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San Luis Obispo County
Los Osos Wastewater Project Development

TECHNICAL MEMORANDUM

REGIONAL TREATMENT

FINAL
August 2008

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San Luis Obispo County
Los Osos Wastewater Project Development

TECHNICAL MEMORANDUM

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1.0 INTRODUCTION

The purpose of this technical memorandum (TM) is to evaluate regional treatment options for the community of Los Osos. The concept of regional treatment is to combine the treatment and disposal of wastewater from more than one community of a region. This memorandum considers the advantages and disadvantages of regional treatment to serve the community of Los Osos, Morro Bay/Cayucos Sanitary District (MBCSD), and/or the California Department of Corrections and Rehabilitation (CDCR) California Men's Colony (CMC)[1].

The construction of a regional facility does not obviate the need for the construction of a collection system at Los Osos. Therefore, the costs of the regional facility are not comparable to the costs of the entire Los Osos Wastewater Project as described in the Viable Project Alternatives Fine Screening Analysis by Carollo Engineers. Instead, the costs described in this memorandum are to be compared with the costs of treatment and reuse/disposal alone. Also, depending on the regional treatment alternative selected, the costs of reuse and disposal described in the Fine Screening Analysis may also have to be incurred in addition to the costs presented here.

2.0 BACKGROUND

The communities of Los Osos, Morro Bay, Cayucos, and California Men's Colony are located in San Luis Obispo County in the Central Coast region of California. Figure 1 shows the wastewater treatment plants (WWTPs) under consideration. Note that MBCSD and CMC are existing facilities.

2.1 Morro Bay/Cayucos Sanitary District

The Morro Bay/Cayucos Sanitary District's Wastewater treatment plant (MBCSD WWTP) is designed for an average annual dry weather flow of 1.33 million gallons per day (mgd)[2]. The City of Morro Bay and the Cayucos Sanitary District jointly own and operate the MBCSD WWTP, which is located in Morro Bay. The WWTP was originally constructed in 1953, which included the original digester, trickling filter, and primary clarifier still in operation. In 1964 a second primary clarifier, trickling filter, chlorine contact basin, and

[1] These are the options listed in the Notice of Preparation (NOP) of Draft Environmental Impact Report (EIR) prepared on December 10, 2007 by the San Luis Obispo County Department of Public Works.
[2] Table ES-1, City of Morro Bay/Cayucos Sanitary District Wastewater Treatment Plant Facility Master Plan, September 2007, by Carollo Engineers.

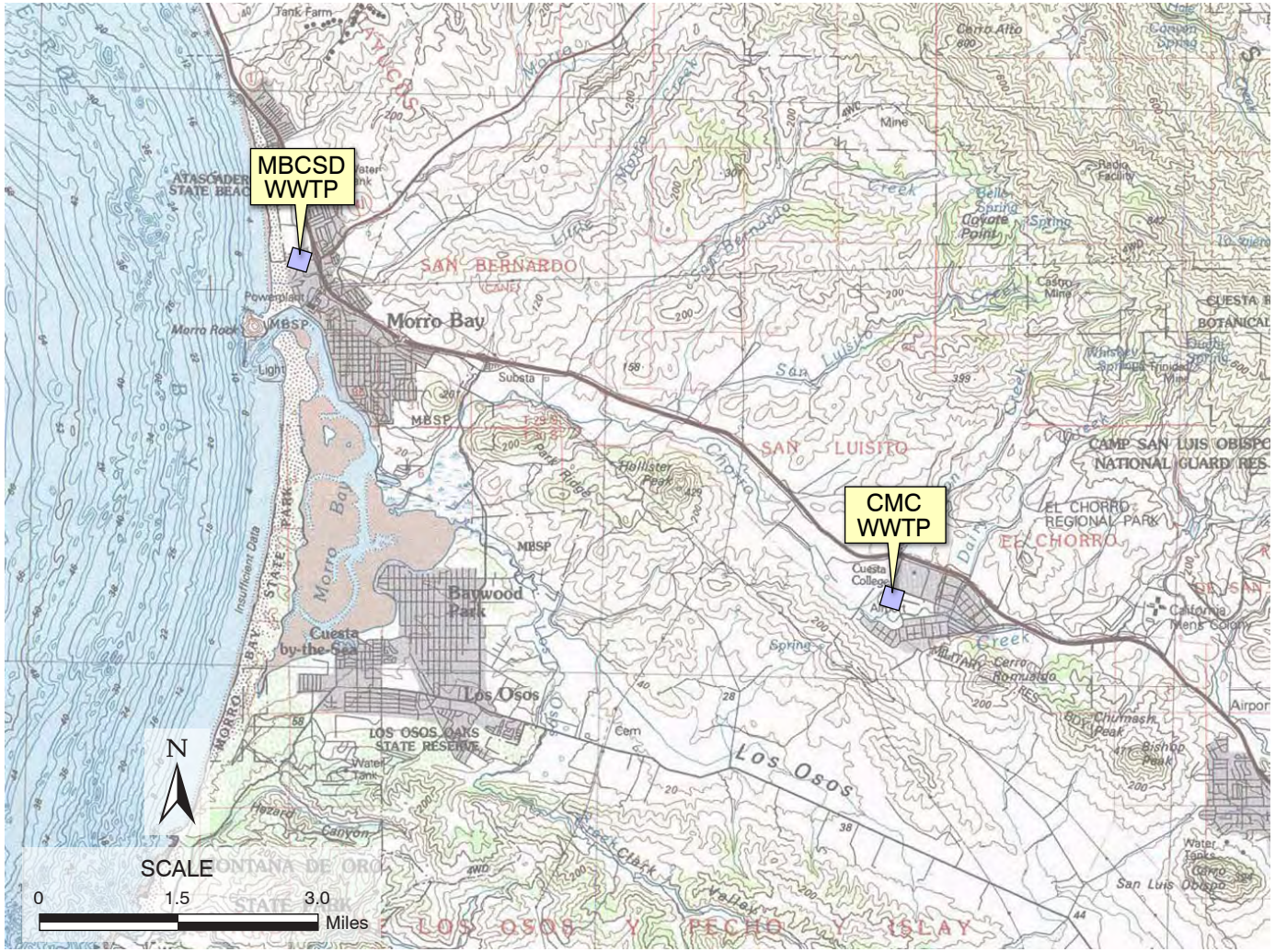

Figure 1
LOCATION OF THE WWTPs
LOS OSOS WASTEWATER PROJECT DEVELOPMENT
SAN LUIS OBISPO COUNTY

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second digester were added. The last expansion of the WWTP was started in 1982 and included the addition of a third digester, headworks, secondary clarifier, solids contact basin, and sludge drying beds. The rated design capacity for the secondary treatment facilities is 0.97 mgd. Flows in excess of 0.97 mgd receive primary treatment only. The primary effluent is blended with secondary effluent before being disinfected and sent to the ocean outfall. A discussion of the discharge requirements is presented under the reuse and disposal options in this memorandum.

In September 2007, MBCSD published their WWTP Facility Master Plan, which resulted in the selection of tertiary treatment and onsite composting of biosolids as the preferred upgrade alternative. This upgrade is on an "8-Year Conversion Schedule" to have a fully operational WWTP in total compliance with their secondary treatment requirements by March 2014. They are currently in the process of awarding the Environmental Impact Review (EIR) contract, and expect to begin design in 2010.

2.2 California Men's Colony

The California Men's Colony Wastewater treatment plant (CMC WWTP) is designed for an average annual dry weather flow of 1.2 mgd[3]. It provides wastewater treatment services to the following areas:

- California Men's Colony East Facility.
- California Men's Colony West Facility.
- County of San Luis Obispo (County Jail, Juvenile Services, County Education, Engineering, Maintenance and Support Services).
- Camp San Luis Obispo (California National Guard Base).
- Cuesta College.

The CMC WWTP was originally constructed in 1940 by the Department of the Army, Corps of Engineers. The Army owned and operated the WWTP until the early 1960s when the CMC assumed responsibility for operations. The original WWTP was modified to provide a high quality tertiary treated effluent which is used by the County to irrigate Dairy Creek Golf Course, used by California State Polytechnic University (Cal Poly) to irrigate fodder crops, and discharged at a minimum continuous flow of 0.75 cfs into Chorro Creek, an environmentally sensitive waterway. The treatment facility has experienced periodic violations of its NPDES permit, primarily related to disinfection standards for coliform and chlorine residual. In order to control the violations of discharge permit requirements, CMC evaluated its facilities and updated them recently. Their new WWTP was completed and

[3] Drawing G03 of California Men's Colony Wastewater Collection/Treatment Upgrade- "Design criteria and general notes" from 2001 design drawings by Carollo Engineers.

began operations last year. The facility includes oxidation ditches (secondary treatment), filtration and disinfection and was designed by Carollo Engineers for an average annual flow of 1.3 mgd.

2.3 Los Osos

Based on the Flow and Loads TM, Feb 2008, the Los Osos wastewater treatment plant (LO WWTP) will be designed for an average dry weather flow of 1.1 mgd[4].

3.0 REGIONAL TREATMENT ALTERNATIVES:

Three potential alternatives are considered for the site of the regional treatment facility, based on the NOP. They are:

- Expansion at existing MBCSD WWTP site.
- Expansion at existing CMC WWTP site.
- In the Chorro Valley.

A regional facility that treated the wastewater from Morro Bay/Cayucos and Los Osos would be 2.73 mgd in size assuming that all the flows currently treated at MBCSD are diverted to the regional facility. A regional facility that treated wastewater from CMC and Los Osos would be 2.7 mgd in size assuming that all the flows currently treated at CMC WWTP get diverted to the regional facility. A regional facility that treated flows from MBCSD, CMC, and LO would be 4.03 mgd in size. This information is summarized in Table 1.

Table 1 Regional Facility Flows and Alternatives
Los Osos Wastewater Development Project
San Luis Obispo County

	Design Flow (mgd)	**Los Osos+CMC(1) (mgd)**	**Los Osos+MBCSD(2) (mgd)**	**Los Osos +CMC(1)+MBCSD(2) (mgd)**
Los Osos	1.1	1.1	1.1	1.1
CMC(1)	1.3	1.3		1.3
MBCSD(2)	1.33		1.33	1.33
Total Flow		**2.4**	**2.43**	**3.73**

Notes:
(1) California Men's Colony.
(2) Morro Bay/Cayucos Sanitary District.

[4] "Flows and Loads" Technical memorandum, February 2008, by Carollo Engineers. For the purposes this memorandum it is assumed that a gravity sewer collection system is selected as this alternative results in slightly higher flows to the plant.

3.1 Expansion at Existing MBCSD WWTP Site

3.1.1 Construction Costs

The MBCSD Wastewater Facility Master Plan estimated the upgraded MBCSD WWTP to cost $20.8 million[5] in 2006 dollars. Escalating that estimate to compare with the Viable Project Alternatives Fine Screening Analysis, the construction cost estimate of the currently planned improvements for the 1.33 mgd MBCSD WWTP is $21.3 million in 2007 dollars[6]. One way to estimate the approximate cost of a 2.43-mgd facility at the MBCSD site is to assume a whole parallel facility would be needed. This would approximately double the cost, leading to an estimate of $42.6 million in 2007 dollars for a regional facility that treats the wastewater of Los Osos and MBCSD. Another way to estimate the cost of a 2.43-mgd facility is to compare the costs of other similarly sized facilities or expansions, leading to an estimate of $26.5 to $29.9 million[7]. This estimate reflects the cost of a scenario in which both communities collaborate to build a wastewater treatment plant together at the MBCSD site. Note that this is a construction cost estimate only and does not include permitting costs, land acquisition costs, California Environmental Quality Act (CEQA) costs, design costs, and other project implementation costs.

3.1.2 Operations and Maintenance Costs

The amount of staff required at a WWTP is not governed by regulations, only the certification level of the staff is specified[8]. For plants less than 20 mgd in size, the level of certification of the plant will likely be the same, thus the level of training of staff required for the regional plant would be the same as the separate plants. While it might be intuitively anticipated that a larger plant might require more staff, assuming similar treatment processes, a 2.43-mgd plant would in reality require approximately one more staff person than required for a 1.4-mgd plant. Thus, if Los Osos and MBCSD were to proportionally share the operating and maintenance expenses at the regional facility, both parties could potentially save on the operating and maintenance expenses.

3.1.3 Footprint

To have a regional facility at the current MBCSD WWTP site, the existing plant would need to expand its capacity to treat the increased flows from Los Osos. The existing WWTP is at a site of approximately 4 acres. To expand its capacity to 2.43 mgd, the plant footprint

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[5] Appendix L "Project Recommendations Cost Estimates" of the MBCSD Wastewater Treatment Plant Facility Master Plan Report by Carollo Engineers, September 2007.
[6] Appendix L "Project Recommendations Cost Estimates" of the MBCSD Wastewater Treatment Plant Facility Master Plan Report by Carollo Engineers, September 2007.
[7] Cost estimates based on the upgrades of the South San Francisco treatment plant and the Benicia treatment plant.
[8] City of Morro Bay Wastewater Treatment Plant Study, May 2007, by Cannon and Associates.

needed could potentially be between 7 to 11 acres[9]. Thus siting a regional facility at the existing site could require the purchase of land, or the usage of MBCSD land that is currently being used for other purposes. The assessment of availability of such land is not within the scope of this memorandum, however, conversations with engineers familiar with the MBCSD WWTP indicate that the site is constrained by space, and expansion would be difficult.

3.1.4 Pipeline

Los Osos would require a pipeline to convey its raw wastewater to the current MBCSD WWTP site. A possible alignment for the pipeline is shown in Figure 2 as shown heading North along South Bay Boulevard, North-West on Quintana Road and West onto Atascadero Road.

The length of the pipeline shown in Figure 2 is approximately 5.7 miles. Assuming a force main of 14-inch diameter made of PVC[10] the unit cost estimate is $120/linear-foot (LF)[11]. Applying a 30 percent contingency, the cost of the 5.7-mile 14-inch diameter PVC pipeline is $4.7 million. Note that these are construction cost estimates only and do not include permitting costs, CEQA costs, design costs, and other project implementation costs.

3.1.5 Flooding

The existing WWTP is located in an area subject to inundation from floodwaters due to the amount of runoff during a one hundred year storm exceeding the capacity of Morro Creek. This is a factor to be considered in the evaluation of the option of expanding the current MBCSD WWTP to treat wastewater from Los Osos as well.

3.1.6 Reuse/Disposal Options

3.1.6.1 Disposal

MBCSD currently has a 301(h) modified National Pollutant Discharge Elimination System (NPDES) permit for discharge of primary and secondary blended effluent to the ocean. If Los Osos were to treat its wastewater at MBCSD, the treated effluent could potentially be discharged via the existing ocean outfall to the Pacific Ocean. Thus, this option does not result in the “abandonment of the ocean outfall,” as listed in the NOP; on the contrary, it increases the discharge to the Pacific Ocean.

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[9] Figure 23 from US EPA’s “Estimating Costs and Manpower Requirements for Conventional Wastewater Treatment Facilities,” October 1971.

[10] “Out of Town Conveyance” Technical Memorandum, March 2008, by Carollo Engineers for the Los Osos Wastewater Project.

[11] MWH bid schedule indicates $119/LF as the highest bid for 14” force main from Whitaker, a contractor in the Los Osos area.

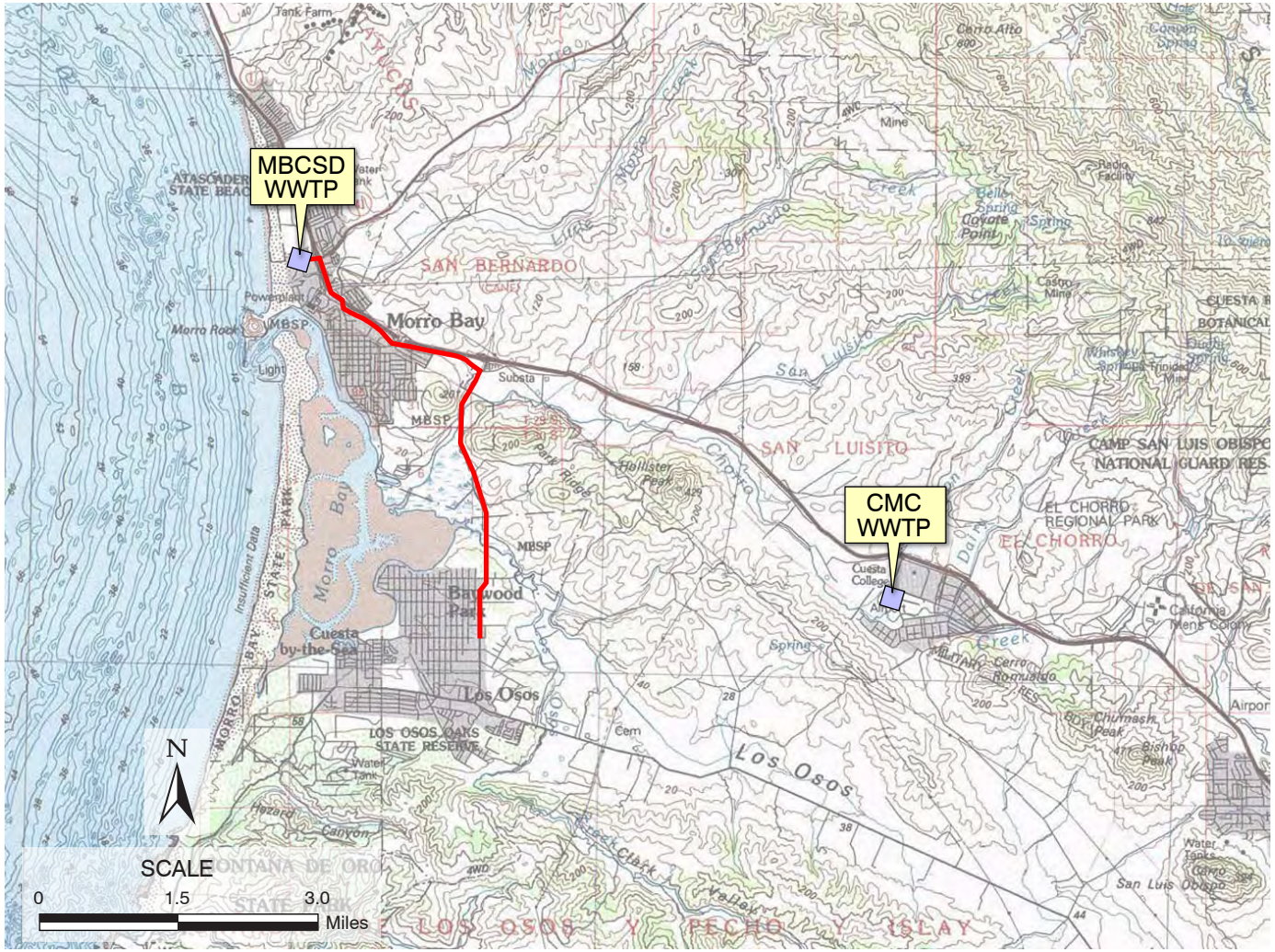

Figure 2
PIPELINE ALIGNMENT ALTERNATIVE
TO MBCSD WWTP
LOS OSOS WASTEWATER PROJECT DEVELOPMENT
SAN LUIS OBISPO COUNTY

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3.1.6.2 Reuse

The Comprehensive Recycled Water Study by Carollo Engineers in October 1999 identified and analyzed potential recycled water users for MBCSD. Table 5.2 of the study shows that the 110- acre Morro Bay Golf Course currently uses water from Chorro Creek underflow and could be a potential user of recycled water. Assuming an irrigation water use of 2.5 feet/year, the water needs of the Morro Bay Golf Course would be 275 acre-feet/year (AF/yr) (0.25 mgd). Approximately a 4-mile pipeline would need to be constructed to supply the golf course. Potentially, a pump station might also be required.

To bring treated effluent back to Los Osos for reuse, an approximate 5.7-mile pipeline would be required. Additional costs associated with reuse are described in the "Effluent Reuse and Disposal Alternatives" Technical Memorandum by Carollo Engineers.

The remaining treated wastewater would either need to be disposed via the ocean outfall or transported to other sites for reuse. Between Camp San Luis Obispo and Morro Bay there is approximately 700 acres of irrigated agricultural land in the Chorro Valley on the South side of Highway 1, and approximately 300 acres on the North side[12]. To supply users near Camp San Luis Obispo, approximately a 10-mile pipeline would need to be constructed from the MBCSD WWTP. It is difficult to size the pipeline unless the volume of recycled water required is known, and thus it is difficult to estimate the cost of the pipeline. It is also not known at this time whether the agricultural users in the Chorro Valley area are favorable to using recycled water for irrigation, or whether the type of crop is amenable to it. A further analysis of the water needs and existing water quality of the agricultural community of Chorro Valley would help determine the viability and acceptance of such an option.

3.1.7 Contractual Issues

To treat its wastewater at MBCSD, Los Osos would need to enter into an agreement with the Cities of Morro Bay and Cayucos. The responses to the Notice of Preparation of Draft Environmental Impact Report from the Cities of Morro Bay and Cayucos indicate that an agreement may not be reached easily[13], see Appendix A.

3.2 Expansion at Existing CMC WWTP Site

3.2.1 Construction Costs

The upgraded CMC WWTP completed construction in 2007 and cost $17.5 million (estimated bid price in 2003 dollars). Escalating that estimate to compare with the Viable Project Alternatives Fine Screening Analysis, the cost estimate of the recently constructed CMC WWTP is $18.6 million in 2007 dollars. The CMC facility was constructed for exactly

[12] Estimate from Cleath and Associates.
[13] Responses from the City of Morro Bay and the Cayucos Sanitary District to the Notice of Preparation of a Draft Environmental Impact Report are included in the appendix.

1.3 mgd with no capabilities for future expansion. Treating 2.4 mgd of flow at the CMC site would require a parallel plant identical to the existing facility be constructed to handle the additional flows. Therefore, to treat flows from Los Osos at CMC would cost approximately 18.6 million in 2007 dollars. Note that this is a construction cost estimate only and does not include permitting costs, land acquisition costs, CEQA costs, design costs, and other project implementation costs. Further analysis is required to include such costs and it is outside the scope of this memorandum. It is expected that permitting requirements for an expansion of the CMC facility could be substantial due to the nature of land ownership at the site.

3.2.2 Pipeline

Shown in Figures 3 and 4 are two alternate pipeline routes to carry wastewater from Los Osos to CMC. Figure 3 shows an approximately 6-mile pipeline that would require tunneling through the peak shown by the contour lines. Figure 4 shows an approximately 10.5-mile pipeline that would be routed along roadways. Assuming a 14-inch diameter PVC pipeline is used, and assuming $120/LF unit cost with a 30 percent contingency, the cost of 10.5 miles of pipeline is $8.65 million. It is difficult to assume a cost for tunneling through the hill (as shown in Figure 3) without further analysis of the geotechnical conditions at the site, and possible construction methods, thus costs for that alternative are not assessed at this point. However, the costs associated with tunneling a pipeline are expected to be significantly higher than the costs associated with trenching.

3.2.3 Reuse/Disposal Options

3.2.3.1 Disposal

The CMC WWTP currently discharges into Chorro Creek. CMC currently has an agreement with the California Department of Fish and Game, which mandates a minimum discharge of 0.75 cubic feet per second (cfs) into Chorro Creek at all times to maintain flow for the steelhead habitat. Thus, an increase in flow into Chorro Creek could potentially be viewed positively from an environmental perspective. Increased surface flow in Chorro Creek may also benefit the City of Morro Bay, since groundwater production at the City's Chorro Valley wells are restricted during periods of low stream flow. However, the issuance of a new permit, or the modification of the existing one would be required to allow for an increased flow in Chorro Creek.

3.2.3.2 Reuse

CMC provides recycled water to the Dairy Creek Golf Course. In some months the WWTP has not been able to meet the recycled water needs of the golf course due to the minimum discharge requirement in Chorro Creek. Thus, supplying additional recycled water to the Dairy Creek Golf Course could perhaps be agreed upon to dispose of the WWTP effluent.

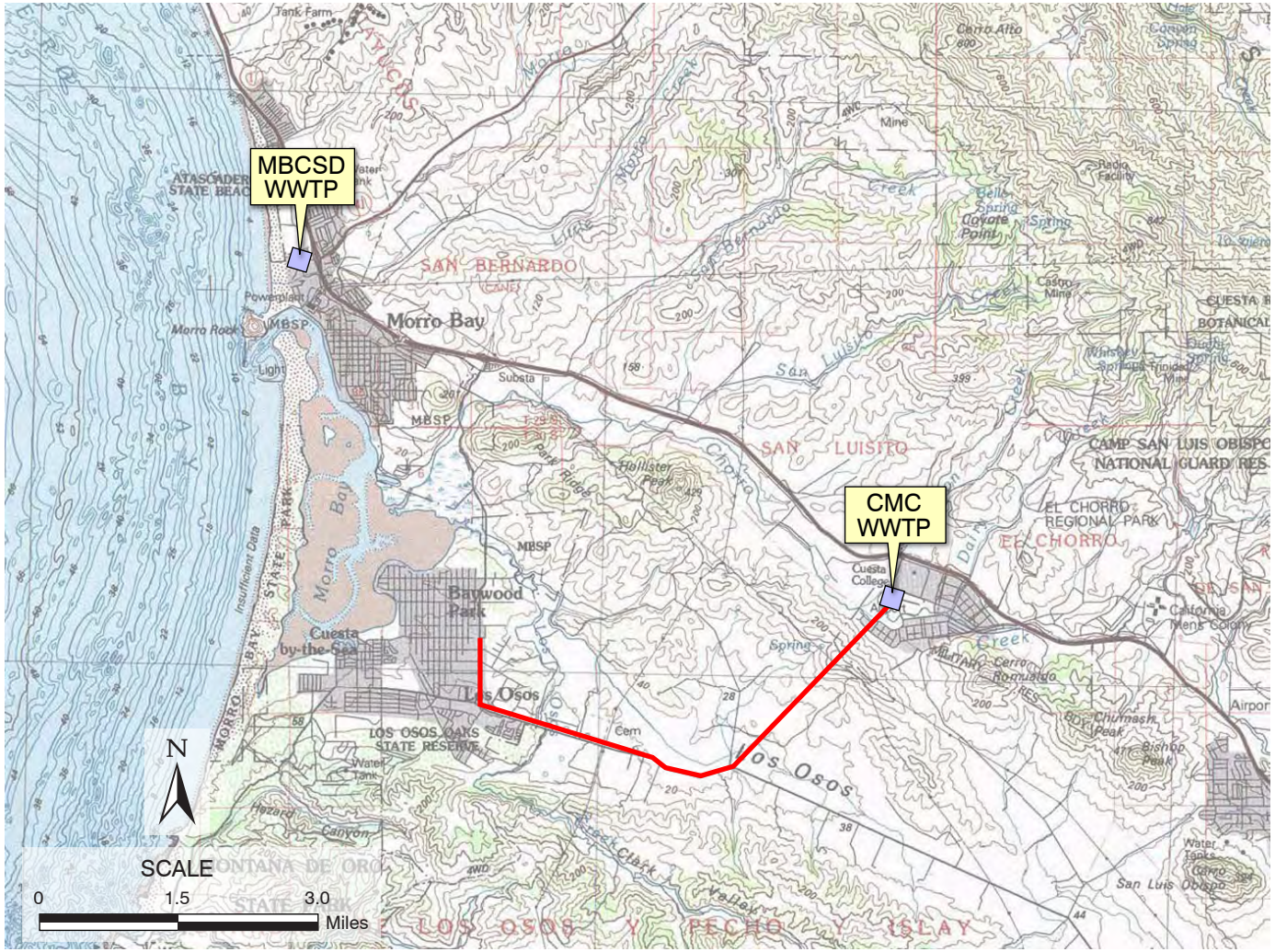

Figure 3
PIPELINE ALIGNMENT ALTERNATIVE 1
TO CMC WWTP
LOS OSOS WASTEWATER PROJECT DEVELOPMENT
SAN LUIS OBISPO COUNTY

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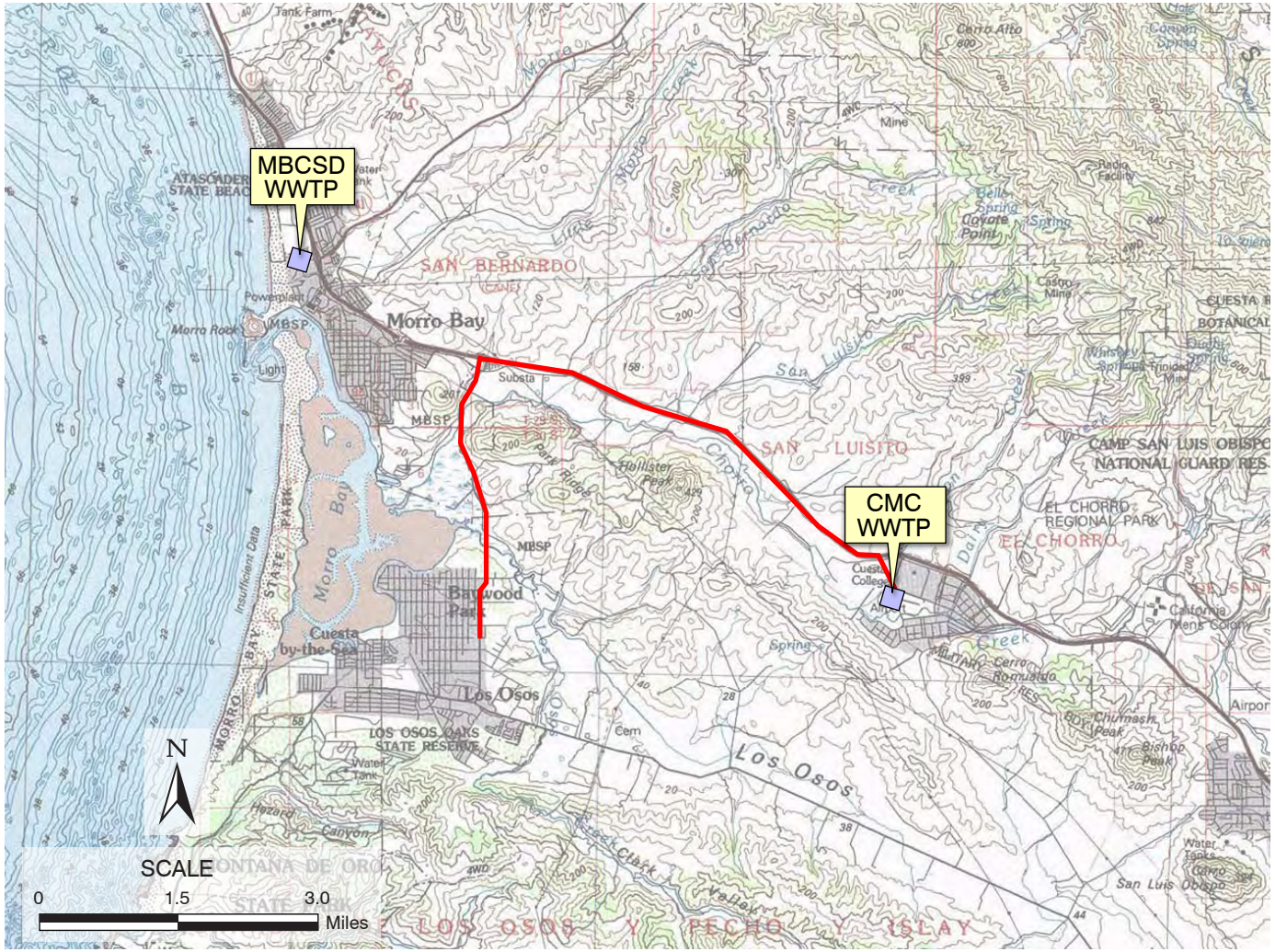

Figure 4
PIPELINE ALIGNMENT ALTERNATIVE 2
TO CMC WWTP
LOS OSOS WASTEWATER PROJECT DEVELOPMENT
SAN LUIS OBISPO COUNTY

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Another option is to bring treated effluent back into Los Osos for reuse. For this option, either a 10.5-mile pipeline following the major roadways, or a 6-mile pipeline through the hill (as discussed in the Pipeline section of this alternative) would be required. Additional costs associated with reuse are described in the 'Effluent Reuse and Disposal Alternatives' TM by Carollo Engineers.

Reuse in the Chorro Valley may also be possible as discussed in the MBCSD alternative. However, further analysis would be required to determine the viability and acceptance of this option.

3.2.4 Contractual Issues

The CMC WWTP is owned and operated by the State of California CDCR, and it is situated in National Guard property. Any proposal for expansion or modification would require permits from the California National Guard, County of San Luis Obispo, State of California, California Department of Fish and Game, and U.S. Fish and Wildlife Service. The area is considered environmentally sensitive habitat, and is likely to require mitigation for any disturbances during construction. It is likely that any expansion would require lengthy negotiations. Thus, expansion at the existing CMC WWTP site will pose significant challenges both physically and from a contractual perspective.

3.3 Regional Plant Situated in the Chorro Valley

The option of a regional plant to treat flows from MBCSD, CMC and Los Osos would require locating the plant in a central location. Figures 5 and 6 show the option of locating the Regional Plant in the Chorro Valley near the intersection of Quintana Road and South Bay Boulevard, to the east of South Bay Boulevard.

3.3.1 Regional Plant

A WWTP to treat flows of MBCSD, CMC and Los Osos would be 3.73 mgd in size. A WWTP of this size is likely to require 11 acres of land. Land at this site is agricultural land, which will need to be purchased and converted to a WWTP site, if this alternative is chosen. A 3.73-mgd WWTP is likely to cost between $19.6 to $65.4 million in 2007 dollars[14]. For a regional plant, it could be assumed that all parties would bear their proportional share of the costs; however, it is unlikely in this situation that MBCSD or CMC would be inclined to share the cost of the plant or the pipeline (as they have existing facilities they are invested in). Thus, it is likely that the cost of the plant might have to be borne by Los Osos. Note that these are construction cost estimates only and do not include permitting costs, CEQA costs, design costs, and other project implementation costs.

[14] Scaling up the costs from MBCSD and CMC construction cost estimates.

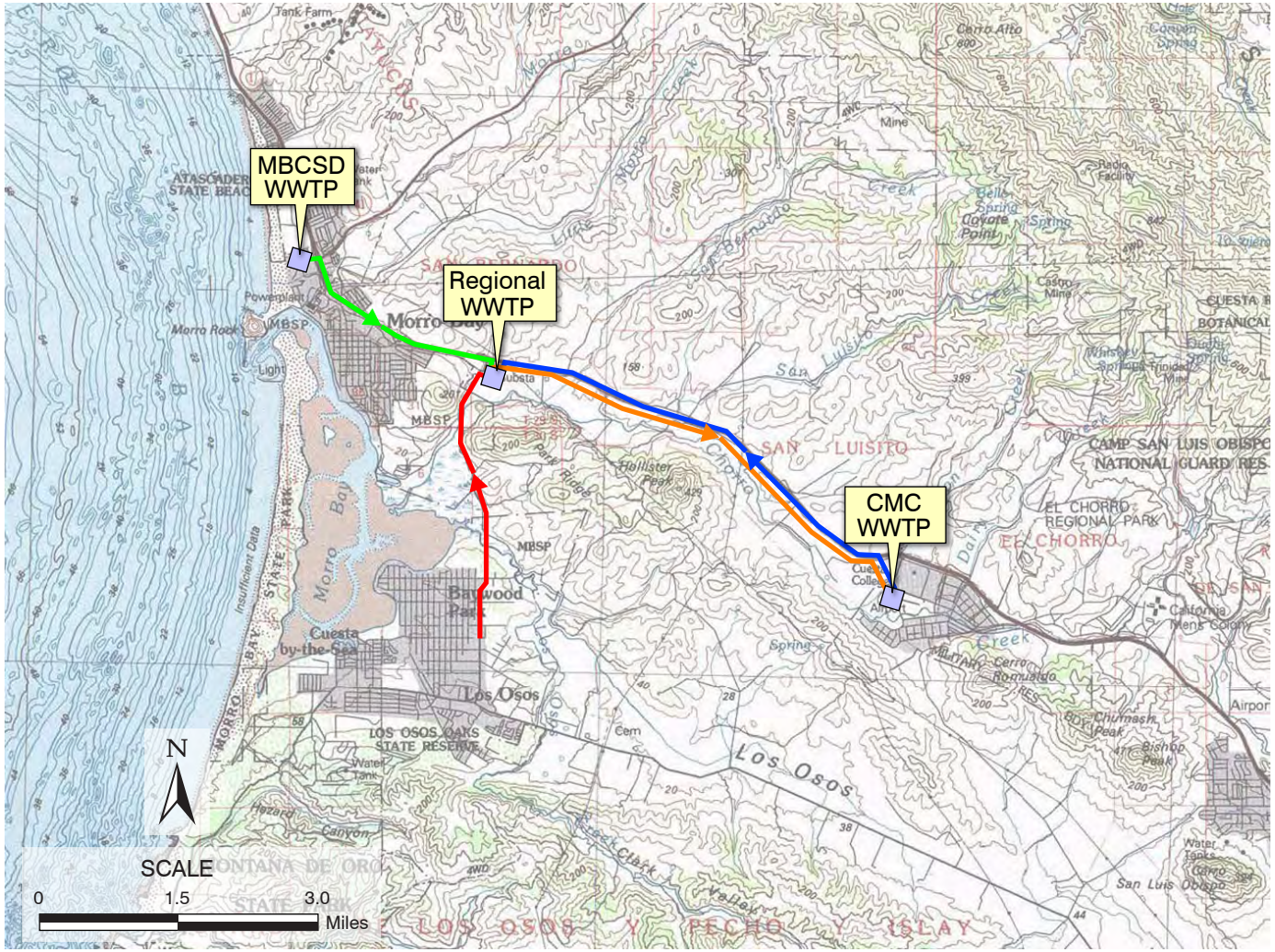

Figure 5
ASSUMED CHORRO VALLEY SITE
LOS OSOS WASTEWATER PROJECT DEVELOPMENT
SAN LUIS OBISPO COUNTY

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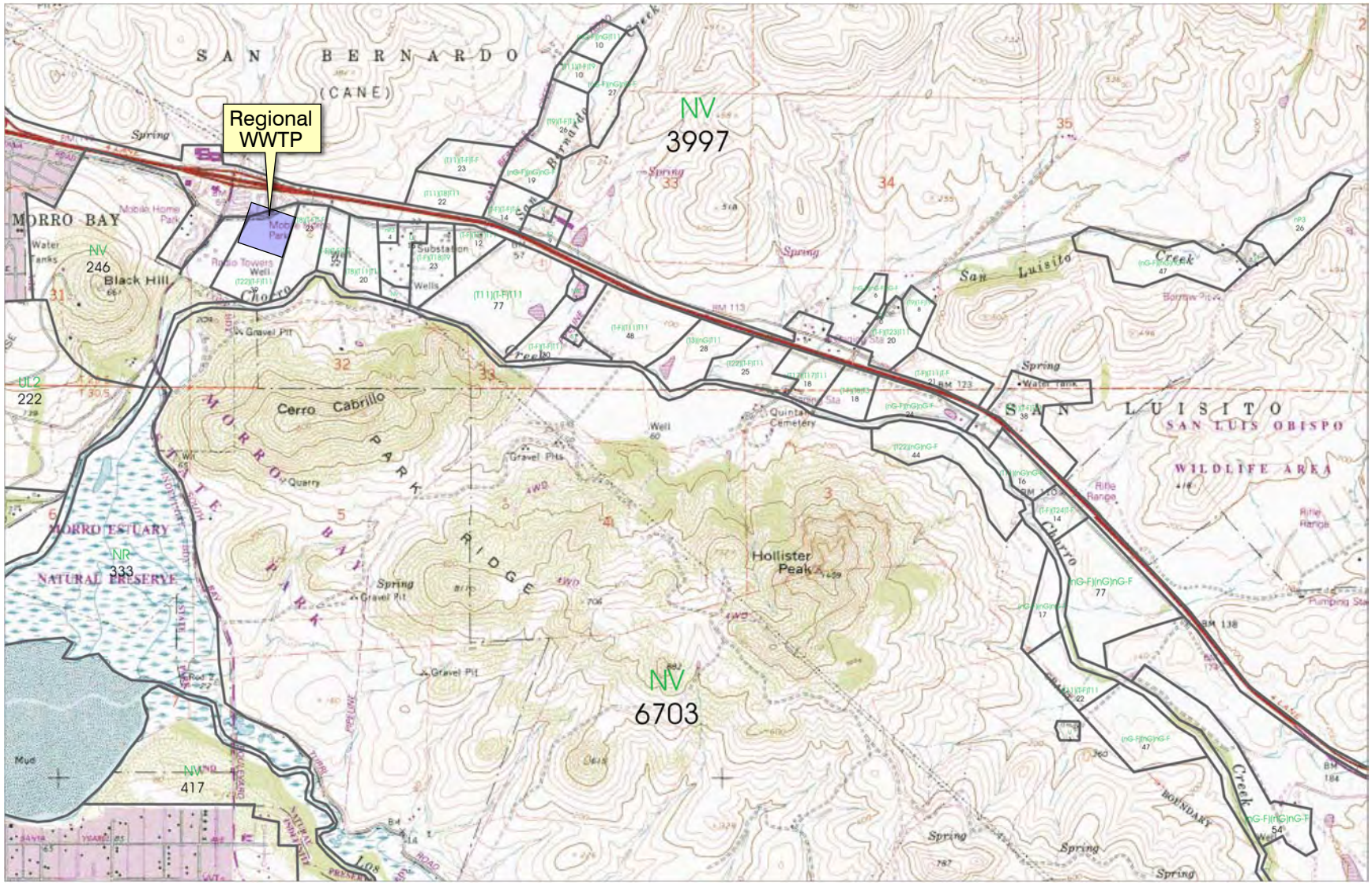

Source of this figure is Cleath and Associates.

Figure 6
AGRICULTURAL LAND PARCELS IN THE CHORRO VALLEY
LOS OSOS WASTEWATER PROJECT DEVELOPMENT
SAN LUIS OBISPO COUNTY

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3.3.2 Pipelines for raw wastewater

Assuming that Los Osos, Morro Bay, Cayucos, and CMC agreed to a Regional Plant in the Chorro Valley, and assuming it was located as shown in Figure 5, the following pipelines are required to carry raw wastewater to the plant: 7-mile pipeline from CMC, 3-mile pipeline from MBCSD, and 3.2-mile pipeline from Los Osos. Assuming all the pipelines were 14-inch in diameter, and assuming a unit cost of $120/LF with a 30 percent contingency, the cost of 13.2 miles of pipeline is $10.8 million. For a regional plant, it could intuitively be assumed that all parties would bear their share of the costs; however, it is unlikely in this situation that MBCSD or CMC would be inclined to share the cost of the plant or the pipeline (as they have existing facilities they are invested in). Thus, it is probable that $10.8 million would be a cost to be paid by Los Osos. Note that these are construction cost estimates only and do not include permitting costs, CEQA costs, design costs, and other project implementation costs.

3.3.3 Reuse/Disposal

3.3.3.1 Disposal

The Chorro Valley floor is not considered suitable for high-rate percolation basins due to seasonally high groundwater conditions and low permeability surface soils[15]. The Potential Viable Project Analysis Rough Screening Analysis (March 2007) by Carollo Engineers concluded that a new discharge to surface water will not be considered for further evaluation due to the regulatory and permitting restrictions. Thus, a new discharge location is not considered a viable option. Therefore, disposal in the Chorro Valley would likely either be into the existing discharge site for CMC at Chorro Creek or at the existing ocean outfall at MBCSD into the Pacific Ocean. Note that disposal into Chorro Creek might likely be required of the Regional Facility to maintain the minimum of 0.75 cfs flows that the CMC WWTP is currently required to discharge. To discharge into Chorro creek at the existing CMC site, a 7-mile pipeline would be needed. Assuming a 14-inch PVC pipeline is used, and assuming a unit cost of $120/LF with a 30 percent contingency, the cost of 7-miles of pipeline is $5.8 million. To discharge into the existing ocean outfall at MBCSD, a 3-mile pipeline would be needed. Assuming a 14-inch PVC pipeline is used, and assuming a unit cost of $120/LF with a 30 percent contingency, the cost of 3-miles of pipeline is $2.5 million. The viability of amending the existing permits to allow discharge from a regional plant into the existing discharge locations is not known at this point.

3.3.4 Reuse

Between Camp San Luis Obispo and Morro Bay, there is approximately 700 acres of irrigated agricultural land in the Chorro Valley on the South side of Highway 1, and approximately 300 acres in the North side[16]. It is difficult to size the pipeline unless the

[15] Cleath and Associates.
[16] Estimate from Cleath and Associates.

volume of recycled water required is known, and thus it is difficult to estimate the cost of the pipeline. It is also not known at this time whether the agricultural users in the Chorro Valley area are favorable to using recycled water for irrigation, or whether the type of crop is amenable to it. A further analysis of the water needs and existing water quality of the agricultural community of Chorro Valley would help determine the viability and acceptance of such an option.

To bring treated effluent back to Los Osos for reuse, an approximate 3.2-mile pipeline would be required. Additional costs associated with reuse are described in the "Effluent Reuse and Disposal Alternatives" Technical Memorandum by Carollo Engineers.

3.3.5 Contractual Issues

For the construction and operation of a regional plant in the Chorro Valley, agreements would need to be negotiated between MBCSD, CMC, and Los Osos. This is likely to be a lengthy and involved process for all parties involved. It is unlikely that CMC would be interested in abandoning their new WWTP in favor of a regional plant in the Chorro Valley unless Los Osos would pay off the bonds for their recently upgraded plant, and bear the construction costs of the new WWTP in Chorro Valley. MBCSD would potentially be disinclined to "abandon" their ocean outfall.

4.0 SUMMARY

Intuitively a regional treatment plant might seem cost effective due to economies of scale. However, the fact that MBCSD and CMC are either on the track for an upgrade, or have an upgraded plant, respectively, means that Los Osos could potentially be required to bear the entire cost of construction for a regional plant. From the perspective of the community of Los Osos, this option could be less attractive than having a treatment plant for Los Osos alone, due to the significant potential additional costs involved. The community of Los Osos could potentially also have to bear the pipeline costs for transporting wastewater from CMC and/or MBCSD and Los Osos to the regional facility. Any further exploration of this option should proceed with the full awareness that a much higher cost would likely need to be incurred by the community of Los Osos. The community of Los Osos will also still need to first construct a sewer system, and these costs are in addition to any costs presented for regional treatment.

Also, there is no seawater intrusion mitigation benefit in the Los Osos groundwater basin from any of the regional treatment alternatives, unless treated effluent is brought back to Los Osos. Therefore, the community of Los Osos would need to implement an additional project to mitigate seawater intrusion, instead of benefiting from the mitigation from a wastewater project in Los Osos.

The viability of a regional treatment plant is also dependent on many factors such as the amenability of the communities of Morro Bay, Cayucos, and/or CMC to the idea of

collaboration on such a project. Responses to the Draft NOP indicate that co-operation is not forthcoming. Siting of the regional plant and disposal of the treated effluent would pose additional significant costs on the project. The magnitude of these costs depends on several variable factors (such as siting, areas of reuse, cost of land acquisition, time taken for negotiations, permitting requirements, etc.) that cannot be determined at this time. A tentative cost summary is presented in Table 2.

Table 2 Comparison of Costs for Alternatives for Regional Treatment Plant[1]
Los Osos Wastewater Development Project
San Luis Obispo County

Alternative	WWTP Construction Costs	Pipeline Costs	Disposal Costs[2]	Total Costs
Expansion at MBCSD[3]	$26.5 to 29.3 million (for MBCSD and Los Osos, depending on level of collaboration)	$4.7 million	Assumed that no additional cost is incurred (if treated effluent is not piped back to Los Osos)	$31.2 to 34 million
Expansion at CMC[4]	$37.2 million (for entire flow of CMC and Los Osos, although $18.6 million was already expended by CMC)	$8.7 million	Assumed that no additional cost is incurred (if treated effluent is not piped back to Los Osos)	$45.9 million
Chorro Valley WWTP[5]	$19.6 to 65.4 million (for flow from MBCSD, CMC, and Los Osos)	$10.8 million	$2.5 million (to MBCSD's ocean outfall) or $5.8 million (to Chorro Creek at CMC)	$32.9 to 82 million
Los Osos WWTP[6]	$20 to 26 million	$0	$15 to 27 million	$35 to 53 million

Notes:
(1) These are construction costs only and do not include permitting costs, CEQA costs, design costs, and other project implementation costs. Costs do not include costs to build the collection system for the community of Los Osos (range of costs to build collection system is $65 to $88 million), which would still be required.
(2) Reuse costs are not evaluated as the volume of recycled water supplied, and the areas of demand are not identified at this juncture. Disposal costs do not include costs of permitting; they only include costs of pipeline required to transport treated effluent to the discharge location.
(3) Assuming that wastewater from Los Osos and MBCSD is treated at this regional facility.
(4) Assuming that wastewater from Los Osos and CMC is treated at this regional facility.
(5) Assuming that wastewater from Los Osos, MBCSD, and CMC is treated at this regional facility.
(6) From Table 7.4 of the Viable Project Alternatives Fine Screening Analysis by Carollo Engineers.

The total construction cost of treatment and reuse/disposal in Los Osos is between $35 to $53 million. The costs of treatment, reuse and disposal associated with the regional facility

range from $31.2 to $82 million, not including the costs of reuse in Los Osos to mitigate seawater intrusion. Note that all options need a collection system, which is an additional $65 to $88 million (construction cost). It is likely that the construction costs of the regional facility would be in the higher end of $31.2 to $82 million, given the site constraints of the various options. Thus, the regional facility could potentially cost between $29 to $47 million more than a facility at Los Osos.

San Luis Obispo County

APPENDIX - DRAFT ENVIRONMENTAL IMPACT REPORT RESPONSES

City of Morro Bay

Morro Bay, CA 93442 • 805-772-6200
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January 8, 2008

Mr. Mark Hutchinson
San Luis Obispo County Dept of Public Works
County Government Center Room 207
San Luis Obispo, CA 93408

Subject: Notice of Preparation of a Draft Environmental Impact Report

Dear Mr. Hutchinson,

This letter is written to provide city staff comments on the Notice of Preparation of a Draft Environmental Impact Report (NOP) for the Los Osos Wastewater Project dated December 10, 2007.

1-EIR Approach

City staff has serious concerns that your approach does not include a detailed project description upon which to focus the EIR. Not having a detailed project description makes the comment process more difficult while at the same time leaving many people in the dark about what the actual project will be. This approach requires interested parties to remain intimately involved in every step of the process. Developing co-equal alternatives will require the same level of analysis and review for each approach._This approach is not realistic and City staff does not have the time or resources to put forth the effort for the extensive review process that your approach will require.

2-Regional Treatment Approach

City of Morro Bay staff has serious concerns about the regional treatment approaches outlined in the NOP. Staff questions the prudence of pursuing a regional treatment approach at this time. City staff believes that it would not be in the best interest of Morro Bay or its ratepayers to pursue a regional treatment approach as outlined in the NOP. Morro Bay recommends the County eliminate the regional approach from your co-equal analysis based on the following considerations and determine the approach is not feasible.

A)Impacts to the Morro Bay and Cayucos Time Schedule

The City and District have proactively and voluntarily agreed to upgrade the wastewater treatment process per the 8-year time schedule adopted by the City and Cayucos Sanitary District (District) in April 2006. The 8-year time schedule was negotiated with, and recommended for approval to both the Central Coast Regional Water Quality Control

Board (RWQCB) as well as the USEPA. To date, the City and District have made great progress in their upgrade project to the existing plant, including adoption of a Facility Master Plan (FMP), adoption of a Revenue Program, the implementation of a revised wastewater user fee schedule, and the public noticing of a Request for Proposal for Environmental Services for the Morro Bay – Cayucos Wastewater Treatment Plant Upgrade.

It should also be noted that the Morro Bay – Cayucos Wastewater Treatment Plant is already a regional facility handling the wastewater for the coastal communities of Morro Bay and Cayucos.

B) Morro Bay – Cayucos WWTP Facility Master Plan

The City and District recently adopted a Facility Master Plan prepared by Carollo Engineers. The City and District voted to adopt full tertiary treatment utilizing oxidation ditches with filtration prior to ocean discharge. In addition, the Council and District voted to meet tertiary treatment standards with the intention to move towards reclamation. The project description contained in the FMP will be used for evaluation of the upgrade of the existing plant during the environmental review process.

C) Impacts to Morro Bay and Cayucous Rate Payers

In addition, the City recently adopted new wastewater user fees based on the full tertiary treatment project outlined in the FMP. The City adopted the wastewater user fees structure following the completion of a Revenue Program by Carollo Engineers. The wastewater fees were adopted following the process outlined by Proposition 218. The new wastewater fees were the subject of much debate within the local community, and any change in project description would undermine the significant progress the two communities have made in the upgrade project. Staffs at both the RWQCB and the USEPA have expressed their satisfaction with the progress of the upgrade project to date, and any significant change in the adopted project description would not be looked upon in a favorable light by either the RWQCB or USEPA.

D-Permitting Concerns

The construction of a regional treatment facility or transporting sewage from Los Osos to the existing MBCSD would also necessitate the construction of significant infrastructure through or along the Morro Bay National Estuary as well as the newly formed Morro Bay East Estuary State Marine Reserve, and also through the City of Morro Bay. This would result in substantial capital costs, as well as an extremely onerous environmental permitting process. City staff has concerns about the ability to permit such a project. If such a project were pursued, any delays in the construction or environmental permitting process could jeopardize the City and District's ability to meet the 8-year time schedule for upgrading the existing plant, resulting in severe regulatory actions against the City and District. The existing wastewater treatment plant has a limit on the amount of discharge from the plant that could be impacted by the addition capacity for Los Osos.

E) Irrigation vs State Water

The Regional Treatment approach outlined included the possibility to exchange reclaimed water from Los Osos for State Water Project water from Morro Bay. The legal, and financial constraints of Morro Bay selling State Water to Los Osos would require negotiations far outside the scope of constructing a wastewater treatment plant. Additionally the Regional Treatment Approach outlined hinted at the potential for returning a disproportionate share of reclaimed water to Los Osos. This arrangement would potentially violate the joint powers agreement between Morro Bay and Cayucos. Furthermore Morro Bay cannot provide new sewer service to areas outside of the City limits without contemplating annexation per our existing Municipal Code.

3-Ocean Outfall

City staff is perplexed by the numerous comments that the "*...plant should abandon its ocean outfall line in favor of more environmentally acceptable methods.*" Over two decades of intensive monitoring have documented that the existing outfall is not having an adverse impact on the receiving waters or surrounding benthic habitats. Both the RWQCB and the USEPA have concurred with this during the renewal of the plant's section 301(h) modified discharge permit in 1985, 1992, and 1998. Staff recommends that all comments concerning *abandoning* or *elimination of the existing outfall line* be deleted from the document and further consideration and that the environmental review performed on the project be coupled with adherence to scientific standards.

4-Chorro Valley WWTP Analysis

The City of Morro Bay has examined the feasibility of constructing a wastewater treatment plant in the Chorro Valley. The City recently contracted with Cannon Associates to update the 1999 CDBG Reclamation Study Phase II to determine the feasibility of developing a wastewater treatment plant in the Chorro Valley. The outcome of that study (the Chorro Valley Study) was that construction of a treatment facility in the Chorro Valley represented significantly higher capital costs, notably higher operations and maintenance costs, and significantly more stringent effluent requirements for a creek discharge into an impaired waterway that could require reverse osmosis for 100% of the effluent with a brine return line to the ocean discharge line at the existing plant.

During the course of the Chorro Valley Study, RWQCB staff noted that based on stringent effluent standards, and potentially more stringent requirements in the future, that an inland water discharge is a tremendous liability.

5- Revision to the Vicinity Map

If the County proceeds with the Regional Approach to Wastewater Treatment then the vicinity map provided in the notice is inaccurate as it does not include all of the Chorro valley, The City of Morro Bay, and Cayucos.

Staff would like to thank you for the opportunity to provide comments on the NOP. If you have any questions or require any further information please contact me at 772-6272.

Sincerely,

Bruce Keogh
Wastewater Division Manager

Manager/C/Bkeogh/Los Osos/Comments on NOP EIR Dec 07rev2

Sincerely,

Dylan Wade
Senior Civil Engineer

Sincerely,

Mike Prater
Planning Manager

CARMEL NACCASHA LLP

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December 21, 2007

VIA FACSIMILE (781-1229) & US MAIL

Mark Hutchinson
San Luis Obispo County Public Works
County Government Center Room 207
San Luis Obispo, CA 93408

RE: NOTICE OF PREPARATION
DRAFT ENVIRONMENTAL IMPACT REPORT
LOS OSOS WASTEWATER PROJECT

Dear Mr. Hutchinson,

This office represents the Cayucos Sanitary District ("District") and is in receipt of the County of San Luis Obispo's ("County") Notice of Preparation ("NOP") of a Draft Environmental Impact Report ("DEIR") for the Los Osos Wastewater Project. Unfortunately, while the NOP specifically includes the City of Morro Bay ("Morro Bay")/District wastewater treatment plant ("MB/CSD WWTP") as a proposed alternative for analysis in the DEIR, the County did not provide the District with a copy of the NOP. We were fortunate to find out about the matter and receive a copy of the NOP from Morro Bay on December 19, 2007. The District co-owns the MB/CSD WWTP and therefore, respectfully requests that the District, as well as our office, receive special notice on all matters pertaining to the DEIR.

After our brief review of the NOP (due to the holiday season, untimely receipt of the NOP and limited available response time), it is clear that the feasibility of the MB/CSD WWTP alternative is seriously mischaracterized. In fact, the NOP appears to be "pushing for" the MB/CSD WWTP alternative. With all due respect, the MB/CSD WWTP alternative is infeasible, impractical and such study in the DEIR is a waste of ratepayer money and precious time. We understand that an EIR must evaluate a reasonable range of project alternatives and that consolidation of wastewater treatment services may have some benefit, however, under the current circumstances regarding the MB/CSD WWTP Upgrade Project, use of such an alternative is absolutely infeasible, unreasonable and such analysis is moot.

An EIR determines feasibility of alternatives based on the <u>economic, environmental, social and technological factors involved</u>. Considering the initial hurdles involved, this project alternative is neither practical nor achievable and its evaluation can serve no useful purpose. The following are intended to provide the County with the District's initial thoughts regarding this alternative:

- As you know, Morro Bay and the District are in the process of upgrading the MB/CSD WWTP to full tertiary treatment. This upgrade is subject to a very strict eight (8) year timeline that Morro Bay, the District and all regulatory agencies involved (including the Regional Water Quality Control Board ("RWQCB") and EPA, as well as a number of environmental organizations including the NRDC, Surfrider Foundation and Sierra Club), have worked long, hard and at significant expense, to make happen. The District is committed to fulfilling its obligations to upgrade the MB/CSD WWTP to full tertiary treatment as quickly as possible in order to timely eliminate the need for a section 301(h) modified discharge permit, and potential regulatory actions associated therewith.

- The time necessary to study, plan and construct such an alternative project will take much longer than the time necessary to complete the ongoing permit process and construct the MB/CSD WWTP Upgrade Project.

- The costs involved in obtaining the necessary easements and constructing infrastructure needed to transport the waste to the MB/CSD WWTP will likely be greater than the actual cost to build the treatment plant itself. Additionally, such infrastructure may need to go through sensitive wetland habitat as well as through the heart of MB in order to reach the MB/CSD WWTP.

- We do not foresee this alternative actually being permitted, especially in light of the fact that the owners of the MB/CSD WWTP, as well as the RWQCB and EPA, oppose such a project. Condemnation of an interest in another public entities wastewater treatment plant would be expensive, divisive and unlikely to succeed and therefore, does not appear to be a viable course of action.

We are hopeful that Los Osos will be able to put its sewer woes to rest shortly and that whatever solution evolves works best for everyone, including our precious environment. The District respectfully requests that the County consider the relevancy, feasibility and impacts associated with pursuing such an alternative and eliminate it from scope of work documents for the DEIR.

Please call if you have any questions or comments.

Sincerely,
CARMEL & NACCASHA LLP

Timothy J. Carmel

TJC/ja

cc: District Board of Directors
Bill Callahan, District General Manager
City of Morro Bay