



# California Regional Water Quality Control Board

## Central Coast Region



**Linda S. Adams**  
Secretary for  
Environmental Protection

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**Arnold Schwarzenegger**  
Governor

January 30, 2009

Mr. Mark Hutchinson  
Environmental Programs Manager  
County of San Luis Obispo, Department of Public Works  
County Government Center, Room 207  
San Luis Obispo, CA 93408

Dear Mr. Hutchinson:

**STATE CLEARING HOUSE NO. 2007121034 REVISED DRAFT ENVIRONMENTAL  
IMPACT REPORT: LOS OSOS WASTEWATER PROJECT, SAN LUIS OBISPO  
COUNTY, CALIFORNIA**

Central Coast Regional Water Quality Control Board (Central Coast Water Board) staff has reviewed the County of San Luis Obispo's (County) Draft Environmental Impact Report (DEIR) for the Los Osos Wastewater Project (LOWWP). Thank you for the opportunity to comment on your DEIR. We greatly appreciate the County staff and Board of Supervisors work on solutions for wastewater management in Los Osos. We also appreciate the efforts of citizens who have participated in these County efforts and have contributed their efforts toward a positive result.

We understand that the primary goal of the LOWWP is to construct and operate a community wastewater collection, treatment and disposal system for approximately 15,000 residents, thereby complying with the Water Board's Resolution No. 83-13 (prohibition of waste discharges from individual sewage disposal systems within Los Osos/Baywood Park Area). Eliminating discharges from onsite septic systems, as directed by the Water Board, will also help accomplish the LOWWP's second goal of alleviating groundwater contamination from nitrate that has occurred because of the use of septic systems throughout the community.

The proposed project will consist of three main components: wastewater collection; wastewater treatment, which includes biosolids processing and disposal; and effluent disposal. Central Coast Water Board staff understands that the County is examining four primary alternatives on a coequal basis, as described in Section 3.3.2. of the DEIR. The preferred LOWWP project the county selects could be any one of the four alternatives or a different combination of project components. Central Coast Water Board staff is optimistic that the flexibility to mix and match project components will greatly increase environmental quality of the final wastewater project.

The California Environmental Quality Act requires that an environmental impact report identify the environmentally superior alternative from among the range of alternatives considered. All four of the proposed projects meet the project goals and objectives. However, the County has determined that the environmentally superior alternative is Proposed Project No. 4. Proposed Project 4 consists of a facultative pond treatment plant located at the Tonini property, a gravity collection system, a main pump station located at the Mid-Town site, and spray field disposal at the Tonini property and leach field disposal at the Broderson site.

Water Board staff understands that the DEIR evaluated many potentially significant impacts. With mitigation these potential impacts will not cause additional environmental impacts. However, the DEIR identifies two unmitigatable significant impacts (i.e., agricultural resources and nonrenewable resources), but the improvements in water quality far outweigh impacts that will result for the execution of this project. Central Coast Water Board staff provides the following comments.

### **Long-Term Maintenance for the Wastewater Treatment Plant**

The DEIR lacks a discussion of long term operations and maintenance for the proposed wastewater treatment plant. Central Coast Water Board staff recommends that the final EIR incorporate a discussion of long-term operations and maintenance of the wastewater treatment plant through a public or private agency. It is our experience that secondary or tertiary treatment facilities require a high level of oversight to maintain adequate environmental conditions for superior biological treatment. It is our strong recommendation that community wastewater facilities be owned and operated by public agencies.

### **Dewatering of Polluted Groundwater Encountered During Construction Activities**

Appendix E of the DEIR describes dewatering activities associated with the construction and installation of the wastewater collection system. Although Appendix E discusses the need to enroll in the General National Pollutant Discharge Elimination System Permit for Discharges with Low Threat to Water Quality (Low Threat Permit or Order No. R3-2006-0063) if the County requires dewatering, the County needs to consider the eligibility requirements for such discharges. In other words, if the County encounters groundwater during the construction activities that require dewatering to continue construction, then the County will be responsible for enrolling in the Low Threat Permit or have some other mechanism available to address excess water. The Low Threat Permit requires the discharger to analyze the proposed water for pollutants prior to gaining coverage under the Low Threat Permit and permission to discharge to surface waters. The quality of water proposed for discharging is required to comply with water quality criteria listed in Attachment D of the Low Threat Permit. If these criteria are not met, then the discharge will not be eligible for enrollment under the Low Threat Permit and, therefore, the County may have to address any excess trench water through another method or alternative plan. Even if the water proposed for discharge complies with the water quality criteria in Attachment D, the County will be required to adhere to

the discharge prohibitions, effluent limitations, and monitoring and reporting requirements contained in the permit.

### **Pipeline Trenching Impacts Associated with the Proposed STEP/STEG Alternative**

The DEIR does not describe the trenching or boring depths needed for implementation of the STEP/STEG system described in Proposed Project Alternative No. 1. Project descriptions for all project alternatives explain that pipeline trenching for collection system installation will require a 20-foot wide disturbance area, but does not explain the depth at which this disturbance will occur. Furthermore, we understand that shallower trenching may result in lesser environmental impacts (i.e., ground disturbance, dewatering, etc.). The County should expand on their environmental impact evaluations regarding trenching associated with the installation of the STEP/STEG system as described in Proposed Project Alternative No. 1. This description should discuss potential environmental impacts associated with dewatering activities as a result of deeper versus shallower trenching.

### **Maintenance Agreement with STEP/STEG Owners**

The DEIR does not discuss a mechanism between the County and the private property owners to ensure adequate access and operations and maintenance of the STEP/STEG tanks. Section 2.4.1. of the County's DEIR evaluates two systems for wastewater collection: STEP/STEG and gravity. If a STEP/STEG collection system is chosen for the final project, the County should consider formal legal agreements between the private owners and the County to ensure longevity of the STEP/STEG tanks. Without proper operation and maintenance, the tanks may fail leading to environmental and public impacts. The County should discuss long-term operation and maintenance for the STEP/STEG tanks in the DEIR. Even though the preferred project is a gravity collection system, there are likely individual lots or neighborhoods where a STEP/STEG or other type of pumped system will be needed.

### **Salt Management for Proposed Disposal Areas**

Salt management is important in addressing the potential impacts for salt accumulation in groundwater aquifers. The only discussion of salt management in Section 2.4 (Project Components) and Section 5.2 (Groundwater Resources – Cumulative Impacts) of the DEIR, is regarding saltwater intrusion. The DEIR does not discuss potential salt accumulation due to the continuous disposal of wastewater in a designated location, specifically, spray field irrigation at the Tonini property and at the leach field at the Broderson site. Salt buildup in upper groundwater aquifers is a common problem in the Central Coast Region due to a mixture of agricultural irrigation practices and land disposal of treated wastewater. Excessive salt build up in groundwater aquifers has the potential to render the aquifer useless for future agricultural or domestic supply water use.

Section 5.2.1. (Environmental Setting) of the DEIR states that “The areas of the basin with higher TDS concentrations in shallow groundwater have been found to correspond

roughly to some of the areas of higher NO<sub>3</sub>-N (nitrate) concentrations. This may result from brine reject from domestic water softeners or other normal salt loading from domestic water use that is subsequently discharged from septic disposal systems.” This suggests that salts from the treated wastewater might be an issue; especially if these treated wastewater flows are concentrated in a specific location (i.e., Tonini property and Broderson site).

Section VIII.C.4 of the Central Coast Water Quality Control Plan (Basin Plan) discusses the need for salt management and improved salt management techniques. Some suggestions provided in Section VIII.C.4 of the Basin Plan include using wet weather storage reservoirs to dilute groundwater, improving the quality/quantity of the groundwater aquifer. Also, this section discusses the use of drainage wells which divert rainwater to salt sinks in order to increase dilution.

Although these techniques may not be required, we anticipate that salt management would be a component of wastewater operations. Water Board staff will consider incorporating requirements for salt management in our waste discharge requirements.

### **Designing the Leach Field at the Broderson Site**

In many instances, leach field systems are constructed with inadequate design considerations, which can lead to odors or nuisance, surfacing effluent, disease transmission, and pollution of surface water or groundwater. The DEIR did not discuss the design of the leach field disposal system. This evaluation should include consideration of capacity dependant on estimated build-out, peak daily flows (including the consideration of using spray fields at the Tonini property), consideration of inflow/infiltration, development of a maintenance manual, consideration for nitrogen loading, setbacks from domestic supply wells, and other requirements. These issues and requirements must be included in the final project proposal prior to the issuance of waste discharge requirements.

### **Broderson Site Stormwater Capture, Disposal Rate Monitoring and Mitigation, and Increased Potential for Liquefaction**

Appendix E-1, Section 5.3 of the DEIR states that “[t]he leachfields would be designed so that stormwater runoff does not leave the site. Grading would contour the earth to ensure that runoff passes into the leach trenches and infiltrates to the groundwater below.” This concept is consistent with Section VIII.C.4 of the Basin Plan/Salt Management as mentioned above. However, since stormwater capture will be designed to assure that precipitation runoff will not move down slope of the site, the County needs to explain the potential impacts of increased percolation levels to the perched aquifer (e.g., liquefaction zone present in the 5 to 10 feet below ground surface) associated with the stormwater capture design.

The DEIR explains that monitoring changes in groundwater levels down gradient of the Broderson site will assure that any changes “will remain less than significant.” However, the DEIR fails to present a mitigation plan describing the best methods to

respond to incremental changes in groundwater levels that would allow for continued safe use of the disposal fields relative to potential destabilizing the hillside below the Broderson site, increasing liquefaction potential or limiting the amount of unsaturated soil available for effluent treatment.

The DEIR does not to provide discussion on mitigation for disposal design for Waste Water Treatment Plant Operations should monitoring data show that changes in the groundwater levels require a decreased disposal rate for the Broderson site. The EIR states that monitoring will occur to determine if the Broderson site could safely increase the level of disposal operations. However, no discussion is presented to state how the plant operations will be conducted if the Broderson site disposal rates must be decreased due to destabilization of the hillside below the disposal site. Since the Broderson site is a critical component of all four project alternatives, and because it needs to be designed to accept disposal year-round, including during the rainy season, the County should explain how disposal operations will be affected and what potential options will be available to replace any required reduction in disposal levels at Broderson.

Water Board staff will evaluate the County's waste discharge application to ensure compliance with Basin Plan design criteria, siting criteria, disposal monitoring, and associated operations and management procedures for the proposed the Broderson site leach field system. Staff will consider incorporating requirements that are specific to the design and management of the proposed disposal system.

### **Effluent Quality**

Please describe design/expected nitrogen concentrations in the effluent from the various treatment methods. Page 3-57 says a separate nitrogen removal process is required for Proposed Project No. 4, what is it and what are the expected monthly average and daily maximums? What is the margin of safety for meeting effluent requirements? Note that Table 2-1 should refer to Biochemical rather than Biological Oxygen Demand.

### **Incidental Runoff from Spray Disposal**

Incidental runoff refers to runoff due to sprinkler over-spray that leaves the intended and permitted disposal area. Incidental runoff of treated wastewater to surface waters is prohibited without proper permitting. Incidental runoff may occur from over watering, pipe leaks, improper maintenance, and/or irrigation during wet weather events. Incidental runoff discharges into surface waters can lead to nuisance, surface water contamination, and impacts to aquatic life. We expect the development of long-term operations and maintenance protocols to adequately manage spray disposal activities. Central Coast Water Board staff will incorporate prohibitions for unpermitted discharges of treated wastewater to surface waters in our waste discharge requirements.

### **Existing Septic System Abandonment**

The DEIR briefly discusses abandonment of the existing septic systems, which will be a major component of the LOWWP. According to Section 3.4.2. (Septic Tank Abandonment) of the DEIR, "the SLOC [San Luis Obispo County] Department of Planning and Building requires that the private property owners pump out abandoned septic tanks and provide a copy of the receipt for pumping to the area inspector. According to the SWRCB National Pollution [sic] Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction Activity (Water Quality Order 99-08-DWQ), removing the abandoned tanks will require preparing a Storm Water Pollution Prevention Plan (SWPPP) as described above. The County will prepare a SWPPP for the entire project, including LOWWP construction and both publicly and privately financed related actions that are required such as septic tank abandonment."

The above statement alludes to removing the existing septic systems by excavation. Water Board staff foresees potentially major environmental impacts (i.e., stormwater, groundwater, etc.) from the removal of approximately 15,000 septic systems by excavation. Although a SWPPP will be required for projects that disturb one acre or greater, the combined impacts from the removal of 15,000 septic systems might not be mitigated through the implementation of a SWPPP.

Another option for abandonment of existing septic systems might include in-place abandonment. It appears that San Luis Obispo County Ordinance Title 19.01.040 makes reference to septic tank abandonment requirements of the California Plumbing Code (Appendix K.11.b.). This code allows abandoning septic systems in-place rather than excavation. This option should be considered as it might yield less disturbance to the surrounding environment and be less of a financial burden on Los Osos residents.

We recommend that the County address potential septic system abandonment alternatives (e.g., abandon in place), potential environmental impacts of septic tank removals, and associated costs for abandonment.

### **Stormwater Municipal Permit**

The County is currently subject to the National Pollutant Discharge Elimination System (NPDES) Phase II Municipal Stormwater Permit (General Permit). As part of its responsibility, the Central Coast Water Board must determine permittees' compliance with General Permit requirements. This includes determining whether municipalities have reduced pollutant discharges to the Maximum Extent Practicable (MEP)<sup>1</sup>. The MEP standard is an ever-evolving and flexible standard which balances technical feasibility, cost, effectiveness, and public acceptance. The General Permit requires permittees to prevent or minimize water quality impacts from new development and

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<sup>1</sup> "Permittees must implement Best Management Practices (BMPs) that reduce pollutants in storm water runoff to the technology-based standard of Maximum Extent Practicable (MEP) to protect water quality." Effluent Limitations, General Permit Fact Sheet, pg. 6.

redevelopment projects<sup>2</sup>. The volume and velocity of storm water discharged from impervious surfaces can cause increased bank erosion and downstream sedimentation, scouring, and channel widening which significantly impact aquatic ecosystems and degrade water quality. The County Storm Water Management Programs (SWMP) is required to address how new and re-developments maintain pre-development hydrologic characteristics, such as flow patterns, surface retention, and recharge rates in order to minimize post-development runoff impacts from the LOWWP. In most cases, MEP standards are not met by conventional site layouts, construction methods, and storm water conveyance systems with “end of pipe” basins and treatment systems that do not address the changes in volume and rates of storm water runoff and urban pollutants (including thermal pollution). Low Impact Development (LID) practices meet the MEP standard and are more effective at reducing pollutants in storm water runoff at a practicable cost.

LID is an alternative site design strategy that uses natural and engineered infiltration and storage techniques to control stormwater runoff where it is generated. The objective is to disperse LID devices uniformly across a site to minimize runoff. LID serves to preserve the hydrologic and environmental functions altered by conventional stormwater management. LID methods provide temporary retention areas, increase infiltration, allow for pollutant removal and control the release of stormwater into adjacent waterways (Anne Guillette, Whole Building Design Guide). For further reference please see:

<http://www.epa.gov/owow/nps/lid/>

#### **Eight Common LID Practices Include:**

1. Reduced and Disconnected Impervious Surfaces
2. Native Vegetation Preservation
3. Bioretention
4. Tree Boxes to Capture and Infiltrate Street Runoff
5. Vegetated Swales, Buffers, and Strips
6. Roof Leader Flows Directed to Planter Boxes and Other Vegetated Areas
7. Permeable Pavement
8. Soil Amendments to Increase Infiltration Rates

Water Board staff considers a project that meets the following descriptions (inclusive) to be a “Low Impact Development” project:

A. Runoff Volume Control. The pre-development stormwater runoff volume is maintained by a combination of minimizing the site disturbance, and providing distributed retention BMPs. Retention BMPs are structures that retain the excess (above pre-development project volumes) runoff resulting from the development for the design storm event (2-, 10-, and 25-year, 24-hour duration storm). Note that “retention” is required, as opposed to “detention”; retention may be achieved using infiltration methods, and capture-for-use methods.

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<sup>2</sup> “Post-Construction Storm Water Management in new Development and Redevelopment – The Permittee must: 1) Develop, implement, and enforce a program to address storm water runoff from new development and redevelopment projects...by ensuring that controls are in place that would prevent or minimize water quality impacts”. General Permit, pg 11, Provision e.1.

B. Peak Runoff Rate Control. Low impact development practices maintain the pre-development peak runoff discharge rate. This is done by maintaining the pre-development time of concentration and then using retention and/or detention BMPs (e.g., rain gardens, open drainage systems, etc.) that are distributed throughout the site, to control runoff volume. If retention practices are not sufficient to control the peak runoff rate, detention practices may be added.

C. Flow Frequency Duration Control. Since low impact development emulates the pre-development hydrologic regime through both volume and peak runoff rate controls, the flow frequency and duration of post-development conditions must be identical (to the greatest extent possible) to those of pre-development conditions. Maintaining pre-development hydrologic conditions will minimize or eliminate potential impacts on downstream habitat due to erosion and sedimentation.

Permittees must, therefore, incorporate LID methodology into new and redevelopment ordinances and design standards unless permittees can demonstrate that conventional BMPs are equally effective, or that conventional BMPs would result in a substantial cost savings while still adequately protecting water quality and reducing discharge volume. In order to justify using conventional BMPs based on cost, permittees must show that the cost of low impact development would be prohibitive because the "cost would exceed any benefit to be derived." (State Water Resources Control Board Order No. WQ 2000-11.). Low Impact Development techniques must be included as mitigations in the final EIR for this project.

We welcome the opportunity to meet with County staff to discuss both wastewater and stormwater issues as the project evolves. If you have questions, please contact **David LaCaro** at **(805) 549-3892** or at [dlacaro@waterboards.ca.gov](mailto:dlacaro@waterboards.ca.gov).

Sincerely;



Roger W. Briggs  
Executive Officer

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