ozone has not been widely used as a wastewater disinfectant, its use is expected to increase based on recent investigations showing that disinfection with ozone also accomplishes substantial reductions in concentrations of endocrine disruptors, pharmaceuticals and other emerging contaminants of concern (chlorine also accomplishes some reductions in these pollutants, but not to the extent of ozone). UV is much more established as a wastewater

disinfection process than ozone, does not have the inherent risks associated with chlorine and does not produce disinfection byproducts. However, UV does not effectively remove the emerging contaminants mentioned above.

Facilities requirements and possible layouts will be developed for ozone and UV. All three disinfection alternatives will be evaluated and compared based on monetary cost (capital and O&M) as well as non-monetary factors. The apparent best alternative will be recommended.

#### **12. Emergency Storage and Irrigation Operational Storage**

The need for emergency and irrigation operational storage will be discussed. It is anticipated that the existing 1.5 Mgal tank will be adequate and that no improvements will be needed.

#### **13. Seasonal Storage to Mitigate Biostimulation in the South Yuba River**

Estimated storage durations for various levels of risk of biostimulation will be determined based on the separate biostimulation study. For each duration, the associated storage volume requirement will be determined.

Two general types of storage facilities will be considered: 1) steel or concrete tanks, and 2) earthen reservoirs. The first option will be most applicable for smaller storage requirements, while the second option will be most applicable for larger storage requirements. For intermediate requirements, either option may be possible.

Possible locations, layouts, and costs for storage facilities of both types and for required ancillary facilities will be considered.

For the earthen reservoir alternative, a preliminary investigation would be accomplished to identify potentially viable sites based on proximity to other facilities and existing topographic, geologic, and property ownership information. The most beneficial site would be selected for more detailed evaluation.

The purpose of the detailed evaluation would be to assess geologic and soils conditions for construction of the embankment and to develop preliminary cost estimates for reservoir construction, including the embankment, any required liner, inlet and outlet facilities, runoff diversion facilities, a spillway, and other related features. As applicable the requirements of the State of California Division of Safety of Dams would be considered.

A geotechnical consultant will be needed to assist in the preliminary site evaluations and to conduct the detailed evaluation of the earthen reservoir alternative. ECO:LOGIC will recommend and will coordinate the work of the geotechnical consultant to be retained separately by DSPUD.

A curve showing estimated storage cost versus storage volume would be developed and the types of facilities recommended for the various sizes would be identified. This information

would be evaluated together with DSPUD to determine a recommended plan for storage based on assessing the relative benefits and risks involved.

Storage management issues will be discussed, particularly as regards handling precipitation falling on the reservoir site during times when storage of effluent is not being practiced. Direct discharge of this drainage water would be desirable, but would probably necessitate lining an earthen reservoir and cleaning it once emptied of wastewater. The anticipated requirements and issues will be addressed.

#### **14. Spray Irrigation Disposal**

Spray irrigation disposal area requirements will be determined as a function of the amount of effluent to be held in seasonal storage. Water balance calculations will be developed to assess all inputs and outputs to the storage reservoir and to evaluate irrigation needs based on appropriate precipitation, evapotranspiration and percolation rates under design worst-case conditions.

Alternative sites for the needed irrigation area will be evaluated based on proximity to existing facilities, land suitability, ownership, environmental impacts, and other factors.

Facilities requirements and costs will be evaluated for selected sites.

#### **15. Solids Handling**

Residual solids from the wastewater treatment process must be stabilized and dewatered prior to hauling off-site for disposal. If dewatering cannot be accomplished year-round, such as is the case with the existing sludge drying beds, then the solids must be stored until dewatering can be accomplished. DSPUD currently has a 500,000 gallon storage tank that is used for both stabilization and storage. However, it is likely that the aeration system will require upgrading for future stabilization (aerobic digestion) use.

The Facilities Plan analysis will include evaluation of three alternatives for mechanical dewatering: belt press, centrifuge, and screw press. For each option, facilities requirements, layouts and costs would be determined based on information provided by equipment manufacturers. The options would be compared based on monetary cost and other factors to select the apparent best alternative.

A recommended solids handling plan would be developed to make maximum use of existing facilities. Continued use of the existing sludge drying beds during the summer would be considered, even with mechanical dewatering, to obtain a dryer final product, as needed to reduce the weight of materials to be hauled.

Optimal use of mechanical dewatering during the winter would be considered based on balancing stabilization and digestion functions for the existing tank and subsequent use of the drying beds in the summer to minimize overall costs.

## **16. Preliminary Environmental Analysis**

Under this task ECO:LOGIC's environmental team will conduct a preliminary desktop environmental review of each alternative to identify possible environmental issues or environmental "fatal flaws" that could threaten the viability of the proposed improvements. For example wetlands, historical and sensitive cultural resources, and endangered species habitat could represent fatal flaws or time and cost constraints.

As part of the desktop preliminary environmental assessment, the following databases will be searched for each alternative to determine if any state or federally listed species or protected wetlands are known: California Natural Diversity Database (CNDDDB), National Wetland Inventory (NWI), Fish and Wildlife Service list of Threatened and Endangered Species, and the California Native Plant Society (CNPS) electronic inventory of rare plants. Published reports for the project area will be reviewed and Placer and Nevada County GIS data regarding sensitive environmental resources will be integrated into the preliminary environmental analysis for each alternative. ECO:LOGIC has access to Placer County's 2008 GIS data; however, Nevada County charges upwards of \$2,000 for access to their GIS data. Therefore, because public agencies may be able to seek a discount or obtain data for free, for this scope we assume that DSPUD will obtain the necessary Nevada County GIS data for this project.

For all relevant aspects of the preferred project identified in the Facilities Plan, a biologist and cultural resource specialist will conduct a reconnaissance-level survey to identify any sensitive environmental resources. All sensitive environmental resources will be mapped using sub-meter Trimble GPS and input into a GIS database for the project. Under this task ECO:LOGIC's environmental resource specialists will work closely with the project engineers to recommend minor adjustments and solutions that minimize potential impacts to the environment. Based on the results of the desktop preliminary environmental assessments and the preferred site survey, an environmental constraints report will be developed to determine if any environmental "fatal flaw" exists for the preferred alternative.

If an environmental "fatal flaw" is discovered and a new or revised alternative must be selected and evaluated, the scope of the study would have to be revised accordingly and additional authorization obtained.

## **17. Summary of Apparent Best Project**

Based on the results of all of the foregoing tasks, the apparent best project will be summarized, including all aspects of treatment, storage, disposal, and solids handling. Layouts and site plans will be presented and an overall cost estimate will be developed.

## **18. Draft Facilities plan Production**

A draft Facilities plan report will be assembled and 10 copies provided to the District for review.

**19. Facilities Plan Reviews and Meetings**

This task includes internal quality assurance/quality control (QA/QC) reviews within ECO:LOGIC, as well as informal and formal presentations, meetings, and reviews with DSPUD.

Four informal meetings with DSPUD staff are planned during Facilities plan preparation to allow presentation and discussion of preliminary findings and to solicit District input and guidance on subsequent work.

A formal presentation of the Draft Facilities plan will be made in a public meeting.

**20. Final Facilities Plan**

The number and types of comments that will be received on the Draft Facilities Plan and the level of effort required to progress from the draft to a final document are currently unknown. Therefore, a specific scope and authorization for that work will be developed after review comments are received. A contingency allowance is included in the fee estimate and, upon District approval, may be used for developing the Final Facilities Plan.

**21. Project Management and Administration**

This task includes supervision of staff and monitoring and control of schedule and budget, as well as coordination with the District on administrative matters.

**DSPUD Facilities Plan  
Estimated Staff Hours and Costs  
EEO/EOGIC Engineering  
13-Jul-09**

Task Description	Staff Hours at Indicated Rate								EEO/EOGIC Labor Cost	Payroll	Total Cost
	Principal Engineer	Supervising Engineer	Senior Engineer	Engineer	Engineer/Emerson Compliance Specialists	Senior Designer	AI/Instruments & Automation R				
	106	187	176	141	198	221	77				
1 Introduction	4							901		901	
2 Executive Summary	16		16					6,420		6,420	
3 Climate			8	16				3,818		3,818	
4 Wastewater Flows and Loads	16		8					4,858		4,858	
5 Existing Facilities	12		12					5,706	100	5,806	
6 Waste Discharge and Treatment Requirements	4					8		901		901	
7 Development and Screening of Alternatives	4							901		901	
8 Influent Flow Equalization Analysis	8	32						7,786	100	7,886	
9 Biological Treatment	2							489		489	
Considerations for All Alternatives	1		1					459		459	
Process Temperatures	1		1					459		459	
Bypass Conditions	2		4					1,193		1,193	
Consideration of Covering Basins	4		12					3,013		3,013	
Consideration of Heating	4		12					3,013		3,013	
Recommended Temperature Mitigation	4		4					1,605		1,605	
Ammonia Storage and Feeding	8		16			4		5,025	100	5,125	
Methanol Storage and Feeding	8		16			4		5,025	100	5,125	
Aerability Storage and Feeding	4		4					1,605		1,605	
Analysis and Description of Alternatives	2		2					841		841	
Alt. 1: Upgrade Existing IFAS, 2-Stage	16		16			4		6,750	50	6,800	
Alt. 2: Upgrade Existing IFAS, 4-Stage	16		16			4		6,750	50	6,800	
Alt. 3: New IFAS, 4-Stage	16		16			4		6,750	50	6,800	
Alt. 4: Submerged Attached Growth	16		16			4		6,750	50	6,800	
Alt. 5: MBR	16		16			4		6,750	50	6,800	
Monetary Cost Analysis	4		4					1,605		1,605	
Other Considerations	8		8					3,210		3,210	
Ranking of Alternatives	4		4					1,605		1,605	
10 Effluent Filtration	16		16			4		6,750	50	6,800	
11 Disinfection	1		1					459		459	
Description and Analysis of Alternatives	1		1					459		459	
Gaseous Chlorine	16	4	8					5,606	100	5,706	
Ozone	4			32		4		5,074	101	5,175	
Ultraviolet	4		24			4		5,685	100	5,785	
Monetary Cost Analysis	2		4	2				1,475		1,475	
Other Considerations	2		4	2				1,552		1,552	
Ranking of Alternatives	2		2	2				1,123		1,123	
12 Emergency Storage / Irrigation Operational Storage	2	2						863		863	
13 Seasonal Storage to Curtail River Discharge	1	1						470		470	
Storage Size vs Risk of Bioturbation	4		8					2,386		2,386	
Storage Sizing Analysis	4		8					2,386		2,386	
Storage Alternatives	1		1					459		459	
Steel or Concrete Tanks	2	12	26			4		6,110	100	6,210	
Earthen Embankment	1		1					459		459	
Possible Sites	8		16			4		5,102	100	5,202	
Coordinate Geotechnical Consultant	8		16					4,618	100	4,718	
Ancillary Facilities	8	16	8					6,202		6,202	
Costs for Various Amounts of Storage	2	4	8					2,645		2,645	
Management of Storage	4		8					2,386		2,386	
Other Considerations	4	4	8					3,134		3,134	
14 Spray Irrigation Disposal	1		1					459		459	
Water Balance Cycles, Irrig. Area vs Seasonal Storage	4		32					6,610		6,610	
Disposal Sites	4		24			4		5,686	100	5,786	
Facilities Requirements and Costs	4	16	16					6,786		6,786	
15 Solids Handling	1	1						470		470	
Stabilization	4	8						2,397	50	2,447	
Storage	4	8						2,397	50	2,447	
Dewatering	1	1						470		470	
Drying Beds	2	8				4		2,469	50	2,519	
Bell Press	4	12				4		3,629	50	3,679	
Centrifuge	4	12				4		3,629	50	3,679	
Screw Press	4	12				4		3,629	50	3,679	
Disposal	2	8						1,985		1,985	
Monetary Cost Analysis	4	2						1,352		1,352	
Other Considerations	4	8						2,474		2,474	
Ranking of Alternatives	2	2						863		863	
16 Preliminary Environmental Analysis											
Desktop Analysis of Alternatives	4		6		40	2		7,796		7,796	
Reconnaissance-level Site Survey of Fremont Project					30			4,140	400	4,540	
Environmental Constraints Summary Report	10		6		40	4		9,428	100	9,528	
17 Summary of Apparent Best Project	1		1					459		459	
Project Components	8	8	8					4,629		4,629	
Site Layout	4	16	8			8		6,169		6,169	
Costs	4	4	4					2,353		2,353	
18 Draft Facilities Plan Production	2		4					1,732	100	1,832	
19 Facilities Plan Reviews and Meetings											
EEO/EOGIC QA/QC	80							16,480		16,480	
Coordination Meetings During Facilities Plan Preparation	24							4,944		4,944	
Draft Facilities Plan Presentation	16	16						6,904		6,904	
20 Prepare Final Facilities Plan (a)	To be determined (a)										
21 Project Management and Administration	16	17	43				40	15,660		15,660	
Subtotal	515	227	520	54	110	90	167	286,593	7,501	289,092	
Rounded Up										210,000	
Contingency @ 10%, Rounded										29,000	
Total										319,000	

(a) A detailed scope and cost for work required to review comments on the Draft Facilities Plan and to prepare the final Facilities Plan will be determined at a later date. Subject to District approval, contingency funds may be used for this purpose.



# SIERRA LAKES COUNTY WATER DISTRICT

## Operations & Maintenance Office

P.O. Box 826  
7305 Short Road  
Soda Springs, CA 95728-826  
(530) 426-7802  
Facsimile (530) 426-1120

## Administrative & Billing Office

P.O. Box 1039  
7305 Short Road  
Soda Springs, CA 95728 - 1039  
(530) 426-7800  
Facsimile (530) 426-1120

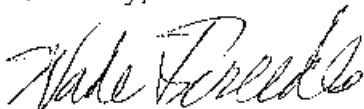
July 10, 2009

Mr. Tom Skjelstad  
Donner Summit Public Utility District  
PO Box 610  
Soda Springs, CA 95728

Re: Required EDU's for Plant Upgrade

This is to confirm our conversation of this date in regard to the EDU requirement that we would like included in the plant upgrade project. Our Board has decided that a total of 80 EDU's will be required for our District.

Sincerely,



Wade Freedle, President  
Board of Directors

WF:ds

cc: Board of Directors



# Royal Gorge

NORTH AMERICA'S LARGEST  
CROSS COUNTRY SKI RESORT

July 2, 2009

Wade Freedle  
President  
Sierra Lakes County Water District  
PO Box 1039  
Soda Springs, CA 95728

Tom Skjelstad  
General Manager  
Donner Summit Public Utility District  
PO Box 610  
Soda Springs, CA 95728

**RE: Donner Summit P.U.D. sewer plant upgrade**

Dear Wade and Tom:

I noticed that the "Donner Summit Public Utility District Preliminary Investigation of Wastewater Management Options" report dated June 10, 2009 contains the following recommendation:

In addition to determining growth and occupancy allowances for the upcoming improvement project, the Districts should also consider a "build out" scenario. This would be useful in determining the possible ultimate capacity of treatment and disposal facilities, so that reasonable provisions for future staged expansion can be incorporated in the initial project.

Royal Gorge supports the inclusion of provisions for future staged expansion in the initial project.

The sewer demand for the Royal Gorge project is identified in the "Phase 2 Wastewater Treatment and Effluent Disposal Alternatives Study" by Carollo Engineers, dated November 2007.

Royal Gorge has previously provided a paper copy of the study to SLCWD and DSPUD. The document is also available online at:

[http://www.royalgorgefuture.com/docs\\_large/RG%20Wastewater%20and%20Effluent%20Disposal%20-%2011-07,%20Report%2011-2007%20pp.pdf](http://www.royalgorgefuture.com/docs_large/RG%20Wastewater%20and%20Effluent%20Disposal%20-%2011-07,%20Report%2011-2007%20pp.pdf)

(an easier way to retrieve the electronic version is to type in [www.royalgorgefuture.com](http://www.royalgorgefuture.com), then select "documents submitted to Placer County" then "view all presubmittals" then select "wastewater report.")

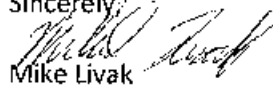
**Wilderness Lodge • Rainbow Lodge • Rainbow Artesian Spring Water • Summit Valley**

9411 Hillside Dr. • PO Box 1100 • Soda Springs California 95728

Tel 1-530-426-3871 • Fax 1-530-426-9221 • Email [info@royalgorge.com](mailto:info@royalgorge.com) • Website [www.royalgorge.com](http://www.royalgorge.com)

Please let me know if you have any questions regarding the report or the Royal Gorge project sewer demand.

Sincerely,



Mike Livak



**Royal Gorge**

North America's Largest Cross Country Ski Resort

Wilderness Lodge • Rainbow Lodge • Rainbow Artesian Spring Water • Summit Valley