

**CALIFORNIA COASTAL COMMISSION**

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July 15, 2009

Paavo Ogren, Director  
San Luis Obispo County Public Works Department  
County Government Center, Room 207  
San Luis Obispo, CA 93408

Subject: **Proposed Los Osos Wastewater Project**

Dear Mr. Ogren:

We have been following the evolution of issues surrounding the Los Osos wastewater treatment project with great interest and some consternation. We have also, as you know, provided input and recommendations on the project, most recently through our EIR comments as well as conference calls with you and your staff. As the review by the Planning Commission progresses we are being made aware of additional issues that need to be addressed by the County before the matter comes to the Commission (we think it safe to assume the matter will be appealed to the Commission by one or more parties) – issues that have been brought to our attention by members of the community, our own improved understanding of the complex, changing circumstances affecting the project with coastal resource implications, and other public agencies. Some of these issues are new, but most are issues which we have previously identified that are evolving as more information and deliberations are brought to bear on the project. As you know, during the course of the Commission's meeting in San Luis Obispo on July 8th and 9th, we received numerous substantive public comments from Los Osos residents regarding the proposed wastewater treatment project. Some of the comments were focused on issues on which we have already commented, by letter and numerous discussions. It appears that some of these are being addressed in a positive manner by the County's Planning Commission, which is continuing to hold hearings on the project. For example, the Planning Commission has tentatively conditioned the project to include important design changes such as tertiary treatment, fusion welded pipes in areas of high groundwater, and relocation of the treatment plant itself from Tonini Ranch to the Giacomazzi site.

In response to public comments in San Luis Obispo earlier this month, the Executive Director responded to several speakers by telling the Commission, the County and the public that we would be sending a supplementary letter to the County spelling out our additional concerns about several issues that we strongly hope will be addressed by the County, either by the Planning Commission or the Board of Supervisors. In subsequent discussions with individual commissioners, it became clear that there is great concern among them, and staff, that several very significant issues may not be adequately addressed at the County level, ultimately leaving to the Commission the question as to how they should be addressed. In particular, given the testimony at public comment during the July meeting, the information presented, and ensuing discussions between commissioners and the Executive Director, it appears several critical design issues that warrant changes to the proposed project are still a matter of debate. In order to avoid an unnecessary impasse when this matter arrives at the Commission we urge the County to address the following issues in addition to the others we have previously identified.

We think that potential sea water intrusion into the system and the basin's groundwater is an issue that needs to be addressed as an integral component of the project's design. Failure to address this issue could be viewed by the Commission as a fatal omission. At the July hearing, we were presented compelling testimony and information that indicates that the rate and extent of sea water intrusion into the lower aquifer in Los Osos constitutes an imminent crisis that warrants immediate attention. We are of the opinion that dealing with this issue must not be delayed until some future date after the waste collection, treatment and disposal project is operational. The water basin is in severe overdraft and cannot afford to export significant portions of its inflow for disposal outside its boundaries. We understand that an explanation for postponing this issue for some unspecified length of time is that partial recharge at a single disposal site in the basin and minimal conservation measures will be adequate to halt advancing sea water levels. However, we remain doubtful that this assumption is correct, and we are concerned that continued sea water intrusion into the basin threatens to render the aquifer completely unusable as a potable water supply and could impact the reliability of the wastewater treatment system itself. We disagree that seawater intrusion is an issue that should be addressed independent of the sewer project. Sensible reuse and disposal of treated water within the basin can have a significant effect in slowing or reversing seawater intrusion. Additionally, steps to protect the Community's drinking water supply can and should be taken in conjunction with this project and not relegated to some future arrangement with water purveyors. We recognize this project cannot entirely resolve the seawater intrusion problem, however, if properly designed and built, this project can help. We think there are multiple benefits to be derived from addressing seawater intrusion in the context of this project.

Similarly, we are also concerned about and strongly urge the County to build into the project sensible and doable wastewater reuse and disposal components. While we sympathize with the County's desire to spread the costs of groundwater recharge between the private water purveyors and future development, we strongly encourage design of a project that returns flows to the basin at project start up, particularly because it appears that multiple discharge options exist over the basin. As previously indicated, one of those feasible options is agricultural re-use, which has the added benefit of reduced pumping from the aquifer. Other feasible options include urban irrigation, residential re-use (purple pipe), constructed wetlands, disbursed leach fields and on-basin spray fields. A continued focus on spray disposal on the Tonini prime soils agricultural lands outside the basin is in our view inappropriate for reasons we previously communicated to the County as well as what we said above. All these reuse/recharge alternatives appear feasible and would more closely mimic current, diffuse discharge patterns, including those that support sensitive habitats.

Should future negotiations with water purveyors result in greater participation or additional approaches to slowing or reversing seawater intrusion into the basin's groundwater, these can be included by way of future permit amendments if necessary. For now, though, we strongly recommend that the project include such measures from the onset. We think the system needs to be designed to address the groundwater intrusion and recharge issues, and this element of the project ought not be delayed until some future arrangements with water purveyors can be achieved.

The County's LCP policies call for balancing of groundwater basins and protection of watersheds. A project that does not fully return tertiary treated effluent to the basin would be inconsistent with applicable LCP policies (e.g., LCP Coastal Watershed Policies 1, 2, 5, and 11). We also encourage timely implementation of strong, effective water conservation measures, by both the County and private water purveyors, that will reduce water extraction, thereby reducing pressure on the lower aquifer. Irrespective of the rather limited project goals and objectives identified in the EIR, seawater intrusion is an adverse impact that is inextricably linked to this project, and as such, must be fully addressed and mitigated.

Finally, we understand that the goal of minimizing sludge production to the maximum extent practicable has not been identified as a priority in the evaluation of alternative collection systems and treatment technologies. We recommend that the mitigation of this particular project impact be reflected as a high priority in the selection of preferred collection and treatment technologies and that the County ensure that the methods chosen are the best ones designed to produce this outcome.

We hope that these comments are useful to the County as the project moves through the local review processes. These comments are intended to help inform the decision making process at the local level and we hope they are taken into account and addressed before the project is approved and appealed to the Commission. As you know, this project is a major public works undertaking for which it is incumbent on the County and all responsible entities to thoughtfully consider options and project permutations that can maximize its effectiveness in promoting the public welfare and protecting coastal resources. In our view this means that the wastewater and groundwater problems in Los Osos must be addressed holistically and not piecemealed. Sound land and water use planning and effective public policy implementation call for such an approach. As the Executive Director said at the July meeting, we are trying to convey our concerns to the County in a timely manner in order to avoid or minimize conflicts later in the process. Please feel free to contact us if you have any questions or concerns and we look forward to continuing to work in a collaborative manner with the County to achieve a well designed, approvable, long overdue wastewater treatment system for Los Osos.

Sincerely,



Dan Carl  
Central Coast District Manager

cc: Bruce Gibson, Chair, Board of Supervisors  
Frank Mecham, Vice-Chair, Board of Supervisors  
Khatchick Achadjian, Board of Supervisors  
Adam Hill, Board of Supervisors  
James Patterson, Board of Supervisors  
Kami Griffin, Planning Department  
Mark Hutchinson, Public Works Department

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**March 25, 2009**

Paavo Ogren, Director  
San Luis Obispo County Public Works Department  
County Government Center, Room 207  
San Luis Obispo, CA 93408

**Subject: Proposed Los Osos Wastewater Project**

Dear Mr. Ogren:

We received the County's request for our comments on the proposed Los Osos Wastewater project (project referral number DRC2008-00103). We also previously received a copy of the Draft Environmental Impact Report (DEIR) for the project. Please accept the following comments on both the project and the DEIR. We regret we could not complete these comments sooner, however, staffing and budget cuts have significantly impaired our ability to carry out our responsibilities under the law in a timely manner.

**Summary**

As we have previously indicated to the County on numerous occasions, we are supportive of a project designed to alleviate the current significant wastewater problems in the Los Osos area and ameliorate the degradation of marine resources in the Morro Bay estuary resulting from failing septic systems. It is clear to us that the community is in dire need of improved wastewater collection, treatment, and disposal facilities, and that these improvements are necessary if significant coastal resources (including the Los Osos Groundwater Basin, the Morro Bay estuary, and related resources) are to be adequately protected and restored. It is also clear to us that such a major public works project understandably raises a wide spectrum of Coastal Act and Local Coastal Program (LCP) issues and concerns. Similarly, we recognize that any proposed waste water treatment system, especially the siting of treatment works facilities, will generate local opposition. Notwithstanding local or neighborhood opposition, it is imperative that a system be located, designed and constructed in a manner that is consistent, to the maximum extent required by law, with applicable land use and resource conservation policies. Based on the information received, we have a number of recommendations we think are necessary and appropriate to best achieve Coastal Act and LCP conformity. We also have some questions that may lead to additional recommended modifications depending on the answers to them.

In summary, with certain modifications (including those detailed below), we support a build alternative that avoids adverse coastal resource impacts to the maximum degree feasible, including full mitigation for any unavoidable impacts. From the materials we have reviewed, it appears that a project is both feasible and consistent with law, including a project that can build upon the various alternatives evaluated by the County to date. However, because there are several critical outstanding questions that affect the precise siting and design of such a build

project, we cannot provide a specific recommendation relative to the four primary alternatives evaluated in the DEIR, including the project the County has identified as its preferred alternative (alternative 4 from the DEIR). At the same time, it is our firm opinion that an approvable project differs from all these projects as currently envisioned, and in fact is more likely to be a permutation of the best components of these alternatives and other concepts identified to date.

Toward that end, we have some specific recommendations and questions that we believe are necessary to achieve a build project that is consistent with the Coastal Act and LCP, and that we hope will assist the County as it moves toward that goal.

In terms of the avoidance of adverse coastal resource impacts, our primary recommendation is that an approvable build project, regardless of treatment plant location and collection method, must be modified to provide for tertiary treatment so that any spray field area used for the project that is in or affects agricultural land or uses can continue to be used for agricultural purposes and production (with or without the spraying). Such a modification also avoids potential adverse effluent disposal impacts on habitats and groundwater (including in relation to the leach fields at the Broderon site). It also addresses other necessary and appropriate mitigation measures for adverse project impacts because the tertiary treated wastewater will then be available and can then be used for other beneficial uses (i.e., groundwater augmentation, irrigation, habitat enhancement, etc.). In our opinion, and based on evolving information and circumstances, it is clear to us that a project that incorporates tertiary treatment is necessary to achieve LCP and Coastal Act consistency.

Unfortunately, the materials we have seen do not thoroughly evaluate the ramifications of going to tertiary treatment, and this affects our ability to provide much further project specific recommendations. By that we mean that although the physical plant requirements for tertiary treatment are identified (and generally appear to be fairly minor differences in scope and scale), as are the costs of doing so, the implications and opportunities that such a modification engenders appear not to have been identified or evaluated. It seems clear that if the project is a tertiary project, many of the effluent disposal options will be completely different from those that have been evaluated, and could significantly change the scope of the project, including the availability of effluent for a range of beneficial uses (including, but not limited to, injection wells, urban/agricultural exchange or "purple pipe" programs, etc.). At a minimum, a tertiary project will have significantly different effluent disposal needs and opportunities, including significantly different space requirements. In this regard, it is incumbent on the County to thoroughly evaluate and explain the various options and implications so that fully informed and best land use decisions can be made.

In addition to this primary means of avoiding adverse coastal resource impacts, the project must be sized and directed to existing developed areas in order to avoid inducement of inappropriate growth. This means that physical capacity, system sizing needs, and service area must be directly connected and correlated to the existing developed area and the limited infill/redevelopment potential within that area. Except for existing legal lots of record where some type of development may need to be approved to avoid a takings of private property, all existing habitat

areas (i.e., wetlands, streams, terrestrial habitat, ESHA, etc.) and agricultural land in and around the project area must be excluded from potential service to obviate growth that is inconsistent with Coastal Act and LCP. Furthermore, subsequent LCP amendments that strengthen the correlation of the urban services line to the service boundary will be necessary.

The project must be sited and designed in a manner that respects significant public visual resources and public recreational opportunities. It must also incorporate or take into consideration all applicable terms and conditions associated with the previous wastewater project permitted by the Commission in 2004 (per CDP A-3-SLO-03-113, since expired). As you know, considerable Commission and County effort was invested in developing the elements and parameters of that 2004 approval, and many of the same issues are raised now and warrant similar treatment. Thus, we recommend that the terms and conditions of CDP A-3-SLO-03-113 be used as a starting point for consideration of development terms for the current project.

## **Issues**

### **Agriculture**

One of the major concerns with the proposed project on the County's "preferred" site is that it would take some 192 acres of agricultural land, most of which is prime, out of agricultural production. Approximately 17 acres would be needed for the physical plant and related facilities. However, a much larger area, approximately 175-acres, would be converted for spray fields and leach lines. Because the effluent will only receive secondary treatment, that land would not be used or made available for agriculture (or almost anything else). Indeed, any materials removed from the disposal area (e.g., grass, cover crop) would have to be disposed of at a landfill.

LCP Agriculture Policy 1 requires that agricultural land be maintained in or available for agricultural production and strictly limits the conversion of agricultural lands to non-agricultural uses. Where such uses are allowed on agricultural land, it must be demonstrated that no alternative building site exists on or offsite and the least amount of land possible is converted. Such permitted uses cannot conflict with surrounding agricultural land and uses (Policy 1 and CZLUO Section 23.08.288(d)). It is clear that some conversion is required for a physical plant located outside of town (some 17 acres). However, it is not clear that the complete conversion proposed (i.e., where such land would be completely converted because the land cannot be used for anything other than secondary treated wastewater disposal) for the effluent spray fields and related area, some 175 acres, is similarly required. If the wastewater were treated to tertiary levels, this land could continue to be used for agricultural purposes. That is true whether the tertiary treated effluent is disposed of in the manner proposed, or whether it is instead directed to some form of beneficial reuse (e.g., injection wells to offset loss of septic input and/or to stem seawater intrusion, agricultural irrigation ("purple pipes") that allows certain groundwater pumping to be reduced). With tertiary treatment, some combination of beneficial uses would result in a reduction of land area required for effluent disposal. In our opinion, the LCP requires that the project be modified in this respect if it is feasible to do so.

In addition, with a tertiary treatment project, it may be that the co-location benefits that accrue to

a project outside of town on agricultural land are no longer applicable. In other words, a tertiary project may make better sense to be sited closer to or in town at the Tri-W site (and potentially off of agricultural lands altogether) to the extent it is re-envisioned as a hub for distributing reclaimed wastewater where such distribution is closer and/or in town (e.g., through injection wells, irrigation connections). As previously mentioned, the effluent disposal needs and potential alternative uses of tertiary treated effluent need to be thoroughly evaluated in order to make informed judgments on this point. However, it appears clear that such a basic change in presumption could lead to other treatment plant locations becoming more attractive, perhaps even some that were excluded from consideration in the DEIR through prior "screening" efforts, like locations near suitable injection well locations or appropriate irrigation hubs, etc. To the extent such options make sense with a tertiary project, and can avoid adverse agricultural impacts from plant siting, we encourage the County to pursue evaluation of such options as it reconsiders project parameters with a tertiary project.

In terms of mitigation for unavoidable agricultural impacts, the project appears to be premised on a 1:1 mitigation ratio for direct impacts, and a 0.5:1 mitigation ratio for indirect impacts. However, several aspects of this mitigation framework are unclear, including to what degree an impact is deemed "indirect", and thus, per the DEIR, considered of lesser magnitude. Because indirect impacts will decrease agricultural sustainability and productivity, and could even lead at a certain point to direct conversion depending on the nature and severity of the impacts, the most conservative LCP approach is to consider indirect impacts to be direct impacts, and we believe that that is the approach that should be used here.

In addition, since any unavoidable agricultural land impacts will be to existing agricultural lands protected as such by the LCP, all mitigation should be premised on appropriately replacing those agricultural lands (e.g., buying urban property with appropriate soils and converting back to agricultural production) and/or protecting specific agricultural properties that are seriously threatened by potential urban conversion (e.g., due to urban-agricultural interface conflicts, legal lot issues) or that are critical for ensuring a stable urban-rural boundary (e.g., due to strategic location). Further, given the inherent difficulty in ensuring that these agricultural mitigation measures will be successful over the long term, and to provide some insulation against a certain degree of potential failure in that respect, a rote reliance on a 1:1 mitigation framework is inappropriate in this case. Rather, any project approval should be based on a greater than 1:1 mitigation ratio that is itself derived from and supported by evidence showing that long term agricultural productivity will be protected on a minimum acre for acre basis that takes into account the need for "insurance buffer" acreage.

With respect to the ultimate amount of agricultural land impacted and necessary replacement/protection acreage, the acreage affected by the project in this respect is unclear based on the materials we have reviewed to date. The acreages identified as directly impacted are different in different locations (including between the DEIR and the project referral), and the indirect acreage impacts are unclear and need to be more clearly identified. In addition, a modification to tertiary treatment will substantially alter the agricultural mitigation premise,

including how much land is necessary for effluent disposal. Tertiary treatment also alters the mitigation premise in terms of associated project costs because, among other factors, agricultural mitigation costs would go down, but project costs would presumably go up (although some could be recouped through beneficial reuse of tertiary treated water). In any case, we would be happy to work with the County on the particulars of an agricultural mitigation program based on the evaluation we were provided as well as issues relating to tertiary treatment options relating to some form of continued agricultural production on affected lands.

Ultimately, the selected agricultural mitigation measures must be consistent with and further LCP goals of protecting overall public health and welfare, environmental quality, and long-term agricultural sustainability. Accordingly, any sites "protected" under the mitigation program must effectively guard against further losses and conversions, whether by urban sprawl or from other threats. The program must provide enforceable mechanisms to ensure that this is the case (e.g., affirmative agricultural easements, third-party easement holders). The program must also ensure that mitigation site management measures are mindful and protective of adjoining natural habitats and recreational resources. The program should also provide for evaluation of agricultural practices on affected lands to ensure that they are appropriate and capable of restoring and promoting healthy soils (e.g., minimize soil erosion, minimize air and water quality impacts, organic farming), ensuring sustainability over time, and that they foster skills, appreciation of and understanding needed to promote wise stewardship on the part of growers, the community and the general public. Obviously, such a program requires much more than an 'acreage for acreage' exercise, and instead calls for a more holistic and inclusive approach designed to take into consideration the range of factors and variables that will determine and ensure long term agricultural protection and sustainability. This is an area of land use undergoing close scrutiny, exciting change and innovation that is vital to our communities' future food security. We have some experience with recent agricultural mitigation programs of this type, and would be happy to provide additional input on this subject.

#### **Urban-Rural Boundary, Growth Inducement**

The proposed project represents a major public infrastructure works with the potential to significantly destabilize the urban-rural interface in this coastal region by inducing growth inconsistent with Coastal Act and LCP policies (e.g., protection of natural habitat areas, agricultural lands and uses, public visual resources). The LCP limits the capacity of public works facilities to avoid inducing growth beyond what can appropriately be accommodated consistent with coastal resources protection policies. Public Works Policy 2 together with LCP Coastal Zone Land Use Ordinance (CZLUO) Sections 23.04.430 and 23.04.032 specifically prohibit the extension of services outside the LCP's Urban Service Line (USL). Accordingly, it is critical that the project be sized, directed to, and restricted to service of existing developed areas only, and that it not be allowed to induce inappropriate development – whether in or outside the USL. This means that physical capacity and system sizing, as well as legally enforceable restrictions, must be included in the project to ensure that only existing developed areas, consistent with LCP infill/redevelopment policies, will be served by the project.

We understand that the proposed project service area is co-terminus to the septic discharge prohibition zone established by the Regional Water Quality Control Board (RWQCB). However, the prohibition zone includes properties with serious resource constraints (e.g., ESHA) and/or properties located outside of the USL. Conversely, certain developed properties are located outside the prohibition zone (and the proposed service area) and outside the USL and thus would not be eligible for sewer service. To ensure LCP consistency and avoid inappropriate growth inducement, the service area boundary needs to be made coterminous with the existing developed area (including LCP appropriate infill), and should be drawn to exclude all other (i.e., non-infill) ESHA, wetland, related habitat areas, and agricultural lands. In particular, and at a minimum, the following areas should be excluded from the service area boundary: the Elfin Forest, Sweet Springs, and other ESHA parcels within the USL generally located adjacent to Highland/Bayview Heights and east of the Broderson site. Based on a more refined habitat screening (see also habitat discussion below), we would be happy to work with you on fine tuning such a service area boundary.

Furthermore, in addition to reconfiguring the service area boundary, the effectiveness of this boundary needs to be reinforced through enforceable legal mechanisms (e.g., utility prohibition zones, utility connection prohibitions, third party one-foot non-access easements) as part of the project to ensure that only development within the service area boundary will be served by the project.

Subsequently, the LCP needs to be amended to codify the USL (and thus the urban-rural boundary) at the same location, and to make any other applicable and appropriate adjustments to conform to the operative elements of the approved project (e.g., redesignating property from urban to rural and vice versa as appropriate, accounting for agricultural mitigation sites). These subsequent and conforming LCP amendments would be separate from but related to the wastewater project, and could build on and be incorporated in the County's pending Estero USL LCP amendment, appropriately adjusted to reflect the USL after the wastewater project is clearly framed and to clearly designate areas suitable for urban or rural uses.

Finally, to further protect against potential growth inducement outside the identified service area boundary, the wastewater system needs to be clearly sized and restricted to address development and redevelopment within the urban service area so identified. On this point, the buildout numbers in the DEIR appear inflated because they fail to take into account the full spectrum of coastal resource protection constraints as well as other limitations, such as a sustainable water supply (although tertiary treatment could alter this aspect somewhat, depending on the nature of available beneficial uses). Further, we are concerned that these numbers presume development that the LCP would not allow. Build out numbers need to be based on what the LCP allows, including consideration of various resource protection and use constraints as well as those resulting from the redrawn service boundary/USL line. The project's sizing must be based on clear evidence that it will not provide or be capable of providing more capacity than necessary to accommodate LCP consistent development within the urban service area defined in the project and subsequent LCP amendments.

If these elements are effectively incorporated into the project, a secure urban-rural boundary and commitment to service that is not growth inducing can be ensured.

**ESHA's, Wetlands, Other Habitats and Biological Resources**

It is not clear to us from the project materials to date that all ESHA, wetlands, other habitats and biological resources have been identified and avoided to the maximum extent feasible. Lacking adequate completion of that evaluation, it is not clear that the habitat impacts are in fact unavoidable, and it is not clear that adequate mitigation for those impacts that are actually unavoidable has been identified and required. The LCP's ESHA, wetland, and other habitat and biological resources protection policies (including CZLUO Section 23.08.288(d)) allow for public facilities to be located within ESHA only where there are no other feasible alternatives and where maximum feasible mitigation measures are included. In this regard, we share the major concerns raised by the U.S. Fish and Wildlife Service in their January 29, 2009 letter commenting on the DEIR as well as those of California Department of Fish and Game in their letter of January 30, 2009. Both agencies raise significant concerns about major deficiencies in the information associated with the project alternatives as covered in the DEIR relative to biological resources information, documentation, consultation, avoidance of adverse impacts to endangered and threatened species, and adequacy of mitigation measures.

ESHA, Wetland, and Other Habitat Identification. All ESHA, wetland, and other habitat resources within the area affected by the project must be identified, mapped, and avoided. It is not clear that this has been done and therefore affects our ability to adequately comment on the project. For example, the DEIR indicates that botanical surveys have not been completed for large portions of the Tonini Ranch site. We also note that all of the known sensitive biological resources shown in Exhibit 6 of the DEIR's expanded biological analysis are not included on the project referral site layout plan (DRC2008-00103). For example, the expanded biological study identifies and maps an existing coastal stream running along the southwest side of the property, yet this coastal stream is not identified on the site layout plan included in the project referral. Instead, this area is shown to include effluent spray fields. It is clear to us that a project should not be permitted until all habitat constraints, including ESHA constraints, are clearly identified and avoided where it is feasible to do so.

Setbacks. It appears that the project also proposes reduced setbacks for certain ESHA, wetland, and other habitat areas. Similar to our discussion on habitat identification itself, LCP required setback areas need to be avoided in the same way sensitive habitat areas must be avoided, including evaluation of relocation and rerouting alternatives as necessary. This includes but is not necessarily limited to the following areas that were previously addressed in the 2004 CDP: East Paso, Sunny Oaks, Lupine Street, Donna Street Wetlands, 4th Street Wetlands (PPS), and Solano Avenue.

Spray Field Habitat Impacts. Additional analysis is needed regarding potential impacts to coastal streams and riparian habitat areas (including those identified as containing certain sensitive species, like the California red-legged frog) that could result from spraying treated effluent in

close proximity to these resources. The DEIR briefly describes a minimum required setback of 100 feet from any sensitive resource as the single mitigation measure needed to address spray field impacts on ESHA. However, it is not clear to us that this buffer distance is adequate to protect these resources as required by the LCP, particularly given only secondary treatment. In addition, and as indicated above, at least one coastal stream area appears slated for direct spraying. Further analysis is needed to address habitat impacts from spray field effluent making its way into these sensitive resource areas. The use of treated effluent spray fields adjacent to such habitat areas raises numerous questions that will need to be answered to find consistency with the LCP's habitat protection policies. For example, is a 100-foot buffer adequate to protect sensitive habitat areas from spray field impacts? Are larger buffers needed for creeks that may be occupied by red-legged frogs? How are wind and rain factored into the impact analysis? What other mitigations/site design techniques are available to avoid/minimize overspray and contaminated surface water quality impacts?

Of course, with tertiary treatment, as previously discussed, these impacts would presumably be significantly reduced. However, they must still be identified and adequately addressed (i.e., with tertiary treatment, 100 feet alone may be sufficient, but this must be clearly documented). And depending on the volume of spraying (as opposed to the volume that may be put to other beneficial use), these impacts might be further reduced or avoided. Further, it is possible that with tertiary treatment these potential ESHA impacts could be completely eliminated, or they may not be impacts so much as benefits (e.g., improved hydrologic inputs leading to habitat enhancement, recycled water for irrigation leading to less groundwater use), both in areas immediately adjacent to project elements (like coastal streams near spray fields) and on a broader environmental level (e.g., overall affect on the Los Osos groundwater basin and Morro Bay). In any event, though, the main point is that these impacts need to be clearly understood and addressed, and tertiary treatment would appear to be an appropriate way to avoid significant habitat impacts (i.e., in addition to the manner in which tertiary treatment avoids/minimizes certain agricultural and habitat impacts in other ways).

Habitat Impacts at the Broderson Site. According to the DEIR, significant impacts to ESHA will occur through the use of the Broderson site for effluent disposal as proposed. Not only will habitat be impacted when the site is developed for the leach fields, but long term maintenance of the site will also result in additional habitat impacts overtime. It is not clear to us that these impacts can be found consistent with the LCP. In particular, as discussed above, the tertiary treatment option would appear to significantly reduce habitat impacts at the Broderson site, both in terms of immediate impacts and with respect to long term impacts associated with site maintenance. Specifically, the Broderson site is home to significant habitat resources, including special status species (e.g. Morro Manzanita, Monterey spineflower, Blochman leafy daisy, Morro shoulderband snail, Morro Bay kangaroo rat, monarch butterfly). These resources would be completely removed as part of the project. According to the DEIR, impacts to ESHA will occur within 8-acres of the Broderson site. To be consistent with the LCP, these impacts must be avoided if feasible. Again, tertiary treatment would appear the method to avoid habitat impacts at Broderson to the extent feasible, including to the extent effluent disposal needs there are reduced

and/or changed, and is yet another reason that the County should consider modifying the project to provide for tertiary treatment. On this point, it should also be noted that in accordance with the previous CDP for the Tri-W site, mitigation at the Broderson site was required and, as noted in the USFWS letter, appears not to have been fully implemented. That mitigation was for impacts that have already occurred in connection with development authorized but not completed in that CDP. How this fact relates to what is now proposed at Broderson and what is considered to be mitigation there will need to be addressed.

Pump Station Locations. The pump stations proposed to be located in ESHA (or within requisite setbacks) are not allowed under the LCP. To meet LCP setback standards, the new project referral indicates that a setback adjustment is needed for two pump stations. However, the new project referral does not specify which pump stations are subject to the adjustment, nor to where they would be relocated. The project must be modified to remove such pump stations for all ESHA, wetland, and other habitat areas (see also ESHA identification above).

Treatment Plant Drainage. From the site plan included in the project referral we note that a stormwater discharge pipe is located in the ESHA. This is not consistent with the LCP. It appears clear that there are other methods of stormwater drainage and treatment that can be utilized with the project, including Low Impact Development (LID) technologies (e.g., vegetated ponds, swales, strips), that can avoid development of drainage facilities in ESHA and required buffers. We recommend that the project be revised accordingly to completely remove development from ESHA and ESHA buffers.

Trenching vs. Drilling/Boring. We concur with project specific mitigation measures discussed in the DEIR related to the implementation of trenchless technologies for the installation of conveyance pipelines within and adjacent to areas containing wetland, streams, and riparian vegetation (Mitigation Measure 5.5-A7). We also agree that the project should include pipe suspension methods for areas with existing bridge crossings along the proposed conveyance routes (particularly at the Los Osos Creek and Warden Creek crossings). In addition to reducing the amount of habitat disturbance that would occur through excavation, longer term maintenance and leak detection could be improved and impacts reduced when the pipes are visible and positioned in a location where access for repairs would be less intrusive.

Habitat Restoration. LCP ESHA Policy 3 requires the restoration of damaged habitats as a condition of new project approval when feasible. Both the LCP and the DEIR document the presence of wetland habitat in the southwestern corner of the Tonini site (Warden Creek Wetlands). However, the discussion contained in the DEIR of the habitat restoration proposed in this area is confusing. Per the LCP, we presume that damaged habitat areas in the project area are being avoided, restored where feasible, and appropriately buffered (see also above). However, from information provided to us this is not clear.

In addition and specifically, the document does not clearly identify what would be done at the Mid-Town site in this respect either. Initial construction activities at this site appear to have damaged ESHA there, and any wastewater project, including the preferred alternative that

includes a pump station in this area, must account for the impacts that have already occurred at that site. As noted above, the Broderson site was to be restored as mitigation for impacts at the Mid-Town site associated with the previously approved and permitted wastewater project. The Mid-Town site damage that occurred was to be mitigated by restoration at Broderson. Accordingly, mitigation credit at Broderson cannot be used to mitigate new impacts associated with the current project. In other words, absent some new mitigation framework that otherwise "undoes" impacts at the Mid-Town site, Broderson restoration is required whether this project moves forward or not.

HCP. It is not clear to us whether the project commits to a Habitat Conservation Plan (HCP) and HCP process to address potential impacts associated with in-fill development that would be served by the project (see also growth inducement comments above). We believe a project necessity is an accurate evaluation of such infill properties in terms of habitat constraints. Sites that are completely constrained and cannot be developed should be located outside the service area and the urban-rural boundary where feasible and appropriate. Where it is not feasible and appropriate to exclude such lands from the service area (e.g., lots completely surrounded by urban development), then that needs to be clearly explained. The results of this evaluation should be used to assist in defining the USL/service boundary, as described above. For any properties falling in this category, subsequent analysis will be required to determine whether any new development can be permitted (i.e., to avoid an unconstitutional taking). Under such circumstances, some habitat impact that might not otherwise be allowed under the LCP may be permitted. To accommodate such potential special circumstance cases, we recommend that the project include a commitment to the completion of an HCP process. It is noted that such a commitment was required as part of the Commission's previous wastewater treatment plant approval. This requirement needs to be carried over in this case as well.

### **Public Views**

The LCP requires that development be located on the least sensitive portions of publicly visible sites, and that it incorporate design features, such as grading, screening and revegetation plans to minimize unavoidable adverse visual impacts. We note that photo simulations are not included in the project referral and the visual analysis in the DEIR is extremely limited and therefore unacceptable. The DEIR provides only a single view simulation from Los Osos Valley Road and is not adequate to fully evaluate and understand the potential negative impacts to scenic resources. Similarly, the materials we have seen are lacking in terms of proposed grading and landscaping parameters, including the manner in which such grading and landscaping could have its own view impacts and/or, conversely, could help to offset certain potential impacts (e.g., through berming/landscape screening). It is clear to us that additional public viewshed impact analysis is warranted. Specifically, we recommend that a supplemental visual and scenic resource analysis be provided for each potential development site (including those evaluated to date, as well as alternatives that are appropriate based on these comments, including analysis taking into account modifications that may be required if tertiary treatment is incorporated) that evaluate viewshed impacts from all public view corridors (for the County's currently proposed site, such evaluation must at a minimum include varying views of the sites from Los Osos Valley

Road and Turri Road). We recommend that the project be modified to make best use of existing topography to hide development from public view, and to include natural-looking berming and landscaping to screen development that is unavoidably sited in the public viewshed so that adverse visual impacts are minimized. From what we understand to date, and with the various project modifications associated with the recommendations above, it appears that there are sites capable of accommodating the proposed project facilities of the scale and scope needed that can be effectively hidden from public view.

In conclusion, we fully support measures to address the community's wastewater problems. We underscore that, in our opinion, a modified tertiary treatment project, as discussed, is a prerequisite for approval consistent with the LCP and the Coastal Act. There is little doubt that tertiary treatment can significantly reduce adverse environmental impacts as well as reducing adverse impacts to agricultural lands and uses. It can also assist in addressing community water supply problems, which, although not a primary project objective, should be part of a broader discussion of community needs and benefits derived from a project that includes tertiary treatment. This is particularly appropriate given that the project represents a significant public infrastructure investment which is capable, if properly conceived, designed and carried out, of achieving multiple public and community benefits.

We note, in closing, there may be additional issues that need to be addressed that we either were not aware of or that arise as a result of response to the discussion of our concerns in this letter. We would be happy to meet with you and will make every effort to make available time to move this important project to completion within the context of full compliance with Coastal Act and LCP requirements. Feel free to contact me if you have any questions or if we can be of further assistance.

Sincerely,



Jonathan Bishop  
Coastal Program Analyst  
Central Coast District Office

cc: Bruce Gibson, Chairperson, 2nd District Supervisor  
Victor Holanda, Director, San Luis Obispo County Planning and Building Department  
Mark Hutchinson, Environmental Programs Manager, San Luis Obispo County Public Works Department  
Kerry Brown, San Luis Obispo County Planning and Building Department



# California Regional Water Quality Control Board

## Central Coast Region



Linda S. Adams  
Secretary for  
Environmental  
Protection

Internet Address: <http://www.waterboards.ca.gov/centralcoast>  
895 Aerovista Place - Suite 101, San Luis Obispo, CA 93401-7906  
Phone (805) 549-3147 • FAX (805) 543-0397

Arnold Schwarzenegger  
Governor

January 5, 2010.

California Coastal Commission  
Central Coast Office  
725 Front Street, Suite 300  
Santa Cruz, CA 95060-4508

Dear Commissioners:

### LOS OSOS WASTEWATER PROJECT - RESPONSE TO CALIFORNIA COASTAL COMMISSION STAFF'S JANUARY 14, 2010 STAFF REPORT

San Luis Obispo County is taking the necessary steps to design and construct a sustainable wastewater project in the community of Los Osos. We all understand the foundation of this project is to solve the current wastewater management problems while keeping the water in the basin. The Los Osos Wastewater Project will provide a remedy to the watershed damage caused by the current septic system discharges and produce water that will be available for reuse (i.e., landscape and agricultural irrigation).

The project, as approved and conditioned by the San Luis Obispo County Board of Supervisors, aligns with policies and goals of the State Water Resources Control Board and Central Coast Water Board. Water Board staff recognize that wastewater management in combination with groundwater basin management, conservation practices, and water reuse constitute the model for new wastewater projects within the Central Coast Region as well as the state.

Central Coast Water Board staff agrees with your staff's recommendation that the Commission determine that no substantial issues are raised by the County's approval. The proposed project meets our criteria. Central Coast Water Board staff sent a letter to the San Luis Obispo County Board of Supervisors, dated September 25, 2009, in response to County public works staff's September 23, 2009 memorandum (attached). The letter offers support for the project and provides information regarding the proposed wastewater treatment options, wastewater collection systems options, and sludge handling issues. Regardless of the wastewater treatment project the County chooses to design and construct, it must meet waste discharge requirements (WDRs<sup>1</sup>). These WDRs will require wastewater collection without spilling or leaking per industry

<sup>1</sup>The Central Coast Water Board has not yet established WDRs for the County's project. However, the Central Coast Water Board adopted WDRs for the CSD's project and we anticipate similar requirements for the County project.

January 5, 2010

standards and treatment of wastewater and biosolids that will reliably meet discharge standards, will be suitable for any reuse, and be in compliance with recycling requirements.

In summary, the project approved by the San Luis Obispo County Board of Supervisors will meet our water quality goals and comply with requirements. We encourage the Coastal Commission to accept the project and determine that the appeals raise no substantial issues.

We appreciate your work and the work of your staff on this very important project. If you have any questions, please feel free to contact me at (805) 549-3140.

Sincerely,



Roger W. Briggs  
Executive Officer

Attachment: Los Osos Wastewater Project; Response to San Luis Obispo County Staff's September 23, 2009 Memorandum [September 25, 2009]

cc: Paavo Ogren, Director of Public Works

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# California Regional Water Quality Control Board

## Central Coast Region



Linda S. Adams  
Secretary for  
Environmental  
Protection

Internet Address: <http://www.waterboards.ca.gov/centralcoast>  
895 Aerovista Place – Suite 101, San Luis Obispo, CA 93401-7906  
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Arnold Schwarzenegger  
Governor

September 25, 2009

San Luis Obispo County Board of Supervisors  
1055 Monterey Street  
San Luis Obispo, CA 93408

Dear Supervisors:

### **LOS OSOS WASTEWATER PROJECT; APPROVAL OF DEVELOPMENT PLAN/COASTAL DEVELOPMENT PERMIT, AND RESPONSE TO SAN LUIS OBISPO COUNTY STAFF'S SEPTEMBER 23, 2009 MEMORANDUM**

We all appreciate the value of healthy watersheds. In order for the Los Osos watershed to be restored to a healthy state, both its groundwater and surface waters (including the Morro Bay National Estuary) need to be protected and improved. These waters have been damaged by various water and wastewater practices and are currently far from being sustainable. Seawater is intruding the lower groundwater aquifer due to overdraft conditions in the basin. Septic systems are destroying a vital and valuable portion of the upper aquifer system. Bacteria is seeping into the estuary at high concentrations. During wet weather conditions, septic system effluent surfaces in some neighborhoods creating a hazard to public health and other natural resources of the watershed.

Central Coast Water Board staff is pleased to see San Luis Obispo County taking the necessary steps to construct a sustainable wastewater project. We continue to participate and communicate with your staff as well as the public to ensure an expeditious approval and construction process. Through the planning process, and specifically the Planning Commission review, we have witnessed the proposed wastewater project evolve into a project that encompasses cutting-edge technology and sustainability concepts. While we have not yet undertaken the thorough review that will be necessary to develop waste discharge requirements for the project, we are satisfied that the project approved by the Planning Commission will provide adequate treatment for the contemplated disposal and reuse options. We do not see a need for the Board of Supervisors to further evaluate other collection or treatment technologies during your upcoming consideration of appeals of the Planning Commission's approval.

The project, as approved and conditioned by the Planning Commission, aligns with policies and vision goals of the State Water Resources Control Board and Central

*California Environmental Protection Agency*



Coast Water Board. We are encouraged that the Los Osos Wastewater Project will not only provide a remedy to the damage to the watershed caused by the current septic system discharges, but will also produce water that will be available for reuse (i.e., landscape and agricultural irrigation). Over the years, as the County initially attempted to develop a project, followed by the Community Services District's attempt, a basic principle has been to solve wastewater management problems while keeping the water in the basin. We anticipate that the concept of wastewater management in combination with groundwater basin management, conservation practices, and water reuse will be a template for future wastewater projects within the central coast region as well as the state.

The County's proposed wastewater project is a vital piece of the groundwater basin management puzzle and will be a giant step toward returning the groundwater basin's sustainability. According to recent studies, recycled water will provide for a 1:1 direct reduction in the current overuse of water in the groundwater basin. While this project is expensive and a financial burden for the system users, its relative cost will diminish as the true value of water continues to evolve upward in this water-short groundwater basin, region, and state. Users cannot afford to continue non-sustainable practices in the Los Osos groundwater basin, where groundwater is the only source of water for now and the foreseeable future and where a nationally recognized estuary needs to be better protected.

As we have pointed out throughout the long history of this project, we do not specify the method of compliance or the alternatives to be used for collection, treatment, or disposal. The County must meet the waste discharge requirements or WDRs<sup>1</sup>, which require collection without spilling or leaking per industry standards, treatment of wastewater and resulting biosolids that will reliably meet discharge standards, and for any reuse, compliance with recycling requirements. While that is the simple bottom line, we have commented on various alternatives over the years to try to ensure that the County and Community Services District (CSD) were thoroughly considering potential problems and project aspects that might require improvements or mitigation. As stated above, a basic objective for this project has been to keep the water in the basin, as it has long been recognized that this basin (similar to most Central Coastal basins) is stretching thin its available supply, and is exceeding safe yield of the groundwater basin. Over the years of project development, this problem has grown more obvious and the results are more acute today than ever. Your proposed project keeps the water in the basin.

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<sup>1</sup>The Water Board has not yet established WDRs for the County's project. However, the Regional Board adopted WDRs for the CSD's project and we have no reason to recommend significant changes to requirements proposed to the Water Board for the County project.

Central Coast Water Board staff presents the following responses to San Luis Obispo County staff's September 23, 2009 memorandum requesting our concurrence for selected key issues.

### **General Comment**

First, as stated above, we do not mandate the manner of compliance. Our jurisdiction is to regulate discharges of waste and their potential to affect the quality of waters of the state, as defined by the California Water Code. Wastewater treatment projects must be designed, constructed and maintained in consideration with the design conditions (influent characteristics, effluent quality, and discharge location). In other words, wastewater treatment plants that work for one community may not work for Los Osos. For Los Osos, the Planning Commission's project adequately addresses the primary goal of the Los Osos Wastewater Treatment Project (LOWWP): elimination of pollution of the upper groundwater aquifer due to the continued use of antiquated and inadequate septic systems. Furthermore, County staff has proposed a wastewater treatment project that is consistent with state and federal requirements and policies and has undergone a rigorous public review process.

### **Treatment**

The effectiveness of treatment systems depends on site conditions, wastewater characteristics, and day-to-day operations and maintenance. Below, Central Coast Water Board staff compares extended aeration to facultative ponds using the following five categories: nitrification and denitrification, total suspended solids removal, odor nuisance, sludge management, and other water quality and energy consumption factors.

### Extended Aeration

The Central Coast Water Board regulates many wastewater facilities that utilize extended aeration. We concur with County staff's selection of extended aeration. County staff's evaluation is consistent with industry standards<sup>2</sup> as well as our overall experience with the technology as used in many local communities.

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<sup>2</sup> U.S. Environmental Protection Agency Document No. EPA 832-F-02-008, September 2002, Wastewater Technology Fact Sheet – Aerated, Partially Mixed Lagoons. U.S. Environmental Protection Agency Document No. EPA 832-F-02-014, September 2002, Wastewater Technology Fact Sheet – Facultative Lagoons. U.S. Environmental Protection Agency Document No. EPA 832-F-02-007, September 2002, Wastewater Technology Fact Sheet – Sewers, Conventional Gravity. U.S. Environmental Protection Agency Document No. EPA 625-R-00-008, September 2001, Wastewater Technology Fact Sheet – Continuous-Flow, Suspended-Growth Aerobic Systems. U.S. Environmental Protection Agency Document No. EPA 832-F-02-006, September 2002,

Facultative Pond Systems

Facultative ponds are also used throughout the Central Coast region. We understand that County staff carefully evaluated the use of this technology for the LOWWP and found that this technology was not appropriate. The Planning Commission agreed. In our experience, wastewater treatment facilities that utilize this treatment technology have compliance problems. The Water Board has taken enforcement actions against these facilities due to noncompliance with effluent limitations. In many cases, the noncompliance was attributed to poor management of the ponds, seasonal fluctuations and turnovers, and inadequate treatment capability.

Extended Aeration Ponds / Facultative Ponds Comparison

The following table compares the two treatment technologies.

Treatment Technology Comparison

	<b>Extended Aeration</b>	<b>Facultative Ponds</b>
<b>Nitrification and Denitrification</b>	This treatment technology has a higher capacity to nitrify and denitrify without any ancillary facilities. In most cases, extended aeration may reduce the amount of nitrogen below 7 milligrams per liter. These extended aeration units are seldom affected by temperature, as they have an increased detention time which allows stabilization and increased treatment efficiency. Furthermore, these treatment facilities may be modified to include an anoxic zone, which will allow increased denitrification, thus decreasing the amount of nitrate in the effluent.	A facultative pond can moderately nitrify wastewater. However, nitrification is dependent on adequate management of the pond, aeration, mixing, consistent influent flow, consistent organic loading, and detention time. Temperature fluctuations will affect the nitrification process. Facultative ponds do not significantly denitrify and will require a separate denitrification facility to meet nitrate concentration limits .
<b>Total</b>	Well-operated extended	In most cases, these systems

Wastewater Technology Fact Sheet –Sewers, Pressure. Metcalf and Eddy, *Wastewater Engineering, - Treatment, Disposal, and Reuse*, Third Edition, 1991.

<p><b>Suspended Solids (TSS) Removal</b></p>	<p>aeration units can achieve TSS concentrations ranging from 15 to 60 mg/L. High biomass systems achieve TSS concentrations ranging from 5 to 40 mg/L.</p>	<p>have an inability to adequately remove TSS and do not consistently attain 30 mg/L. Inconsistent TSS removal may lead to inefficient tertiary treatment.</p>
<p><b>Odor Nuisance</b></p>	<p>This treatment technology yields little to no odor. Odors are produced by decomposition and off-gassing from settled sludge. However, these treatment facilities typically allow for complete mixing, which keeps the solids suspended with little to no settleable solids.</p>	<p>If the top aeration layer is not maintained, odor issues may result. Seasonal algal growth and decay may also increase odors as well as vectors.</p>
<p><b>Sludge Management</b></p>	<p>It is important that suspended solids be in contact with the wastewater, which requires complete mixing of the channels. Solids are managed through waste activated sludge (WAS) removal. WAS percent removal is typically determined by treatment quality and aeration tank conditions. The WAS is removed, dewatered, and hauled from the site.</p>	<p>In general, less sludge is produced. In colder climates sludge accumulation will increase due to low microbial activity. Settled sludge may require more frequent removal.</p>
<p><b>Compliance with Effluent Limitations</b></p>	<p>Extended aeration facilities have superior treatment capability, which allows the discharge to comply with effluent limitations. Treatment efficiency of these systems is consistent and rarely affected by seasonal fluctuations. High removal of toxic organics and heavy metals.</p>	<p>Facultative ponds typically experience increased pH concentrations during the summer months. Seasonal pond turnover may increase TSS and turbidity in the effluent. A separate denitrification facility may be needed to meet effluent limitations.</p>

According to the industry standards footnoted on Page 3, both systems have advantages and disadvantages. Fundamentally, effectiveness of both systems is highly dependent on adequate operations and maintenance.

Facultative ponds may have higher operational costs due to their sensitive nature and their dynamic fluctuations throughout the year. The Los Osos Valley is prone to cooler conditions through a large part of the year. The cooler conditions may render facultative ponds inefficient with respect to suspended solids removal, nitrification, and sludge accumulation. Furthermore, more land area is required for a facultative pond system than for extended aeration. We would anticipate that the County design a redundant system to allow for maintenance and emergency operations. Finally, the primary goal of the LOWWP is compliance with Resolution No. 83-13 and to alleviate groundwater contamination of nitrate due the use of septic systems. A facultative system will have to include a process for denitrification to meet waste discharge requirements. Because facultative ponds do not denitrify, the County would have to propose a separate denitrification unit, which would have additional cost, operational, land area, and energy implications.

Extended aeration systems pose a lesser operational burden when compared to facultative pond systems. Additional benefits include increased nitrification and denitrification, which would satisfy the primary goal of the project and future waste discharge requirements. Although we would expect redundancies in an extended aeration system, it would be less land intensive. According to the Planning Commission's approved LOWWP, the treatment plant site will be closer to residential populations and public use areas. Therefore, odor control will be more important. Extended aeration systems have little to no odor as compared to a facultative ponds system.

### **Collection**

We understand that the project approved by the Planning Commission includes a hybrid gravity system. There has been considerable debate about what type of collection system is appropriate for this project, much of it centered on traditional gravity systems vs. septic tank effluent pump (or STEP) systems. The success of any system, much like a treatment system, is dependent on adequate operations and maintenance, design, sizing, and installation, among other elements. Furthermore, both systems would be subject to regulations contained in the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (General Permit No. 2006-0003-DWQ or General WDR). The General WDR requires the owner/operator of the collection system to develop a management plan, which includes routine maintenance, emergency response, and reporting. In order to compare the two systems, Central

Coast Water Board staff used three categories: maintenance and operation, solids handling, and exfiltration.

Gravity Collection Systems

Conventional gravity collection systems have been used for years throughout the country and procedures for their design are well established. The Planning Commission approved a hybrid gravity collection system, which includes traditional gravity collection lines with low-pressure grinder pumps for low-lying areas. In our experience, we have municipalities with gravity collection systems that successfully transport sewage to the wastewater treatment plant and others that remain problematic.

As one might expect, those systems that are much older have more problems and require more maintenance. Some portions of systems in Central Coast Region municipalities are more than a century old, and were not built with today's standards or materials. The fact that these older portions of systems continue to function as well as they do is testament to the efficacy of the concept. Successful gravity collection system programs incorporate a combination of appropriate operations, maintenance, capital improvement, prioritization, and routine collection systems integrity assessments. All of these elements are required as part of the General WDR program for collection system management.

Septic Tank Effluent Pump (STEP) Systems

STEP systems were also considered for use in the LOWWP, but were not chosen in the approved project. STEP systems differ from conventional gravity collections systems because they break down large solids in the pump tank prior to discharge into the collection lines to the wastewater treatment plant. Our experience with STEP systems is limited as most of the collection systems within our region are traditional gravity systems. However, we understand that these systems can have higher energy demands and maintenance burdens compared to a traditional collection system. According to industry standards footnoted on Page 3, disadvantages include maintenance agreements, costs for operation and replacement parts, increased maintenance, increased energy demand, and short-term reliability.

Gravity Collection Systems and STEP System Comparisons

The following table compares the two collection system technologies.

Collections System Comparison

	<b>Gravity System</b>	<b>Collection</b>	<b>STEP System</b>
<b>Maintenance and Operations</b>	Gravity systems	collection require	Each pump tank will have mechanical components that

	<p>moderate maintenance, which would be regulated by the General WDR for collections system management. Maintenance would require a maintenance district, but would most likely not require maintenance agreement with each of the individual residents. The County would have to develop a capital improvement project prioritization schedule for collection system segments that are found to be inadequate. These assessments will be required as part of the General WDR. Grinder pump installations do not require maintenance of a septic tank and have a much smaller footprint (important for Los Osos' typically small lots).</p>	<p>require frequent maintenance. In some cases, municipalities that utilize STEP systems establish maintenance districts that service these systems. Power outages could be an issue as they may increase the potential for sanitary sewer overflows if the STEP tank is not equipped with an alternative power source. Life cycle replacement costs for STEP systems include the short life cycle of the pumps.</p>
<p><b>Solids Transport</b></p>	<p>Gravity collection systems rely on slope and sound engineering to transport solids and grit. Depending on the County's collection system management plan, routine cleaning would be needed.</p>	<p>Solids accumulation in STEP tank is a major consideration. Sludge accumulates at the bottom of the tank and undergoes some anaerobic digestion. Solids need to be removed periodically. Solids removal through the use of the STEP tank reduces the wastewater strength thus improving the wastewater influent into the treatment plant. However, the removal of solids</p>

		can impact the overall treatment system as many secondary treatment technologies (facultative ponds and extended aeration) would require increased aeration and an additional carbon source for efficient wastewater treatment.
<b>Exfiltration</b>	Gravity collection systems are sealed in accordance with industry standards. Exfiltration from new gravity collection lines is generally minimal. Ongoing maintenance and integrity assessment will be required to identify, manage, and repair leaks.	Watertight tanks could ensure minimal leakage of sewage and therefore, exfiltration may not occur. However, routine tank integrity inspections will be required to ensure minimal leakage and longevity of the STEP system.

From a water quality perspective, both systems appear to be feasible to design and implement. The main water quality issues regarding STEP systems are the lower oxygen and carbon concentrations delivered to the treatment plant. If STEP systems were used in the LOWWP, we would anticipate needing a carbon source amendment to the treatment plant, which has chemical addition and cost implications. Speaking of carbon, AB 32, California's Global Warming Solutions Act was signed by the Governor in September 2006, to ultimately reduce California's greenhouse gas emissions by 25 percent by 2020. Your project's carbon footprint analysis is important in accomplishing a project that will be consistent with AB 32, and your consideration in particular of increased emissions from a STEP system as compared to a gravity collection system is on target.

**Sludge Handling**

Sludge removal is a component of any wastewater treatment operation. Our waste discharge requirements will address sludge removal. More specifically, the Code of Federal Regulations, Title 40, part 503 discusses approved methods for disposal of sludge. Any sludge removed from the LOWWP will be subject to these regulations.

Expected Sludge Amount

As discussed in the treatment technology comparison, we anticipate that a facultative pond system will generate less sludge, provided that the facultative pond operates as designed. Anaerobic digestion in the lower layer of the pond must occur at a rate that will allow for consistent reduction in sludge amount. According to industry standards footnoted on Page 3, optimal facultative pond efficiency would result in the removal of sludge approximately every 20 years. However, these treatment processes are highly dependent on temperature, pH, and carbon source. As discussed previously, colder temperatures in the Los Osos Valley could hinder the treatment process and therefore reduce the amount of anaerobic digestion. This would lead to increased accumulated sludge and increased sludge removal. Facultative ponds are also susceptible to pH increases due to algal growth and low dissolved oxygen in the summer months. This phenomenon may also lead to reduced functionality of the pond's efficiency and anaerobic digestion.

On the other hand, extended aeration systems typically generate more waste sludge. Extended aeration systems utilize two types of sludge: return activated sludge (RAS) from the secondary clarifier and waste activated sludge (WAS). The system utilizes a balance of both RAS and WAS to maintain adequate treatment in the extended aeration system. The percentages of both RAS and WAS are calculated based on daily analysis of extended aeration efficiency. However, extended aeration units are consistent in their ability to treat wastewater despite external factors (e.g., temperature).

A STEP collection system will also generate sludge. Sludge pumped from tanks will either have to be treated at the wastewater treatment plant or hauled to another appropriate facility.

In summary, the project approved by the Planning Commission will satisfy water quality goals and be able to meet requirements. We encourage the County to accept the project approved by the Planning Commission.

If you have any questions, please feel free to contact me at (805) 549-3140.

Sincerely,



Roger W. Briggs  
Executive Officer

cc: Paavo Ogren, Director of Public Works

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# United States Department of the Interior



IN REPLY REFER TO:  
81440-2010-F-0194

FISH AND WILDLIFE SERVICE  
Ventura Fish and Wildlife Office  
2493 Portola Road, Suite B  
Ventura, California 93003



April 14, 2010

Pete Yribarren  
Community Programs Specialist  
U.S. Department of Agriculture  
3530 West Orchard Court  
Visalia, California 93277-7360

Subject: Biological Opinion for the Los Osos Wastewater Project, San Luis Obispo County, California (8-8-10-F-14)

Dear Mr. Yribarren:

This document transmits the U.S. Fish and Wildlife Service's (Service) biological opinion based on our review of the proposed Los Osos Wastewater Project (LOWWP), San Luis Obispo County. The U.S. Department of Agriculture (USDA) has determined that the proposed action is likely to adversely affect the federally endangered Morro shoulderband snail (*Helminthoglypta walkeriana*) and its critical habitat. Your request, dated February 16, 2010, was received in the Ventura Fish and Wildlife Office (VFWO) on February 18, 2010; our response is made in accordance with section 7 of the Endangered Species Act of 1973, as amended (Act)(16 U.S.C. 1531 et seq.).

As part of this request, you determined that the proposed action is not likely to adversely affect the federally endangered Morro Bay kangaroo rat (*Dipodomys heermannii morroensis*), the federally threatened California red-legged frog (*Rana aurora draytonii*) or designated critical habitat for each species. Built into the project description are measures that would fully avoid adverse effects to Morro Bay kangaroo rat and California red-legged frog. Based upon our review of these measures, we concur with your determination that the proposed project is not likely to adversely affect these two species.

Additionally, you determined that the proposed action would have no effect on the federally endangered southwestern willow flycatcher (*Empidonax traillii extimus*), least Bell's vireo (*Vireo bellii pusillus*), and Indian Knob mountainbalm (*Eriodictyon altissimum*) and the federally threatened Morro manzanita (*Arctostaphylos morroensis*) and Monterey spineflower (*Chorizanthe pungens* ssp. *pungens*), and would have no effect on designated critical habitat for the flycatcher, vireo, or spineflower. While willow flycatchers (*E. traillii*) extend into San Luis Obispo County, the entity under Federal protection (*E. traillii extimus*) does not. For this reason, the proposed action would have no effect on this taxon or its critical habitat. Migrant solitary

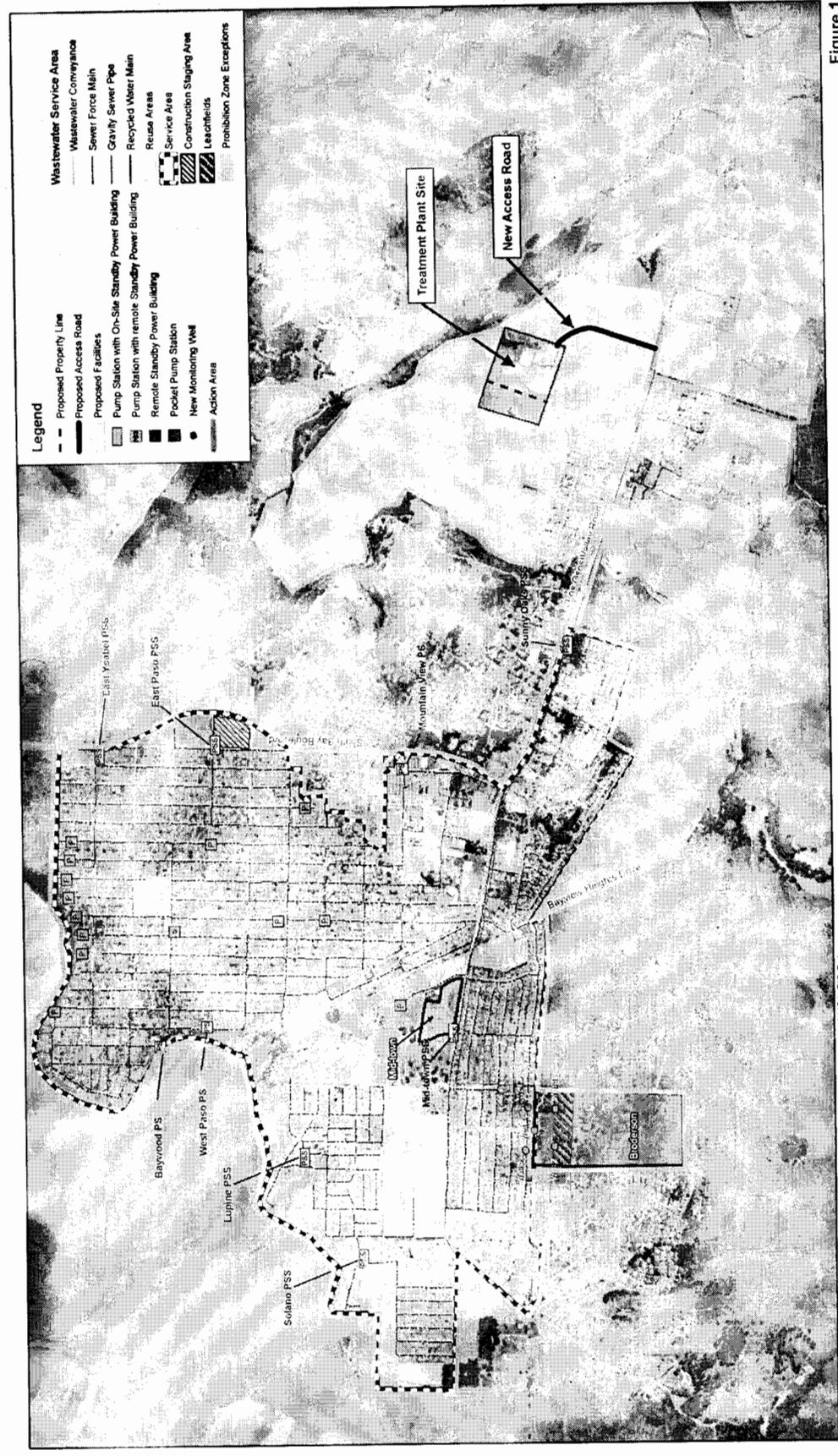
TAKE PRIDE  
IN AMERICA 

Exhibit 5  
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least Bell's vireos have been observed within the area of the proposed action; however, no breeding pairs have been observed anecdotally or documented. Coastal San Luis Obispo County is not within the historical breeding range for the taxon; however, in response to recovery efforts, least Bell's vireos have been expanding their range and recolonizing areas unoccupied for years (Service 1998a). While the subspecies is not expected to be breeding within the proposed action area (Figure 1), seasonal restrictions are included in the project description that would allow for avoidance of any adverse effects. No critical habitat has been designated for least Bell's vireo within the proposed action area. While both Morro manzanita and Indian Knob mountainbalm are known to occur in the proposed action area and, specifically, within the Broderson parcel (County of San Luis Obispo Public Works Department 2010a), neither is present in areas where project activities would result in impacts to either species (County of San Luis Obispo Department of Public Works 2009). As such, there would be no effect to either of these species. At one time, an occurrence of Monterey spineflower was recorded for the Los Osos area (CNDDDB 2009). Subsequent taxonomic work conducted by James Reveal determined this occurrence to be *Chorizanthe angustifolia* (County of San Luis Obispo Department of Public Works 2010a) and, as such, the proposed action would have no effect on the listed entity. No critical habitat for Monterey spineflower was designated in San Luis Obispo County. We concur with your determination that the proposed action would have no effect on southwestern willow flycatcher, least Bell's vireo, Indian Knob mountainbalm, Morro manzanita, and Monterey spineflower, and no effect on designated critical habitat for these species. As such, they will not be addressed further in this opinion.

This biological opinion is based on information that accompanied your February 16, 2010, request for consultation, including the biological assessment (County of San Luis Obispo Department of Public Works 2010a). In addition, we reviewed information contained in the following: the amended Biological Assessment (County of San Luis Obispo Department of Public Works 2010b); Rare Plant Survey Report for the Los Osos Wastewater Project – Broderson Leach Field (County of San Luis Obispo Department of Public Works 2010c); General Biological Survey and Habitat Assessment for the Los Osos Wastewater Project – Giacomazzi and Andre Sites (County of San Luis Obispo Department of Public Works 2010d); Morro Bay Kangaroo Rat Habitat Assessment for Tonini Ranch (Villablanca 2009a); Protocol Visual Survey for Morro Bay Kangaroo Rat, Los Osos Wastewater Project, Tonini Ranch (Villablanca 2009b); Appendix G of the Draft Environmental Impact Report for the Los Osos Wastewater Project (Michael Brandman Associates 2008); Appendix Q.8 of the Final Environmental Impact Report for the Los Osos Wastewater Project (Michael Brandman Associates 2009), resumes for County personnel submitted on April 12, 2010; Biological Opinion 1-8-04-F-48; and our files at the VFWO. A complete administrative record of this consultation is available at the Ventura Fish and Wildlife Office.

Pete Yribarren (8-8-10-F-14)



**Figure 1**  
**Overall Project Site Plan**  
**Los Osos Wastewater Project 2010**  
 COUNTY OF SAN LUIS OBISPO • LOS OSOS WASTEWATER PROJECT

## CONSULTATION HISTORY

On March 30, 2000, the Service issued a biological opinion to U.S. Environmental Protection Agency (EPA) for geotechnical field exploration activities that included soil borings and sounding holes at the Broderson and Morro Shores sites (Service 2000). On August 15, 2001, the EPA initiated formal consultation on the currently proposed wastewater project; however, the EPA and the Service agreed to mutually withdraw from formal consultation for the wastewater

project on October 18, 2002, because we had not completed our biological opinion on the leach field testing activities on the Broderson site. On January 10, 2003, we issued our biological opinion for the leach field testing (Service 2003) concluding that both the geotechnical field operations and leach field testing activities were not likely to jeopardize the continued existence of the Morro shoulderband snail. The EPA reinitiated formal consultation for the wastewater project on February 25, 2004 and a biological opinion was issued on April 20, 2005 (Service 2005).

After work on the former wastewater project was halted and bankruptcy of the Los Osos Community Services District (LOCSO) in 2005, legislation developed by State Assemblyman Sam Blakeslee (Assembly Bill 2701) to authorize transfer of wastewater authority from the LOCSO to the County of San Luis Obispo (County) was approved. The County began work on a new wastewater project in 2006 using many of the elements of the previously approved LOCSO project, including the gravity sewer system, pump stations, and Broderson leach field. Pre-consultation electronic mail and telephone conversations between the VFWO and County staff were conducted to exchange information regarding the new elements of the project and for us to provide guidance on endangered species issues. We submitted a comment letter on the Draft Environmental Impact Report (DEIR) which provided guidance regarding compliance with the Act (USFWS 2009).

A number of measures and project conditions set forth in the 2001 Final Environmental Impact Report (FEIR) and 2004 Coastal Development Permit (CDP) that were made a part of the project description for Biological Opinion 1-8-04-F-48, respectively, have not yet been fulfilled although take of Morro shoulderband snail and impacts to its habitat did occur. The CDP expired on August 11, 2007, and the FEIR and BO were rendered moot because the former project was not completed and the Federal nexus (funding via EPA and the California State Water Quality Control Board's Revolving Fund) was lost when the LOCSO defaulted on their loan. The resolution to these issues is contained in the Project Description.

A portion of project costs are proposed to be funded through the USDA's Rural Utilities Program using federal stimulus funds provided by the American Reinvestment and Recovery Act (ARRA). The Project's eligibility to apply was made possible by a Congressional waiver. The County is also anticipating participation in the State Water Resource Control Board's State Revolving Fund Program and may receive additional Federal funds through the Water Resources Development Act.

A pre-consultation meeting with staff from the VFWO, USDA, EPA, U.S. Army Corps of Engineers, State Water Resources Control Board, and County was held on December 10, 2009, at the VFWO office. Attendees heard a description of the current LOWWP project and how it compares to the former LOCSO project. Also discussed were agency roles and responsibilities and the County's proposed approach to resolve outstanding issues from the previously approved project. Subsequent to this meeting, we received a request to expedite the consultation from the County Board of Supervisors on February 22, 2010, to allow the County to apply for USDA Rural Development ARRA funds.

## BIOLOGICAL OPINION

### DESCRIPTION OF THE PROPOSED ACTION

Water quality degradation in the community of Baywood Park/Los Osos has been an issue of concern to the California Regional Water Quality Control Board (CRWQCB) since the 1970s. Throughout the community, septic systems are the sole method of wastewater treatment and disposal. Because many of the lots are considered too small for conventional leach fields, deeper seepage pits are frequently used for wastewater disposal. In areas where the depth to groundwater is shallow, many of the seepage pits discharge directly into the upper aquifer with no separation. Contaminated groundwater sometimes reaches the surface, especially during the rainy season (CRWQCB 2001).

Elevated levels of fecal coliform are present in Morro Bay and indicate that other pollutants such as bacterial, viral, or cyst forming pathogens may be present (CRWQCB 2002). Human and animal illnesses can result from eating seafood that has been contaminated by these pathogens. Illness can also result from coming in contact with water or accidentally ingesting water in contaminated areas. Portions of the commercial oyster beds in Morro Bay have been closed for harvest by the California Department of Health Services per the United States Food and Drug Administration's National Shellfish Sanitation Program standards because of high fecal coliform levels. Based on the level of fecal coliform, seasonal restrictions have been imposed on commercial shellfish harvesting in other portions of Morro Bay; however, no restrictions are in place on non-commercial shellfish harvesting related to fecal coliform levels (CRWQCB 2002).

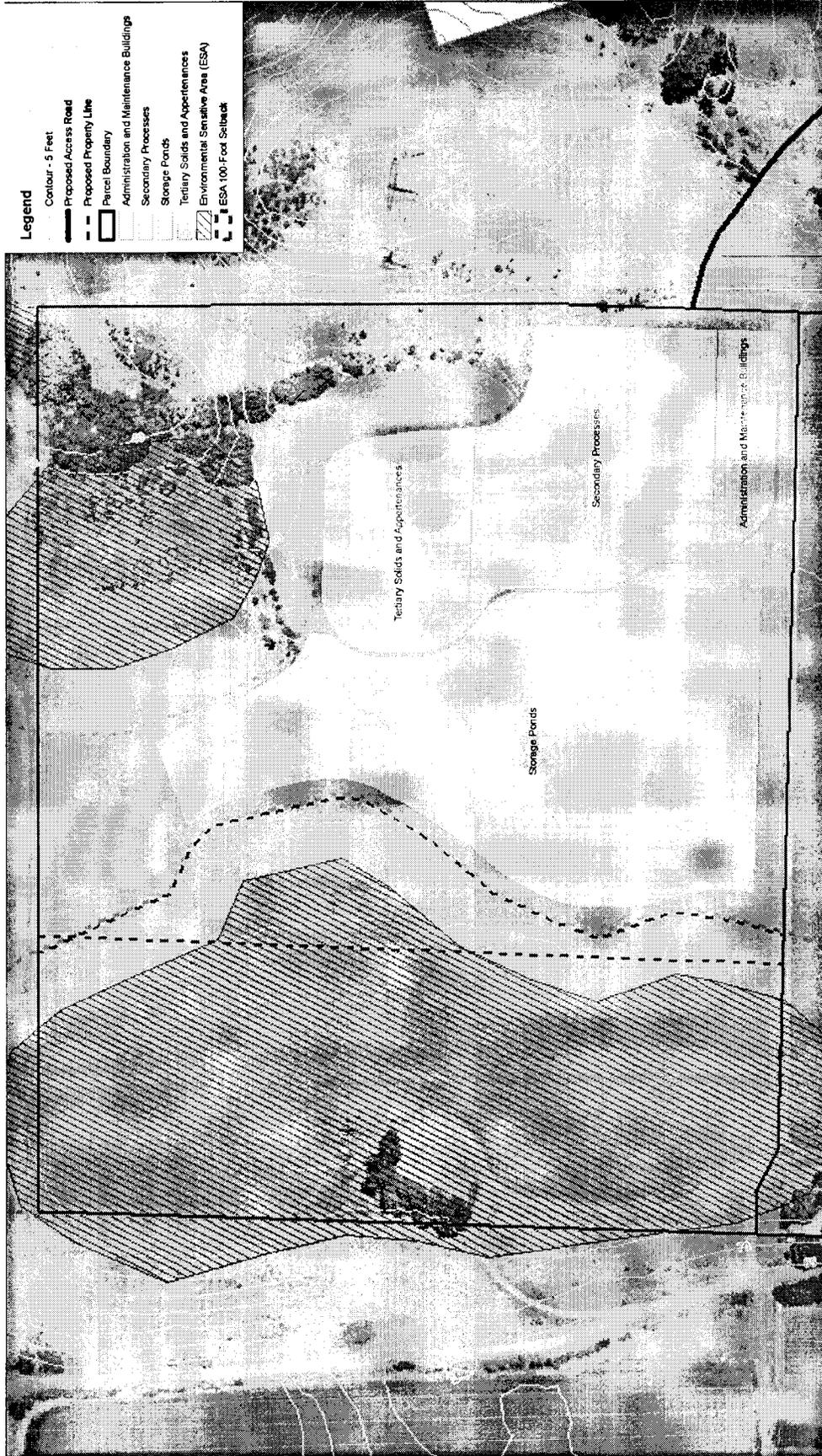
In 1983, the CRWQCB adopted resolution 83-13 which prohibited (effective November 1, 1988) discharges of waste from individual and community sewage systems within portions of the community (prohibition zone). The prohibition restricts the use of existing septic systems and additional discharges that would occur from new septic systems. Existing septic systems in the prohibition zone are discharging illegally and have been since 1988 (CRWQCB 2001).

To address and remedy these issues, the County proposes to develop a wastewater collection, treatment, and recycled water reuse system to serve the majority of the community of Los Osos. Figure 1 depicts the affected area and the overall site components. The key objectives of the LOWWP are to develop a community wastewater project that will comply with CRWQCB

Waste Discharge Requirements and alleviate groundwater contamination (primarily nitrates) that has occurred partially because of septic system use throughout the community. Other objectives include the incorporation of measures to minimize potential environmental impacts on the community and surrounding areas; meeting the water quality requirements while minimizing costs to mitigate affordability impacts on the community; compliance with all applicable local, state, and federal ordinances, laws, and permitting requirements (e.g., Environmentally Sensitive Habitat Areas (ESHA) standards, cultural resource concerns); address water resource issues by mitigating project impacts on saltwater intrusion; and maintain a diversity of options for beneficial reuse of recycled water. Proposed project components are discussed below and depicted on Figure 1.

### **Treatment Plant Facility**

The wastewater treatment plant facility would be sited on approximately 38 acres of a 100-acre parcel known locally as the Giacomazzi property (Figure 2). This parcel is located north of Los Osos Valley Road and west of Clark Valley, just east of the community of Los Osos. The Giacomazzi site contains both prime soils and soils of statewide importance with the western 62 acres consisting of prime agricultural soils with a long history of production agriculture (e.g., irrigated row crops). These 62 acres are currently contract-farmed to a mix of high value vegetable crops and would not be developed as part of the proposed action. Development would occur on the eastern 38 acres. A former farmhouse complex stands at the western side outside of the proposed development area. All of the original farm buildings have been removed and have been replaced by a modular residence. A 30-acre rectangular public lot would surround the treatment facility and the existing modular would remain as part of the larger parcel. This would allow the row crop operation to continue in private ownership with a buildable area located outside of prime soils. The 38-acre project site was historically cultivated; however, crop production ceased at some point in the past 20 years. Cultivation still occurs regularly for weed control purposes; however, no crop is produced. The wastewater treatment plant facility is expected to occupy approximately 22 acres of the 38-acre portion, with the undeveloped balance being found in environmentally sensitive habitat. The treatment facility would consist of an extended aeration wastewater treatment system with tertiary filtration. Extended aeration relies primarily on the acceleration of natural biodegradation of waste by aerobic bacteria to treat collected wastewater. Extended aeration would be accomplished either with an oxidation ditch or Biolac® secondary process; the abundance of oxygen and carbon also results in denitrification of the waste. This proven wastewater treatment technology is employed in hundreds of locations worldwide. These types of treatment plants have demonstrated the ability to remove nitrate from wastewater to the levels required by the Regional Water Quality Control Board for the community of Los Osos. Treatment components include:



**Figure 2**  
**Treatment Plant Site Plan**  
 LOS OSOS WASTEWATER PROJECT 2010

- **Headworks** - to screen out inorganics, de-grit, and measure the wastewater inflow. A small septage receiving station would be included to accept septage from that portion of the community that is not included in the wastewater collection area and would remain on septic systems
- **Oxidation ditch/Biolac®** - to treat the wastewater to secondary treatment levels.
- **Secondary Clarification** - to settle out the suspended solids in the treated wastewater.
- **Tertiary Treatment** - to provide Disinfected Tertiary Recycled Water as defined at Section 60301.230 of Title 22 of the California Code of Regulations for unrestricted reuse.
- **Biosolids management** - to process and dispose of biosolids removed from the treated wastewater on an ongoing basis.
- **Odor control system** - to control odors by using an inorganic media system to trap and scrub foul air from within the buildings enclosing the headworks and the biosolids dewatering equipment.
- The treatment plant facility would be designed with a capacity to treat a maximum average annual dry weather flow of approximately 1.1 million gallons per day (mgd) that takes into account the implementation of a water conservation program that is expected to conserve between 150,000 and 330,000 gallons per day for the build out population of 18,428 residents within the collection zone. At current indoor water use rates 14,428 persons would generate wastewater flows of 1.25 mgd; the project has a goal of reducing indoor water use to below 50 gallons per day per person which would equate to 0.92 mgd wastewater flows at build out. If this goal is met or exceeded, the project would operate at a higher level of redundancy.

### **Collection System**

The collection system consists of the installation of about 235,000 feet of pipe (195,000 feet of gravity pipe, 26,000 feet of force mains, and 14,000 feet of conveyance line to Giacomazzi from the Mid-town site). Within the collection area all of the septic tanks would be abandoned or re-purposed for rainwater storage, and all wastewater would be collected through a series of gravity and pressurized (pumped) pipe lines that would convey wastewater to the treatment plant. The collection system would serve a build-out population of 18,428 within the service area. The collection system components include main lines; piping connections to property lines; laterals to connect the building to the system, pumps, force mains; and back-up power generators. Nine pump stations and 13 pocket pump stations would be constructed to provide continuous pressure in the force mains that would enable the transfer of wastewater to the treatment plant from areas that cannot be served by gravity. Pump stations would be located on vacant lots purchased by the project or within public rights-of-way. These stations would generally be required in low-lying areas and where pipeline depths approach 11 feet in depth. The stations would use electrically driven submersible pumps set in precast concrete vaults with two to four pumps per station. Also mounted close to the pump station would be a weather proof and vandal resistant electrical control panel to control the operation of the pumps. A dedicated stand-by power facility would be located at the Lupine, East Ysabel, East Paso, Sunny Oaks, and Mid-town pump station sites. The stand-by power facility for the Mountain View pump station would be located at the nearby

LOCSD well site at the intersection of South Bay Boulevard and Nipomo Avenue. A single standby power facility located at the LOCSD's Eighth and El Moro Avenue Water Operations Maintenance Yard would serve both the West Paso and pump stations.

### **Recycled Water and Reuse Sites**

The project would reuse recycled water in a number of ways. Recycled water would be returned directly to the upper aquifer at two leach field sites: the Broderson property and at the existing Bayridge leach field. The Broderson property consists of an approximately 81-acre rectangular shaped parcel located south of Highland Drive. Approximately 8 acres of the site would be used to construct a conventional leach field; the remainder of the site would be placed in permanent biological open space. The leach lines would be placed in trenches 5 to 6 feet deep and parallel to Highland Drive. Following construction, the leach field would be revegetated with local native coastal dune scrub plant species; however, the leach lines would need to be excavated and replaced periodically. Maintenance and replacement of the leach lines would occur on a rotational basis so that the entire leach field would not be excavated at one time. The existing Bayridge leach field currently serves the Bayridge neighborhood with common septic tanks and a leach field. The tanks would be abandoned or repurposed to collect rainwater and the leach field would be used for recycled water instead of septic tank leachate. In addition, the project includes a suite of reuse options aimed at optimizing options to compensate for sea water intrusion. These reuse options include agriculture and urban reuse, as well as environmental reservations to handle the remainder of the recycled water depending on the season. Due to its key role in reducing seawater intrusion, the Broderson site is the primary recycled water reuse element. Approximately one-third of the recycled water (up to 448 acre feet on an average annual basis) would be placed at the Broderson site, primarily during the wet winter months. During the summer, the majority of recycled water would be directed to urban and agricultural reuse (irrigation). Urban reuse is focused on existing turf areas at four schools, the community park, and the golf course. Agricultural reuse is focused on existing irrigated lands which draw from the Los Osos groundwater aquifer. The Bayridge leach field would provide subsurface flows to Willow Creek to support existing willow riparian stands. Although Willow Creek is outside of the wastewater service area, so existing septic tanks and leach fields would remain, the Bayridge leach field would offset any losses of underflow from nearby newly collected areas. A system of new monitoring wells would be installed down-gradient of the Broderson site. These, along with other existing wells in the community, would be used to track the movement and behavior of percolated water to maximize the efficiency of the site.

### **Water Conservation**

The project would implement a comprehensive water conservation program designed to reduce flows into the wastewater treatment plant as well as reduce the community's contribution to seawater intrusion currently occurring in the Los Osos Groundwater Basin. Because of the reduction and eventual halt of construction in the wastewater service area beginning in the 1980's, many of the homes and businesses in the community were built before current water

conservation requirements. Consequently, the per capita indoor water use rate is considered moderately high for the area. The latest calculations from the two water companies serving the wastewater service area indicate indoor water use rates near 66 gallons per day. Experience in other California central coast communities indicates that indoor use rates below 50 gallons per day per capita are achievable with the use of modern technology, including low flush toilets, low flow showerheads, and under sink hot-water circulators. Retrofit to low flow plumbing fixtures prior to hook-up to the project would be required.

### **Measures to Minimize Adverse Effects**

The USDA has proposed to include measures in the proposed action to avoid and minimize the effects on the Morro shoulderband snail; they are listed below. The USDA has also proposed measures to avoid adverse effects to those federally listed species not addressed in this biological opinion. The measures constitute a portion of the total commitments being made to by the County to reduce impacts to biological resources during the construction and operation phases of the LOWWP. We are listing some of them here for species not covered by this biological opinion to show how they have reduced the effects of the project to less than adverse. The full complement of minimization measures are presented in Appendix C of the Biological Assessment (County of San Luis Obispo Public Works Department 2010 b) and all are incorporated by reference into the project description for the proposed action.

#### Morro Shoulderband Snail

- A Service-authorized biologist will conduct training sessions for all project-related personnel immediately prior to the start of vegetation removal, grading, and ground-disturbing construction-related activities.
- Construction areas will be clearly marked with high visibility flagging or barrier fencing. Construction equipment and personnel will be restricted to the marked areas.
- A Service-authorized biologist will be retained to monitor all vegetation removal, grading, and ground-disturbing construction-related activities that will take place within habitat suitable for the Morro shoulderband snail. Monitoring activities will be required daily until completion of initial disturbance at each location and for ensuring appropriate minimization measures are implemented during construction. The monitor will be granted full authority to stop work at his or her discretion and will stop work if project-related activities occur outside the demarcated boundaries of the construction footprint. The monitoring biologist will stop work if any Morro shoulderband snails are detected within the proposed construction footprint and will implement measures to relocate them to suitable habitat out of harm's way prior to construction activities resuming. If no suitable habitat opportunities are available in the immediate vicinity of the construction footprint, salvaged and relocated specimens may also be transported to an off-site location approved by the Service.

- Prior to the initiation of project-related activities that would result in vegetation removal, soil disruption, or construction, the approximately 73 acres of the Broderson property that will not be used for the proposed leach fields will be secured and granted, in perpetuity, to an appropriate agency or conservation organization who will assume the responsibility for its management. A long-term management and monitoring program will be prepared and approved by the Service and the Department. The County will be responsible for the allocation of appropriate funding necessary to implement the management and monitoring of the conserved lands.
- The existing degraded coastal dune scrub at the Broderson property will be restored and maintained to promote its function as habitat for Morro shoulderband snail and sensitive plants and wildlife species that are local or endemic to the area. Restoration activities will be conducted by qualified personnel with expertise in restoration ecology and knowledge of sensitive plant and wildlife species in the area. Restoration activities will be conducted in accordance with a Restoration Plan specifically prepared for the effort and approved by the Service, and the Department. Similarly, habitat restoration and maintenance will be implemented according to a Habitat Mitigation and Monitoring Plan that will evaluate the progress of the restoration effort.
- Habitat restoration activities will include measures for the removal and eradication of competitive, invasive, non-native plant species known to occur in the local area, including veldt grass (*Ehrharta calycina*) and pampas grass (*Cortaderia* spp.). Activities that involve the removal of invasive species will not result in unnecessary trampling or removal of native species, and techniques employed for the removal of non-native plant species will be those that will result in the least damage to native species. Any disturbed portions of the acquired 73 acres of the Broderson parcel should be evaluated for their potential to be restored as coastal dune scrub habitat that would have the potential to support the functions and values necessary for the Morro shoulderband snail, the Morro Bay kangaroo rat, and other coastal dune scrub species.
- The restoration effort will include the implementation of a seed collection program to gather seeds to be used during restoration from native sources. The seed collection program will be prepared for approval by the County, Service, and Department prior to the commencement of vegetation removal, soil disruption, grading or other construction-related activities and focus on those native plant species that will be affected by project implementation. Collection will be conducted by personnel with demonstrated expertise in seed collection and storage and occur during the appropriate time of year for seed production and harvesting.
- The County will provide annual reports to the USDA and Service documenting the results of all restoration and monitoring activities. Annual reports will be provided for a minimum of five years or until it is determined that the requisite performance criteria have been met. The County will provide a written report to the USDA and Service within

90 days following the completion of the proposed project. The report must document the number of Morro shoulderband snails removed and relocated from project areas, the locations of all Morro shoulderband snail relocations, and the number of Morro shoulderband snails known to be killed or injured. The report will contain a brief discussion of any problems encountered in implementing minimization measures, results of biological surveys, observations, and any other pertinent information such as the acreages affected and restored, or undergoing restoration, of each habitat type.

#### Morro Bay Kangaroo Rat

- Prior to the initiation of any vegetation clearing, revegetation/habitat restoration, soil disruption, grading, and/or ground-disturbing construction-related activities within the leach field area on the Broderson parcel or any other location within the action area that has potential for occurrence of the species (as determined in coordination with the Service and Department), the County will work with the Service and Department to develop and implement a “no take” strategy for the Morro Bay kangaroo rat. This strategy will include specific take avoidance measures and provide a survey, monitoring, and contingency plan should required periodic maintenance of the leach field area create suitable habitat for the species. Prior to its implementation, the strategy will be reviewed and approved by the Service and the Department and made part of a formal agreement to be signed by all parties.

#### California Red-Legged Frog

- All staging areas, as well as those areas where fueling and maintenance of vehicles and other equipment would occur, will be located at least 20 meters from riparian habitat or water bodies. The contractor or County will ensure that contamination of habitat does not occur during such operations.
- Prior to the onset of work near any riparian habitat, the USDA will ensure that the contractor or County has prepared a plan to allow a prompt and effective response to any accidental spills.
- To avoid potential timing conflicts between construction and the breeding season for the California red-legged frog, work activities adjacent to Los Osos Creek will only commence after March 31 and be completed by October 31, annually.
- Night-time illumination at the treatment plant site will meet the following requirements of the County’s Estero Area Plan in order to be shielded from riparian areas and creeks: “all lighting fixtures will be shielded so that neither the lamp nor the related reflector interior surface is visible from adjacent properties. Light hoods will be dark-colored.” No night lighting will be used unless necessary for active maintenance activities at the plant, or under emergency conditions.

- Tributaries to Warden Creek on the Giacomazzi property will be restored to provide improved habitat for the California red-legged frog. Drainages currently devoid of riparian vegetation will be revegetated with native riparian canopy and emergent species to provide additional shade, cover, and breeding habitat. The current practice of removing all vegetation within and adjacent to Los Osos Creek and tributaries to Warden Creek will cease.

#### Least Bell's Vireo

- Construction in and around riparian habitat associated with Los Osos Creek will occur only between September 15 and October 31. If surveys are conducted by a Service-authorized biologist from March 15 through June 15 and least Bell's vireo breeding activity is not detected, this construction window may be expanded to include the months of July and August.

#### **Outstanding Issues from the Previous LOCSD LOWWP**

The following paragraphs discuss issues from the FEIR, CDP, and biological opinion 1-8-04-F-48.

#### LOCSD 2001 Final Environmental Impact Report

Mitigation measure BIO-4 required the purchase of the "single largest remaining privately held undeveloped parcel within the Los Osos greenbelt (Broderson), which totals 80 acres" and its donation to "a resource agency or organization for long term stewardship and protection." In addition to the land acquired, the LOCSD was to allocate \$10,000 per year (indexed to an inflation multiplier), in perpetuity, for the management of the property, even though it would eventually be owned by a different party. While the Broderson parcel was acquired by the LOCSD, it was never transferred to a conservation or management entity as required, and no funding has been provided for the management of the property.

Mitigation measure BIO-16 required the LOCSD (in conjunction with the Department, the Service, the County, and the California Coastal Commission Commission to prepare and execute an implementing agreement for a habitat conservation plan (HCP) or Natural Community Conservation Plan (NCCP) for the long-term preservation of habitat remaining within the community of Los Osos. A preliminary draft HCP was prepared and submitted to the Service in 2005. While the Service reviewed the draft HCP and submitted comments to the LOCSD in November 2005, there has been no action on the part of the LOCSD to address these comments or make progress towards completion of the HCP process.

Coastal Development Permit

For the former wastewater project, mitigation measures provided in the FEIR were incorporated as conditions in the CDP. Similar to FEIR mitigation BIO-4, Condition 68(c)(i) of the CDP required that, prior to construction, approximately 40 acres be acquired as mitigation for impacts to coastal scrub and its constituent species and that, pursuant to Condition 68(c)(v), this land be granted to an appropriate agency or conservation organization in perpetuity with deeded guarantees of non-development or transfer. While the Broderson parcel was purchased by the LOCSD to fulfill Condition 68(c)(i), the acreage was never granted as required in Condition 68(c)(v). In addition, Condition 68(e) required that the LOCSD contribute \$10,000 per year towards the maintenance and restoration of the Broderson mitigation site. As noted above, no funds have been allocated or set aside by the LOCSD for this purpose. Condition 76 incorporated the intent of FEIR mitigation BIO-16.

Biological Opinion 1-8-04-F-48

Take of Morro shoulderband snail and impacts to its habitat occurred as part of the former, uncompleted wastewater project. By the incorporation of both mitigation measures from the 2001 FEIR and conditions of the 2004 CDP into the project description and minimization measures, the Service exempted this take and concurred with the EPA's determination that take associated with the former project would not result in jeopardy for Morro shoulderband snail or destroy or adversely modify its critical habitat.

Resolution of Issues

Because the current LOWWP proposes many of the same facilities within the same area, it is physically comparable to the previous project impacts to Morro shoulderband snail and its habitat. Take of the species at the Mid-town (formerly Tri-W) site would be substantially less (0.35 acre vs. 11 acres) than occurred as part of site preparation for the former project. The current County FEIR and CDP contain the same measures as the former project relative to Morro shoulderband snail and these have again been included as minimization measures in the project description. As stated above, the County would ensure that 73 acres of the Broderson site not needed for the leach fields is conveyed to an agency or conservation entity along with monies to ensure that the long-term management and enhancement of habitat prior to the initiation of project-related activities that would result in vegetation removal, soil disruption, or construction. This does not, however, assume that the balance of the now unused portion of the Mid-town site is exempted from take of Morro shoulderband snail related to future projects at the site. As with the former project, the current LOWWP is required to complete a HCP before there can be use and reliance on the sewer system by a new development.

**Project Schedule**

Construction of the proposed project is expected to take between 16 to 24 months. Both the County's contractor and individual property owners would share responsibilities for implementing the LOWWP, as described below.

Construction Activities by Contractor

Construction of the collection system and the raw wastewater and recycled water conveyance systems involve installing collection pipes within easements and public rights-of-way using trenching techniques. Because of the predominance of sandy soils in the Los Osos area, sheeting and shoring system would be utilized to comply with California Occupational Safety and Health Administration (CALOSHA) regulations. Trenching also requires dewatering in shallow groundwater areas as well as stabilizing measures. Baker tanks would be moved from one temporary location to another as needed during construction to contain the water pumped during dewatering operations. In general, construction activities would have multiple pipe-runs excavated at a time for project efficiency. The collection system construction also involves installation of submersible pump stations, which in turn involve excavation and construction of underground vaults. These vaults could be pre-cast or cast in-place concrete.

Once the collection system is installed in each area, the roadway would be repaved. A staging area would be located within the Los Osos community to support collection system construction by providing a lay down yard for pipeline, a storage yard for materials and equipment, and trailers for construction administration. The prior LOCSD wastewater project featured a construction yard at the northwest corner of Pismo Avenue and South Bay Boulevard. The site was cleared of vegetation at that time and has been tentatively identified as the LOWWP collection system construction yard; however, a final location would be selected during the project final design.

Construction of the treatment plant, biosolids processing facilities, and storage ponds would involve grading, excavation for facility construction, and construction of the buildings and facilities.

The Broderson leach field site would be excavated, backfilled with gravel for drainage, and then covered first by a geotextile fabric and backfilled with native soil. Percolation piping would then be installed about 1 foot below the geotextile fabric.

Construction Activities by Property Owners

Some activities that could affect listed species are the responsibility of property owners, and are part of the LOWWP. As a part of the LOWWP, property owners have the responsibility to install a lateral that connects from their building to the sewer lateral stub out that ends at their property line. Responsibility for retrofitting plumbing fixtures so all fixtures are low-flow, in

accordance with the water conservation measures, also belongs to the property owner. If the existing septic tank does not need to be removed, then the property owner would have the responsibility to decommission their existing septic tank. Decommissioning the existing septic tank involves pumping out the tank, removing the top of the tank and backfilling the tank with sand. Other methods to abandon the existing septic tanks are available that would increase their usefulness for returning recycled water to the upper aquifer; however these options are at the property owner's discretion and expense.

For properties that currently have a septic tank in the backyard (about 25 percent of the Los Osos community), the property owner has the responsibility to install a new lateral line from the structure's backyard or front yard to the property line. LOWWP project engineers anticipate that property owners with low elevation backyard septic tanks, (about 5 percent of the Los Osos community), would also need to install and maintain a low pressure grinder pump to move the sewage from their backyard to the front yard (Carollo Engineers 2007).

## **Monitoring and Reporting Plan**

### Annual Reports

Annual reports would be submitted by the County to the USDA and VFWO by January 31 of each year to document project progress, compensation activities, and results of pre-construction surveys required. Each report would address project sites scheduled for the following construction season and state whether effects at the sites would be within the limits set forth in this biological opinion. These reports would include photographs of all phases of the Project (preconstruction, during, and post construction), monitoring logs and training session reports, as well as a summary of all minimization and avoidance measures and how they were implemented. Any issues encountered during the project, and recommendations made to address them, would be provided.

The annual reports would document the presence of any sensitive or listed species encountered during project activities and the avoidance measures taken. Any take incidental to project activities would be documented. The Service shall be notified immediately by facsimile or telephone and in writing within one (1) working day of any unanticipated take of Morro shoulderband snails and the take or suspected take of listed wildlife species not authorized in the Service's Biological Opinion. If such take occurs, the report and agency notification would include the date, time, and location of the incident or of the finding of a dead or injured animal, and any other pertinent information. The Service contact would be the Ventura Fish and Wildlife Office, Attention Diane K. Noda, 2493 Portola Road, Suite B, Ventura, California 93003; phone (805) 644-1766; and fax (805) 644-3958.

### Biological Monitoring Reports

Annual Biological Monitoring Reports would be submitted by the County to USDA and the VFWO Office by January 31 of each year. Reports would be submitted for the duration of project construction. These reports would discuss the status and progress of compensation measures implemented. Photographs of mitigation/compensation sites would be included to document progress. If monitoring results indicate that additional measures are necessary to meet the goals set in the biological opinion, additional recommendations would be made and next steps would be agreed upon with appropriate agencies.

### Final Report

A final report would be submitted by the County to the USDA and VFWO within 60 days of the end of project activities. This report would summarize the Annual Reports and include a discussion regarding Project activities, compensation activities, and minimization and avoidance measures implemented.

## ANALYTICAL FRAMEWORK FOR THE JEOPARDY AND ADVERSE MODIFICATION DETERMINATIONS

### Jeopardy Determination

The jeopardy analysis in this biological opinion relies on four components: (1) the *Status of the Species*, which describes the range-wide condition of the Morro shoulderband snail, the factors responsible for that condition, and its survival and recovery needs; (2) the *Environmental Baseline*, which analyzes the condition of the Morro shoulderband snail in the action area, the factors responsible for that condition, and the relationship of the action area to the survival and recovery of the Morro shoulderband snail; (3) the *Effects of the Action*, which determines the direct and indirect impacts of the proposed Federal action and the effects of any interrelated or interdependent activities on the Morro shoulderband snail; and (4) the *Cumulative Effects*, which evaluates the effects of future, non-Federal activities in the action area on the Morro shoulderband snail.

In accordance with policy and regulation, the jeopardy determination is made by evaluating the effects of the proposed federal action in the context of the current status of the Morro shoulderband snail, taking into account any cumulative effects, to determine if implementation of the proposed action is likely to cause an appreciable reduction in the likelihood of both the survival and recovery of the Morro shoulderband snail in the wild.

The jeopardy analysis in this biological opinion places an emphasis on consideration of the range-wide survival and recovery needs of the Morro shoulderband snail and the role of the action area in the survival and recovery of the species as the context for evaluation of the significance of the effects of the proposed federal action, taken together with cumulative effects,

for purposes of making the jeopardy determination.

#### Adverse Modification Determination

This biological opinion does not rely on the regulatory definition of "destruction or adverse modification" of critical habitat at 50 CFR 402.02. Instead, we have relied on the statutory provisions of the ESA to complete the following analysis with respect to critical habitat.

In accordance with policy and regulation, the adverse modification analysis in this biological opinion relies on four components: (1) the *Status of Critical Habitat*, which describes the range-wide condition of designated critical habitat for the Morro shoulderband snail in terms of primary constituent elements, the factors responsible for that condition, and the intended recovery function of the critical habitat overall; (2) the *Environmental Baseline*, which analyzes the condition of the critical habitat in the action area, the factors responsible for that condition, and the recovery role of the critical habitat in the action area; (3) the *Effects of the Action*, which determines the direct and indirect impacts of the proposed Federal action and the effects of any interrelated and interdependent activities on the primary constituent elements and how that will influence the recovery role of the affected critical habitat units; and (4) *Cumulative Effects*, which evaluates the effects of future non-Federal activities in the action area on the primary constituent elements and how that will influence the recovery role of affected critical habitat units.

For purposes of the adverse modification determination, the effects of the proposed Federal action on the critical habitat of the Morro shoulderband snail are evaluated in the context of the range-wide condition of the critical habitat, taking into account any cumulative effects, to determine if the critical habitat range-wide would remain functional (or would retain the current ability for the primary constituent elements to be functionally established in areas of currently unsuitable but capable habitat) to serve its intended recovery role for the Morro shoulderband snail.

The analysis in this biological opinion places an emphasis on using the intended range-wide recovery function of critical habitat for the Morro shoulderband snail and the role of the action area relative to that intended function as the context for evaluating the significance of the effects of the proposed Federal action, taken together with cumulative effects, for purposes of making the adverse modification determination.

#### STATUS OF THE SPECIES

On December 15, 1994, the Service listed the Morro shoulderband snail as endangered (50 *Federal Register* 64613). A recovery plan for the Morro shoulderband snail and four plants from western San Luis Obispo County was published in September 1998 (Service 1998b). Critical habitat for the Morro shoulderband snail was designated on February 7, 2001 (66 *Federal Register* 9233). A 5-year

status review for the Morro shoulderband snail and Chorro shoulderband snail was completed in 2006 (Service 2006).

The Morro shoulderband snail is a member of the land snail family Helminthoglyptidae. The genus *Helminthoglypta*, the shoulderband snails of California, is a complex of many species, each with a relatively small range and, therefore, relatively vulnerable to extinction (Burke et al. 1999). Three other species in the genus *Helminthoglypta* have distributions similar to that of the Morro shoulderband snail. The Chorro shoulderband snail (*Helminthoglypta morroensis*) (Roth and Tupen 2004) may occur in close proximity or overlap with the range of the Morro shoulderband snail. The surf shoulderband snail (*H. fieldi*) is found in coastal dune habitats south of the San Luis Range to Point Arguello in Santa Barbara County, and does not occur sympatrically with the Morro shoulderband snail. The Big Sur shoulderband snail (*H. umbilicata*) occurs from Monterey Bay in Monterey County, south to northern Santa Barbara County, including the Los Osos area.

The recovery plan for the Morro shoulderband snail describes its current distribution as areas south of Morro Bay, west of Los Osos Creek, and north of Hazard Canyon (Service 1998b). The species occurs throughout the community of Los Osos and in the dunes north of Morro Bay. Although the geographic range of the Morro shoulderband snail is not fully known, we do not expect it to extend much beyond the region it is now known to inhabit (Walgren 2003).

The Morro shoulderband snail is found in the accumulated leaf litter and on the undersides of lower shrub branches in coastal dune scrub vegetation, particularly mock heather (*Ericameria ericoides*), seaside golden yarrow (*Eriophyllum staechadifolium*), deerweed (*Lotus scoparius*), and dune almond (*Prunus fasciculata* var. *punctata*). Morro shoulderband snails have been found in introduced iceplant (*Mesembryanthemum* spp. and *Conicosia puginoniformis*), fig-marigold (*Carpobrotus edulis*), and veldt grass. Morro shoulderband snails appear to prefer shrubs in coastal dunes scrub that exhibit dense, low growth with ample contact to the ground. Based on this observation, favorable microclimate for the species may depend on shrubs providing partial shading and structure to serve as windbreaks to moderate temperatures and moisture loss within accumulated plant litter. It has been estimated that approximately 345 acres of coastal dune scrub habitat is found in and around the Los Osos area (CMCA 2002).

Most active or non-aestivating Morro shoulderband snails are observed during moist environmental conditions when moisture availability likely facilitates the species' ability to find food and mates, as well as disperse and migrate. Roth (1985) also proposed that because the congeneric species, *Helminthoglypta arrosa*, copulates, lays eggs, and grows in size during the wet season that Morro shoulderband snails would be expected to exhibit similar general life history characteristics. In the dry season, Morro shoulderband snails typically aestivate in the accumulated litter or attach to low-lying branches of shrubs. Based on our present understanding of the Morro shoulderband snail, we assume the following: 1) Morro shoulderband snails typically deposit their eggs under shrubs within the accumulated leaf litter or other areas that contain the appropriate microclimates; 2) Morro shoulderband snail eggs likely hatch the same

wet season they are laid; and 3) Morro shoulderband snail eggs become nonviable if dessication occurs.

The microclimate under shrubs provides the necessary moist and temperate environment for Morro shoulderband snails to survive the drier months of the year. Although no studies have been conducted to determine how Morro shoulderband snails are affected when disturbed during aestivation, aestivating Morro shoulderband snails may suffer physiological stress or even death upon disturbance of shrubs and accumulated leaf litter if subsequently exposed to drier, hotter, or otherwise more desiccating conditions. Snails in this genus aestivate by producing an epiphragm (a seal of dried mucus in the aperture of the shell) to reduce water loss during seasonal periods of inactivity (i.e., dry season).

The greatest threat to the Morro shoulderband snail is loss of habitat through partial or complete removal of native vegetation. Habitat loss, fragmentation, and degradation can result from urban development and by invasion of non-native plant species, particularly veldt grass. Although the Morro shoulderband snail has been found in iceplant and veldt grass, non-native plant species can dominate to the exclusion of native plant species and render habitat unsuitable for Morro shoulderband snails. As dehydration is a major threat to terrestrial mollusks, shrub species are needed as partial shading and to provide windbreaks that reduce the drying effect of wind at ground level. Woody debris also provides shelter for Morro shoulderband snails and may act as a source of nutrients for fungi, a potential food source for Morro shoulderband snails.

Other threats to the species include direct trampling, soil disturbance, and soil compaction caused by horses, human activities, and off-road vehicles. Morro shoulderband snails may also be threatened by the application or spilling of chemicals, including pesticides, herbicides, fertilizers, and fire retardants. The senescence of dune vegetation may also threaten their survival as older shrubs that no longer make contact with the ground may not provide the necessary microclimate in terms of temperature and moisture. Morro shoulderband snails may be limited by competition with non-native species, such as the brown garden snail (*Helix aspersa*).

### **Critical Habitat for the Morro Shoulderband Snail**

Critical habitat for the Morro shoulderband snail was designated on February 7, 2001 (66 *Federal Register* 9233; Service 2001). The primary constituent elements of critical habitat for the Morro shoulderband snail include the following: sand or sandy soils needed for reproduction; a slope not greater than 10 percent to facilitate movement of individuals; and the presence of native coastal dune scrub vegetation. A total of 2,566 acres of critical habitat was designated in three units. All three units are occupied by the Morro shoulderband snail and all face threats from non-native invasive plant species, development, and structural changes to the habitat as native vegetation matures and non-native plant species increase in dominance. Each unit represents a core population of Morro shoulderband snails that is considered to be essential to maintain the species' geographic distribution and genetic variability (Service 2001).

Because we consider each critical habitat unit to be essential to the species' conservation as a whole, we will base our critical habitat analysis on the individual units that would be affected by the proposed project. Critical habitat within Units 2 and 3 would be adversely affected by the proposed project, while there would be no effects to Unit 1. As such, we focus our critical habitat analysis on Units 2 and 3, independently, to make our determination regarding the effects of the proposed action to critical habitat for the Morro shoulderband snail.

## ENVIRONMENTAL BASELINE

The implementing regulations for section 7(a)(2) of the Act define the "action area" as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 *Code of Federal Regulations* 402.02). For the purposes of this biological opinion, we consider the action area to include the treatment plant site, the primary wastewater pumping station, and recycled water reuse sites. The action area is depicted on Figure 1 as that area circumscribed by an orange line.

Morro shoulderband snails are known to occur on residential properties that would be connected to the wastewater main lines via lateral lines and are expected to occur wherever suitable cover, food sources, and moisture regimes exist throughout the action area. The following discussion provides information regarding known or expected presence at locations that are considered to be major project components.

Treatment Plant Site: No live Morro shoulderband snails or shell were identified at the location for the treatment plant at the Giacomazzi site (County of San Luis Obispo Public Works Department 2010d). The species is typically restricted to areas west of Los Osos Creek; however, it was detected east of Los Osos Creek at Warden Creek on the Lee property, approximately one mile northwest of the northern boundary of the Giacomazzi property (Tenera 2006). Both Morro shoulderband and Chorro shoulderband snails were found on this property with the Morro shoulderband snails being associated with coastal scrub habitat and Baywood fine sands.

Mid-Town Site and Locations for Pump Stations: Live individuals and empty shells of Morro shoulderband snail were found on the Mid-Town site as part of site preparation activities for the former wastewater project. Live individuals were captured and relocated to the North Coast Audubon's Sweet Springs Preserve. Morro shoulderband snails occur on the contiguous Morro Shores property located to the north of the Mid-Town site. While the Mid-Town site is currently in a fairly disturbed condition, much of it is recovering to coastal dune scrub and other habitats that are being re-occupied by the species (Tenera 2010). The 0.25 acre pump station site is situated on parts of the parcel where plant regeneration has been lowest (between 10-15 percent cover of native coastal dune scrub species including: deerweed (*Lotus scoparius*), beach bush lupine (*Lupinus chamissonis*), and California croton (*Croton californicus*)). Approximately 70 percent is bare soil and the remainder is iceplant and veldt grass. The 0.10 acre stand-by power site is on a part of the parcel that has had more robust regeneration, with about 50 percent cover

by deerweed, veldt grass and beach bush lupine, with lesser amounts of other native and non-native plants. For this reason, is expected that the species is likely to occur at the proposed pump station or generator building sites. Given the location of the other 8 pump stations and 13 pocket stations (see Figure 1), the potential also exists for Morro shoulderband snail to be present in these areas particularly where coastal scrub is present (e.g., East Santa Ysabel Avenue and South Bay Boulevard, East Paso Robles Avenue and 18<sup>th</sup> Street, and Lupine Street and Donna Avenue).

Leach Fields and Re-use Sites: The lower portions of the Broderson site that would be used as leach fields for recycled water have supported high densities of Morro shoulderband snails in the past. The species has also been documented on the upper slopes of the Broderson site in open areas containing coastal dune scrub (County of San Luis Obispo Public Works Department 2010a). A number of the re-use areas identified on Figure 1 are known to provide habitat for, or be occupied by, the Morro shoulderband snail; notably those in the western region of the action area, immediately east of South Bay Boulevard and immediately east of the Los Osos Oaks Preserve south of Los Osos Valley Road (Service files, County of San Luis Obispo Public Works Department 2010a).

Staging Areas: The Paso Robles site is within the boundaries of critical habitat Unit 3 for the Morro shoulderband snail and empty shells for the species have been identified onsite in the past (County of San Luis Obispo Public Works Department 2010a). As such, Morro shoulderband snails are expected to occur at this site, particularly in those areas where the primary constituent elements of critical habitat are present.

### **Critical Habitat for the Morro Shoulderband Snail**

As previously stated, a total of 2,566 acres of critical habitat in three units was designated for Morro shoulderband snail on February 7, 2001 (66 *Federal Register* 9233). Unit 1 contains 1,830 acres (or 72 percent) of the total area designated, and encompasses areas managed by the California Department of Parks and Recreation (Montaña de Oro State Park) and the City of Morro Bay. This unit includes the length of the spit and the foredune areas extending south toward Hazard Canyon. No portion of Unit 1 is within the identified action area.

Unit 2 consists of 320 acres (12 percent of the total) that occur on the north-facing slopes of the Irish Hills. The 204-acre Morro Ecological Reserve (formerly known as the Bayview site) and the 80-acre Broderson site are the largest tracts of land in this unit. The ecological reserve is owned by the Department and the Broderson site is owned by the LOCSO. Primary constituent elements of critical habitat for the Morro shoulderband snail exist on the lower slopes of the Broderson site. While much of the coastal dune scrub present on lower portions of the site have been heavily disturbed by the invasion of non-native plant species (e.g., veldt grass and *Eucalyptus*), hikers, and equestrian use, Unit 2 contains a sustainable population of Morro shoulderband snails that could be expanded with appropriate management.

Critical habitat Unit 3 is 420 acres (16 percent of the total) of high-quality coastal dune scrub habitat that includes the undeveloped areas between Los Osos Creek and the community of Baywood Park in northeast Los Osos. This unit supports the northernmost, intact habitat for, and sustainable populations of, Morro shoulderband snail in Los Osos. The proposed Paso Robles staging area occurs within the boundary of critical habitat Unit 3; however, this parcel is separated from the other preserved areas in the unit by South Bay Boulevard and the community of Baywood Park. Only limited areas containing the primary constituent elements are present. The protection of Unit 3 is essential to maintain the species genetic variability and geographic distribution. This unit has favorable habitat conditions for the expansion and persistence of a sustainable population of Morro shoulderband snail. With the reduction of threats through appropriate management, we expect Unit 3 to continue to support a large population that will contribute toward the recovery of the Morro shoulderband snail.

#### EFFECTS OF THE ACTION

The treatment site at Giacomazzi does not have appropriate habitat for the Morro shoulderband snail and the species was not observed during surveys conducted in December 2009. As such, it is not anticipated that Morro shoulderband snails would be affected by construction and operations at this site. Likewise, the neighboring Andre site, a portion of which would be used for the treatment plant access road, lacks appropriate habitat for the species.

The Mid-town site is made up of scattered coastal dune scrub interspersed with disturbed grassland. As previously stated, this site was graded in 2005; however, native plant regeneration is naturally occurring. Because of the young age of the recovering coastal dune scrub plant community, little duff is present under the plants to provide habitat for the Morro shoulderband snail; however, a few Morro shoulderband snails may be present and would be adversely affected by placement of the pump station and generator building at this site.

The majority of the collection system would be constructed within the street rights-of-way that are generally highly disturbed and comprises ruderal vegetation. Lateral connections to individual customers and abandonment of septic systems would also temporarily disturb land, some of which may support Morro shoulderband snails. A few of the pump stations are on private lands that cultivated or contain coastal dune /sage scrub or and grassland habitats suitable for Morro shoulderband snail. We anticipate approximately 0.5 acre of impacts to coastal dune scrub. This habitat would be completely removed for the construction of the collection system.

Raw water and treated wastewater conveyance systems would disturb a very limited amount of Morro shoulderband snail habitat. Most of the length of the pipelines would be along Los Osos Valley Road in areas or habitat considered to be unsuitable for the species.

The construction of the leach field would result in temporary loss of this habitat and the proposed activities may result in direct mortality of some Morro shoulderband snails.

The Paso Robles staging site was graded in 2005 and the small amount of habitat (0.1 acre) was removed; however, it is possible that Morro shoulderband snails could be present in small numbers and could be affected by the project.

As part of the proposed action Morro shoulderband snails may be injured or killed by vehicles, heavy equipment, foot traffic, or other activities associated with construction and restoration activities associated with the proposed action. To minimize adverse effects to Morro shoulderband snails and their critical habitat during construction of the wastewater project, the County would employ Service-authorized biologists to clearly delineate access routes and construction footprints, using flagging or construction fencing. These biologists would also conduct pre-construction surveys and relocate Morro shoulderband snails out of harm's way into adjacent suitable habitat.

Morro shoulderband snails may also be accidentally injured or killed during habitat restoration and management activities. The primary methods typically used to remove non-native invasive plant species in the Los Osos area are: 1) hand and mechanical removal in which target plants are pulled by hand or with hand tools, mowing, or solarization (placing black or clear plastic over the soil surface to increase soil temperature and block sunlight); 2) herbicide application; or 3) a combination of these methods.

The hand pulling or mowing of weeds may cause damage to or loss of shelter sites which provide cover and appropriate microclimate for Morro shoulderband snails. Adverse effects would be reduced by limiting the number of access routes into the treatment area so that trampling native vegetation and disturbing accumulated plant litter underneath shrubs is kept to a minimum. Demarcating the treatment area would minimize disturbance to Morro shoulderband snail shelter sites outside of the designated treatment areas. Solarization has the potential to kill or injure Morro shoulderband snails if they are trapped beneath the plastic and subjected to the resultant high temperatures and lack of sunlight, however, surveying and relocating Morro shoulderband snails to adjacent suitable habitat prior to installation of plastic would minimize adverse effects from this method.

Morro shoulderband snails may be accidentally injured or killed during surveys or relocation activities. The County proposes to reduce the likelihood of injury or mortality by minimizing handling time and by ensuring that surveys and relocation efforts are conducted only by Service-authorized biologists. Mortality at relocation sites would be reduced by carefully placing the snails under dense vegetation that would provide a suitable microclimate. Death or injury could occur if Morro shoulderband snails are accidentally crushed during survey efforts. However, Service-authorized biologists would slowly and carefully inspect the ground for the presence of Morro shoulderband snails and avoid stepping on or under shrubs in order to minimize the likelihood that individuals would be killed during surveys.

The potential effects of herbicides on Morro shoulderband snails are not known, although a study on aquatic snails exposed to glyphosate concluded the herbicide caused abnormalities in snail

development and reproduction (Tate et al. 1997). Morro shoulderband snails could be exposed to herbicides by ingestion and absorption while living in, or migrating through, a recently treated area. Direct herbicide spray or drift from spray could contaminate soil; leaves, stems and branches of shrubs; leaves, mold, and fungi in plant litter; and potential shelter sites for Morro shoulderband snails, including downed wood, rocks, or debris piles. Surveying and relocating Morro shoulderband snails each day prior to beginning work activities would minimize direct contact with herbicide spray. Clearly demarcating all treatment areas would minimize herbicide spray from contacting Morro shoulderband snails outside of designated work areas. Shielding native plants with plastic sheeting, buckets, or tubs would minimize herbicide contamination of plant litter and soil, and would minimize contact with Morro shoulderband snails that are foraging or moving about.

Due to the large action area, variety of action agents, and the cryptic nature of the Morro shoulderband snail, we do not expect all individuals to be found, captured, and relocated. Furthermore, if the proposed construction occurs during the dry season, Morro shoulderband snails would likely be aestivating. Conducting surveys for snails when they are inactive substantially increases the difficulty in their location. Additionally, aestivating Morro shoulderband snails may also suffer physiological stress or even death upon disturbance of their shelter sites. These effects would be greatly reduced by minimizing handling time of individuals and by employing only persons experienced in handling the species and who are familiar with their habitat needs when relocation is required. Even with the incorporation of minimization measures, we anticipate that some Morro shoulderband snails would be killed as a result of the proposed action.

### **Critical habitat for the Morro Shoulderband Snail**

The primary constituent elements of critical habitat at the Broderson leach field would initially be removed; however the County proposes to revegetate this area with coastal dune scrub species salvaged from the site prior to construction. As the pores beneath the leach field become clogged over time, this area will require excavation to address leach field function. This activity could occur at 5, 10 or 20 years, depending on how long it takes for the pores to clog. Habitat restoration and revegetation would occur after each reconstruction of the leach field. Suitable Morro shoulderband snail habitat surrounds the leach field site so the area should be able to be readily recolonized by the species.

Within Unit 2, construction of the leach field and access road on the Broderson site would result in the direct removal of up to 8 acres of critical habitat for the Morro shoulderband snail. As previously stated, the area where the proposed leach field would be constructed has been subject to past disturbances including invasion by non-native plant species, hiking, and equestrian use. Although up to 8 acres of critical habitat within Unit 2 would be affected by construction of the proposed leach fields, the primary constituent elements would still exist throughout the majority of the 320-acre unit, both on the Broderson site and on the larger Morro Dunes Ecological Reserve. Because the LOCSA would leave areas of native vegetation in place instead of

excavating the entire leach field at once and would restore disturbed areas with suitable native habitat for the Morro shoulderband snail, primary constituent elements for the Morro shoulderband snail will not be completely lost. The amount of critical habitat that would be removed during construction is considered to be small relative to the amount that would still exist within Unit 2. The area to be disturbed constitutes only 2.5 percent of the 320 acres in Unit 2. Consequently, we do not expect construction of the leach field on the Broderson site to limit the ability of Unit 2 to support a sustainable population of Morro shoulderband snails. The conservation of approximately 73 acres on the Broderson site will benefit the Morro shoulderband snail and its critical habitat because it would result in on-going monitoring and habitat restoration that would not otherwise occur.

Within Unit 3, approximately 0.1 acre of coastal dune scrub at the Paso Robles staging area was affected by the actions associated with the former wastewater. The overall disposition of the site is disturbed in nature; however, some primary constituent elements may be recovering. Because the amount of critical habitat that would be adversely affected within this unit is small and fragmented from other areas within the unit, we do not believe its loss will limit the ability of the 420-acre unit to support a sustainable population of Morro shoulderband snails in any way. Conserved lands that make up the majority of Unit 3 would continue to support the species and maintain genetic variability and geographic distribution of Morro shoulderband snails in the area.

#### CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

Based upon the analysis in the previous biological opinion for the LOCSD wastewater project, we expect the CRWQCB to remove the building moratorium established by Resolution 83-13 when the proposed wastewater project is operational. This lifting of the moratorium would likely result in the build-out of those vacant lots that remain within the wastewater service area. Approximately 125 acres of degraded and fragmented Morro shoulderband snail habitat could be removed within this area as a result of the anticipated build-out. The wastewater service area consists primarily of parcels (approximately 500) that are less than 1 acre in size. These small parcels contain an estimated 25 acres of fragmented and degraded Morro shoulderband snail habitat. The remaining 40 or so lots within the wastewater service area that are greater than 1 acre in size contain approximately 100 acres of Morro shoulderband snail habitat that is, for the most part, also fragmented and degraded. None of the parcels in the wastewater service area are within designated critical habitat for the Morro shoulderband snail or identified in the recovery plan as important for the recovery of this species (Service 1998b).

The County is developing a Habitat Conservation Plan to address development both inside and outside the sewer service area. Other covered activities that could be addressed in the plan

include maintenance activities, hazardous fuels reduction, and facility development. We anticipate the County will seek authorization for incidental take of the Morro shoulderband snail pursuant to section 10(a)(1)(B) of the Act.

## CONCLUSION

After reviewing the current status of the Morro shoulderband snail and its critical habitat, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's biological opinion that construction of the LOWWP, as proposed, is not likely to jeopardize the continued existence of the Morro shoulderband snail or destroy or adversely modify critical habitat for the Morro shoulderband snail. We have reached these conclusions for the following reasons:

1. The County will implement measures to minimize adverse effects of the proposed project the Morro shoulderband snail and its critical habitat;
2. Relatively few Morro shoulderband snails are likely be injured or killed because of the proposed relocation and other protective measures;
3. Many more Morro shoulderband snails are present in protected conservation areas than would be affected by the proposed action, and we expect the numbers and areas conserved to be sufficient for not interfering substantially with the species' survival and recovery; and
4. The amount of critical habitat that would be affected as a result of the proposed project in Units 2 and 3 is very small relative to the amount that would still be available for the Morro shoulderband snail within each unit. Each critical habitat unit would continue to function to support sustainable populations of the Morro shoulderband snail and maintain the species' geographic distribution and genetic variability.

## INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined by the Service as an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to

and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The measures described below are non-discretionary and USDA must include them as binding conditions of any contracts associated with the proposed action, for the exemption in section 7(o)(2) to apply. The USDA has a continuing duty to regulate the activity covered by this incidental take statement. If the USDA fails to require its contractors to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to its authorization, or contracts, the protective coverage of section 7(o)(2) may lapse. To monitor the impact of incidental take, the USDA must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [50 CFR §402.14(i)(3)].

All Morro shoulderband snails found within the project area may be subject to take in the form of capture during relocation efforts. A subset of captured Morro shoulderband snails may experience a significant disruption of normal behavioral patterns to the point that reaches the level of harassment. Any Morro shoulderband snails that remain in the project area may be subject to increased predation, crushed or entombed during construction activities, or be otherwise injured or killed.

We cannot determine the precise number of Morro shoulderband snails that may be killed, injured, harassed, or harmed as a result of the proposed action. Numbers and locations of Morro shoulderband snails within a population vary from year to year. Incidental take of Morro shoulderband snails would be difficult to detect because of their small body size and finding dead or injured specimens is unlikely. Take by predation as a result of exposure due to project activities would likely be impossible to detect. As the County has proposed to use those minimization measures described in the project description section of this document, we anticipate that few Morro shoulderband snails are likely to be killed or injured during this work.

This biological opinion does not exempt any activity from the prohibitions against take contained in section 9 of the Act that is not incidental to the action as described in this biological opinion. Take that occurs outside of the action area or from any activity not described in this biological opinion is not exempted from the prohibitions against take described in section 9 of the Act.

#### REASONABLE AND PRUDENT MEASURES

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize the take of Morro shoulderband snails:

1. Worker education programs and clearly-defined operational procedures must be implemented by the USDA and County.

2. Only Service-authorized biologists may survey for, monitor, handle, and/or relocate Morro shoulderband snails.
3. Service-authorized biologists must have the authority to stop work if project-related activities occur outside the demarcated boundaries of the construction footprint.
4. The USDA must ensure that the level of incidental take that occurs is commensurate with the analysis contained within this biological opinion.

The Service's evaluation of the effects of the proposed actions includes consideration of the measures proposed by the USDA to minimize the adverse effects of the waste water project on the Morro shoulderband snail and critical habitat. Any subsequent changes to these measures may constitute a modification of the proposed action and warrant reinitiation of formal consultation, as specified at 50 CFR 402.16. These reasonable and prudent measures are intended to clarify or supplement the protective measures included in the description of the proposed action.

#### TERMS AND CONDITIONS

To be exempt from the prohibitions of section 9 of the Act, the USDA must ensure that the County complies with the following terms and conditions, which implement the reasonable and prudent measures described above.

1. The following terms and conditions implement reasonable and prudent measure 1:
  - a. The worker education program must include descriptions and pictures of the Morro shoulderband snail, relevant provisions of the Endangered Species Act, specific measures being implemented to conserve the Morro shoulderband snail as they relate to the project and the project boundaries within which the work will occur.
  - b. The USDA and the County must minimize the removal of, or damage to, native vegetation during project activities to the maximum extent possible.
2. The following term and condition implements reasonable and prudent measure 2:

Only Service-authorized biologists may survey for, monitor, capture, handle, or relocate Morro shoulderband snails. Eric Wier, Kate Ballantyne, and John Farhar are hereby authorized to independently conduct these activities as described in this biological opinion. Katie Drexhage, Kelly Sypolt, and Trevis Warner are authorized to conduct such activities only under the direct supervision of Eric Wier, Kate Ballantyne, and/or John Farhar. The USDA, in conjunction with the County, must request the Service's authorization of any other biologists it wishes to employ to conduct these activities

relative to the proposed project. This request must be in writing and received by the Service at least 30 days prior to the intended start date.

3. The following term and condition implements reasonable and prudent measure 3:

A Service-authorized biologist must monitor the proposed project area(s) daily during work activities, for up to two weeks or until completion of initial site disturbance at each project site, and have the authority to stop project activities that occur outside the demarcated boundaries of the construction footprint and access road and to relocate Morro shoulderband snails to suitable habitat out of harm's way.

4. The following term and condition implements reasonable and prudent measure 4:

If more than 28 Morro shoulderband snails are found dead or injured during implementation of the project, the USDA or County must contact the VFWO immediately so we can review the project activities to determine if additional protective measures are needed.

#### REPORTING REQUIREMENTS

The County must provide a written report to the Service within 90 days following completion of the proposed project. The report must document the number and size of any Morro shoulderband snails relocated from the action area, the date and time of relocation, and a description of relocation sites. The report must also state the number of Morro shoulderband snails killed or injured, describing the circumstances of the mortalities or injuries if known. The report must contain a brief discussion of any problems encountered in implementing minimization measures, results of biological surveys and sighting records, and any other pertinent information such as the acreage affected and restored or undergoing restoration of each habitat type.

In addition, the County must submit the results of any habitat restoration or enhancement activities conducted in relation to the proposed project. This timeframe may be modified with approval from the Service. We encourage you to submit recommendations regarding modification of or additional measures that would improve or maintain protection of the Morro shoulderband snail and simplify compliance with the Act.

#### CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to use their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

The USDA should fund the development of a standardized survey methodology to track populations of Morro shoulderband snail on conserved lands (e.g., the Broderson parcel) over time in order to determine if they support self-sustaining populations of the species.

The Service requests notification of the implementation of any conservation recommendations so we may be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats.

#### REINITIATION NOTICE

This concludes formal consultation on the action(s) outlined in the request for consultation. As provided in 50 CFR 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

If you have any questions, please contact Julie M. Vanderwier of my staff at (805) 644-1766, extension 222.

Sincerely,

/s/ Diane K. Noda

Diane K. Noda  
Field Supervisor

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**CALIFORNIA COASTAL COMMISSION**

SOUTH CENTRAL COAST AREA  
89 SOUTH CALIFORNIA ST., SUITE 200  
VENTURA, CA 93001  
(805) 585-1800

**MEMORANDUM**

**FROM:** Jonna D. Engel, Ph.D.  
Ecologist

**TO:** Jonathan Bishop  
Coastal Program Analyst

**SUBJECT:** Los Osos Wastewater Treatment Project

**DATE:** May 19, 2010

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The County of San Luis Obispo Department of Public Works has proposed a wastewater treatment project in the community of Los Osos. The primary reason for the project is to reduce harmful discharges to Morro Bay and the Los Osos groundwater basin. On Monday, April 12, 2010, I met Jonathan Bishop, CCC Central Coast Coastal Program Analyst, Mark Hutchinson, San Luis Obispo County Department of Public Works Environmental Program Manager; and Eric Wier, San Luis Obispo County Environmental Scientist, in Los Osos to visit the proposed project component locations. Our site visit included the Giacomazzi and Andre Properties where the main treatment plant and access road are proposed; Los Osos Creek Bridge where a creek crossing pipeline component is proposed; the proposed Sunny Oaks, Mid-Town (Tri-W), Solano, Lupine, West Paso, Baywood, East Ysabel, East Paso, and Mountain View pump station sites; the Bay Ridge and Broderson leach field sites; and the proposed Walker construction staging site. The primary purpose of the site visit was to review the County's wetland delineation findings (by Michael Brandman Associates and the Morro Group) in the context of on the ground conditions. In addition I assessed the environmentally sensitive habitat area (ESHA) status of each of the proposed project sites.

My understanding is that the LCP allows for some ESHA disturbance for such a project provided it is the least environmentally damaging feasible alternative. Therefore, our site visit focused on ESHA and wetland identification and assessment at the proposed project component locations, potential for reducing or eliminating impacts at several sites, and discussions of alternative locations, as a means of helping identify the least environmentally damaging feasible alternative. My observations are summarized below.

### **Treatment Plant and Related Facilities**

#### **Giacomazzi Property**

The Giacomazzi property is a rectangular 38.2-acre portion of a larger 100-acre parcel north of Los Osos Valley Road and west of Clark Valley Road. The County is proposing to house wastewater project administration and maintenance buildings, storage ponds, secondary processes, and tertiary solids and appurtenances on the southern end of the property (see Exhibit 1-3, Treatment Plant Site Plan, revised 4/13/10).

The Giacomazzi property was historically farmed although crop production has apparently not occurred in the last 20 years. Disking for weed control has continued to the present time and the historical farming and continual disking has resulted in a relatively uniformly sloped field dominated by annual weeds with two erosional features

that drain water and storm runoff. The site slopes downward toward the northeast into a depressional wetland dominated by arroyo willow, *Salix lasiolepis*, and surrounded by coyote bush, *Baccharis pilularis*. Both erosional features start out as shallow trenches and become progressively deeper ditches with bare dirt beds and banks. While these drainage ditches may once have been natural features, years of farming and disking have reduced them to erosional scars that rapidly convey water to the depressional wetland. The tops of the drainage ditches are dominated by non-wetland invasive weeds and non-native annual grasses including wild radish, *Raphanus sativus*, corn spurry, *Spergula arvensis*, scarlet pimpernel, *Anagallis arvensis*, Italian rye-grass, *Lolium multiflorum*, wild oats, *Avena fatua*, riggut brome, *Bromus diandrus*, and soft chess, *Bromus hordeaceus* (see Appendix 1 - plant species observed on the Giacomazzi property during our site visit).

The depressional wetland on the northeast corner of the property supports native scrub and wetland species. Following our site visit and based on field reconnaissance, the County extended their identified ESHA boundary along the northwestern finger of the depressional wetland to encompass the coyote bush. The County also increased their identified ESHA boundary to better capture the riparian canopy along the western boundary of the depressional wetland as well as the coyote bush in the southeastern finger of the depressional wetland. The revised boundary of the scrub and wetland is appropriately mapped as ESHA, and the County has applied an appropriate 100-foot buffer out from this ESHA.

Although there has been significant disturbance to the drainage ditches due to repeated disking and soil manipulation, they play an important role in the overall hydrology of the site. The drainage ditches collect water and storm runoff from surrounding areas and direct it into the depressional wetland. Therefore, the County's Giacomazzi property restoration plan must include provisions for maintaining hydrology to the depressional wetland ecosystem which, in part, must entail restoration within the 100-foot ESHA buffer.

Both the Morro Group and the County's environmental scientists conducted biological surveys of the Giacomazzi and Andre properties to assess the habitat value of the sites to support state and federally listed plant and animal species. The surveys also served to assess the suitability of the sites for the Morro shoulderband snail, *Helminthoglypta walkeriana* and Morro Bay kangaroo rat, *Dipodomys heermanni morroensis*. No rare plants or animals were identified on the Giacomazzi or Andre properties. In addition, these properties were determined to be unsuitable for the Morro Bay kangaroo rat because it lacks sandy soils.

#### Andre Property

The Andre property, adjacent to the Los Osos Valley Memorial Park (cemetery) and the Giacomazzi property, is where the County has proposed an access road for the wastewater treatment plant. During our site visit we walked the alignment of the proposed road. We found that the road, as designed, crossed several low relief areas filled with spikerush, *Eleocharis sp.*, a species characteristic of wetlands (see Appendix

1 - plant species observed on the Andre property during our site visit). We did not conclude on these areas as wetlands, but presuming they were wetland areas, and following our site visit, the County prepared an alternative access road alignment that avoids and appropriately buffers these potential wetland areas (Exhibit 1-2, Overall Project Site Plan, revised 4/13/10 & Biological Constraints Map, Figure 4, revised 4/13/10). In addition, you have asked me whether there would be biological issues associated with siting the road along the eastern property line of the Los Osos Valley Memorial Park and the western property line of the Andre property. This siting also avoids the potential wetland areas on the Andre property and avoids all ESHA, wetland, and buffer areas otherwise. Thus, from a biological perspective, neither access road alignment would adversely impact habitat resources.

Cambria morning-glory, *Calystegia subacaulis ssp. episcopalis*, a California Native Plant Society (CNPS) 1B listed species, was observed in the northern portion of the Andre property in June 2004 by Morro Group. The portion of the property where these plants were detected will not be disturbed by the wastewater treatment project. Like the Giacomazzi property, no rare plants or animals were identified on the Andre property and it was determined to be unsuitable for the Morro Bay kangaroo rat because it lacks sandy soils.

In short, the proposed treatment plant at the Giacomazzi site, including either road access to it, is appropriate from a biological standpoint. After review of the applicable materials and our site visit, I believe that the County has appropriately considered the guiding LCP principle for siting this type of facility in relation to ESHA and wetlands, and I believe that as sited and designed, including the adjustments described above and the associated restoration, enhancement and management of the buffer areas, the County's treatment plant site is appropriate as the least environmentally damaging feasible location for such a plant based on my knowledge of the Los Osos area and the various constraints associated with siting such a public facility.

### **Los Osos Creek Crossing**

The County proposes to run sewer pipes associated with the wastewater treatment project under the Los Osos Creek Bridge. Hanging the pipes under the Los Osos Creek Bridge is the environmentally superior alternative to trenching pipes through the Los Osos Creek channel. Sewer pipes will be hung from the bridge during the summer when the creek is dry to avoid any steelhead, *Oncorhynchus mykiss*, impacts. The only impact involved in laying this piping is the minor and temporary removal of some arroyo willow branches.

### **Pump Stations, Leach Fields, Staging Area**

After visiting Los Osos Creek, we spent the remainder of the day visiting the proposed pump station, leach field, and staging area sites located within the more urbanized area

of Los Osos. The majority of the Los Osos community has been constructed on ancient dunes formed by centuries of wind-blown beach sand that was deposited along the south end of Morro Bay. As a result, the terrain consists of gently rolling hills and sandy soils, often referred to as Baywood fines. The sandy soils and marine climate combine to produce a unique coastal ecosystem that is home to a wide array of plant and animal species, some of which are found nowhere else in the world. The dune, bluff, dune scrub, and chaparral communities that comprise this unique coastal ecosystem are all environmentally sensitive habitat areas, or ESHA.

Since nearly all the urban area of Los Osos is underlain by sandy soil that supports ESHA or ESHA seed bank, the presumption is that all sandy soil in Los Osos is considered ESHA. As such, siting a wastewater treatment project in Los Osos outside of ESHA is likely impossible. As indicated above, my understanding is that the LCP allows for some ESHA disturbance for such a project provided it is the least environmentally damaging feasible alternative. Within this context, the County has examined various options for pump station, leach field, and staging area locations, and has made extensive efforts to identify the least environmentally damaging alternatives. To this end, all the project component locations identified by the County are disturbed sites heavily impacted by invasive species; the only exceptions are the Mid-Town and Broderon sites that, while invaded by non-natives, still support large areas of native plant communities. In addition to sandy soil ESHA, Los Osos sits adjacent to Morro Bay and has wetland habitat scattered throughout town. Within this setting, the County has also gone to great lengths to site and design project components a minimum of 75-foot back from any wetland feature per the LCP; the one exception is the West Paso pump station site, where the pump station set-back is proposed to be 50-feet.

Following is a brief discussion of the non-plant site project components including site descriptions, ESHA impacts, and mitigation opportunities where feasible.

## **Pump Stations**

### **Sunny Oaks**

The proposed Sunny Oaks pump station is located at the intersection of Los Osos Valley Road and the entrance to Sunny Oaks Mobile Home Park. The corner slated to house a pump and power station is characterized by sandy soil covered by invasive ice-plant, *Carpobrotus edulis*. Mature oak woodland occurs approximately 75-feet from the proposed pump station. The County estimates ESHA impacts at this site to be 0.10 acres based on disturbance to Baywood fine soils. Invasive ice-plant and other non-native species removal and dune scrub community restoration and monitoring would greatly improve the habitat value of this site; approximately 0.11 acres (4,800 square feet) must be restored if this pump station is constructed.

### **Mid-Town (Tri W)**

The proposed Mid-Town pump station is located on the site of the former wastewater treatment plant site pursued and abandoned by the Los Osos Community Services

District (LOCSD). The Mid-Town site is a 12-acre parcel characterized by dune scrub, dune swale, and non-native grasses and weeds growing on Baywood fine soils which as a whole meets the Commission definition of ESHA. The Mid-Town site has been identified as appropriate habitat for the federally endangered Morro shoulderband snail and the state and federally endangered Morro Bay kangaroo rat. While disturbed by invasive species and grading associated with initial construction of the formerly approved wastewater treatment project, the Mid-Town site continues to support large stands of dune scrub dominated by the indicator species for this community, mock heather, *Ericameria ericoides*. Other native dune scrub species on the property include deer weed, *Lotus scoparius*; California croton, *Croton californica*; bush lupine, *Lupinus chamissonis*; and coyote bush. As with much of the Los Osos open space, the Mid-Town site is heavily invaded by veldt grass, *Ehrharta calycina*, as well as a number of other invasive species. As of our site visit, the County had sited the pump and power station on the Mid-Town ESHA with an estimated impact of 0.25 acres. We encouraged the County in the field to further explore alternatives in order to move the station off ESHA. The County has since determined that it is feasible to move the standby power building off of ESHA across the street into a non-ESHA area of Los Osos Community Park. The County was unable to feasibly relocate the underground pump station due to operational/hydraulic constraints. However, moving the power station results in a 0.15 acre decrease in ESHA impacts thus carrying forward the LCP directive to avoid ESHA impacts wherever possible and thus identify the least environmentally damaging alternative.

Grading in preparation for construction of the formerly approved wastewater treatment plant at the Mid-Town site commenced in 2005. In the fall of 2005, however, voters recalled a majority of the LOCSD board members in a special election and the new board immediately suspended construction on the wastewater treatment project. In August 2006, the LOCSD rescinded certification of the 2001 FEIR and filed for federal bankruptcy protection due to default on state grants and loans. The Mid-Town site continues to suffer from the grading for the abandoned wastewater treatment plant. Weeds and an erosional feature that has become a deep gully seriously impact the habitats and natural functioning of the site. The Mid-Town site is a large parcel with high habitat and ecosystem value and the potential to support robust native plant communities and the federally endangered Morro shoulderband snail and the state and federally endangered Morro Bay kangaroo rat. The Mid-Town site must be restored to recover the dune scrub and dune swale ESHA and ecosystem functions that the site supported prior to the 2005 grading. Restoration for the Mid-Town pump station impacts will be accomplished with restoration of the 12-acre Mid-Town site.

### Solano

The proposed Solano pump station is located along the east side of Solano Avenue across the street from the Sea Pines Lodge. A golf course green lies just east of the site, a thick stand of arroyo willows blocking Morro Bay lies north of the site, a parking lot and building are directly south of the site, and a fenced County facility is housed on site. This pump station is set back from Morro Bay well beyond 75-feet per the LCP. The site is heavily disturbed with numerous walking paths and non-native grasses and

invasive weeds. The County has estimated that this pump station will impact 0.10 acres of ESHA based on disturbance to Baywood fine soils. Invasive species removal and arroyo willow, dune, dune scrub community restoration and monitoring would greatly improve the habitat value of this site; approximately 0.40 acres (17,000 square feet) must be restored if this pump station is constructed.

#### Lupine

The proposed Lupine pump station site consists of a level residential lot at the corner of Lupine Street and Donna Avenue with a wetland area associated with Morro Bay to the south. The lot is principally dominated by non-native grasses and invasive plants including veldt grass, riggut brome, wild radish, and iceplant. During our site visit, however, we observed several large patches of the sedge, *Carex praegracilis*, a wetland indicator species (FACW), growing on the lot in the corner where Lupine Street and Donna Avenue meet and along Donna Avenue. The wetland delineation report for the Lupine Pump Station prepared by Morro Group, Inc. in 2004 does not identify the sedge or wetland in the area where the sedge patches are located. The County must re-design the proposed Lupine Pump Station to avoid impacting the sedge wetland area by setting it back 75-feet from this wetland area to a location near the road. In addition, invasive species removal and arroyo willow, dune, dune scrub community restoration and monitoring would greatly improve the habitat value of this site and must occur if this pump station is constructed.

#### West Paso

The proposed West Paso pump station is located on a residential lot fronted by 3<sup>rd</sup> Street which runs alongside Morro Bay. Currently the lot is completely covered with invasive iceplant which offers little to no habitat value. On the bay side of the street are several Eucalyptus trees with an understory of invasive species including iceplant, fennel, *Foeniculum vulgare* and castor bean, *Ricinus communis*. A pump station is required for this area and the County has determined that the West Paso location is the least environmentally damaging alternative even though a wetland buffer adjustment of 25 feet, from 75-feet down to 50-feet, is necessary to accommodate this pump station. The buffer reduction is not significant and the buffer proposed will adequately protect the adjacent wetland because the site is dominated by invasive species, a generator is not required at this site, and the pump station will be underground. The County estimates that the ESHA impacts at this site will be 0.02 acres based on disturbance to Baywood fine soils. This site does not warrant restoration.

#### Baywood

The proposed Baywood pump station will be built within the El Morro Avenue median. The only impact anticipated at this site is removal of a non-native palm tree. There will be no ESHA impacts at this site and this site does not offer restoration opportunities.

#### East Ysabel

The proposed East Ysabel pump station is located on an empty lot on the corner of Santa Ysabel Avenue and South Bay Boulevard. The lot is rectangle in shape and framed by slopes leading to a low area in the middle. The lot is highly invaded by non-

native grasses and invasive plants including veldt grass, ripgut brome, wild radish, and iceplant. The County has estimated the ESHA impact to be 0.12 acres based on Baywood fine soil disturbance. Invasive plant removal and dune scrub community restoration and monitoring would greatly improve the habitat value of this site; approximately 0.34 acres (15,000 square feet) must be restored if this pump station is constructed.

#### East Paso

The proposed East Paso pump station is located east of 18<sup>th</sup> Street, north of Pismo Avenue, east of South Bay Boulevard, and south of Paso Robles Avenue. The site supports a stand of arroyo willow in a low relief area. The pump station is sited 75-feet beyond the furthest extent of willow canopy per the LCP. The County estimates 0.11 acres of ESHA impacts based on disturbance to Baywood fine soils. Invasive plant removal and arroyo willow and dune scrub community restoration and monitoring would greatly improve the habitat value of this site; approximately 0.20 acres (10,000 square feet) must be restored if this pump station is constructed.

#### Mountain View

The proposed Mountain View pump station is located at the intersection of Mountain View Drive and Santa Ynez Avenue. This pump station does not have any ESHA impacts and does not offer restoration opportunities.

After review of the applicable materials and our site visit, I believe the County has appropriately considered the guiding LCP principle for siting pump stations in relation to ESHA and wetlands. Where direct impacts occur, they are due to soil disturbance since Baywood fine soils have been conservatively deemed ESHA, as described above. The County has sited and designed the pump stations to avoid ESHA where feasible and those sites with ESHA impacts avoid relatively higher value ESHA in other locations. None of the pump stations are sited in wetlands, and, with the exception of the need to move the Lupine Street station to maintain the LCP required 75-foot setback, are setback to adequately protect adjacent wetlands. All of the sites are impacted by invasive species (to greater or lesser degrees), several of the sites are located within existing paved road areas, and the other sites are located adjacent to such areas with generally decreased habitat value as a result. As long as the pump stations are minimized in scale and scope as much as feasible, and as long as impacts are mitigated at each site through habitat enhancements as described above, then I believe that the pump station siting and design appropriately protects ESHA and wetlands.

#### Leach Fields

##### Bayridge

The Bayridge leach field currently exists and will remain a leach field. The County plans to continue "feeding" the leach field once the wastewater treatment plant is online because septic effluent makes a contribution to the perched aquifer and the water available for riparian and wetland use and outflows to Willow Creek. It is possible that

halting drainage to the perched aquifer would negatively impact wetland, riparian, and Willow Creek resources. The County estimates that the Bayridge leach field receives 33 acre feet per year and the County proposes to recharge the perched aquifer through the leach field with the same volume when the wastewater treatment plant comes online. It is not entirely clear that 33 acre feet per year will address the uncertainties related to protection of the riparian and wetland resources and Willow Creek. In order to ensure the health and persistence of these resources, the County must implement a monitoring plan to establish baseline hydrologic requirements with provisions for modifications in the volume, location, and timing of wastewater discharges, should it be necessary.

### Broderson

The proposed Broderson leach field is located on 8 acres within the larger 80 acres that comprise the Broderson property. The Broderson property supports maritime chaparral and coastal scrub habitat on a slope overlooking the south end of Morro Bay. Maritime chaparral is a rare plant community characterized by specific species of manzanita or ceanothus, nutrient poor soils, and maritime climate. The maritime chaparral on the Broderson property supports two maritime chaparral indicator species; the federally threatened Morro Manzanita, *Arctostaphylos morroensis* and wild lilac, *Ceanothus cuneatus*; as well as an array of associated species. The maritime chaparral portion of the Broderson property is nearly pristine and is located at the higher elevations near the southern end of the property where no development is proposed.

The County has sited the leach field on the lower, northernmost portion of the Broderson property, well below the maritime chaparral boundary, within coastal scrub habitat that is highly invaded by veldt grass. The area slated for the leach field is dominated by invasive veldt grass interspersed with mock heather, California sage, *Artemesia californica*, and coyote bush. Immediately following construction of the leach field, the County will restore, enhance, and maintain the disturbance area and all unaffected habitat on the Broderson property to promote the land's functional value as suitable habitat for sensitive plants and animals that are local or endemic to the area.

The Broderson leach field would be located on the least sensitive portion of the site in disturbed coastal scrub. Although ideally the leach field would not be necessary, its construction at this location will be adequately protective of habitat resources because other leach field sites would be more habitat damaging, the area would be restored as part of the wastewater treatment project (and re-restored following maintenance cycles), and such facilities are allowed under the LCP if they are the least environmentally damaging feasible alternative. Within this context, and premised on the proposed long term enhancement, restoration, management (including funding), and protection of the 80-acre Broderson site that is proposed and should be required, I believe that the leach field portion of the project appropriately protects ESHA and wetlands.

## **Construction Staging**

### **Walker**

The proposed construction staging site is located north of Pismo Avenue, east of 18<sup>th</sup> Street, west South Bay Boulevard, and south of Paso Robles Avenue, near the proposed East Paso pump station, on 6-acres owned by Mr. Walker. The County selected this property to serve as a construction staging center (with an expected duration of approximately two years) because it does not support any sensitive plant communities, plants, or animals. The Walker property is currently degraded from years of high impact uses such as farming and housing animals. The majority of the site is bare sand and non-native grasses that are bounded by scattered native and non-native shrubs including invasive pampas grass, *Cortaderia selloana*.

The Walker site, while significantly degraded, is made up of Baywood fine soils, and therefore, as described above, is ESHA. However, use of this site will avoid impacting more valuable ESHA elsewhere and thus, the Walker site is a good choice for construction staging for a wastewater treatment project such as this, within the context of Los Osos and the LCP. In any case, once the County has completed construction of the wastewater treatment project, the site must be returned to pre-construction conditions or better.

## **Conclusion**

The primary reason for the Los Osos Wastewater Treatment Project is to reduce harmful discharges to Morro Bay and the Los Osos groundwater basins. The Regional Water Quality Control Board (RWQCB) has determined that a wastewater treatment project is necessary to protect and restore the water quality of the Los Osos groundwater basin and the Morro Bay National Estuary. The current design for the proposed Los Osos Wastewater Treatment Project is intended to address and resolve this significant and longstanding environmental degradation issue, and its importance should not be underestimated. I have visited and reviewed the County's proposed locations for the various components of the Los Osos Wastewater Treatment Project including the Giacomazzi and Andre Properties where the main treatment plant and access road are proposed; Los Osos Creek Bridge where pipelines are proposed; the proposed pump station sites (Sunny Oaks, Mid-Town (Tri-W), Solano, Lupine, West Paso, Baywood, East Ysabel, East Paso, and Mountain View); two leach field sites (the existing Bay Ridge site and the proposed Broderson site); and the proposed Walker construction staging site. I believe that the County sited, or has subsequently sited the project components in the least environmentally damaging feasible locations. The County has gone to great lengths to avoid ESHA where possible and to limit ESHA impacts to the least possible footprint where ESHA impacts have been unavoidable. The County has adhered to the 75-foot setback from wetlands per the LCP except in one location, West Paso, where the site constraints could only accommodate a 50-foot setback and where this setback adequately and appropriately protects the adjacent wetlands.

Even so, the project includes unavoidable habitat impacts, including leach field installation at the Broderson site and pump station development throughout Los Osos. I believe that the County has appropriately limited such impacts through thoughtful siting and design, but they are impacts nonetheless. The County has calculated a total of 8.75 acres as the areal extent of these impacts due to the proposed project, 8 of which are associated with the Broderson leach field. The County also proposed significant restoration, enhancement, preservation, and long-term habitat management for the 80-acre Broderson site and for the Giacomazzi wetland buffer areas. In addition, the County has more recently proposed 'stabilization' at the Tri-W site, which, in my view, appears to be restoration in all but name. I believe that the County's proposals can form the foundation for a mitigation package appropriate to the existing circumstances, including the ongoing habitat impacts associated with the prior abandoned project and the fact that Los Osos is essentially all ESHA. I do not recommend a particular mitigation ratio because all of the project area is essentially ESHA and the concept is not as applicable in this case where there is a lack of non-ESHA land that could be converted to ESHA to offset impacts. Rather, I believe a suite of mitigation that protects and enhances existing significant ESHA areas, including atop the leach field at Broderson, where the majority of habitat impact is located, is more appropriate. The County's proposals may form the basis for a mitigation package, but they must be augmented and refined.

Accordingly, I recommend that the project require the following offsetting mitigation:

- 1) Restoration, enhancement, preservation, and long-term habitat management for the 80-acre Broderson site, the 12-acre Mid-Town (Tri-W) site, 8.3 acres on the Giacomazzi site, and a total of nearly 1 acre at the various pump stations sites. All of these areas, totaling over 100 acres, should be subject to the type of habitat management plan provisions typically applied to such restoration, enhancement, preservation, and management projects.
- 2) A monitoring and adaptive management program designed to ensure that implementation of the project maximizes long term ground and surface water and related resource (including wetlands, streams, creeks, lakes, riparian corridors, marshes, etc.) health and sustainability. The project is generally designed to appropriately address such issues, but I believe strongly that such premise be verified and the project, as needed, adapted over time to ensure this is the case.

I believe that the project as proposed avoids habitat impacts where feasible, and where unavoidable can appropriately offset such impacts through the mitigation described above.

**Appendix 1 – Plant List**Giacomazi Property

Arroyo willow, *Salix lasiolepis*  
Bristly ox tongue, *Picris echioides*\*  
Common vetch, *Vicia sativa*\*  
Corn spurry, *Spergula arvensis*\*  
Coyote bush, *Baccharis pilularis*  
Curly dock, *Rumex crispus*\*  
Cutleaf geranium, *Geranium dissectum*\*  
English plantain, *Plantago lanceolata*\*  
Italian rye-grass, *Lolium multiflorum*  
Knotweed, *Polygonum sp.*\*  
Mustard, *Brassica rapa*\*  
Pineapple weed, *Chamomilla suaveolens*\*  
Poison hemlock, *Conium maculatum*\*  
Red maids, *Calandrina ciliata*  
Ripgut brome, *Bromus diandrus*\*  
Scarlet pimpernel, *Anagallis arvensis*\*  
Smooth cats ear, *Hypochaeris glabra*\*  
Soft chess, *Bromus hordeaceus*\*  
Sow thistle, *Sonchus sp.*\*  
Storksbill or filaree, *Erodium cicutarium*\*  
Wild oats, *Avena fatua*\*  
Wild radish, *Raphanus sativus*\*

Andre Property:

Blue gum eucalyptus, *Eucalyptus globulus*\*  
Butter and eggs, johnny-tuck, *Triphysaria eriantha* ssp. *eriantha*  
California burclover, *Medicago polymorpha*\*  
California buttercup, *Ranunculus californicus*  
Coyote brush, *Baccharis pilularis*  
Curly dock, *Rumex crispus*\*  
English plantain, *Plantago lanceolata*\*  
Italian ryegrass, *Lolium multiflorum*\*  
Italian thistle, *Carduus pycnocephalus*\*  
Little quaking grass, *Briza minor*\*  
Mustard, *Brassica rapa*\*  
Red maids, *Calandrinia ciliata*  
Ripgut brome, *Bromus diandrus*\*  
Scarlet pimpernel, *Anagallis arvensis*\*  
Sheep sorrel, *Rumex acetosella*\*  
Smooth cat's-ear, *Hypochaeris glabra*\*  
Soft chess, *Bromus hordeaceus*\*

Spikerush, *Eleocharis* sp.

Stickwort, starwort, *Spergula arvensis* ssp. *arvensis*\*

Storcksbill or filaree, *Erodium cicutarium*\*

Wild radish, *Raphanus sativus*\*

\* = non-native

**Jonathan Bishop**

---

**From:** Charles Lester  
**Sent:** Wednesday, January 20, 2010 6:47 PM  
**To:** Diana Chapman; Jonathan Bishop  
**Cc:** Dan Carl  
**Subject:** FW: Los Osos Sewer

Charles Lester  
Senior Deputy Director

California Coastal Commission  
725 Front Street, Suite 300  
Santa Cruz, CA 95060  
Ph: 831-427-4863 Fax: 831-427-4877  
[www.coastal.ca.gov](http://www.coastal.ca.gov)

-----Original Message-----

**From:** Vanessa Miller  
**Sent:** Wednesday, January 20, 2010 1:07 PM  
**To:** Jeff Staben; Charles Lester  
**Subject:** FW: Los Osos Sewer

-----Original Message-----

**From:** Lwan [REDACTED]  
**Sent:** Wednesday, January 20, 2010 12:03 PM  
**To:** Vanessa Miller  
**Subject:** Fwd: Los Osos Sewer

ex-parte

-----Original Message-----

**From:** George P. Montoya <geomontoya7@charter.net>  
**To:** Lwan [REDACTED]  
**Sent:** Wed, Jan 20, 2010 11:47 am  
**Subject:** Los Osos Sewer

Please Ms. Wan,

Let's get the sewer situation completed now so that we do not loose the opportunity for stimulus money. We have voted on the collection system, location and treatment type and the majority of us want it as proposed. Please do not deviate from what the people have already voted on. george

Sin Cera

George P. Montoya  
WesternRegion Church and Community Consultant  
Communitis First Assoc.  
Office: 805-534-9137  
Fax: 805-534-9168

**Jonathan Bishop**

---

**From:** Charles Lester  
**Sent:** Wednesday, January 20, 2010 6:53 PM  
**To:** Diana Chapman; Jonathan Bishop  
**Cc:** Dan Carl  
**Subject:** FW: LOWWP Substantial Issues  
**Attachments:** AppealIssueLetter1.7.10.doc

Charles Lester  
Senior Deputy Director

California Coastal Commission  
725 Front Street, Suite 300  
Santa Cruz, CA 95060  
Ph: 831-427-4863 Fax: 831-427-4877  
[www.coastal.ca.gov](http://www.coastal.ca.gov)

-----Original Message-----

**From:** Vanessa Miller  
**Sent:** Wednesday, January 20, 2010 8:45 AM  
**To:** Jeff Staben; Charles Lester  
**Subject:** FW: LOWWP Substantial Issues

-----Original Message-----

**From:** Iwan [REDACTED]  
**Sent:** Wednesday, January 20, 2010 6:10 AM  
**To:** Vanessa Miller  
**Subject:** Fwd: LOWWP Substantial Issues

ex-parte- Los Osos sewer

-----Original Message-----

**From:** Iwan [REDACTED]  
**To:** Sara Wan [REDACTED]  
**Sent:** Tue, Jan 19, 2010 8:02 pm  
**Subject:** Fw: LOWWP Substantial Issues

Sent via BlackBerry by AT&T

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**From:** Keith Wimer <[kwimer1@gmail.com](mailto:kwimer1@gmail.com)>  
**Date:** Tue, 19 Jan 2010 17:41:12 -0800  
**To:** Sara Wan <[REDACTED]>  
**Subject:** LOWWP Substantial Issues

Sara,

Thank you very much. We were all very dejected last Thursday until you spoke; then we quickly became inspired.

Attached is the letter the LOSG sent out. My presentation covered the issues on the letter, but #1 and 2 were reversed.

5/18/2010

There are problems with these conditions besides just implementation language that will make them ineffective, which I'd like to explain. Also, the LOSG has a water management plan we'd like to present (supported by the Watershed Institute), and I was hoping we could have that conversation about the basin-wide plan. A basin-wide plan is required in this CDP, part of Condition 86, but there are problems with the way the Board of Supervisors plans to implement it. A good plan is the perfect vehicle for effective implementation of water management conditions, e.g., wetland mitigation, conservation, and reuse.)

The LOSG planned to ask for a meeting with staff to explain these issues, and will send out a letter to Commissioners, but we're not sure about timing. Any suggestions?

Thank you again. You have already moved this basin much closer to sustainability.

Keith

## Jonathan Bishop

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**From:** Charles Lester  
**Sent:** Thursday, January 21, 2010 11:16 AM  
**To:** Jonathan Bishop  
**Subject:** FW: Los Osos Sewer Project

Charles Lester  
Senior Deputy Director

California Coastal Commission  
725 Front Street, Suite 300  
Santa Cruz, CA 95060  
Ph: 831-427-4863 Fax: 831-427-4877  
[www.coastal.ca.gov](http://www.coastal.ca.gov)

-----Original Message-----

**From:** Vanessa Miller  
**Sent:** Thursday, January 21, 2010 9:20 AM  
**To:** Charles Lester; Jeff Staben  
**Subject:** FW: Los Osos Sewer Project

-----Original Message-----

**From:** Lwan [REDACTED]  
**Sent:** Thursday, January 21, 2010 9:18 AM  
**To:** Vanessa Miller  
**Subject:** Fwd: Los Osos Sewer Project

-----Original Message-----

**From:** Phoebe Adams <[phoebezona@charter.net](mailto:phoebezona@charter.net)>  
**To:** Lwan [REDACTED]  
**Sent:** Thu, Jan 21, 2010 9:13 am  
**Subject:** Los Osos Sewer Project

January 21, 2010

I encourage you to include the Los Osos Sewer Project on the agenda in Februar  
We stand to lose the potential \$80 million in assistance (grants and low  
interest loans) which will increase individual property owners cost by \$12,000  
Thank you for addressing this issue in a timely manner.

James and Phoebe Adams  
341 Binscarth Rd.  
Los Osos, CA

**Jonathan Bishop**

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**From:** Charles Lester  
**Sent:** Thursday, January 21, 2010 11:19 AM  
**To:** Jonathan Bishop  
**Subject:** FW: Hearing for the Los Osos Wastewater Project

Charles Lester  
Senior Deputy Director

California Coastal Commission  
725 Front Street, Suite 300  
Santa Cruz, CA 95060  
Ph: 831-427-4863 Fax: 831-427-4877  
[www.coastal.ca.gov](http://www.coastal.ca.gov)

-----Original Message-----

**From:** Vanessa Miller  
**Sent:** Thursday, January 21, 2010 8:28 AM  
**To:** Charles Lester; Jeff Staben  
**Subject:** FW: Hearing for the Los Osos Wastewater Project

-----Original Message-----

**From:** Iwan [REDACTED]  
**Sent:** Thursday, January 21, 2010 7:40 AM  
**To:** Vanessa Miller  
**Subject:** Fwd: Hearing for the Los Osos Wastewater Project

ex-parte

-----Original Message-----

**From:** Mike Chamberlain <MECSLO@att.net>  
**To:** Sara Wan [REDACTED]  
**Sent:** Wed, Jan 20, 2010 8:09 pm  
**Subject:** Hearing for the Los Osos Wastewater Project

It is of the utmost urgency that the Los Osos Wastewater Project be included on the Coastal Commission's agenda for February, 2010. There is a strong possibility that any delay beyond this will cause the project to lose access to grants and low-interest loans, thus increasing the cost of the project by up to \$12,000 for each assessed property.

For the same reason, it is just as important that the hearing stick to the three issues raised in the de novo hearing, and not revisit any and every issue that the project opponents can think to raise. There is a small group of opponents that have consistently used any and every issue or means to try and delay or derail the project. But the will of our community was made unmistakably clear when 80% of

Los Osos voters voted to have the County of San Luis Obispo develop a wastewater project.

We are not a wealthy. It would be truly unfortunate if the will of a few were allowed to harm our community by needlessly increasing the financial burden associated with this essential project.

Sincerely

Michael & Audrey Chamberlain

## Jonathan Bishop

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**From:** Charles Lester  
**Sent:** Thursday, January 21, 2010 8:45 PM  
**To:** Jonathan Bishop  
**Subject:** FW: Los Osos Sewer

Charles Lester  
Senior Deputy Director

California Coastal Commission  
725 Front Street, Suite 300  
Santa Cruz, CA 95060  
Ph: 831-427-4863 Fax: 831-427-4877  
[www.coastal.ca.gov](http://www.coastal.ca.gov)

-----Original Message-----

**From:** Vanessa Miller  
**Sent:** Thursday, January 21, 2010 1:07 PM  
**To:** Jeff Staben; Charles Lester  
**Subject:** FW: Los Osos Sewer

-----Original Message-----

**From:** Iwan [REDACTED]  
**Sent:** Thursday, January 21, 2010 12:19 PM  
**To:** Vanessa Miller  
**Subject:** Fwd: Los Osos Sewer

-----Original Message-----

**From:** Leonard Moothart <leonard.moothart@promega.com>  
**To:** Lwan [REDACTED]  
**Sent:** Thu, Jan 21, 2010 11:18 am  
**Subject:** Los Osos Sewer

January 20, 2010

Sara Wan  
22350 Carbon Mesa Road  
Malibu, CA 90265

Dear Ms.Wan,

I am writing to implore you to review the Los Osos sewer project with the utmost urgency. The majority of our community supports the San Luis Obispo County Waste Water project and wishes to see it approved with out delay.

As it stands, many of the members of our community are on limited income and any delay may cause Los Osos to potentially lose \$80 million in assistance in the form of grants and low interest loans, resulting in further financial hardship. It is quite apparent that these issues under appeal can be dealt with quite

5/18/2010

**Exhibit 7**  
**Page 7 of 13**

readily and satisfactorily.

Please do your best to put the hearing for the San Luis Obispo County Waste Water project on the agenda in February to allow Los Osos to move forward in our 30 year battle to build a sewer.

Respectfully and Sincerely,

Leonard Moothart  
15 year resident  
1779 6<sup>th</sup> Street  
Los Osos CA

Leonard Moothart  
Senior Analytical Research Associate  
Promega Biosciences

**Jonathan Bishop**


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**From:** Dan Carl  
**Sent:** Tuesday, February 09, 2010 10:53 AM  
**To:** Jonathan Bishop  
**Subject:** FW: ex-parte  
**Attachments:** Los Osos Prohibition Zone.htm; Appendix F - Geology (dragged) 1 (2).pdf  
 For file, and exhibits for next time (ex parte)

---

**From:** Sara Wan [REDACTED]  
**Sent:** Tuesday, February 09, 2010 9:30 AM  
**To:** Vanessa Miller  
**Cc:** Dan Carl; Charles Lester  
**Subject:** ex-parte

**Ex-parte**

**From:** Marie Smith [mailto:mailmarie@charter.net]  
**Sent:** Sunday, February 07, 2010 4:55 PM  
**To:** Sara Wan  
**Subject:** LOWWP: Please protect habitat! maps included. and MB State Park: sad news

**Please let me know if you receive this email (thank you!)**

reference: the THURSDAY, JANUARY 14, 2010 Coastal Commission Meeting on **Appeal No. A-3-SLO-09-55 (Los Osos Wastewater Project, San Luis Obispo Co.)**  
**and the geological map below**

Dear Sara,

At the Coastal Commission meeting referenced above, you mentioned your concern that there could be a loss of habitat caused by a lack of water due to a possible oversight when planning the Los Osos sewer project. I want to bring your attention to an area which, I feel, needs attention. This is the area east of the Los Osos Fault Strand B (shown in the map below). This earthquake fault line located near Palisades Ave. separates our already complex clay lense structures. Broderson and the other water disposal site locations are on the west side of this fault. (except the area which is supposed to address Willow Creek, located east of South Bay Blvd.) The area of concern is west of South Bay Blvd. eg: between South Bay Blvd. and Palisades Ave (shown in second

map). This covers a wide area of Baywood/Los Osos and also includes the Bay fringe areas adjacent to (N.E. of) Sweet Springs and the Elfin Forest. (The last sewer project had water returned to areas on the east side of the fault line.)

When we suddenly "shut off" the septic tank water we are bound to have change & we need to see that the habitat which is now supported by this water doesn't all disappear. It may be possible to accomplish this by adding treated water throughout the area where we are removing it. The higher water table now supports what is left of our trees. We recently lost and are losing many local trees due to the pine pitch canker fungus, the beetle bore and other insects; diseases such as sudden oak death; old age, and man's construction projects. The fresh water seeps also help keep the fringe alive and the salt water out of the upper aquifer.

Because we are part of the National Estuary area on the Pacific Flyway, food, water and shelter must remain available for nature to survive.

Several times I brought this issue up. I know that we must do a sewer project quickly so we don't lose any possibility of funds, but since I have already experienced loss of habitat in another project when I was reassured that everything would be OK (sad news below), I felt that I needed to bring up the effects of loss of water in this project one more time in the hopes that someone is listening!

#### **SAD NEWS:**

**The Morro Bay State Park Campground looks nice, but NO "Monarch Butterfly" experience exists there now.**

In 2004 the Morro Bay State Park campground was renovated. At that time I tried to warn everyone that the loss of the Monarch Butterflies' windbreak trees near their roasting site and the "sunning bushes" nearby would not be good. I noticed that you were concerned about the loss of habitat back then. You were reassured that everything was OK. Well, I am sad to report that since the campground modification, the Monarch Butterflies no longer come to that campground (except a few flying through). It is a crime that other people can not share what I had experienced before the campground renovation: hundreds of Monarchs hanging in clusters, flying and landing in the trees and bushes. When I look at my pictures I am reminded of the movie Soylent Green where dying people watched movies of the way it used to be with nature alive - a contrast to what they were experiencing, a drab existence without nature. I hope that history does not repeat itself in other projects. We must remember that habitat is not just one tree or bush, but that it is affected by what surrounds it.

Please check into possible plans for the replenishing of water in the area east of Palisades Ave.

I thank you for caring about our habitat.

Marie Smith, Los Osos

\* three maps below

**NOTICE: THE FIRST MAP HAS two versions one with SCROLLING WITHIN THE MAP!**

=



Source: AirPhoto USA, San Luis Obispo County GIS Data, and MBA GIS Data.



Michael R. Rasmussen Associates  
02240002 - 11/2008 | 5.4-1\_fault\_map.mxd

Exhibit 5.4-1  
Faults and Surface Features

COUNTY OF SAN LUIS OBISPO • LOS OSOS WASTEWATER PROJECT  
GEOLOGY EXPANDED ANALYSIS SECTION

**FORM FOR DISCLOSURE  
OF EX PARTE  
COMMUNICATIONS**

Name or description of project, LCP, etc.: Los Osos Wastewater Treatment  
(San Luis Obispo County)

Date and time of receipt of communication: 4/16/10, 2:00 pm

Location of communication: Board of Supervisor's Offices, San  
Luis Obispo, and in the community  
of Los Osos, California

Type of communication: In person meeting

Person(s) initiating communication: Supervisor Bruce Gibson

Person(s) receiving communication: Mark Stone

Detailed substantive description of content of communication:  
(Attach a copy of the complete text of any written material received.)

I met with Supervisor Gibson who informed me of the timelines that the County is looking at with respect to getting approvals for the wastewater treatment project. He said that the Federal government needs the Coastal Commission's approval by our June meeting in order to meet the ARRA funding deadlines. He said that he felt that the County staff and Coastal staff are working well together. Supervisor Gibson also took me on a tour of the Los Osos community and showed me the significant locations in the project like the site of the treatment plant, the Broderson property and the site that the community district had started grading for the previously conceived project.

Date: 4/19/10 Signature of Commissioner: Mark W Stone

If the communication was provided at the same time to staff as it was provided to a Commissioner, the communication is not ex parte and this form does not need to be filled out.

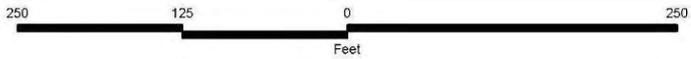
If communication occurred within seven or more days in advance of the Commission hearing on the item that was the subject of the communication, complete this form and transmit it to the Executive Director within seven days of the communication. If it is reasonable to believe that the completed form will not arrive by U.S. mail at the Commission's main office prior to the commencement of the meeting, other means of delivery should be used; such as facsimile, overnight mail, or personal delivery by the Commissioner to the Executive Director at the meeting prior to the time that the hearing on the matter commences.

If communication occurred within seven days of the hearing, complete this form, provide the information orally on the record of the proceeding and provide the Executive Director with a copy of any written material that was part of the communication.



- Legend**
- - - Proposed Property Line
  - Existing Fence Line
  - - - Proposed Fence Line
  - Proposed Access Road
  - Contour - 5 Feet
  - ▭ Parcel Boundary
  - ▭ Administration and Maintenance Buildings
  - ▭ Secondary Processes
  - ▭ Storage Ponds
  - ▭ Tertiary Solids and Appertenances
  - ▨ Environmental Sensitive Area (ESA)
  - ▨ ESA 100-Foot Setback
  - ▨ Existing ESHA
  - ▨ ESHA Setback Area
  - ▨ Additional Restoration Area

Source: 2007 Digital Globe aerials, San Luis Obispo County GIS Data, Carollo Engineers, and MBA GIS Data.



Treatment Plant Site ESHA Restoration Areas

LOS OSOS WASTEWATER PROJECT, 2010  
5/06/10