

Technical Memorandum Name: Low Pressure Collection System, January 2008
Commenter: Michael Saunders, Orenco Systems
Comments Date: April 7, 2008
Responses Date: Revised July 29, 2008

The following comments were submitted in response to the above listed Technical Memorandum (TM). The TM was developed as part of the EIR process for the project, in order to help facilitate and broaden the discussion of project issues important to the community. The responses should be considered preliminary because the EIR process is not complete, and the information necessary to fully respond has not yet been developed. The project team is grateful to those citizens who took the time to review the TM and provide comments at this early stage in the process. The project team will endeavor to fully address the comments and concerns through the on-going project development process.

	Comment	Response
1	<p>On January 22, 2008, San Luis Obispo County published a Draft Technical Memorandum on Low Pressure Collection Systems. While the Memorandum is entitled Low Pressure Collection Systems, it appears to be more specifically focused on the discussion of Grinder Pump Pressurized Sewer. More, specifically, the general tone of the Memorandum appears to be aimed at promoting grinder pumps systems relative to STEP systems. While we certainly welcome a detailed comparison of the two technologies, we believe this Memorandum is extremely misrepresentative and incomplete in providing meaningful data. Examples of statements that Orenco feels are misrepresentative follow:</p>	<p>Yes, the purpose of this tech memo is to evaluate low pressure, grinder pump, collection systems to a greater level of detail than in recent project reports to allow for comparison to gravity and STEP/STEG collection systems.</p>
2	<p><i>I. Following is a direct quote from section 1.4 of the Low Pressure Collection System Tech Memo:</i> "The Director of Wastewater services for Peters Township said they retrofitted 85 homes into a STEP system in 1986, but due to deterioration, all are now switching over to grinder pumps." <i>Comment:</i> Orenco Systems was not familiar with an existing STEP system in Peters Township. Based on our investigation of this system, we believe that the referenced statement is incorrect.</p> <p>We contacted Peters County Sewer Authority (717-328-3352) and talked with one of four employees (June) while she conversed with one of the other employees that does maintenance on the wastewater collection system. When we read this section to them they indicated that the quote was inaccurate and untrue. The authority has had STEP systems since the Authority was created in 1986. The STEP systems were not being replaced due to deterioration but because of I&I problems. The I&I problems were causing problems with the treatment process. She indicated that the STEP system had actually been very reliable with many of the pumps being original to the system. They indicated that the system was transitioning to grinder systems because the neighboring larger wastewater system exclusively used grinder pumps. She</p>	<p>The context of Section 1.4 is a summary of communities or utilities that have experience with low pressure grinder sewers. Peters Township is one example of a community that has experience with both STEP <u>and</u> grinder sewers.</p> <p>The focus of this section is on grinder sewers and it did not elaborate on the type of deterioration of their STEP system. However, this comment confirms that the deterioration of the STEP system is related to infiltration and inflow into the STEP tanks and that Peters Township is satisfied with their grinder sewer.</p> <p>Overall, this tech memo evaluated the applicability, costs and potential impacts of</p>

	<p>went on to explain that a consultant had recommended that the systems utilize a uniform collection technology so that parts and service would be easier to coordinate between the two utilities.</p> <p>This existing STEP system utilizes a clam-shell concrete tank and a stand-alone pump chamber that houses a Myers Effluent Pump. Orenco has been an outspoken opponent against the use of clam-shell tanks because the joint tends to leak when the tank settles. The STEP system would not be comparable to the engineered STEP package that Orenco has presented, both in terms of operation cost and functionality.</p> <p>The Sewer Authority referred us to their engineer, Steve Cvijanovich of Dewberry & David for (301-739-5660) for additional information. Steve indicated that the existing Lagoon Treatment Plant was being decommissioned. Like the Sewer Authority, he reiterated that the problem was the STEP system was with Infiltration and was attributable to the use of clam-shell tanks. He stated that the switch was made to grinder pumps so that service personnel and parts could be shared with a neighboring sewer district that operates 950 grinder pump units.</p> <p>Clearly, the Peters Township project is a misrepresentation of STEP. It does not represent STEP technology that is available from Orenco, nor does it represent a failed STEP system as has been suggested. There are and will always be examples of any wastewater technology that has compromised quality for a reduction in initial capital cost. It is unfortunate, that consultants selectively choose to exploit flaws in these systems as indicative of the industry as a whole.</p> <p>Orenco has provided several public workshops in Los Osos. In those workshops, we detailed the quality of our systems relative to tank selection, pump selection, filtering, etc. Furthermore, we have challenged the designers of a gravity sewer system for Los Osos to assure a comparable level of quality in any proposed gravity system.</p> <p>While the consultant has chosen to ignore examples of failing gravity sewer systems they appear to have gone out of their way in attempting to demonstrate a failed STEP system. The inclusion of this project as a representative STEP system in terms of service life and I&I should be dismissed from this analysis.</p>	<p>low pressure grinder collection systems. It is not a comparison to or an evaluation of STEP or gravity collection system materials, equipment or manufacturers.</p>
<p>3</p>	<p><i>II. Following is Figure 4 of the Low Pressure Collection System Tech Memo: (see attached letter)</i> <i>This is Figure 3.7 from the fine screening analysis</i> Comment: The Fine Screening Analysis, per Figure 3.7, includes an installation methodology and associated cost for STEP that is necessarily excessive. By comparison, a less costly installation has been allowed for the analysis of grinder systems. The Fine Screening Analysis added large capital costs to STEP by insisting that a private grinder pump would be required in the back yard to deliver flows to a public STEP unit in the front yard. On</p>	<p>The assumption that all STEP tanks be owned by the public agency and be located in the front yard to allow for access by maintenance crews is consistent with the expected requirements of State regulatory agencies. Ultimately, the Fine Screening Report estimated only 40 more homes would require grinder pumps compared to the gravity</p>

	<p>page 3-6, this design methodology was justified "as a County goal to facilitate operation and maintenance access". As a result, an additional \$2800 cost was added to 5% of the STEP installations that is now not being added to the grinder pump costs. Figure 4, the basis of grinder pump costs, is inconsistent with the goals and objectives stated in the Fine Screening Analysis. Accordingly the stated costs are inconsistent with the scope of work and the associated costs stated for STEP.</p> <p>Orenco Systems has provided methodologies for rear lot installations of STEP systems that would minimize construction cost while assuring the O&M goals for the County.</p>	<p>collection system design for the LOCSD project.</p>
4	<p><i>III. Following is a table from the Low Pressure Collection System Tech Memo: (see attached letter)</i></p> <p>Comment: Grinder sewer O&M costs are easily much higher than STEP if realistic estimates are used.</p> <p>\$400 for pump replacement is unrealistic. Below is a 2007 price list from E-One: (see attached letter)</p> <p>A replacement core is priced at \$1,948.00. Similarly pumpbiz.com has Barnes pumps listed at \$1600-\$1800 in cost. While one could argue that prices will be less in an annually bid, our research has indicated that the lowest costs for a replacement core was in the range of \$ 1,300. In fact, Hot Springs, one of the projects referenced in this Memorandum, appears to spend around \$1,300 for each replacement core. If a reasonable cost for pump replacement were utilized in the O&M estimate, the total cost for grinder pump O&M would be in the range of \$600,000 to \$1,000,000 higher than the estimate stated. Accordingly the stated conclusion in this Memorandum, that Grinder pump systems have a lower O&M costs that STEP systems, is not substantiated by this calculation.</p>	<p>The revised tech memo estimates pump replacement costs as a range from \$1,200 to \$2,000, based on a review of similar systems, and the total system O&M estimates range from \$1.5M to \$2.0M.</p>
5	<p><i>IV. Following is a direct quote from section 4.3 of the Low Pressure Collection System Tech Memo:</i></p> <p>"Each residence with a low pressure system will require an electrical connection to provide power to the new grinder pump, controls, and alarm system. Electrical connection costs are based on service from existing residential breaker panels."</p> <p>Comment: The electrical connection for STEP is not the same as for Grinder Pumps.</p> <p>Grinder pumps require a 240 volt service. Although many homes may have an extra 120 volt circuit available, older homes are less likely to have an extra 240 volt circuit available. We believe that the estimated 5% of homes that would require service upgrades may be low relative to a grinder pump installation.</p> <p>Accordingly, we believe that this cost, being substantial relative to the overall cost of a grinder pump installation, requires significantly more analysis than what has been presented in this Memorandum.</p>	<p>The revised tech memo assumes 2 hp grinder pumps for the low pressure collection system. These pumps would require 240 voltage and an estimated 5% to 20% of homes would require upgrades to their service panels.</p>

<p>6</p>	<p><i>V. Following is a direct quote from section 1.4 of the Low Pressure Collection System Tech Memo:</i> "All of the communities surveyed are either somewhat satisfied or very satisfied with their low pressure sewer systems. They are all continuing to use low pressure sewers for at least part of their new development. The wastewater manager at Hot Springs has experience with both gravity and STEP sewer systems and says low pressure sewer is the easiest to maintain of all of these." Comment: It is unclear why the consultant would choose to state that the manager of Hot Springs prefers to grinder pumps over STEP. There is no documentation regarding this manager's experience with STEP. Additionally there is no documentation of the STEP technology that the manager is basing his or her conclusion upon. The following is a press release from Hot Springs. (see attached letter) The consultant should either factually support the comments made by this Utility Manager, or they should be removed from the Memorandum.</p>	<p>The context of Section 1.4 is a summary of communities or utilities that have experience with low pressure grinder sewers. It is not a comparison to or an evaluation of STEP or gravity collection system materials, equipment or manufacturers. The particular individual at Hot Springs has experience with all three types of collection system and, in their opinion, prefers low pressure. This statement, taken in context, is clearly anecdotal and is not an evaluation of collection system alternatives.</p>
<p>7</p>	<p><i>VI. Following is a direct quote from section 1.4 of the Low Pressure Collection System Tech Memo:</i> "Utilities reported that since the quality of the wastewater is not changed by low pressure sewerage, there are no problems where the low pressure sewers interface with the conventional gravity sewers in any of these communities. The wastewater treatment facilities are not impacted by this collection system either." Comment: In the context of the Los Osos project, there are no interfaces between the low pressure and conventional gravity sewers. Accordingly, this statement appears to be out of context with the proposed projects that are detailed in the fine screening analysis. Also, since the Fine Screening Analysis allocated additional costs to STEP on the basis that it would impact the treatment process, we can only assume that this Memorandum is attempting to establish that grinder systems will not. This statement is again made without any specific references or supporting documentation. In fact, our research found a referenced user that in fact states that the grinder pump effluent has been problematic The following is a direct quote from the City of Hot Springs Board of Directors Meeting, May 17th, 2004: (see attached letter) Without supporting documentation, this unsubstantiated opinion should be stricken from the Memorandum.</p>	<p>The purpose of this tech memo is to evaluate low pressure, grinder pump, collection systems. Section 3.1 of the Fine Screening Report and Section 7.0 of this tech memo recognize that low pressure systems may be used in Los Osos in combination with zones of gravity collection. In this case there would be interfaces between low pressure and gravity sewers.</p> <p>Table 4.4 of the Fine Screening Report estimates lower strength STEP influent and, in Table 4.19, several million dollars in cost saving for secondary treatment, compared to treatment of gravity influent.</p> <p>The influent characteristics presented in Table 4.4 of the Fine Screening Report are anticipated to be similar for a gravity and a hybrid gravity/low pressure sewer. The quote referenced in this comment does not refer to grinder</p>

		pumps, but to the traveling distance of the wastewater.
8	<p>We offer these comments with the goal of assuring the use of accurate and pertinent data. We sincerely hope that our comments prove beneficial towards the ongoing wastewater evaluation for Los Osos.</p> <p>If you have any questions please feel free to call me anytime at 1-800-348-9843 ext. 443.</p> <p>Sincerely, Michael Saunders Compliance Program Manager Engineered Systems Division Orengo Systems Inc. 814 Airway Avenue Sutherlin, OR. 97479</p>	