

L A F C O M E M O R A N D U M

SANTA BARBARA LOCAL AGENCY FORMATION COMMISSION
105 East Anapamu Street ♦ Santa Barbara CA 93101 ♦ (805) 568-3391 ♦ Fax (805) 568-2249

February 2, 2017

TO: Each Member of the Commission

FROM: Paul Hood *PLH*
Executive Officer

SUBJECT: Consider Status Reports on 1) the Request by the Santa Ynez CSD to Include Los Olivos in the District's Sphere of Influence, and 2) a Pending Proposal to Form a Los Olivos Community Services District – Receive and File the Status Reports

This is an Informational Report. No Action is Necessary

DISCUSSION

At the June 2, 2016, staff requested direction from the Commission regarding options on submitted and pending proposals for the community of Los, as follows:

- a) The request by the Santa Ynez Community Services District(SYCSD) to include Los Olivos in the District's Sphere of Influence, and;
- b) A pending proposal to form a Los Olivos Community Services District; and

Staff was directed to return to the Commission within six months for action or further direction as appropriate.

Staff returned with a status report at the December 8, 2016 meeting. The Commission received and filed the status report.

Status Report on the Options:

- a) The request by the Santa Ynez Community Services District to include Los Olivos in the District's Sphere of Influence (**Map attached as Exhibit A**).

In order to evaluate the request by the Santa Ynez Community Services District to include the community of Los Olivos in its sphere of influence, on September 30, 2016, staff requested that the district complete a questionnaire to update its MSR/SOI. The previous MSR/SOI was approved by the Commission in 2012 and reaffirmed the SOI in place at that time that did not

include the Los Olivos community. The responses to the questionnaire were submitted to LAFCO staff on November 18, 2016 and are currently being evaluated. The sphere of influence amendment request is deemed incomplete pending the MSR/SOI update.

In terms of processing timelines, the sphere of influence amendment request is not a “proposal” or a conflicting application as defined by the Cortese-Knox-Hertzberg Act. A ***“Proposal” means a desired change of organization or reorganization initiated by a petition or by resolution of application of a legislative body or school district for which a certificate of filing has been issued.***”

The sphere of influence request timeline has been discussed with the SYCSD’s staff and, in light of the application to form a Los Olivos CSD, is pending review in terms of how best to provide wastewater services to the community of Los Olivos.

b) The pending proposal to form a Los Olivos Community Services District (**Map attached as Exhibit B**)

A petition to form a Los Olivos Community Services District was filed on January 5, 2017. The petition was submitted to County Elections on January 6, 2017 to validate the signatures. On January 18, 2017, the County Registrar of Voters determined that 234 valid signatures out of 551 registered voters in the proposed district boundaries, signed the petition. The minimum number of valid signatures to initiate district formation proceeding is 25%. The petition contained 42.47% (**Exhibit C- Registrar of Voters Summary of Signature Verification**).

Summary of Special District Formation Process:

Petition of Application – At least 25% of the Registered Voters
LAFCO Hearing – Approval, Denial, or Revise Proposal
If approved by LAFCO, a Protest Hearing is Held
With less than 50% Protest, a Formation Election is Held

Summary of District Formation Timeline: Since the petition of application has been deemed to be sufficient, the next step in the formation process is a noticed Commission hearing. If the formation is approved by the Commission, a protest hearing follows. Within 35 days following the adoption of the commission’s resolution making determinations, the executive officer shall set the proposal for a protest hearing and give notice of that hearing by mailing, publication, and posting. The hearing shall not be held prior to the expiration of the reconsideration period. The date of that hearing shall not be less than 21 days, or more than 60 days, after the date the notice is given.

The protest hearing on the proposal shall be held on the date and at the time specified in the notice given by the executive officer. The hearing may be continued from time to time but not to exceed 60 days from the date specified for the hearing in the notice. Upon conclusion of the protest hearing, the commission shall determine the value of written protests filed and not

withdrawn. In the absence of a majority protest, the formation is then set for an election. The election would most probably be by mailed ballot

If approved by the Commission, in the absence of majority protest, and assuming the proposal goes to an election, the formation process could take up to six months to complete.

Previous Exhibits: A number of Exhibits were previously submitted to the Commission for the December 8, 2016 status report. These information purposes, the previously submitted Exhibits, and the new Registrar of Voters signature validation information, are attached to this staff report.

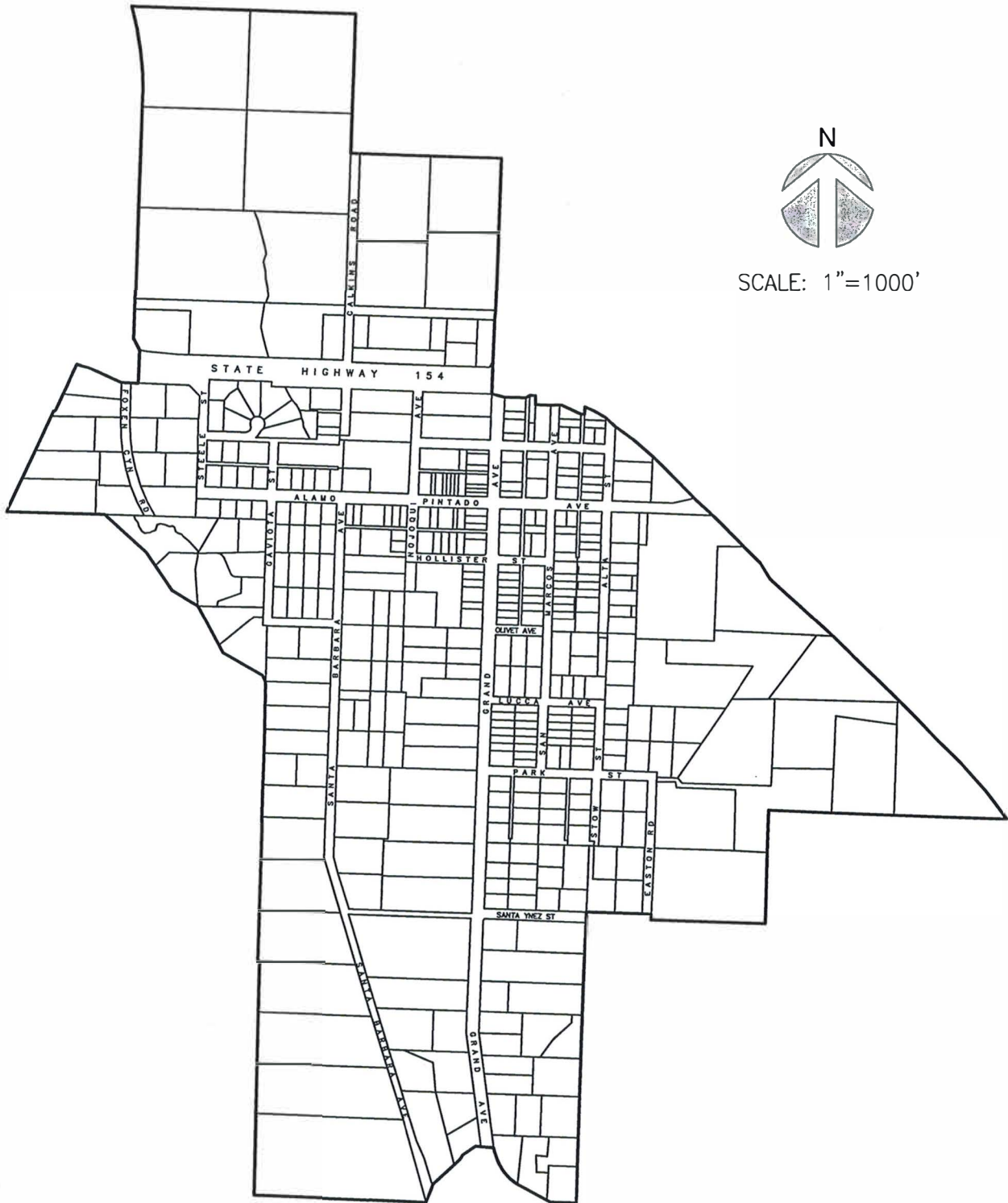
As mentioned previously, this is an Informational Report. No Action is Necessary

Exhibits:

- Exhibit A Map of Sphere of Influence Amendment Request by the Santa Ynez CSD
- Exhibit B Map of Proposed Los Olivos CSD Boundaries
- Exhibit C Registrar of Voters Summary of Signature Verification (New)
- Exhibit D Revisions to Los Olivos Wastewater System, Preliminary Engineering Report, dated September 13, 2016
- Exhibit E Final Report: Plan for Services and Feasibility Study: Los Olivos Water Reclamation, dated October 24, 2016
- Exhibit F Comment letter from Heal the Ocean on the AECOM Update to Los Olivos Wastewater System Preliminary Engineering Report (September 13, 2016)

Please contact the LAFCO office if you have any questions.

Proposed Los Olivos Addition to the Sphere of Influence Area
of the Santa Ynez Community Services District



SCALE: 1"=1000'



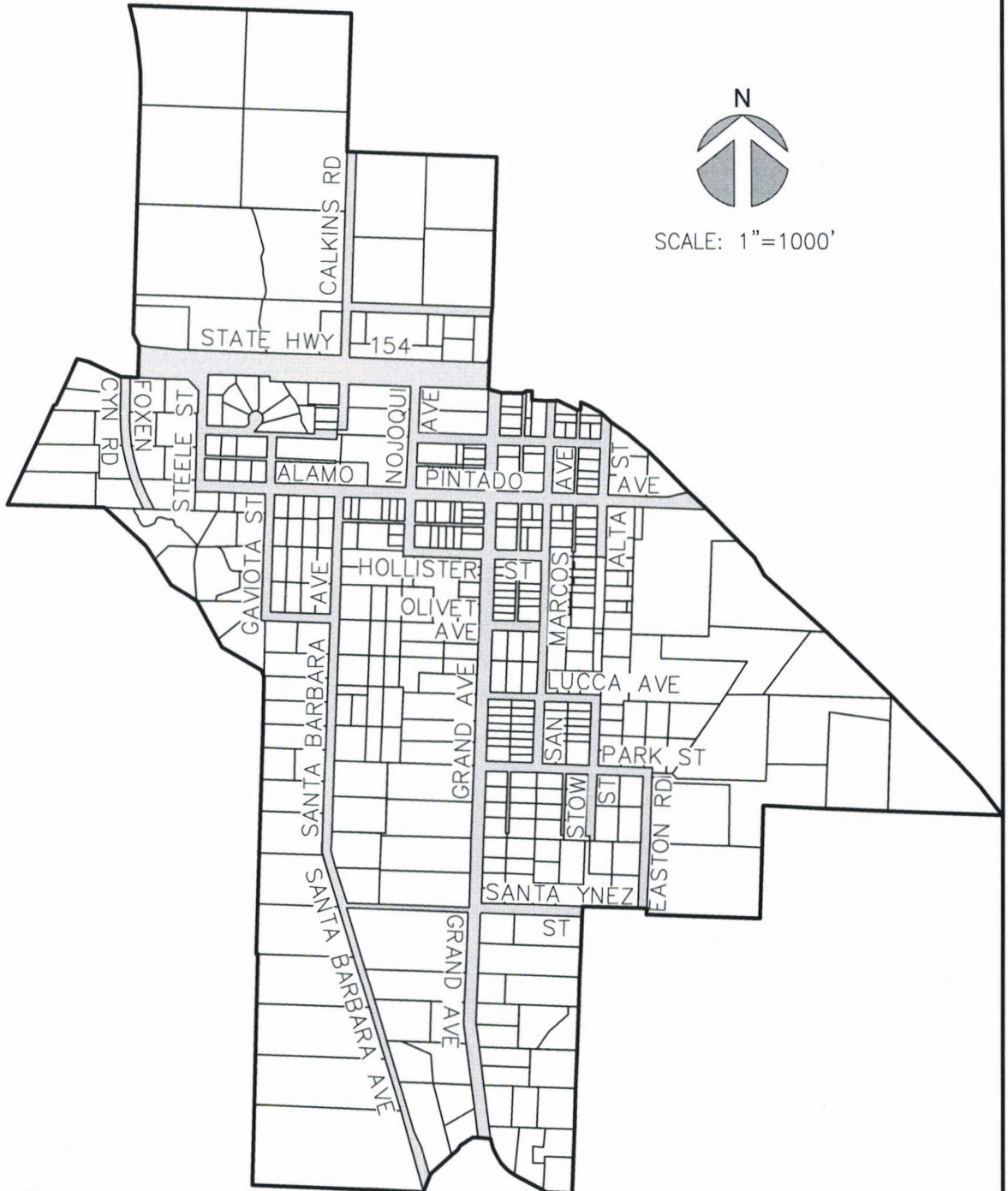
201 N. Calle Cesar Chavez, Ste 300
Santa Barbara, CA 93103
805.692.6921 Phone

ENGINEERING
PLANNING
SURVEYING
CONSTRUCTION MANAGEMENT

SYCSD.150411_SPA Parcels.dwg * 10/22/2015 * RLS * E-FILE

Number of Assessor's Parcels = 421
Total Area of Parcels = 440± Acres

Proposed Formation of the Los Olivos Community Services District



201 N. Calle Cesar Chavez, Ste 300
Santa Barbara, CA 93103
805.692.6921 Phone

ENGINEERING
PLANNING
SURVEYING
CONSTRUCTION MANAGEMENT

LOCS.D.160586.00 * ANX MAP.dwg * 11/8/2016 * RCS * E-FILE

Total Area of Parcels = 440± Acres

REGISTRAR OF VOTERS

4440-A Calle Real
Santa Barbara, CA 93110

Mailing Address:
PO Box 61510
Santa Barbara, CA 93160-1510



Lompoc Branch Office
401 E. Cypress Ave, Room 102
Lompoc, CA 93436

Santa Maria Branch Office
511 E. Lakeside Parkway, Suite 134
Santa Maria, CA 93455

JOSEPH E. HOLLAND
COUNTY CLERK, RECORDER AND ASSESSOR

M E M O R A N D U M

January 18, 2017

TO: Paul Hood
LAFCO Executive Director

FROM: *Renee Bischof*
Renee Bischof, Chief Deputy Registrar of Voters
Elections Division

RE: **LAFCO #17-01: Formation of the Los Olivos Community Services District**

On January 6, 2017, your office requested the Election Office to verify signatures on the Petitions for Formation of the Los Olivos Community Services District. Following are results of our review:

1. The total number of registered voters residing in the proposed formation area at the close of business on Monday, November 28, 2016, is 551.
2. The total number of valid signatures on the petition forms from registered voters residing within the proposed formation area is 234.

A summary of the results of the signature verification is attached. If you have any questions, please contact me at (805) 696-8963.

Summary Results for Formation of Los Olivos Community Services District - Petition Forms

<u>CATEGORY</u>	<u>RESULT</u>
1 Valid signatures from Active voters within the proposed formation area	234
2 Valid signatures from Inactive voters within the proposed formation area	2
3 Signatures of voters registered at address outside of the proposed formation area	24
4 Signatures of voters registered at a different address	11
5 Signatures of voters who did not provide a residence address	9
6 Voters with signatures missing or did not match	2
7 Signatures from persons not registered in Santa Barbara County	13
8 Duplicate signatures from voters already included in one or more of the above groups	22
9 Total signatures from petition pages	317
The number of registered voters in the proposed Los Olivos CSD as of November 28, 2016	551



Water

Submitted to
Santa Barbara County
Environmental Health Services
225 Camino Del Remedio
Santa Barbara CA 93110

Submitted by
AECOM
2400 Professional Pkwy.,
Ste. 100
Santa Maria, CA 93455
Date: September 13, 2016

Update to Los Olivos Wastewater System Preliminary Engineering Report



EXHIBIT D



Water

Submitted to
Santa Barbara County
Environmental Health Services
225 Camino Del Remedio
Santa Barbara CA 93110

Submitted by
AECOM
2400 Professional Pkwy.,
Ste. 100
Santa Maria, CA 93455
Date: September 13, 2016

Revisions to Los Olivos Wastewater System Preliminary Engineering Report

September 13, 2016

Prepared by Tyler Hunt, P.E.

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1 Introduction

1.1 Purpose

The purpose of this Updated Preliminary Engineering Report is to update the recommendations for a community wastewater collection, treatment and disposal system for the downtown core, as well as other parcels in the Los Olivos Special Problem Area (SPA) shown in **Figure 1.1**.

Under the direction of the County, AECOM developed the Los Olivos Wastewater System Preliminary Engineering Report (PER) in 2013. The PER supported the effort to address and recommend long-term solutions for the wastewater disposal issues of the Los Olivos SPA. The document also explored wastewater collection, treatment, and disposal options and provided an evaluation of two types of collection systems, four treatment system options, and four effluent disposal alternatives, as summarized below in **Table 1.1**:

Table 1.1 – Collection, Treatment, and Disposal Systems Evaluated in PER	
System	Options Evaluated in PER
Collection System	<ul style="list-style-type: none"> · Gravity · Pressurized
Treatment System	<ul style="list-style-type: none"> · Extended Aeration Activated Sludge Modified Ludzak-Ettinger (MLE) · Sequencing Batch Reactor (SBR) · Membrane Bioreactor (MBR) · AdvanTex
Effluent Disposal System	<ul style="list-style-type: none"> · Infiltration · Subsurface disposal (leach fields) · Agricultural Reuse - Undisinfected Secondary · Agricultural Reuse - Disinfected Tertiary

During the 2013 effort, AECOM evaluated a collection and treatment system to serve the “downtown commercial core” only (Phase I), the commercial core and selected adjacent residential parcels (Phase II) and the entire community (Phase III). The PER also provided preliminary evaluation criteria for siting a wastewater treatment plant (WWTP) and an Engineer’s Opinion of Construction Cost for a new WWTP, effluent disposal facilities, and collection system for each alternative.

1.2 Scope

At the request of the Los Olivos Steering Committee, the County is interested in fine tuning the PER, and obtaining updated construction, operation and maintenance (O&M) costs for a wastewater collection and treatment system for Los Olivos.

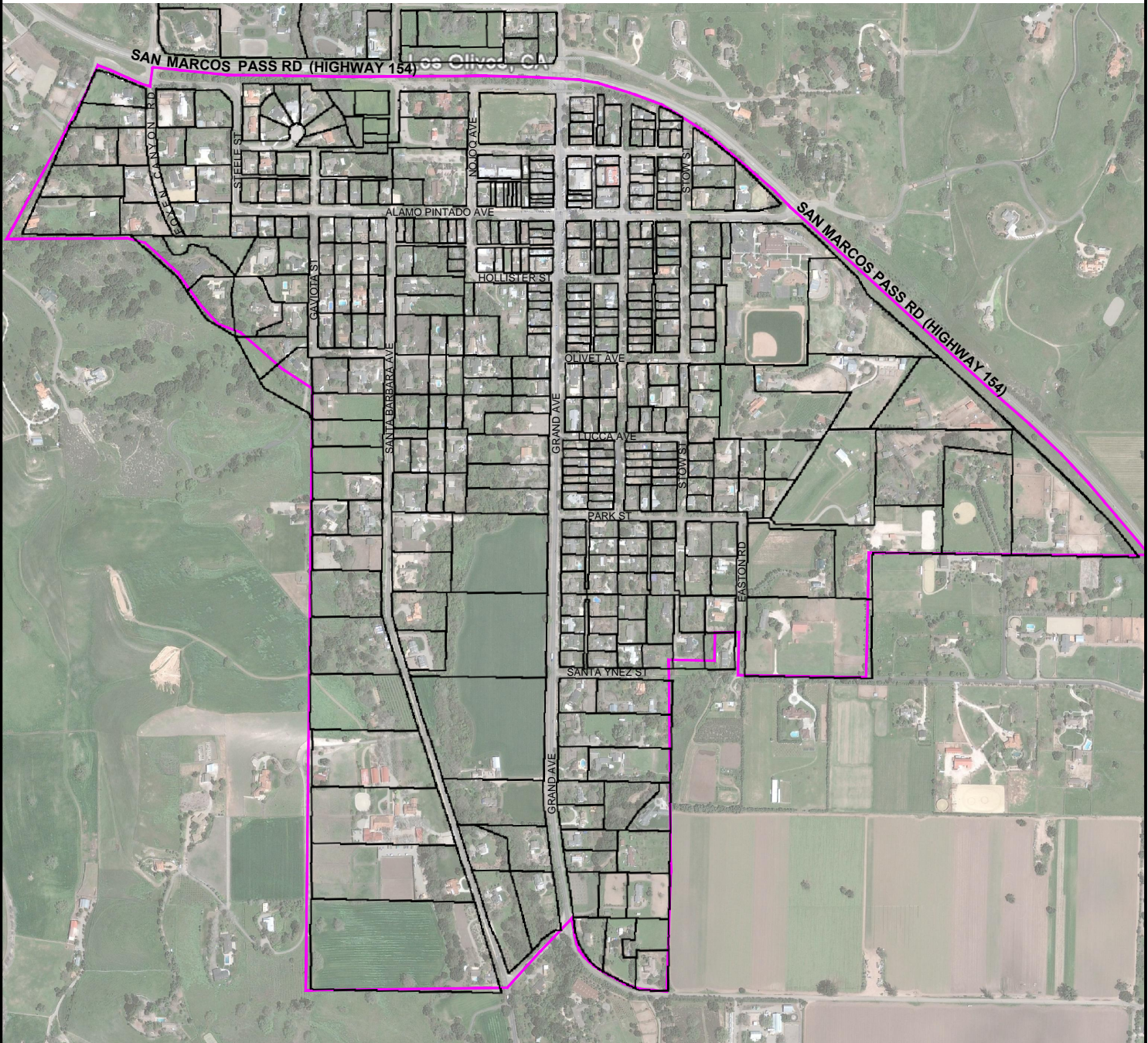
This update provides the following revisions to the PER:

- Rather than using the tiered approach used in the PER, the update will analyze a system that will serve the entire SPA;
- The update will include the MBR treatment process only;
- The update will evaluate two effluent disposal methods, infiltration and non-potable reuse (NPR); and
- The update will include an analysis of a “no action alternative” i.e. what would it cost an individual homeowner to continue to use an OWTS under the approved Local Agency Management Program rather than construct and connect to a public sewer system including an O&M analysis of an appropriate onsite treatment technology.

Sections of the PER which will be updated include:

- Collection System Evaluation and Cost (**Section 5.7**)
- MBR Evaluation and Cost (**Sections 6.3.4 and 6.4.4**)
- Effluent Disposal (**Section 7**)
- Engineer’s Opinion of Cost (**Section 9**)

In addition to updating these sections, AECOM will also add a new section to provide analysis of a “no action alternative” to evaluate the cost to a homeowner to continue using an OWTS in accordance with current guidelines.



LOS OLIVOS SPECIAL PROBLEM AREA

2 Basis of Design

2.1 Study Service Area

The service area for the wastewater collection system remains identical to what was presented as Phase III in the PER, including approximately 418 parcels, 340 of which are located in the township of Los Olivos. The PER identifies 400 existing residential units in Los Olivos and 228,990 square feet (sf) of developed commercial area¹. An additional 120,539 sf of commercial is included in this Basis of Design (BOD) to account for the 20-year (yr) buildout¹ of additional commercial area assumed in the Santa Ynez Valley 2009 Community Plan Environmental Impact Report (2009 EIR). Many of the commercial businesses are located in the downtown area and consist of restaurants, hotels, wine tasting rooms and retail shops that support the high volume of tourism the town experiences.

The service area is presented in **Figure 1.1**. The total acreage of service area is approximately 536 acres².

2.2 Population Projection (20 years)

The PER estimated a population of 1,000 residents in the Los Olivos community. However, the results of the 2010 United States Census Bureau (USCB) reported that Los Olivos has a population of 1,132³. This BOD will use the USCB data. Based on information presented in the Santa Barbara County Regional Growth Forecast, the unincorporated areas of the County are projected to experience an average population growth rate of 0.49% between 2015 and 2040. Assuming this growth rate for the Los Olivos SPA between 2010 and 2016, the current population is 1,166. The total population in 20 years (2036) would be 1,286 based on a constant growth rate model.

Weekends see an influx of visitors that can increase the population by up to 200%. These visitors include guests at the local hotels and patrons to the local retail stores, wine tasting rooms, and restaurants.

2.3 Projected Average, Maximum Month, Maximum Day, and Peak Flows

Estimates for average and peak flow conditions used in the PER were based on data provided in the Los Olivos Wastewater Management Plan (LOWMMP) and the 2009 EIR. Flow projections in the LOWMMP were developed based on assumed septic tank volumes and a percentage of anticipated potable water usage. Based on this method, a maximum daily flow (MDF) of 323,000 gallons per day (gpd) and average annual daily flow (AADF) of 180,000 gpd was determined. The 2009 EIR estimated residential wastewater flows assuming a factor of 215 gpd per connection. According to the Land Use Element of the Santa Barbara County Comprehensive General Plan⁴, the approximate household size for urban areas with one unit per acre in the Los Alamos-Garey-Sisquoc area is 3.0 residents per household. Assuming a similar dwelling size for Los Olivos, the resulting per capita wastewater generation factor is 72 gpd. This factor is consistent with typical residential wastewater generation in the Central Coast of California. Commercial wastewater flows were estimated using a factor of 0.056

¹ Santa Ynez Valley Community Plan Environmental Impact Report (County of Santa Barbara, September 2009)

² PER

³ 2010 US Census (<http://www.census.gov/2010census/popmap/ipmtext.php?fl=06:0644168>)

⁴ County of Santa Barbara Comprehensive General Plan Land Use Element (Republished May 2010)

gpd per square foot of commercially-developed area. **Table 2.1** below summarizes the AADF wastewater flow estimates from the PER revised using a 20-yr buildout of commercial properties. The average day maximum month flow (ADMMF) is summarized in **Table 2.2**, maximum daily flow (MDF) in **Table 2.3**, and peak hour flow (PHF) in **Table 2.4**.

Wastewater calculations for the Los Olivos study area were more recently estimated by Stantec in April 2015. Stantec's estimates were based on water use data (when available) provided by the local water purveyor, the Santa Ynez River Water Conservation District. Water use and irrigation factors were applied to the metered water usage data to estimate wastewater flows. For areas of the special problems district that had no water use data, an assumption of water consumption was used. Estimates were only developed for the Phase II existing and build-out commercial and select residential properties. Flows for the remaining Phase III residential properties are not included in the calculations. However, the residential water use factor of 268.7 gpd per connection and 0.042 gpd per square foot of commercial estimated in Stantec's report can be used to calculate the total Phase III (remaining 389 residences and commercial buildout) wastewater flows. **Table 2.1** below summarizes the AADF wastewater flow from Stantec's analysis. The ADMMF is summarized in **Table 2.2**, MDF in **Table 2.3**, and PHF in **Table 2.4**.

Los Alamos is a community located approximately 11 miles northeast of Los Olivos. The community of Los Alamos has a similar mix of residential and commercial properties. In 2012 the population of Los Alamos was 1,800 and the AADF was 122,460 gpd. According to the Los Alamos Community Services District Wastewater Collection and Treatment Planning Study (Bethel Engineering, April 2012), the average residential flow is estimated to be 180 gpd per connection and commercial flow is estimated at 60 gpd per 1,000 ft². Due to the similarities between the two communities, Los Alamos's data will be used to generate a comparative wastewater flow estimate for Los Olivos. **Table 2.1** below summarizes the AADF wastewater flow from the Los Alamos data. The ADMMF is summarized in **Table 2.2**, MDF in **Table 2.3**, and PHF in **Table 2.4**.

This update uses the same flow factors as the PER.

Table 2.1 – Projected Average Annual Flows

	Residential			Commercial (20-yr Buildout)			Total (gpd)
	Total Connections	Factor (gpd/connection)	AADF (gpd)	Total Area (ft ²)	Factor (gpd/ft ²)	AADF (gpd)	
PER	400	215	86,000	349,529	0.056	19,574	105,574
Stantec Report	400	269	107,600	349,529	0.042	14,680	122,280
Los Alamos Comparison	400	180	72,000	349,529	0.060	20,972	92,972
Composite	400	221	88,400	349,529	0.053	18,409	106,942

Table 2.2 – Projected Average Daily Maximum Month Flows

	AADF (gpd)			AADF:ADMMF Factor	ADMMF (gpd)		
	Residential	Commercial	Total		Residential	Commercial	Total
PER	86,000	19,574	105,574	1.1	94,600	21,531	116,131
Stantec Report	107,600	14,680	122,280	1.1	118,360	16,148	134,508
Los Alamos Comparison	72,000	20,972	92,972	1.1	79,200	23,069	102,269
Composite	88,400	18,409	106,942	1.1	97,387	20,249	117,636

Table 2.3 – Projected Maximum Day Flows

	AADF (gpd)			AADF:MDF Factor	MDF (gpd)		
	Residential	Commercial	Total		Residential	Commercial	Total
PER	86,000	19,574	105,574	3.2	275,200	62,636	337,836
Stantec Report	107,600	14,680	122,280	3.2	344,320	46,977	391,297
Los Alamos Comparison	72,000	20,972	92,972	3.2	230,400	67,110	297,510
Composite	88,533	18,409	106,942	3.2	283,307	58,907	342,214

Table 2.4 – Projected Peak Hour Flows

	AADF (gpd)			AADF:PHF Factor	PHF (gpd)		
	Residential	Commercial	Total		Residential	Commercial	Total
PER	86,000	19,574	105,574	4.5	387,000	88,081	475,081
Stantec Report	107,600	14,680	122,280	4.5	484,200	66,061	550,261
Los Alamos Comparison	72,000	20,972	92,972	4.5	324,000	94,373	418,373
Composite	88,533	18,409	106,942	4.5	398,400	82,838	481,238

Per the above tables, a composite flow using data from three different sources was generated. These composite flows are summarized in **Table 2.5**. The composite flows will be utilized going forward for sizing of collection and treatment facilities.

Table 2.5 – Composite Flows

AADF (gpd)	ADMMF (gpd)	MDF (gpd)	PHF (gpd)
107,000	118,000	342,000	481,000

2.4 Sewer and Pump Station Preliminary Sizing & Layout

The PER recommends a gravity-type collection system which takes advantage of the generally south sloping topography of the area. The PER estimated that collection pipes will likely range from 8-inches to 15-inches in diameter, to accommodate commercial and residential build-out flows. The revisions to the flow estimates do not affect this assumption.

The PER provides design information for a single lift station as part of the Southern Route. Revisions to the flow estimates allow us to reduce the flow capacity of the station from 94 gallons per minute (gpm) to 80 gpm. The size of the force main can be reduced from 4-inches in diameter to 3-inches in diameter to maintain adequate velocity in the force main.

2.5 Wastewater Treatment Plant Sizing

The selected MBR treatment train will be sized to treat the ADMMF of 118,000 gpd. The sequence of installation for the membrane treatment trains and operations will be the same as outlined in the PER. A 300,000 gallon equalization tank or basin should be installed to smooth the spikes in flow during peak tourism days.

2.6 Land Requirements

Per the PER, the land requirement for the MBR treatment facility is estimated to be 0.30 acres. This assumption is not changing. A 300,000 gallon equalization tank or basin will add an additional 0.20 acres.

The PER assumes a total of 24-acres of infiltration basins (with an associated land requirement of 40 acres) would be needed for disposal of wastewater effluent. However, this sizing was based on a very conservative 0.20 inches/day infiltration rate. Research performed with the United States Department of Agriculture Natural Resources Conservation Service Web Soil Survey found many areas to the north and southeast of Los Olivos with significantly higher infiltration rates. These areas have infiltration rates that range from 1.44 inches/day to 13.5 inches/day. Using the lower end of this range, the area required for the infiltration basins can be reduced to 5 acres.

2.7 Current Number of On-Site Wastewater Systems

According to the 2014 Onsite Wastewater Treatment Systems Local Agency Management Program (LAMP), there are approximately 343 septic systems within the Los Olivos specials problems district.

3 Treatment Alternatives Evaluation

This section of the report describes the recommended membrane bioreactor (MBR) wastewater treatment system components, approximate cost of the treatment plant and provides comparison to continuing on-site treatment by retrofitting existing septic systems.

3.1 Membrane Bioreactor Wastewater Treatment System

Table 3.1 indicates the wastewater flow and characteristics used for sizing of the wastewater treatment plant (WWTP).

Table 3.1 – Basis of Design	
Average Day Maximum Month Flow (gpd)	118,000
Maximum Daily Flow (gpd)	342,000
Peak Hour Flow (gpd)	481,000
BOD	
(mg/L)	435
(ppd) ¹	575
TSS	
(mg/L)	330
(ppd) ¹	435
TKN	
(mg/L)	65
(ppd) ¹	85

The WWTP is designed around MBR technology. In order to develop preliminary cost estimates for the wastewater treatment system the following equipment manufacturers presented in **Table 3.2** were consulted.

Table 3.2 – Basis for Evaluated Equipment Costs	
Process	Manufacturer/Model
Screen & Grit	Roto Sieve Model RS-24 Screen
MBR Equipment	Econity
UV Disinfection Equipment	TrojanUVFit™ 18AL40 Reactor

The following is a brief description of the equipment and processes selected for the WWTP.

3.1.1 Screen/Grit Facility

Screen and grit facility will be provided to prevent large particles from getting carried into the downstream treatment process. The screen opening will be 0.2 mm and sized to protect the membrane elements of the MBR. Two Rotosieve Model RS-24 screens, (one duty, one standby) will be provided. Compaction and bagging of the screenings will be included. Screenings will require disposal at a qualified landfill facility.

3.1.2 Wastewater Equalization Tank

The wastewater equalization tank will be sized at 300,000 gallons. The equalization tank will be a concrete tank and include a flat aluminum roof. The aluminum roof is provided to reduce the spread of odorous compounds into the atmosphere. Design of the tank will include odor control and internal wash down systems.

3.1.3 MBR Equipment

The MBR process consists of activated sludge reactors (or aeration basins) that use membrane filtration for solids separation. Membrane filtration is a solids separation process which utilizes polymeric filtration media with small pore sizes ranging from 0.04 (hollow fiber) to 0.4 microns (flat sheet) to sieve and separate solids from the treated effluent. These systems are used to replace the secondary clarification and filtration steps normally associated with the activated sludge process. Without the limitations set by solids flux in conventional secondary clarification, the mixed liquor suspended solids (MLSS) concentration can be as high as 10,000 mg/L, which is much higher than conventional suspended growth processes. The higher MLSS concentration and the elimination of secondary clarifiers reduce the footprint of the overall MBR process. An MBR also produces a higher-quality effluent compared to that produced by secondary clarification paired with tertiary filtration.

The biological process for an MBR system is controlled similarly to conventional activated sludge, where the solids retention time (SRT) is adjusted to achieve the desired removal efficiencies and sludge characteristics. **Figure 3.1** provides an illustration of the process.

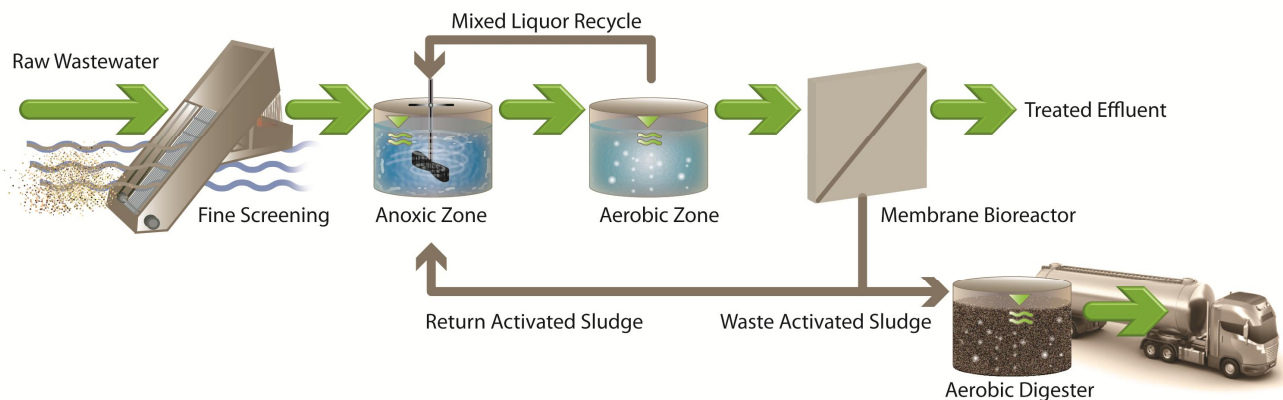


Figure 3.1 – Typical MBR System Flow Schematic

For the Los Olivos WWTP, two biological treatment trains followed by two membrane trains would be constructed. Each biological treatment train would consist of pre-anoxic, aerobic, and post-anoxic zones. The anoxic zone is required to achieve denitrification. The post-anoxic zone is required to minimize the amount of dissolved air that is recycled to the pre-anoxic zone that could inhibit the denitrification process. The membrane system will be designed using hollow fiber membrane with pore sizes of 0.1 micron. Pertinent design features of the MBR system is provided in **Table 3.3**.

Table 3.3 – Pertinent Design Features of the MBR System

Membrane Bioreactor (MBR)			
Total Design Capacity (gpd)			118,000
Number of Treatment Units			2
Pre-Anoxic Zone			
Volume per Train (gal)			10,000
Total Volume (gal)			20,000
Aerobic Zone			
Volume per Train (gal)			30,000
Membrane Tank Volume (gal)			5,284
Total Volume (gal)			70,568
Post-Anoxic Zone			
Volume per Train (gal)			10,000
Total Volume (gal)			20,000
HRT (hours)			22.4
SRT (days)			15 - 30
MLSS (mg/L) ²			6,000 – 10,000
F:M (lb BOD/lb MLSS x day)			0.05 – 0.25
Trains per Unit			1
Total Trains			2
Cassettes per Train			3
Total Cassettes			6
Modules per Cassette			24
Total Modules			144
Total Membrane Area (sf)			32,544
Flux at MDF (gallons/sf/day)			10.51
Flux at PHF (gallons/sf/day)			14.8

3.1.4 System Controls

Process control and alarm notification will be provided through a pre-programmed PLC-based control system, fully factory pre-wired and installed in a NEMA 12 panel. The control panel will be housed in a

container and will be installed at site. The HMI will allow the operator to control and monitor the complete system operation through operator inputs within pre-set limits.

3.1.5 Motor Control

Starters for the blowers and pumps, soft starts, variable frequency drives (VFDs), and power transformers will be housed in a NEMA 12 panel. The starters and VFD drives will be installed indoors.

3.1.6 UV Disinfection

Three 18AL40 Trojan UV units will be provided. Two of the units working in parallel will provide treatment at peak flow. The third unit will remain on standby. Should one UV unit fail, the standby unit will be brought on line. Each UV unit will have 18 lamps each at 250 W.

3.1.7 Sludge Disposal

About 1% of the volume of the raw wastewater will be generated as waste sludge at about 1.5% solids content. This amounts to 1,180 gallons of sludge generated per day. Sludge will be stored in a 10,000 gallon, aerated, above ground bolted steel storage tank. Sludge will be hauled off site for disposal.

3.1.8 Effluent Lift Station

Two 100 gpm, 100 ft TDH pumps will be provided to send the treated wastewater to the disposal system. One pump will operate and the second pump will be a standby. Pumps will be provided with variable frequency drives. The lift station will have a wet well to store 30 minutes of effluent.

3.1.9 Odor Control System

Odor control system will be designed to remove odorous air from the wastewater equalization tank vapor space and will treat the air in a packed bed scrubber. The scrubber will be designed to treat 2,000 CFM of odorous air.

3.1.10 Overhead Crane System

One electric chain hoist will be provided for the maintenance of the membranes of the MBR.

3.1.11 Opinion of Probable Costs Wastewater Treatment

Based on these design criteria, a project cost estimate was developed for the WWTP using MBR.

Table 3.4 – Wastewater Treatment System Cost Summary

Equipment	Total
1. Equalization Tank	\$430,000
2. Aluminum Dome Cover	\$552,000
3. Screen & Grit Facility	\$205,400
4. MBR Equipment	\$2,082,400
5. Sludge Disposal Facilities	\$70,000
6. Disinfection UV system	\$319,250
7. Effluent Pump Station	\$88,800
8. Odor Control System	\$121,500
9. Site Piping	\$200,000
10. Aeration Blowers	\$138,000
11. MCC/Blower Bldg	\$120,000
12. Electrical/Instrumentation	\$200,000
13. Overhead Crane	\$21,950
Subtotal	\$4,549,300
Contingencies (20%)	\$909,860
Total Construction Cost	\$5,459,000¹
Engineering, Administration, Legal (35%)	\$1,910,650
Total Project Cost	\$7,370,000

Notes:

1. AACE Class 4 planning level estimate. Expected accuracy range of -30 to +50 percent.

3.1.12 Operations and Maintenance Cost Wastewater Treatment System

The O&M cost estimate for the MBR is included in **Table 3.5**.

Table 3.5 – MBR Annual O&M Cost Estimate¹

Component	Unit Cost	Unit	Quantity	Unit	Total
Sludge Disposal	\$0.24	\$/gallon	430,700	gallons	\$103,368
Power	\$0.16	\$/kWh	1,138,800	kWh	\$182,208
Maintenance ²	2.0	%	\$4,549,300	-	\$90,986
Misc. Equipment Replacement ²	4.0	%	\$4,549,300	-	\$181,972
Total					\$558,534

Notes:
 2. Costs based on the first year of operation in 2017.
 3. Percentage of the total equipment cost.

3.2 On Site Waste Treatment

On site treatment of household sanitary waste may be performed using a peat filter. The peat filter in some ways may be considered as a fixed film bioreactor system much like a trickling filter in a wastewater treatment plant. Peat, however, has unique chemical, physical and biological properties, all of which contribute to the wastewater treatment process. Wastewater treatment within the peat filter is accomplished by a combination of physical filtration, chemical adsorption, and biological treatment by microorganisms. Peat fibers are polar, have a high surface area, and a highly porous structure (90 to 95% porosity). These properties enable the peat bed to hold a large amount of water, much like a sponge. As a result, effluent has a long residence time in the peat bed. As the wastewater is wicked through the peat it flows in a thin film over the surfaces of the peat fibers. This allows the effluent to become aerated, become exposed to the acidic chemical environment of the peat, and come in close contact with the microbiological community residing in the peat. The relatively constant moisture content of the peat filter also enables the survival of the natural microbial population in the peat even when the system is not being actively used. Moisture in the peat also helps keep the temperature of the peat bed relatively constant even when outside air temperatures change. Peat filter reduces BOD below 30 mg/l with influent BOD entering the peat filter at 300 mg/l. It is reported that most single pass peat filter systems remove 30% nitrogen. **Figure 3.2** shows the proposed modifications to existing septic system of the houses to provide the additional treatment.

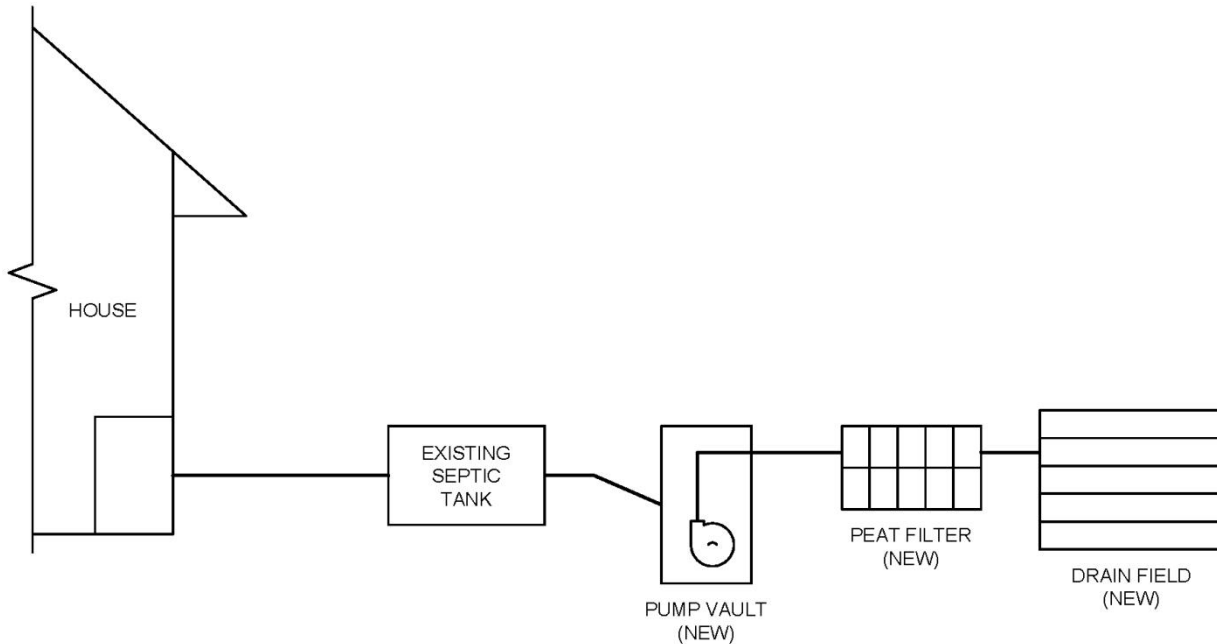


Figure 3.2 – Peat Filter Flow Schematic

3.2.1 Peat Filter Cost Estimate

The following is the estimated cost for installation peat filters for 400 properties based on equipment supplied by Ecopure:

Table 3.6 – Peat Filter Cost Estimate			
Peat Filter System	\$/Unit	Units	Total
(a) Pump Vault (24" dia x 84" high)	\$3000	1	\$3,000
(b) Peat Filter PBF4 (120" x 84")	\$4000	1	\$4,000
(c) Drain field (12 feet x 24 feet)	\$3500	1	\$3,500
Subtotal			\$10,500
Tax and delivery @13%			\$1,365
Installation @15%			\$1,575
Electrical @10%			\$1,050
Manufacturer Services @10%			\$1,050
Contingencies (20%)			\$2,100
Subtotal (one home)			\$17,640
TOTAL construction cost (400 properties)			\$7,056,000

Note: It should be noted that many houses may not have the required space to install the peat filter which would result in the need for a more compact and higher cost system.

3.2.2 Operations and Maintenance Cost for Peat Filter Beds

Cost Basis:

- One ¼ HP motor for each system
- 400 systems
- Maintenance cost/year is 2% of the installed cost
- Change of peat bed every 10 years
- Change of peat bed every 10 years

Table 3.7 – OWTS Annual O&M Cost Estimate

Component	Unit Cost	Unit	Quantity	Unit	Total
Power	\$0.16	\$/kWh	357,000	kWh	\$57,000
Maintenance ¹	2.0	%	\$7,056,000	-	\$141,000
Peat Replacement ²	\$400	\$/yr per filter	400	Filters	\$160,000
Total					\$358,000

Notes:

1. Percentage of the total installed cost.
2. Annualized cost per peat filter replacement which is required every 10 years.

4 Effluent Disposal

Since this revision addresses the implementation of a new WWTP utilizing MBR, an evaluation of recommended effluent disposal options needs to be provided. This revision evaluates the feasibility of two effluent disposal methods:

- Infiltration
- Non-potable reuse

A summary of the recommended effluent disposal alternatives evaluated in this revision are presented in **Table 4.1**. A discussion of each of these alternatives is included in this section that considers pertinent issues such as anticipated regulatory requirements, siting and area requirements, design criteria, and construction cost.

Table 4.1 – Summary of Viable Effluent Disposal Alternatives

Disposal/Reuse Alternative	Filtration Required	Disinfection Required	Nitrogen Removal Required
Infiltration	Yes	Yes	Yes
Non-potable Reuse	Yes	Yes	Yes

Notes:

1. Due to concerns with nitrate infiltration to the groundwater, denitrification to a TN of 10 mg/L has been assumed for both disposal options.

4.1 Infiltration

Infiltration ponds are reservoirs where water is stored and allowed to either infiltrate into the ground or evaporate. The pond bottoms are managed to maintain infiltration rates by periodically drying, ripping, and conditioning the soils.

Groundwater degradation is a major consideration for this type of disposal practice. Regulations are continually changing and becoming more restrictive to protect groundwater quality. Considerations such as distance to the nearest well, depth to groundwater, and mounding potential must all be considered in addition to water quality. Sizing and siting requirements for the infiltration pond depends on these groundwater issues, the types of soils, and infiltration capacity.

4.1.1 Regulatory Requirements

Advances in treatment technology which allow for the production of high quality recycled water have made infiltration a time-proven, sustainable method of replenishing groundwater and augmenting drinking water supplies. With an MBR treatment system, Los Olivos would be well positioned to implement infiltration. The system will need to comply with Title 22 of the Code of California Regulations.

As discussed previously, nitrate concentrations in the groundwater underlying the SPA and surrounding areas are increasing due to the use of OWTSS. In order to minimize future degradation from the Los Olivos WWTP, the concentration of nitrogen in the effluent would be reduced to within the primary

drinking water MCL of 10 mg/L nitrate (as N) or 10 mg/L TN. The shallow groundwater in the SPA highlights the need for nitrogen removal with infiltration since natural nitrification/denitrification in the soil matrix is expected to be limited.

4.1.2 Design Criteria

The most important criterion for development of the infiltration disposal method is selecting a site with adequate area based on the site's infiltration rate. Based on an initial evaluation of the area, the location of the disposal sites will be either northeast or southeast of the SPA. According to the Web Soil Survey, the soils northeast of the special problem area range from Salinas silty clay loam (SdA) with a permeability of 0.20 to 0.63 inches per hour to Ballard gravelly fine sandy loam (BhC) with a permeability of 2.0 to 6.3 inches per hour. Based on the soil data, a conservative infiltration rate of 1.44 inches per day (0.06 inches per hour) was selected. This document assumes that the infiltration basins will be located on the north side of Los Olivos to maximize groundwater recharge benefit. Therefore, an effluent pump station will be required.

In order to calculate the volume and area of infiltration basins necessary for each phase of the Los Olivos WWTP project, a water balance was developed. The water balance takes into account not only the water lost through infiltration, but also water lost from evaporation and the contribution of rainfall. **Table 4.2** summarizes the climatic characteristics used to develop the water balances for the infiltration alternative.

Table 4.2 – Evaporation and Precipitation Data for the Los Olivos Area

Month	Pan Evaporation (inches/month) ¹	Evaporation (inches/month) ²	Precipitation (inches/month) ³
January	2.44	1.83	3.10
February	3.53	2.65	3.14
March	4.41	3.31	2.55
April	6.01	4.51	1.12
May	7.55	5.66	0.27
June	8.56	6.42	0.03
July	9.50	7.13	0.02
August	8.98	6.74	0.03
September	7.00	5.25	0.18
October	5.42	4.07	0.52
November	3.49	2.62	1.53
December	2.79	2.09	2.27
Total	69.68	52.26	14.76

Notes:

1. Western Regional Climate Center – Cachuma Lake (1952 – 2002).
2. Pan Evaporation (inches/month) x 0.75.
3. Western Regional Climate Center – Lompoc (1917 – 2010).

Detailed design criteria for the Los Olivos WWTP are provided in **Table 4.3**.

Table 4.3 – Infiltration Design Criteria	
Parameter	
<u>Influent Characteristics</u>	
Average Annual Daily Flow (gpd)	107,000
Average Day Maximum Month Flow (gpd)	118,000
Maximum Daily Flow (gpd)	342,000
Peak Hour Flow (gpd)	481,000
<u>Pump Station</u>	
Maximum Capacity (gpd)	342,000
Forcemain Diameter (in)	6
Pump Horsepower (each)	5
Number of Pumps	2
<u>Infiltration Basins</u>	
Infiltration Rate (in/day)	1.44
Total Infiltration Area (acres)	2.6
Total Basin Area (acres)	4.5
Total Volume (AF)	14.2
Number of Basins	2
<u>Basin Dimensions</u>	
Length (ft)	498
Width (ft)	198
Side Water Depth (ft)	4
Freeboard (ft)	2
Side Slope (H:V)	4

It is important to note the hydraulic loading rate, and therefore the basis of design is based on assumed soil characteristics and vertical permeability. Once potential disposal sites are identified infiltration tests should be conducted by a hydrogeologist to determine the suitability of this disposal method for a particular location.

4.1.3 Siting and Area Requirements

As mentioned previously, infiltration basins should be located in areas with high infiltration rates such as coarse sandy soils while expansive clay soils should be avoided. Infiltration testing should be done at prospective sites to determine the applicability of infiltration and accurately determine the necessary basin capacity.

Based on a infiltration rate of 1.44 inches/day, approximately 2.6 acres of infiltration basins would be required. With accommodations for dikes and set-backs, the County would need to acquire roughly 5 acres of land.

4.1.4 Opinion of Probable Costs

The costs for the infiltration alternative are summarized in **Table 4.4**. For the purpose of this document it has been assumed effluent will be pumped to the infiltration basins.

Table 4.4 – 2013 Infiltration Project Cost Summary	
Component	Total
Infiltration Basins inc. Land Aquisition	\$700,000
Pump Station and Forcemain	\$1,660,000
Subtotal	\$2,360,000
Contingency (20 percent)	\$472,000
Total Construction Cost	\$2,832,000
Engineering, Administration, Legal (35 percent)	\$991,000
Total Cost	\$3,823,000

4.2 Non-Potable Reuse

Construction of a Non-Potable Reuse (NPR) system will require a distribution network, pump stations, and a monitoring and controls system to demonstrate compliance with regulations. Significant improvements will be required depending on how Los Olivos chooses to ultimately utilize the non-potable water. These could include:

1. Securing enough demand for the recycled water;
2. Infrastructure to store and distribute the NPR water.

Identifying demand for NPR water could be challenging, especially considering the minimal demand for irrigation during the winter season. Lack of demand would require Los Olivos to provide storage for the treated effluent. The Los Olivos area does not currently, and is not likely in the foreseeable future, anticipated to host industrial users which require a large water demand. Thus, expansion of the NPR system is likely to have only limited benefits.

4.2.1 NPR Feasibility

NPR could prove to be feasible if a suitable number of users could be identified. There could also be some cost savings in constructing the NPR distribution lines in a common trench (with required clearance) with the new sewer collection system lines. Unfortunately, due to the lack of potential industrial and commercial users, as well as parks and golf courses, NPR is not considered a feasible

option for Los Olivos. Costs to construct and maintain storage facilities to store the effluent during the non-irrigation season also make NPR unfeasible.

5 Recommendations and Engineer's Opinion of Cost

This section presents recommendations and a revised planning-level Engineer's Opinion of Cost for a new wastewater treatment plant (WWTP), effluent disposal facilities, and collection system for the community of Los Olivos. For cost estimating purposes a treatment site has been assumed south of town and disposal site has been assumed to be north of town. Due to the elevation of the service area in relation to the assumed WWTP location, it is assumed a gravity collection system will be used with a lift station used to convey treated effluent flows to the disposal site. It is important to note that the WWTP site is conceptual and is only used as a basis to evaluate the overall project cost.

5.1 Recommended Cost Basis

5.1.1 Membrane Bioreactor

Cost basis for the Membrane Bioreactor system is described in **Section 3**.

5.1.2 Infiltration Ponds

Infiltration ponds are reservoirs where water is stored and allowed to either infiltrate into the ground or evaporate. The pond bottoms are managed to maintain infiltration rates by periodically drying, ripping, and conditioning the soils.

Cost basis for the infiltration ponds is described in Section 4.

5.1.3 Proposed WWTP Layout

Figures 5.1 provides a sample layout for the Los Olivos WWTP. The initial layout would take into consideration requirements for future plant expansion.

5.1.4 Collection System

A typical gravity collection system is recommended for the community wastewater system. Since the terrain in and around Los Olivos slopes to the south, and the disposal site is assumed to be to the north, lift stations will be required to convey wastewater collected in gravity lines located throughout the community. Initially, one lift station would be required for the collection system as outlined in the PER. The collection system layout used to develop estimated costs is provided on **Figure 5.2**.

5.1.5 Operations and Maintenance (O&M)

5.1.5.1 Staffing Requirements

Due to the relatively small size of the WWTP, it has been assumed that one operator would be required at the plant for half of the day, 5 days a week. For one of these days an additional operator would likely be required to assist in performing maintenance functions.

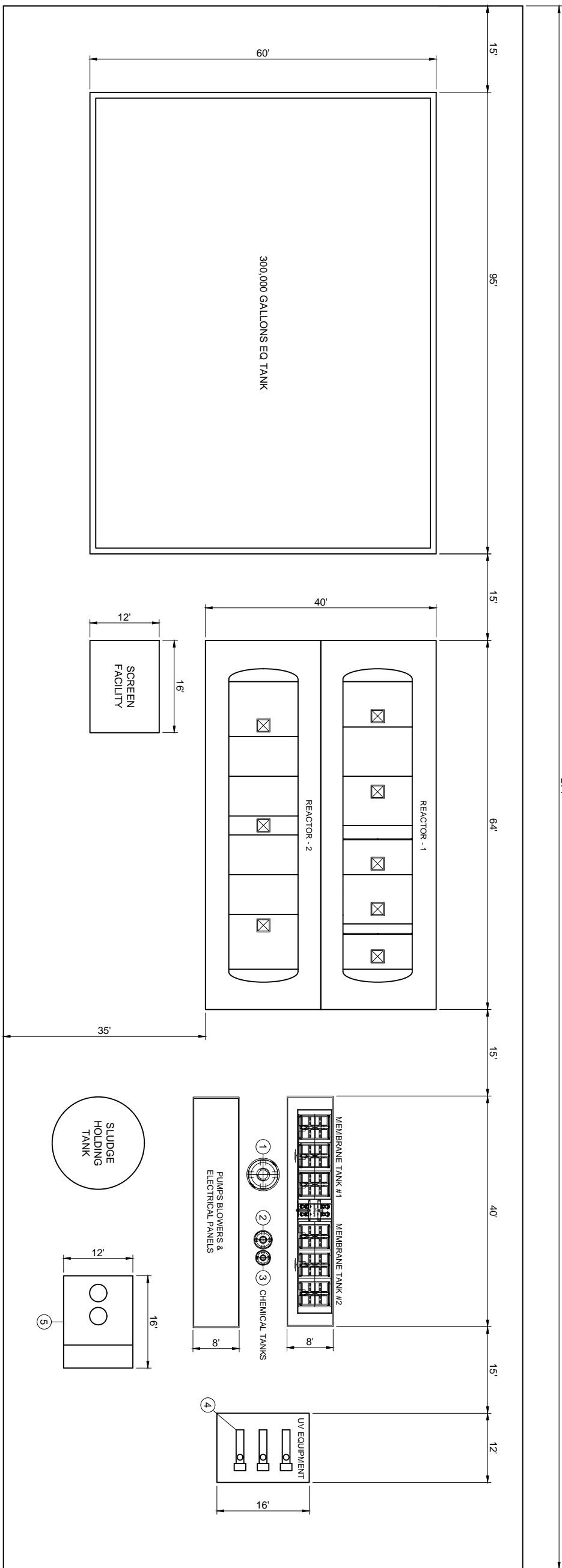
According to Section 3675, Chapter 26, Title 23 of the California Code of Regulations the Los Olivos WWTP would be considered a Class III plant. Section 3680 of the same chapter also states that for a Class III plant the Chief Plant Operator would have to possess at a minimum a valid Grade III license. Supervisors and shift supervisors would have to possess a Grade II license while operators would be required to have a valid Grade 1 or operator-in-training certificate.

5.1.5.2 *Treatment and Disposal*

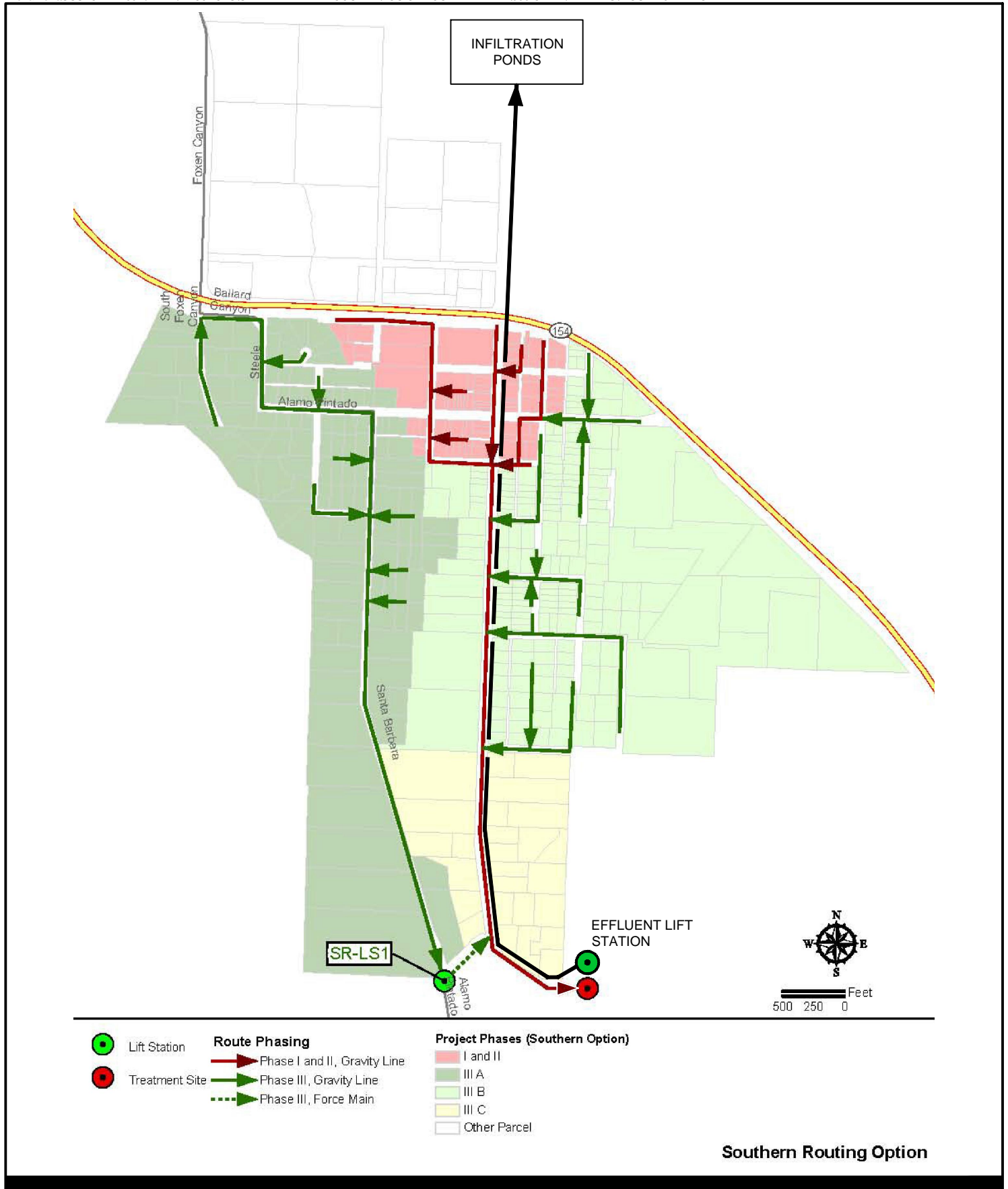
Operations and maintenance of the treatment and disposal systems would include material replacements including membranes and UV bulbs, maintenance items, and power usage of the facility. The impacts of the aeration and disposal of this material have also been accounted for in the O&M cost estimates.

5.1.5.3 *Collection System*

It is assumed typical O&M associated with a gravity collection system with lift stations would be required for Los Olivos. This would include periodic cleaning and inspection of the sewer lines and maintenance of the pumps at the lift stations. Collection system cleaning and inspection is typically recommended for 20 percent of the system each year. Periodic inspection and cleaning of lift stations would also be required. Inspection of lift stations identifies potential problems not detected by the control system.



CONCEPTUAL WWTP SITE LAYOUT



COLLECTION ROUTES

5.2 Project Costs

5.2.1 General Cost Parameters

These costs will be revised and refined as the project proceeds. The following assumptions were made to develop planning-level cost opinions:

- Except where other data is available, construction cost opinions are generally derived using bid prices from similar wastewater projects, with adjustments for inflation, size, complexity, and location;
- Except where other data is available, operations and maintenance cost opinions are generally derived using information from product vendors, utility rates and personnel costs provided by the County, and costs from similar wastewater projects, with adjustments for inflation, size, complexity, and location;
- 20 percent construction contingency;
- Engineering, administration, and legal costs were assumed to be 35 percent of the total construction costs;
- Cost opinions are AACE Class 4 planning level with an accuracy range of -30 to +50 percent;
- Construction cost opinions are in 2016 dollars;
- Operations and maintenance cost opinions are in 2017 dollars;
- When budgeting for future years, appropriate escalation factors should be applied;
- Cost opinions are “budget-level” and may not fully account for site-specific conditions that will affect the actual costs; and

The opinions of probable cost prepared by AECOM represent our judgment and are supplied for the general guidance of the County. Since AECOM has no control over the cost of labor and material, or over competitive bidding or market conditions, AECOM does not guarantee the accuracy of such opinions as compared to contractor bids or actual costs.

5.2.2 Collection System

It is assumed that conventional excavation depths of five to six feet can be maintained along the majority of the alignments. Opinions of probable construction cost for the collection system were developed based on conventional excavation and estimated costs of materials, preparation, earthwork, installation, and roadwork. Costs for the collection system were increased based on the ENR Construction Cost Index increase from January 2013 to August 2016. This increase was 8.5 percent. Cost criteria are summarized in **Table 5.1**.

Table 5.1 – Sewer Improvement Cost Criteria

Item Description	Estimated Construction cost	Including Contingency (20 Percent)	With Engineering/Administration (35 Percent)
3-in Force Main	\$108/LF	\$130/LF	\$176/LF
8-in Gravity Sewer	\$171/LF	\$205/LF	\$277/LF
10-in Gravity Sewer	\$193/LF	\$232/LF	\$313/LF
12-in Gravity Sewer	\$215/LF	\$258/LF	\$348/LF
15-in Gravity Sewer	\$248/LF	\$298/LF	\$402/LF

Preliminary sizing of the collection system lines were calculated for the “southern route” as described in the PER. These pipe sizes and the estimated line lengths shown on **Figure 5.2** were used in calculating construction costs for the collection system. Lift station cost estimates are based on actual cost of recent lift station projects in the area of similar size. **Table 5.2** provides a cost summary for the collection system.

Table 5.2 – Southern Route –Collection System Project Cost Summary

Component	Total	
	Quantity	Value
3-in Force Main	500 LF	\$54,000
8-in Gravity Sewer	23,900 LF	\$4,087,000
12-in Gravity Sewer	3,700 LF	\$795,000
15-in Gravity Sewer	500 LF	\$124,000
Lift Station #1	1	\$488,000
Subtotal		\$5,548,000
Contingency (20 Percent)		\$1,110,000
Total Construction		\$6,658,000
Engineering, Administration, Legal (35 Percent)		\$2,330,000
Total Project		\$8,988,000

5.2.3 Treatment

Based on the design criteria presented in Section 2, project cost estimates were developed for the recommended treatment alternative.

In order to develop cost estimates for the recommended treatment alternative, major equipment manufacturers were consulted. These manufacturers were presented in **Table 3.1**.

Table 5.3 provides an opinion of cost for the treatment facility. Subtotals are provided for the treatment process and for the disinfection equipment.

Table 5.3 – Wastewater Treatment System Cost Summary

Component	Total
1. Equalization Tank	\$430,000
2. Aluminum Dome Cover	\$552,000
3. Screen & Grit Facility	\$205,400
4. MBR Equipment	\$2,082,400
5. Sludge Disposal Facilities	\$70,000
6. Disinfection UV system	\$319,250
7. Effluent Pump Station	\$88,800
8. Odor Control System	\$121,500
9. Site Piping	\$200,000
10. Aeration Blowers	\$138,000
11. MCC/Blower Bldg	\$120,000
12. Electrical/Instrumentation	\$200,000
13. Overhead Crane	\$21,950
Subtotal	\$4,549,300
Contingencies (20%)	\$909,860
Total Construction Cost	\$5,459,000
Engineering, Administration, Legal (35%)	\$1,910,650
Total Project Cost	\$7,370,000

5.2.4 Disposal

For the purpose of this report, AECOM has assumed effluent will flow by pumping to the infiltration basins. Additional costs for pumping effluent off site including a pump facility and pipelines are also included. For calculation of the unrestricted reuse pipe length, and area north of State Highway 154 (Figueroa Mt. Rd. and Acampo Rd.) was assumed as the end point. Cost for the disposal system is provided in **Table 5.4**.

Table 5.4 – Infiltration Project Cost Summary

Component	Total
Infiltration Basins inc. Land Aquisition	\$700,000
Pump Station and Forcemain	\$1,660,000
Subtotal	\$2,360,000
Contingency (20 percent)	\$472,000
Total Construction Cost	\$2,832,000
Engineering, Administration, Legal (35 percent)	\$991,000
Total Cost	\$3,823,000

5.3 Operations and Maintenance Costs

5.3.1 Collection system

O&M cost estimate for the collection system is provided in **Table 5.5**. This estimate provides general items typically required such as line inspection, cleaning, and lift station maintenance.

Table 5.5 – Collection System—Annual O&M Cost Estimate

Component	Unit Cost	Unit	Quantity	Unit	Total
Power	\$0.16	\$/kWh	9,499	kWh	\$1,520
Line Cleaning	\$0.69	\$/ft	7,334	ft	\$5,060
Line Inspection (CCTV)	\$1.16	\$/ft	7,334	ft	\$8,507
Line Replacement ³	\$16.30	\$/ft	367	ft	\$5,982
Labor	\$63.33	\$/hour	1,252	hours	\$79,289
Maintenance ²	2.0	%	\$450,000	-	\$9,000
Misc. Equipment Replacement ²	4.0	%	\$450,000	-	\$18,000
Total					\$127,400

Notes:

1. Costs based on the first year of operation in 2014.
2. Percentage of the total equipment cost.

5.3.2 Treatment and Disposal

The O&M cost estimate for the WWTP is provided in Table 5.6. Offsite effluent disposal O&M costs are not included in these tables.

Table 5.6 – MBR Annual O&M Cost Estimate¹

Component	Unit Cost	Unit	Quantity	Unit	Total
Sludge Disposal	\$0.24	\$/gallon	430,700	gallons	\$103,368
Power	\$0.16	\$/kWh	1,138,800	kWh	\$182,208
Maintenance ²	2.0	%	\$4,549,300	-	\$90,986
Misc. Equipment Replacement ²	4.0	%	\$4,549,300	-	\$181,972
Total					\$558,534

Notes:

1. Costs based on the first year of operation in 2017.
2. Percentage of the equipment cost.

5.4 Summary

Table 5.7 provides a summary of project costs.

Table 5.7 – Total Project Cost Summary

	Total
Land Purchase Cost	\$688,000
Construction Cost	\$14,949,000
Additional Project Costs	\$5,232,000
Total Capital Cost Opinion	\$20,869,000

Notes:

- Land Purchase Cost based on market price of available parcels around Los Olivos
- Construction Cost includes 20% contingency
- Additional Project Costs includes engineering, administration and legal cost (35% of Construction Costs)

An estimated land value has been included in the total project cost summary. This figure has been calculated based on listing prices per acre of agricultural parcels currently on the market and the total acreage required for the assumed treatment and disposal methods. Depending on the actual treatment and disposal method, final WWTP site location, and market conditions at the time of land acquisition this price may be significantly different.



**Berkson
Associates**

Urban Economics
Policy Forensics & Forecasting
Planning & Policy Analysis

FINAL REPORT

PLAN FOR SERVICES & FEASIBILITY STUDY

LOS OLIVOS WATER RECLAMATION

Prepared for the Los Olivos Water Reclamation Steering Committee

Prepared by Berkson Associates

October 24, 2016



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1. INTRODUCTION AND SUMMARY

This Study evaluates the financial feasibility and governance options of one potential community wastewater system solution for Los Olivos. The Study compares the costs and benefits of three different governance options: formation of a Los Olivos Community Services District (CSD); annexation to the Santa Ynez Community Services District (SYCSD); and the creation of a County-dependent special district governed by the Board of Supervisors.

The wastewater treatment system costs used in this Study are from the September 2016 study update to a 2013 County sponsored feasibility study.¹ The 2016 study analyzed a Membrane Bioreactor system (MBR) that would serve the entire community and accommodate some expansion of existing uses and development of vacant lots in the commercial core, or “downtown”. The 2016 study also described costs for individual onsite advanced treatment systems. Unlike the 2013 study, the 2016 study did not evaluate a “Phase 1” system that would be limited to the commercial core and small lot residences, and which could cost significantly less. As noted in this financial feasibility study, a “downtown” MBR system should be analyzed as one method to provide a more financially feasible system, in addition to other potential cost reductions; this approach assumes that residential properties outside the core could be served by onsite advanced treatment systems until expansion of the core system becomes viable.

Cost estimates for governance options were developed by Berkson Associates (BA) based on review of budgets for similar districts; discussions with SYCSD, County Public Works, and other districts; and BA experience with similar analyses. It is anticipated that these cost estimates will be refined as the process moves forward.

In 1974, Santa Barbara County designated a Los Olivos Special Problems Area (SPA), with boundaries as shown in **Figure 1**, due to potential adverse impacts of wastewater treatment and disposal in the area. Additional County review is required for development projects within the SPA to mitigate any potential impacts to public health. Property use is further limited by wastewater flow restrictions that may be imposed by the Central Coast Regional Water Quality Control Board (RWQCB).

In 2010, the County adopted a Wastewater Management Plan (WWMP) to address onsite wastewater issues in the SPA. These issues include a seasonally high groundwater table that

¹ Revisions to Los Olivos Wastewater System Preliminary Engineering Report, September 13, 2016, AECOM

allows discharge of some septic effluent directly into the water table; many small lots of insufficient size to properly accommodate an onsite septic system; many existing septic systems that do not meet current code requirements, and due to age or failure no longer treat effluent properly. Well and groundwater testing documented in the WWMP confirms high groundwater nitrate levels in areas of the Santa Ynez Valley.

In January of 2016 the Santa Barbara County Onsite Wastewater Treatment System Local Area Management Plan (LAMP)² went into effect, and includes permit, inspection and reporting elements. A permit issued by EHS is required for the construction of a new Onsite Wastewater Treatment System (OWTS) as well as the repair, modification or abandonment of existing systems. Inspection and approval of all work by EHS is required prior to backfilling any components or putting the system into service.³

The County WWMP identified a community wastewater treatment system as one possible method to treat wastewater and provide an option for replacing failing systems, particularly on small lots that can no longer support an onsite system that meets current codes. A community system would also enable redevelopment and modest expansion of current uses, as well as new development on vacant lots within the constraints imposed by the area's community plan. Currently, there is insufficient restroom access in the town's commercial core to accommodate visitors on the weekend year-round; portable restrooms are provided to serve visitors restricted from use of business restrooms.

In 2013, the County sponsored a Preliminary Feasibility Study (PFS) of wastewater treatment and disposal options⁴ in response to the 2013 enactment of State Water Resources Control Board's Water Quality Control Policy regulating onsite systems.⁵ This State policy affects both commercial and residential systems. A Focused Feasibility Study ("FFS") dated September 2016 provides a more detailed analysis of one treatment system reviewed in the 2013 study,⁶ although did not evaluate a lower cost system limited to the downtown as a first phase.

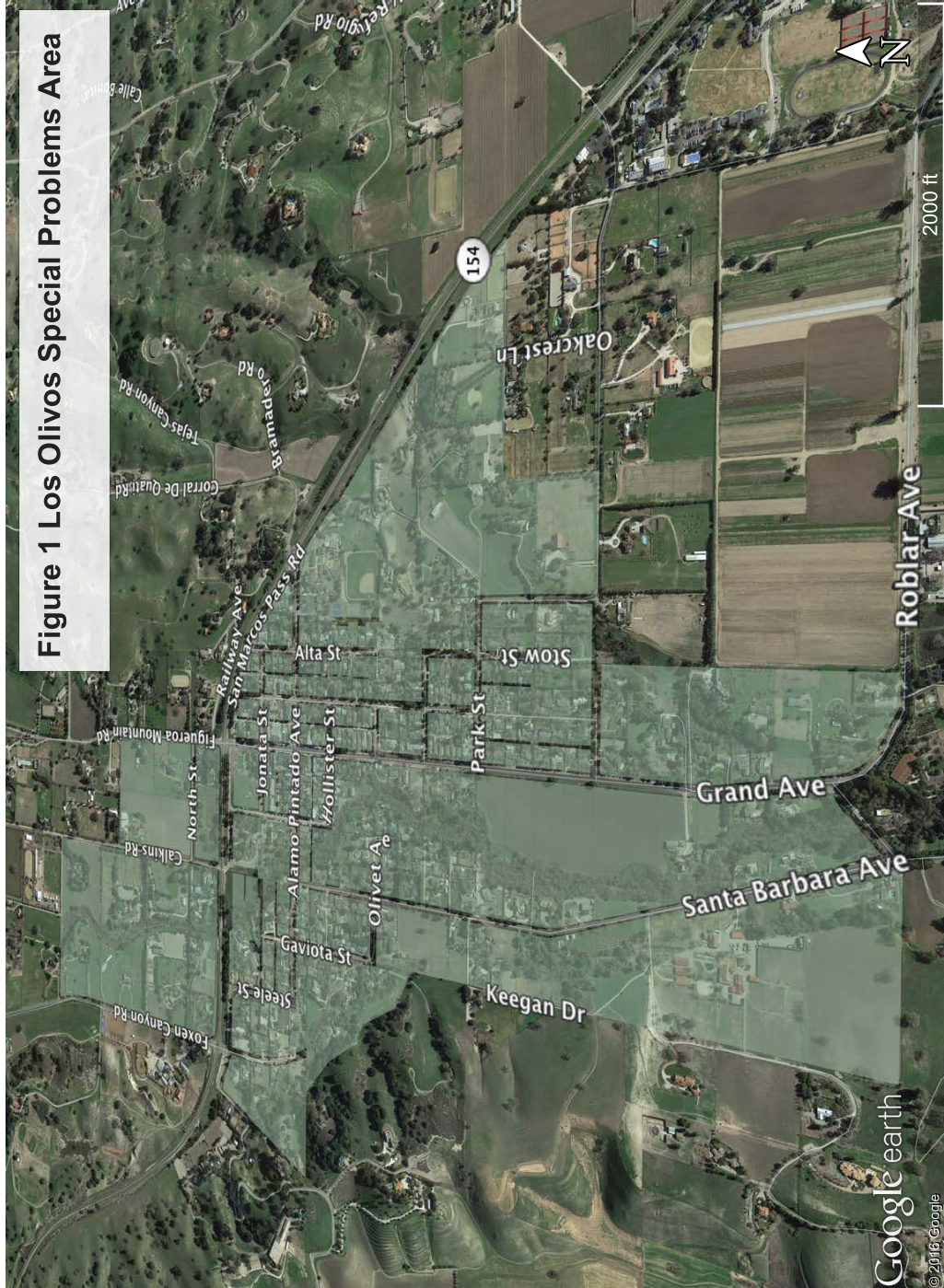
² cosb.countyofsb.org/uploadedFiles/phd/EHS/CH%20EHS%20LAMP%20Plan%20Document.pdf

³ cosb.countyofsb.org/phd/default_all.aspx?id=19274&menu2id=174&pghead=18958&footer=18960

⁴ Los Olivos Wastewater System Preliminary Engineering Report (Preliminary Feasibility Study, or "PFS"), AECOM, January 8, 2013

⁵ Adopted pursuant to Assembly Bill 885.

⁶ Revisions to Los Olivos Wastewater System Preliminary Engineering Report ("FFS"), AECOM, September 13, 2016



SUMMARY OF FINDINGS

1. UNDER THE STATUS QUO, THE ABILITY OF SMALL LOT HOMEOWNERS TO UPGRADE THEIR SYSTEM TO MEET TODAY'S MORE RESTRICTIVE STANDARDS MAY BE CONSTRAINED.

Without a new community wastewater system, property owners will be responsible, at their own cost, for the installation, upgrade, maintenance and repair/replacement of individual advanced onsite treatment systems to meet County and State water quality standards if their systems fail or they propose a remodel or new development. The community would also be exposed to additional regulatory action if groundwater quality concerns persist. State grants or low interest loans may be available to fund onsite systems, however, a local governance entity is needed to administer the program and manage potential clustered systems.

The 2016 FFS describes modifications to existing household septic systems to provide increased treatment of waste using a peat filter. The system requires the addition of a pump vault, peat filter and drain field at an estimated cost of \$17,640 per household and annual maintenance cost of \$895.⁷ However, the 2016 FFS states that “..many houses may not have the required space to install the peat filter which would result in the need for a more compact and higher cost system”. Costs could vary depending on design, provider and potential clustering.

2. ADMINISTRATIVE COSTS VARY MODESTLY BETWEEN THE GOVERNANCE OPTIONS.

The overall administrative costs of the three governance options studied vary by \$75,000 annually when a treatment system is in place. Annexation to the SYCSD or creation of a County-dependent special district (e.g., a County Service Area or sanitation district), are likely to have lower administrative costs than a new Community Services District (CSD), ranging from an estimated \$114,000 to \$124,000 annually because of economies of scale. The SYCSD and County-dependent special district options could provide access to technical and financial resources not otherwise readily available to a CSD.

A Los Olivos CSD is estimated to cost from \$110,000 annually prior to system operation, to \$189,000 annually when a system is in place as shown in **Table S-1**. The CSD will have its own

⁷ 2016 FFS, AECOM, Section 3.2.1. Other estimates of onsite systems indicate costs could be closer to \$25,000.

board, elections, office space and equipment and will be required to prepare annual financial audits and reports, and maintain its own website; these expenses contribute to the greater costs estimated for this option. It may be possible for a CSD to contract or share staff with other agencies to achieve savings. Chapter 5 describes CSD cost assumptions in more detail.

Table S-1 Estimated Overhead and Administrative Costs - New Los Olivos CSD

Item	Annual Amount	
	First Year	Buildout
Administration		
Board	6,000	6,000
Legal	20,000	20,000
Accounting/Finance	15,000	15,000
Office Space, Utilities	0	15,000
Equip/Supplies/Internet	2,500	5,000
Memberships	3,000	3,000
Other Overhead/Admin.	<u>10,000</u>	<u>17,000</u>
Subtotal (exc. Staff)	56,500	81,000
Admin. Staff Salaries/Benefits	\$54,000	\$108,000
TOTAL Expenditures	\$110,500	\$189,000
per Residential Unit Equivalent (RUE)	\$283	\$376
per RUE per month	\$24	\$31

3. CONSTRUCTION AND OPERATING COSTS FOR A WASTEWATER SYSTEM COULD BE PROHIBITIVE FOR ANY GOVERNANCE OPTION UNLESS COST SAVINGS CAN BE ACHIEVED, ADDITIONAL REVENUES OBTAINED, OR THE SYSTEM IS PHASED.

Costs to plan and construct the community wastewater system serving all of Los Olivos would total nearly \$21 million, or about \$40,500 to \$45,700 per single-family unit (or commercial equivalent) depending on the amount of existing and new development that connects to the system.⁸ This system would serve the entire community including new development; the 2013 AECOM study analyzed a more limited system serving only the commercial core and adjacent smaller parcel homes, with the ability to expand to serve other areas, at less than half the total

⁸ Revisions to Los Olivos Wastewater System Preliminary Engineering Report, September 13, 2016, AECOM

cost.⁹ The 2016 study only analyzed a community-wide buildout scenario; a phased approach which provides a lower total cost system for the downtown should be analyzed as one means, in conjunction with additional grant or other funding, and system cost refinements, to improve financial feasibility.

Construction cost reductions of 25 percent or more are possible with careful planning, resulting in costs of \$33,500 to \$37,800.¹⁰ **Table S-2** summarizes annual assessments for construction and finance of a community wastewater system, which are assumed to be the same for all governance options. The annual assessment assumes a low-interest, 40-year USDA loan that is common for similar small systems. The total costs are spread to all existing and new development. A target cost reduction scenario described in the 2013 AECOM study assumes \$1.5 million in grants and a reduction in “Engineering, Admin. & Legal” cost factor from 35% to 20%.

Table S-2 Estimated Annual Assessments for System Construction (Full Buildout)

Item	CSD	CSA	SYCSD Annexation
SYSTEM CONSTRUCTION			
TOTAL Improvement Costs	\$21,019,000	\$21,019,000	\$21,019,000
Annual Assessment for Construction per RUE	\$1,809	\$1,809	\$1,809
Annual Assessment per 1,000 Com'l Sq.Ft.	\$2,601	\$2,601	\$2,601
<u>Annual Assessment for Construction w/savings</u>			
Annual Assessment for Construction per RUE	\$1,461	\$1,461	\$1,461
Annual Assessment per 1,000 Com'l Sq.Ft.	\$2,100	\$2,100	\$2,100

Cost reductions will be particularly important to reduce administration and system operations costs to a point where rates are comparable to other tertiary treatment systems in the region. Including possible savings suggested in the 2013 PFS, up to 50% operating cost reductions may be possible depending on final system design and whether operations can be contracted to a

⁹ Larger residential lots outside the commercial core potentially could be served by onsite systems.

¹⁰ Based on target capital cost reduction scenarios and potential operating cost reductions indicated in the 2013 AECOM feasibility study.

larger, lower cost agency. As noted previously, a phased approach that serves only the downtown could result in a lower-cost system.

If operating cost reductions can be achieved, annual rates for administration and system operations could range between \$910 to \$1,060 or about \$76 to \$88 per month, depending on new development connecting to the system, governance option, and manner of contracting for services, as shown in **Table S-3**. These operating charges are generally consistent with other wastewater rates in the region for tertiary treatment.¹¹ **Table S-3** also shows total annual costs including administration, operations, and assessments for system construction.

Table S-3 Total Annual Costs by Organizational Option (w/New Development)

Item	CSD	CSA	SYCSD Annexation
OPERATIONS (inc. Administration)			
Annual O&M per Residential Unit Equivalent (RUE)	\$1,741	\$1,611	\$1,592
Annual O&M per 1,000 Com'l Sq.ft.	\$830	\$768	\$759
<u>Annual O&M w/savings</u>			
Annual O&M per RUE	\$1,058	\$929	\$909
Annual O&M per 1,000 Com'l Sq.ft.	\$504	\$443	\$433
TOTAL ANNUAL COSTS FOR OPERATIONS + CONSTRUCTION ASSESSMENTS			
Total per Residential Unit Equivalent	\$3,550	\$3,420	\$3,401
Annual per 1,000 Com'l Sq.Ft.	\$3,431	\$3,369	\$3,360
<u>TotalCosts w/savings</u>			
Total per Residential Unit Equivalent	\$2,519	\$2,390	\$2,370
Annual per 1,000 Com'l Sq.Ft.	\$2,605	\$2,543	\$2,534

The actual rates will depend on the final system design and whether it serves the downtown only or the entire community at buildout, further engineering analysis, and decisions to be made by a future governing board. The estimated cost allocations in this analysis assume a greater effluent “strength” from commercial wastewater and therefore cost allocations to commercial uses are proportionately greater. For example, the SYCSD charges restaurants a higher rate (6 times a residential rate) for “dirtier” wastewater, in addition to greater flows. Certain

¹¹ See Appendix A.

equipment needed to handle peak tourist flows can also be allocated to commercial uses, which would reduce the capital and operating costs borne by residential uses.

4. A CSD OFFERS THE GREATEST DEGREE OF LOCAL CONTROL OVER TYPE, LEVEL, AND COST OF WASTEWATER TREATMENT SERVICES.

An independent Community Services District (CSD) would be governed by a board of directors elected by the residents of Los Olivos to manage the planning, construction and operation of a community wastewater system. The CSD would also provide a local governance entity that could represent the community in negotiations with other service providers, for example, to contract for administrative and/or operational services with another entity such as the County or SYCSD. If connection to a regional wastewater system proves to be a more viable option than a community system, the CSD could represent the community's interests in regional planning and implementation efforts.

While the only service considered at this time is the provision of wastewater-related services, the CSD could expand its services, with Santa Barbara Local Agency Formation Commission ("LAFCO")¹² approval and subject to protest proceedings of local voters. All taxes and assessments would be subject to approval by voters or property owners within the CSD.

Unlike other governance options, a Los Olivos CSD would control decisions about the system, its cost and capacity to allow new development. In contrast, the other governance options would result in a board representing a broader constituency controlling services and rates. For example, in the case of annexation to the SYCSD, the SYCSD board would vote on decisions affecting Los Olivos, and Los Olivos would constitute a minority of voters within the expanded district.

¹² State law creates a local agency formation commission in every county to consider annexations, city incorporations, and special district formations. The Santa Barbara LAFCO is made up of two members of the Board of Supervisors, two members from the county's special districts, two members from the county's cities, and a public member chosen by the remainder of the board.

2. OVERVIEW OF THE COMMUNITY

DEMOGRAPHICS AND LAND USE

The census population of the Los Olivos Census Designated Place (CDP) is 1,132 residents.¹³ The CDP encompasses a slightly larger area compared to the Special Problems Area (SPA) and the Township. The 2016 FFS based its system design on the higher population, and assumed minimal growth over time; this approach helps to assure that adequate capacity will exist for potential demand over the next twenty years.

According to the Santa Ynez Valley Community Plan EIR, there are 228,990 square feet of developed commercial floor area in Los Olivos.¹⁴ The commercial space consists of a mix of hotel, retail, restaurants and office space. There are approximately 25 small lot residential properties in the commercial core.

POTENTIAL NEW DEVELOPMENT

As a result of restrictive standards adopted by the Regional Water Quality Control Board in 1991, commercial projects in Los Olivos are limited to very low water uses and many proposed projects are eventually withdrawn.¹⁵ A community wastewater system in Los Olivos, in addition to addressing existing threats to surface and groundwater resources, will also enable some level of commercial expansion in the Los Olivos core.

The 2016 FFS assumes approximately 120,500 square feet of new commercial development in the community. This assumption provides for some expansion of existing uses to include restroom facilities, and conversion of office uses to more water-intensive uses such as restaurants, as well as development of vacant parcels in the commercial core. Additional development would reduce capital and operating costs to existing property owners.

The MBR wastewater system analyzed by the 2016 FFS can adjust its capacity if needed to accommodate additional new development beyond the 120,500 square feet. The governing body of the Los Olivos wastewater system would determine the amount and timing of wastewater capacity expansion.

¹³ 2010 census.

¹⁴ Table 4.9-24, EIR, pg.4.9-26.

¹⁵ Santa Ynez Community Plan, October 9, 2009, pg. 115.

Mattei's Tavern Inn Development Plan

The development and expansion of Mattei's Tavern Inn could participate in the new community wastewater system; however, the current timeline for final approval and development of Mattei's is uncertain at this time, and it is not known whether the start of its construction will correspond with the timing of a community wastewater system.

The project, approved by the County Planning Commission on January 30, 2013, consists of a 64-guestroom cottage hotel, a gym, spa, swimming pool and a meeting/banquet room located adjacent to the existing Mattei's Tavern Inn. The Project's approvals require it to connect to a community wastewater system, if one is available at the time of construction; otherwise, the Project will need to construct its own onsite system with no further obligation to connect to a future community system.¹⁶ The Project is anticipated to generate about 10,000 gpd of wastewater that would receive tertiary-level treatment and be used for onsite irrigation.¹⁷

After receiving its approvals, the property subsequently was sold, and the new owner is in the process of revising the Plan and going through a review process. Changes include adding two more rooms and reconfiguring the site plan, and reducing changes to interiors of existing historic structures. The County has not yet deemed the application complete; one of the outstanding issues is the status of the Project's wastewater system, which needs conceptual approval by the Regional Water Quality Control Board (RWQCB). Some of the concerns regarding the wastewater system, which differs from the original approved Plan, are whether landscape irrigation is an appropriate use for the treated effluent, whether all disposal could occur onsite, and if not, what options exist for offsite disposal. Depending on the outcome of RWQCB review, additional environmental documentation may be required as well as a Planning Commission hearing. If the Project is deemed to have no additional environmental impacts, it is anticipated that it could be approved at a staff level with no further public hearings required. The possibility exists that the property owner could revert to the original approved development.¹⁸

¹⁶ County of Santa Barbara Planning and Development, <http://sbcountyplanning.org/projects/09DVP-00019/index.cfm>

¹⁷ County of Santa Barbara Planning and Development, <http://sbcountyplanning.org/projects/09DVP-00019/index.cfm>

¹⁸ R. Berkson discussion with Joyce Gerber, Planner, County of Santa Barbara Planning and Development Department

Santa Ynez Valley Community Plan

The Santa Ynez Valley Community Plan EIR analysis of wastewater generation indicates the potential for a total of 1 million square feet of commercial uses split between retail and non-retail uses.¹⁹ However, this level of development would require significant increases in density that may require 20 years or more before economic conditions justify increased multi-story density.

The Community Plan discusses a number of approaches to address wastewater issues in the area, including a community wastewater facility such as the system evaluated by AECOM, and a public sewer extension to Los Olivos such as a sewer extension and connection from the City of Solvang or the Chumash treatment facility to serve Ballard and Los Olivos.

The Community Plan noted that a sewer extension from the City of Solvang or the Chumash treatment facility raises significant policy concerns and potential environmental impacts associated with extending urban services through agricultural lands.²⁰ Comprehensive Plan policies in the Land Use and Agricultural Elements, as well as Local Agency Formation Commission (LAFCO) policies discourage extending sewer service to rural areas because such extensions can encourage development intensification that is incompatible within agricultural areas. The Community Plan also notes that “sewer extension along the Alamo Pintado corridor would also be inconsistent with Santa Ynez Valley Community Plan policies, which recognize and support the Santa Ynez Valley Community Plan policies which recognize and support preservation of distinct, and separate urban townships, and the preservation and enhancement of agriculture as a vital component of the Valley’s economy and rural character.”

¹⁹ Table 4.9-20, EIR, pg.4.9-24.

²⁰ Santa Ynez Valley Community Plan, October 6, 2009, pg. 118.

ASSESSED VALUE AND EXISTING TAXES

Table 1 indicates the assessed value in the Los Olivos area. This total value provides a measure of feasibility when compared to the debt issuance required for a wastewater system, and to the annual assessment payments. These comparisons are discussed in Chapter 6.

Table 1 Summary of Assessed Value in Los Olivos

Land Use	Parcels	Assessed Value
<u>Residential</u>		
Rural Residential	49	na
Single Family Residence	282	\$133,328,000
Residential Income 2-4 Units	<u>5</u>	<u>\$4,277,000</u>
Total	336	\$137,605,000
Commercial	57	\$63,390,000
Vacant	23	\$4,184,000
Other (non-taxable)	<u>6</u>	<u>\$0</u>
TOTAL	422	\$205,179,000

Source: Santa Barbara County Assessors Office, Online Parcel Details, 2016.

Parcel list provided by Los Olivos Reclamation Committee.

Boundaries correspond to Special Problems Area. Rural residential excluded.

EXISTING TAXES AND ASSESSMENTS

In Los Olivos, property owners pay for several school bonds in addition to their basic 1% of assessed value. The payments are shown in **Table 2**. The bonds increase the basic property tax bill by about 7.5%, for a combined rate of 1.075% of assessed value.

Table 2 Existing Basic 1% Property Tax and Additional Bonds

Fund	Rate
0000 Basic 1% (Prop 13/AB8) Taxes	1.00000%
7251 - Los Olivos Elem Bond 1996	0.01974%
7255 Los Olivos Elem Bond 2006	0.03000%
9421 Allan Hancock CC Bond 2006	0.02500%
Total	1.07474%

Source: County of Santa Barbara, Auditor-Controller's Office

These relatively low existing tax overrides provide additional financial capacity for wastewater system assessments. Industry standards general limit combined ad valorem and tax overrides to a maximum of 1.8 to 2.0% of total assessed value.

3. GOVERNANCE OPTIONS

Construction, management and operation of a new wastewater system in Los Olivos require a government agency. The characteristics, advantages and disadvantages of several primary options under consideration are described below.

STATUS QUO

Without a new wastewater system, property owners will be responsible, at their own cost, for the installation, upgrade, maintenance and repair/replacement of individual systems to meet County and State water quality standards if their systems fail or they propose new development. The community would also be exposed to additional regulatory action if groundwater quality concerns persist. State grants or low interest loans may be available to fund advanced onsite treatment systems, however, a local governance entity is needed to administer the program and manage potential clustered systems.

The 2016 FFS describes modifications to existing household septic systems to provide increased treatment of waste using a peat filter. The system requires the addition of a pump vault, peat filter and drain field at an estimated cost of \$17,640 per household and annual maintenance cost of \$895.²¹ However, the 2016 FFS states that “..many houses may not have the required space to install the peat filter which would result in the need for a more compact and higher cost system”. Costs could vary depending on design, provider and potential clustering.

FORM A COMMUNITY SERVICES DISTRICT (CSD)

A Community Services District (CSD) is a special district formed under California law.²² Since the enactment of the Community Services District Law in the 1950s, more than 300 communities have formed community services districts to achieve local governance, provide needed public facilities, and supply public services.²³ The current study assumes that a CSD would be limited to wastewater and recycled water-related services, but it could provide a governance framework for other services in the future. Any new services would require Santa Barbara LAFCO approval

²¹ 2016 FFS, AECOM, Section 3.2.1.

²² Gov. Code Sec. 61000-61250.

²³ Gov. Code Sec. 61001(a)(4).

and potentially voter approval of any tax or assessment required to fund the services, and would be subject to a protest vote (greater than 50% protest would stop the proceedings).

FORMATION AND GOVERNANCE

CSD formation may be initiated by resolution of the County Board of Supervisors,²⁴ or by a petition signed by no less than 25 percent of registered voters living within the proposed district boundaries.²⁵ LAFCO approval is required. Either majority voter approval or voter or property owner approval of, respectively, a special tax or assessment may be necessary to generate sufficient revenue to carry out its purposes.²⁶

The CSD's elected Board of Directors would establish policies for the operation of the district. An "independent" CSD elects its five board members from residents of the district.

SERVICES

This Study assumes that a CSD would provide services that include the collection, treatment and disposal of wastewater and recycled water. CSDs also may provide a broad range of other facilities and services, for example, parks and recreation, landscape maintenance and lighting.²⁷ Other services that may be activated at a future time ("latent" services) would be subject to approval by LAFCO²⁸ and a protest vote (greater than 50% protest would stop the proceedings). With the exception of funding an Area Planning Commission, a CSD has no authority over land use decisions; this power remains with the County.

ZONES

Whenever the board determines that it is in the public interest to provide different services, provide different levels of service, provide different facilities, or raise additional revenues within specific areas of the district, it may form one or more zones. A zone may be applicable to the

²⁴ Gov. Code Sec. 61013(a). It could also be initiated by other special districts, such as Santa Ynez River Water Conservation Improvement District No. 1, but the County is considered the most logical agency to initiate a proposal.

²⁵ Gov. Code Sec. 61011.

²⁶ Gov. Code Sec. 61014(e)(2).

²⁷ See Gov. Code Sec. 61100, which lists the services that CSDs are authorized to provide.

²⁸ Gov. Code Sec. 61106.

extent that additional services are considered for the Los Olivos commercial core, which would pay for those services without taxing other areas.

REVENUES AND EXPENDITURES

A CSD has broad authority. It can establish rates and charges for services²⁹ and receive grant and other revenues from other public agencies.³⁰ The district may levy special taxes or benefit assessments.³¹ A district may charge “standby charges” for sewer that allows for the collection of a service charge or assessment based on the benefit derived from the availability of sewer, whether or not the service is utilized.³² A district may issue General Obligation bonds (not to exceed 15 percent of the district’s assessed value),³³ revenue bonds, and Mello-Roos Community Facilities District bonds.³⁴ All charges and fees are required to equal the cost of the service or facility; utility service charges may be adopted and increased through the Proposition 218 majority protest process. All taxes require voter approval or allow for a protest process.

Operating Costs

Estimated system operating costs are based on AECOM estimates for the proposed system described in Chapter 4. The operating costs include staff, supplies and equipment, and reserves for replacement. It is assumed that all governance options would incur similar costs for operation of the system and would allocate and bill those costs to the Los Olivos ratepayers. The billed costs also would include administrative and overhead charges as described below.

Administration and Overhead

CSD cost estimates assume a part-time general manager and secretary/treasurer; these positions may be contracted. The CSD would also require contract services for legal and financial reporting. A small 500 square foot office space is assumed, plus utilities and office equipment/supplies. CSD hearings would be held in a local school or similar facility.

²⁹ Gov. Code Sec. 61115.

³⁰ Gov. Code Sec. 61016.

³¹ Gov. Code 61121-22

³² Gov. Code 61124, pursuant to the Uniform Standby Charge Procedures Act, Chapter 12.4 (commencing with Section 54984) of Part 1 of Division 2 of Title 5.

³³ Gov. Code Sec. 61126, pursuant to Article 11 (commencing with Section 5790) of Chapter 4 of Division 5 of the Public Resources Code.

³⁴ Gov. Code Sec. 61126-27.

The initial years prior to wastewater system operations will primarily revolve around planning, community workshops and consensus gathering, seeking grants and other funding, and special studies. It is anticipated that there will be no need for office space, and that staff requirements will be less. **Table 3** illustrates a potential budget. The initial costs could be funded through some combination of community contributions and assessments. Actual costs will depend on the final system design and decisions to be made by a future board.

Table 3 Estimated Overhead and Administrative Costs - Los Olivos CSD

Item	Annual Amount	
	First Year	Buildout
<u>Administration</u>		
Board	6,000	6,000 (3)
Legal	20,000	20,000
Accounting/Finance	15,000	15,000
Office Space, Utilities	0 (5)	15,000 (1)
Equip/Supplies/Internet	2,500 (6)	5,000
Memberships	3,000	3,000
Other Overhead/Admin.	<u>10,000</u>	<u>17,000</u> (2)
Subtotal (exc. Staff)	56,500	81,000
Admin. Staff Salaries/Benefits	\$54,000 (5)	\$108,000 (4)
TOTAL Expenditures	\$110,500 (5)	\$189,000
per Residential Unit Equivalent (RUE)	\$283 (7)	\$376 (7)
per RUE per month	\$24	\$31

(1) Assumes 500 sq.ft. at \$2.50 per month.

(2) Other/Contingency at 10% of other admin costs inc. staff.

(3) Assume stipend of \$100/month, 5 board members.

(4) 50% GM/Operator at \$100k, 50% Sec'y Treasurer \$60k, +35% taxes, benefits.

(5) Assumes first year (or more) primarily planning with no operational staff or contracts to administer; 50% staff assumed, and no office space required.

(6) Equipment/Supplies/Internet reduced first year due to no office space.

(7) Residential Unit Equivalents are "Load Adjusted" for commercial strength factor.

FINANCIAL CONTROLS AND ACCOUNTABILITY

The CSD Board must adopt an annual budget, and may establish separate reserve funds from contingencies and capital. Annual independent financial audits and reports to the State are required.

ADVANTAGES AND DISADVANTAGES OF FORMING A CSD

Governance

- **Pro:** A Los Olivos-elected Board of Directors provides greater local control. By contrast, annexation to a larger district, such as the SYCSD, or formation of a County-dependent special district governed by the Board of Supervisors would result in decisions being made by governing boards in which Los Olivos is a small constituency.
- **Pro:** A CSD could represent the community in the planning and implementation process if a regional wastewater system proves to be a more viable option than a local community system.
- **Con:** Relatively small districts can have difficulty attracting qualified board members. However, Los Olivos currently appears to benefit from strong community participation by residents with a range of professional skills and experience.
- **Con:** The board of a small district, which is limited to resident, could be more easily dominated by special interests whose needs diverge from other community interest; for example in Los Olivos, the commercial core has a unique set of needs that differ from surrounding residential areas. This potential issue may be mitigated by the creation of zones to help assure that residential areas do not pay for services needed in commercial areas, and vice versa.

Services

- **Pro:** A Los Olivos CSD could tailor services to the needs of the local community. It would not be subject to decisions made to the benefit of a larger community of interest that may diverge from the needs of Los Olivos. As noted above, the latter issue may be mitigated by the creation of a Los Olivos “zone” if annexed to SYCSD, although zone limitations may also limit the ability to expand the range and type of services provided in Los Olivos.
- **Pro:** A CSD could see opportunities to reduce operating costs by contracting with a larger entity, for example, the SYCSD or the County Public Works Department.
- **Pro:** A CSD could serve as the local governing entity necessary to obtain State grants and loans for upgrade of onsite systems, which may be an option for larger residential properties in combination with a community system serving the commercial core.

Revenues and Expenditures

- **Con:** A Los Olivos CSD provides a smaller revenue base at greater financial risk of adverse, unanticipated financial events relative to other governance options.
- **Con:** A relatively small district will benefit less from potential “scale economies” compared to a larger entity that may contract at lower costs. This can be addressed to some degree by the CSD contracting with a larger entity such as the SYCSD or the County.
- **Con:** A CSD will incur costs for annual audits and financial reports.

Financial Controls and Accountability

- **Pro:** A locally elected board consisting of Los Olivos residents will be financially motivated to minimize costs, maximize the value of district services and contract oversight since they will also be ratepayers of the district.
- **Con:** Annual audits, financial reports, public noticing and disclosure can represent a greater cost and effort to a small district compared to larger entities, and create administrative costs that require higher fees and rates.
- **Con:** Public information and outreach (e.g., website) represent require more effort and cost by a small district relative to its staff and financial resources, creating risks of reduced transparency and accountability.

FORM A COUNTY-DEPENDENT SPECIAL DISTRICT

A common form of County-dependent special district is a County Services Area (CSA), which is a special district formed under California law.³⁵ County Service Areas (CSAs) may provide any service that a county can provide, and are the most common form of special district in California.³⁶ Another example of a County-dependent district is a county sanitation district; unlike a CSA, which potentially can provide a range of services, a sanitation district is limited to sanitation. This report generally refers to a CSA due to its potential for additional services, however, similar issues apply to sanitation districts.

The Laguna County Sanitation District in Santa Barbara County, with annual revenues in excess of \$13 million, is an example of a County dependent district. Santa Barbara County also manages

³⁵ Gov. Code Sec. 25210 - 25217.4

³⁶ What’s So Special About Special Districts? (Fourth Edition), Senate Local Government Committee, October 2010

other CSAs for sanitation purposes, for example CSA 12, but these are generally much smaller service areas largely limited to revenue collection, and have no full-time staff.

County-dependent special districts are governed by the County Board of Supervisors, but may appoint an advisory body to provide input.

FORMATION AND GOVERNANCE

A County-dependent special district may be formed by resolution of the County Board of Supervisors,³⁷ or by a petition signed by no less than 25 percent of registered voters living within the proposed boundaries.³⁸ LAFCO approval is required.³⁹ Either majority voter approval or voter or property owner approval of, respectively, a special tax or assessment may be necessary to generate sufficient revenue to carry out its purposes.⁴⁰

The CSA is governed by the county board of supervisors. Los Olivos' 1,000 residents represent a very small percentage of the population of the county that elects the supervisors. The board of supervisors may appoint one or more advisory committees to give advice to the board of supervisors regarding a County-dependent special district's services and facilities.⁴¹

SERVICES

A County-dependent special district can provide a range of services similar to those that a CSD can provide.⁴² CSA services may include the collection, treatment, or disposal of sewage, wastewater, recycled water, and stormwater.⁴³ If the board desires to exercise a latent power, the board shall first receive the approval of the local agency formation commission.⁴⁴

ZONES

³⁷ Gov. Code Sec. 25211.3.

³⁸ Gov. Code Sec. 25211.1.

³⁹ Gov. Code Sect. 25211.4.

⁴⁰ Gov. Code Sec. 25211.4(f)(2).

⁴¹ Gov. Code Sec. 25212.4.

⁴² Gov. Code Sec. 25213.

⁴³ Gov. Code Sec. 25213 (g).

⁴⁴ Gov. Code Sec. 25213.5 (a), pursuant to Article 1 (commencing with Section 56824.10) of Chapter 5 of Part 3 of Division 3.

Whenever the board determines that it is in the public interest to provide different services, provide different levels of service, provide different facilities, or raise additional revenues within specific areas of the district, it may form one or more zones.⁴⁵ A zone may be applicable to the extent that additional services are considered for the Los Olivos commercial core, which would pay for those services without taxing other areas.

REVENUES AND EXPENDITURES

A CSA has broad powers. It can establish rates and charges for services⁴⁶ and receive grant and other revenues from other public agencies.⁴⁷ A CSA may levy special taxes or benefit assessments for capital improvements and operations.⁴⁸ A district may charge “standby charges” for sewer that allows for the collection of a service charge or assessment based on the benefit derived from the availability of sewer, whether or not the service is utilized.⁴⁹ A district may issue General Obligation bonds (not to exceed 5 percent of the district’s assessed value)⁵⁰ and revenue bonds.⁵¹ All charges and fees are required to equal the cost of the service or facility; utility service charges may be adopted and increased through the Proposition 218 majority protest process. All taxes require voter approval or allow for a protest process.

Although not assumed in the current analysis, the board may loan County funds to the CSA, contingent upon repayment within the same year unless the board extends the repayment period by 4/5ths vote.⁵² The board of supervisors may also establish a revolving loan fund up to \$10 million for loans to CSAs, and repayment to occur within 10 years.⁵³

Operating Costs

⁴⁵ Gov. Code Sec. 25217 - 25217.4

⁴⁶ Gov. Code Secs. 25215.4–25215.5.

⁴⁷ Gov. Code Sec. 25214.2 (a).

⁴⁸ Gov. Code 25215.2–25215.3, 25216.3.

⁴⁹ Gov. Code 61124, pursuant to the Uniform Standby Charge Procedures Act, Chapter 12.4 (commencing with Section 54984) of Part 1 of Division 2 of Title 5.

⁵⁰ Gov. Code Sec. 25216.1.

⁵¹ Gov. Code Sec. 25216.1.

⁵² Gov. Code Sec. 25214.4 (b).

⁵³ Gov. Code Sec. 25214.5 (a).

Estimated operating costs are based on AECOM estimates for the proposed system. The operating costs include staff, supplies and equipment, and repair/replacement. It is assumed that all governance options would incur similar costs for operation of the system and would allocate and bill those costs to the Los Olivos ratepayers. Cost savings may be possible, depending on final system design and decisions to be made by a future board regarding staffing, i.e., contracting with private firms or sharing staff with other public entities.

Allocated costs would include administrative and overhead charges as described below.

Administration and Overhead

CSA cost estimates assume that existing County Public Works Department staff would provide management and administrative services needed by the County Service Area (CSA) or dependent county sanitation district, and the County would apply a cost allocation to bill for services from other County departments, for example, legal, accounting, buildings, etc.

The estimates shown in **Table 4** will be refined by the County if this option moves forward, and may vary depending on the final configuration of the wastewater system.

- **Management and Administration** – The initial estimate assumes that 0.25 FTE (approximately 10 hours/week) will be required for management oversight and direction, including contract review, reporting and interaction with ratepayers and a potential local advisory committee, management of any legal issues that may arise, and other management tasks. A staff cost for the manager, including salary, taxes and benefits, assumes \$220,000 based on a review of County management positions. Administrative support would be required; the initial cost estimates assumes approximately 0.20 FTE, or 8 hours/week, at a total cost of \$120,000 including salary, taxes and benefits.

Actual costs may vary depending on the specific staff required and their salaries; for example, the administrative support may include services of a contract tech, and accounting/payment services from financial staff.

- **Indirect Cost Allocations** – The preliminary budget estimate assumes a \$20,000 annual indirect cost allocation. The amount will depend on the extent to which the CSA or dependent county sanitation district requires services from other County departments. By comparison, indirect County charges to the Laguna County Sanitation District, which has revenues of about \$13.5 million, is charged approximately \$100,000 annually for indirect County services.
- **Other** – An additional \$25,000 annually is included for miscellaneous expenses, for example, periodic system management reports and other plans and studies, expenses related to public information materials, and any extraordinary legal or technical services.

As noted above, wastewater system operating costs will be similar to the other governance options, depending on specific staff, contracting and other decisions to be made by future boards, and will be funded by service charges that include the overhead/administration charges.

Table 4 Estimated Administration Costs – CSA/County-dependent Special District

Item	Annual Amount
<u>Administration</u>	
Staff Salaries/Benefits	\$79,000
Other Admin/Overhead	<u>45,000</u>
TOTAL Expenditures	\$124,000

(1) Assumes 0.25 FTE Exec. at \$220,000 w/taxes, benefits and 8 hrs/wk Contract Tech/Finance at \$120,000.

(2) Includes \$20,000 County cost allocation for legal, finance, etc., and \$25,000 misc and contingency.

Note: County cost allocation to Laguna approx. \$100k. (Laguna service revenues are about \$13.5 million).

FINANCIAL CONTROLS AND ACCOUNTABILITY

The board is required to adopt an annual budget, and provide for regular audits of CSA accounts.⁵⁴

ADVANTAGES AND DISADVANTAGES OF FORMING A CSA

Governance

- **Pro:** A CSA or other County-dependent special district is consistent with LAFCO policies, second only to city annexation in priority, which generally encourage consolidation of functions with existing agencies, and discourage creation of new, potentially redundant public entities.
- **Pro:** No need for costs for ongoing local elections, as required for a CSD.
- **Con:** Board of Supervisors serves as CSA board, and therefore the community does not have direct control of the CSA. This can be partially addressed by creation of an advisory

⁵⁴ Gov. Code Sec. 25214.

body to oversee CSA affairs and to provide direction to the Board on CSA policy and implementation.

- **Con:** This option requires concurrence and support by the County Board of Supervisors.

Services

- **Pro:** The County's Public Works Department has the experience and expertise to manage a Los Olivos wastewater system, and to seek grant funding opportunities.

Revenues and Expenditures

- **Pro:** A County-dependent special district is likely to provide administrative and management economies of scale and cost savings compared to formation of a new CSD.
- **Pro:** While the County-dependent special district is intended to be financially self-supporting from revenues generated within its boundaries, the County could provide short-term loans and other financing assistance if necessary, at the discretion of the Board of Supervisors.
- **Con:** County-dependent special district costs would include allocation of County overhead costs that could offset, to some degree, the savings noted above.

Financial Controls and Accountability

- **Pro:** As noted above, annual financial auditing and financial reporting is provided as part of overall County process, reducing associated costs and helping to assure disclosure and transparency. An advisory committee would further improve financial review and disclosure.

ANNEX TO SANTA YNEZ CSD (SYCSD)

The Santa Ynez Community Services District (SYCSD) was formed November 15, 1971 and operates pursuant to the Community Services District Act (Government Code Section 61000 et seq.).⁵⁵ It is located in northern Santa Barbara County, primarily north of State Highway 246, three miles east of the City of Solvang and about a mile and a half west of State Highway 154, and 4.5 miles from Los Olivos.

The SYCSD is governed by a five-member board of directors, elected at-large. A General Manager is responsible for administrative functions.

⁵⁵ Santa Ynez Community Services District Municipal Service Review and SOI Update, Santa Barbara LAFCO, April 2012

The District collects and transports wastewater. Effluent from the District is treated and disposed of by the City of Solvang's wastewater treatment plant. The District, by contract, maintains the collection lines, pump station and wastewater treatment plant for the Chumash Tribe Indian Reservation. The District provides street lighting in the community.

ANNEXATION AND GOVERNANCE

The SYCSD could apply to LAFCO for the annexation of Los Olivos, contingent on LAFCO approval of the District's pending application to first amend its Sphere of Influence to include Los Olivos. If it approves the annexation, LAFCO would conduct protest proceedings, including mailing notice to voters. LAFCO would require an election on the annexation proposal if at least 25 percent, but less than 50 percent, of voters protest the annexation; a protest of 50 percent or more would terminate the proceedings. If fewer than 25 percent protest is received at the protest hearing, the annexation can proceed.⁵⁶

The SYCSD board would provide policy direction and oversight of District operations, including services to Los Olivos. Residents of Los Olivos would participate in elections for the five directors elected "at large" from the entire territory of the SYCSD including annexed areas of Los Olivos. Los Olivos' 1,000 residents would represent approximately 20 percent of the combined 5,000 SYCSD residents following annexation. Participation on the SYCSD board will depend on timing of open positions on the SYCSD board.

SERVICES

The SYCSD would manage and operate the Los Olivos wastewater system. Existing SYCSD staff would manage services and administrative functions, and existing technical staff would handle ongoing maintenance functions, augmented by contract services as needed.

ZONES

As noted for the formation of a new CSD, if the SYCSD board of directors determines that it is in the public interest to provide different services, provide different levels of service, provide different facilities, or raise additional revenues within specific areas of the district, it may form one or more zones.⁵⁷

⁵⁶ Government Code Sec. 57075 et seq.

⁵⁷ Gov. Code Sec. 61140 (a).

LAFCO Terms and Conditions could require that the SYCSD create a separate zone for the annexed territory. Assuming LAFCO imposed such a term, this zone would provide for the establishment of rates specific to services to Los Olivos, and could also establish that services in Los Olivos could be limited solely to wastewater-related services.

REVENUES AND EXPENDITURES

The SYCSD would charge user fees to Los Olivos residents who are connected to the wastewater system to fund operations, including an allocation of SYCSD overhead and administrative costs.

In addition to testing and maintenance responsibilities, the SYCSD would manage and provide oversight for the system's construction and implementation, future connections, and repair and replacement. The District would also facilitate the funding of initial construction and expansion, including seeking grants, and overseeing any assessment and debt issuance process. Revenues to fund maintenance and capita, including a share of SYCSD administration and overhead, would come exclusively from revenues generated from within the Los Olivos area.

Operating Costs

Estimated operating costs are based on AECOM estimates for the proposed system. The operating costs include staff, supplies and equipment, and reserves for replacement. It is assumed that all governance options would incur similar costs for operation of the system and would allocate and bill those costs to the Los Olivos ratepayers. The billed costs would include administrative and overhead charges as described below.

Administration and Overhead

Table 5 estimates the allocation of SYCSD administrative and overhead costs to Los Olivos property owners proportionate to the number of connections.⁵⁸ In addition to operating and capital costs for the Los Olivos wastewater system, which are addressed separately in this report, it is assumed that SYCSD would allocate a share of the following costs:

- **General Manager and Secretary/Treasurer** – Currently the SYCSD allocates a percentage of the cost of its General Manager and Secretary/Treasurer to different functions, including administration; operations; and the Tribe collection system and treatment plant. Allocating these costs (other than the Tribe's costs) over a broader rate base that includes Los Olivos could improve economies of scale and reduce costs to existing SYCSD ratepayers. The estimated Los Olivos allocation is based on the approximate number of Los Olivos connections relative to total SYCSD connections.

⁵⁸ Correspondence with SYCSD, August 31, 2016.

The Los Olivos operating costs would account for nearly 50% of SYCSD costs, post-annexation, but only 33% of connections. This 33% factor is applied to the General Manager and Secretary/Treasurer costs (including taxes, benefits and workers comp) currently allocated to SYCSD operations totaling \$141,500, for an allocation of \$47,200.

- Overhead Contribution and Administrative Fee** – In addition to a share of the General Manager and Secretary/Treasurer costs allocated to operations, it is assumed that Los Olivos rates would include a share of SYCSD’s current overhead and administrative costs totaling approximately \$200,000 (after deducting Tribe contributions). A 33% share would allocate \$66,900 to Los Olivos.

The estimated annual costs of \$114,100 allocated to Los Olivos would be refined if this option moves forward. Actual charges will not be determined until the Los Olivos system has been designed and the area included within the SYCSD Sphere of Influence. The staff allocations assume that no additional administrative or overhead staff will need to be hired following annexation and operation of the Los Olivos system, and that the administrative staff can handle the additional responsibilities without adversely affecting services to existing SYCSD ratepayers.

Table 5 Estimated Overhead and Administrative Cost Allocations - SYCSD Annexation

Item	Amount	Comments
Operating Costs		
Los Olivos Operating Costs (1)	685,934 49%	Estimate from 2013 PFS (under revision)
SYCSD Operating Costs (2)	<u>711,650</u> 51%	Excluding administration & Tribe collection/plant
Total	\$1,397,584 100%	SYCSD Operations after Los Olivos Annexation
Connections		
Los Olivos	400 33%	
SYCSD	<u>800</u> 67%	
Total	1,200 100%	
Management Allocations: Current SYCSD Operations (3)		
General Manager 42%	78,000	42% of salary w/ 35% taxes, benefits, workers comp
Secretary/Treasurer 60%	<u>63,526</u>	60% of salary w/ 35% taxes, benefits, workers comp
Total	\$141,526	Management costs allocated to expanded operations
Total Allocation to Los Olivos Operations (4)		
Management	47,175	33% LO share of total connections times total op's management
Admin/Overhead	<u>66,900</u>	33% LO share of total connections times total OH/admin
Total	\$114,075	note: Tribe contributions deducted from total OH/admin

(1) Estimate from 2013 PFS (under revision); includes operations staff, equipment and supplies, reserves for repair/replacement. Updates costs will add insurance.

(2) FY16-17 budget, Operations excluding Tribe collection/plant.

(3) FY16-17 budget, share of GM and Secretary/Treasurer salaries allocated to operations (excludes Tribe).

(4) Admin/Overhead allocation based on admin. and bldg. budget of \$245,700 less Tribe contribution of \$45,000. Allocation proportionate to Los Olivos connections as % of total.

FINANCIAL CONTROLS AND ACCOUNTABILITY

The SYCSD budget and financial reports would document and account for services to and revenues from the Los Olivos area. Costs, revenues, assets and liabilities specific to Los Olivos should be separately tracked; the creation of a Los Olivos zone would help to segregate the financial reporting for the area.

The SYCSD would be responsible for public outreach and dissemination of financial and other information. The District has provided information and documents requested for the current Study in a timely manner, but the District's website has not been operational since late 2015, limiting its ability to provide information to the community.

ADVANTAGES AND DISADVANTAGES OF ANNEXATION TO SYCSD

Governance

- **Pro:** Annexation to SYCSD is consistent with LAFCO policies, third in priority behind city annexation and County CSA formation, which generally encourage consolidation of functions with existing agencies, and discourage creation of new, potentially redundant public entities.
- **Pro:** Costs of elections would be shared with the rest of SYCSD.
- **Con:** The SYCSD board will manage services provided to Los Olivos, rather than a locally elected board of Los Olivos residents, as would be the case with a new CSD. This can be addressed to some degree by creation of an advisory board to provide input to the SYCSD.
- **Con:** The SYCSD board, rather than a locally elected board, would control decisions regarding wastewater capacity and expansion, as well as costs, indirectly affecting new growth and development in Los Olivos and the Santa Ynez Valley, particularly if a regional wastewater plant is SYCSD's option for Los Olivos.

Services

- **Pro:** The SYCSD has the experience and expertise to manage a Los Olivos wastewater system.
- **Con:** The SYCSD could expand services to SYCSD and/or adopt charges for services not desired by Los Olivos residents, who would represent a minority of the SYCSD electorate. This can be addressed by creation of a separate Los Olivos zone as a LAFCO condition that would limit services in Los Olivos to wastewater.
- **Con:** the SYCSD board would determine the expansion of services in Los Olivos. Expansion of services would also be subject to any LAFCO conditions restricting services in Los Olivos or SYCSD, and subject to Los Olivos voter approval of new Los Olivos taxes.

New taxes and charges applicable to the entire SYCSD would be subject to voter approval the entire SYCSD electorate, of which Los Olivos represents a minority.

Revenues and Expenditures

- **Pro:** Annexation to SYCSD, similar to the formation of a County-dependent special district, is likely to provide administrative and management economies of scale and cost savings compared to formation of a new CSD.
- **Pro:** While services to the Los Olivos area, or zone, would be intended to be financially self-supporting from revenues generated within its boundaries, the SYCSD could provide short-term loans and other funding if necessary, as determined by the SYCSD board. The availability of SYCSD resources is likely to be less relative to a County-dependent special district option.
- **Pro:** Annual financial auditing and financial reporting is provided as part of current SYCSD operations, reducing associated costs to Los Olivos.
- **Con:** The SYCSD costs and charges to Los Olivos would include an allocation of SYCSD overhead costs that could offset, to some degree, the savings noted above.

Financial Controls and Accountability

- **Pro:** As noted above, annual financial auditing and reporting is provided as part of current SYCSD operations, reducing associated costs and helping to assure disclosure and transparency. A Los Olivos advisory committee would further improve financial review and disclosure.
- **Con:** The SYCSD's website has been non-operational since November 2015, raising concerns about SYCSD's ability to communicate with its customers in an efficient and transparent manner.

SANTA YNEZ WATER CONSERVATION DISTRICT ID-1

The Santa Ynez River Water Conservation District, Improvement District No. 1 (SYRWCD ID-1) is not authorized by State law to provide wastewater services, although it has latent powers to enter into contracts to accept, treat and dispose of treated wastewater from other agencies. SYRWCD ID-1 sought legislation in 2008 that would have expanded its services to include wastewater, but the Governor vetoed the bill.⁵⁹ Therefore, SYRWCD ID-1 is not considered a viable entity at this time to manage a Los Olivos wastewater system in the absence of a separate public entity in Los Olivos. A newly formed Los Olivos CSD or County-dependent district could consider contracting with ID-1 if cost efficiencies could be achieved.

⁵⁹ CURRENTS AND UNDERCURRENTS IN THE SANTA YNEZ VALLEY, Santa Barbara Grand Jury, 5/6/2010.

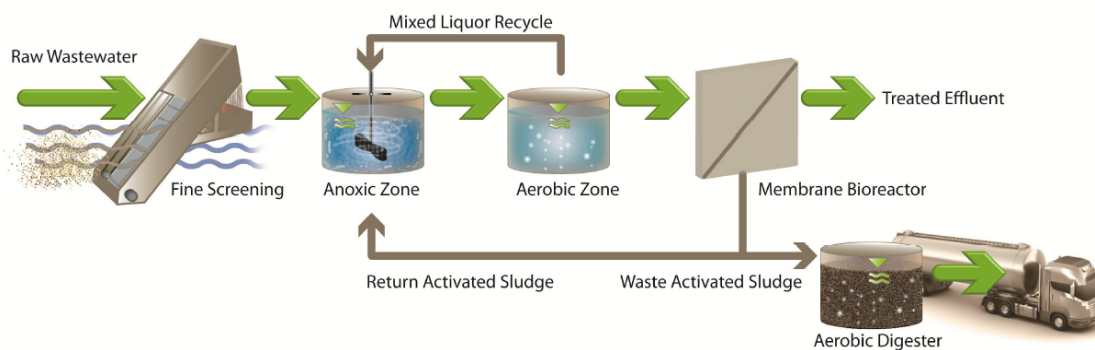
4. WASTEWATER SYSTEM

A recent report to Santa Barbara County’s Environmental Health Services Department⁶⁰ refined the analysis prepared in 2013 of Los Olivos wastewater system options.⁶¹ The 2016 Focused Feasibility Study (“FFS”) further analyzed the Membrane Bioreactor (“MBR”) option. This option was one of four treatment systems studied in 2013; MBR was analyzed further in the 2016 report because of its reduced footprint relative to other options, and its higher quality effluent compared to other methods.⁶² The 2016 FFS did not evaluate connection to a regional system. The 2016 study did not evaluate a phased system serving the commercial-core, which could significantly reduce total costs, while other larger residential properties upgrade onsite systems.

PRELIMINARY SYSTEM

The following graphic illustrates the basic components of MBR. As described in the FFS, the MBR process consists of activated sludge reactors (or aeration basins) that use membrane filtration for solids separation. The sludge must be removed and separately disposed. The system includes a 300,000-gallon equalization tank or basin installed to smooth the spikes in flow during peak tourism days.

Figure 2 Components of a Membrane Bioreactor System



Source: AECOM, 2016

⁶⁰ Revisions to Los Olivos Wastewater System Preliminary Engineering Report (“FFS”), AECOM, September 13, 2016

⁶¹ Los Olivos Wastewater System Preliminary Engineering Report (Preliminary Feasibility Study, or “PFS”), AECOM, January 8, 2013

The treated effluent is suitable for certain types of non-potable reuse (“NPR”), including agricultural irrigation. However, the FFS concluded that an NPR system would be of limited benefit due to minimal demand for irrigation during the winter season and costs to construct winter storage facilities, and lack of industrial users with large water demands. If a suitable number of NPR users could be identified, some cost savings could be achieved in constructing the NPR distribution lines in common with the collection system.⁶³

The alternative to NPR is the use of infiltration ponds, which are reservoirs where water is stored and allowed to either infiltrate into the ground or evaporate.

The 2016 FFS recommends a gravity collection since the Los Olivos terrain generally slopes to the south. A lift station would be required since the disposal site is assumed to be to the north due to more favorable soil conditions that maximize groundwater recharge benefits.

CAPITAL COSTS

Table 6 summarizes the 2016 FFS capital cost estimates. The land cost assumes acquisition of 0.50 acres required for the recommended system, including 0.20 acres for a 300,000-gallon equalization tank or basin. The cost of the equalization tank, which is required to serve peak flows generated by summer tourism, has been allocated in the current report to commercial uses. Costs include a 20% contingency. The Engineering, Administration and Legal costs are calculated as 35% of construction costs (excluding land).

An adjustment to the commercial “Load Factor” has been added in this report to reflect the greater strength effluent of certain types of commercial uses. For example, restaurant wastewater flows are not only greater than residential uses, but typically have a “strength factor” as much as six times that of a residential use. The actual strength factors will be determined by engineering analysis, but a conservative factor averaging “2.0” (for all commercial uses, including restaurants, hotels, retail and office) is included to illustrate the relative distribution of costs between residential and commercial uses.

⁶³ FFS, Section 4.2.1.

Table 6 Estimated Capital Costs and Allocations for a Community Wastewater System

Item	Existing TOTAL	New	Buildout	
Total Improvement Costs (1)	\$20,869,000		\$20,869,000	
Equalization Tank (comm'l)	\$516,000		\$516,000	
Other (allocated per RUE)	\$20,353,000		\$20,353,000	
Costs w/Potential Savings	\$16,827,000		\$16,827,000	
<u>Residential Unit Equivalents (RUE's) (2)</u>				
Residential Units	336	0	336	
Commercial RUE's (3)	<u>55</u>	<u>29</u>	<u>83</u>	
Total	391	29	419	
Commercial Sq.ft.	228,990	120,539	349,529	
<u>RUE's Load Adjusted</u>				
Residential	1.00	336	0	336
Commercial	2.00	<u>109</u>	<u>57</u>	<u>167</u>
Total		445	57	503
<u>Capital Cost Allocations</u>				
Residential (RUE alloc.)	\$15,362,700	74%	\$13,606,500	65%
Commercial				
Commercial (RUE alloc.)	4,990,300		6,746,500	
Commercial (Tank)	<u>516,000</u>		<u>516,000</u>	
Subtotal Commercial	\$5,506,300	26%	\$7,262,500	35%
Total	\$20,869,000	100%	\$20,869,000	100%
Allocation/RUE	\$45,700		\$40,500	
Allocation/Com'l Sq.ft.	\$24.05		\$20.78	
<u>Allocations w/Savings</u>				
Residential	\$12,387,200	74%	\$10,971,100	65%
Commercial	<u>4,439,800</u>	26%	<u>5,855,900</u>	35%
Total	\$16,827,000	100%	\$16,827,000	100%
Allocation/RUE	\$37,800		\$33,480	
Allocation/Com'l Sq.ft.	\$19.39		\$16.75	

(1) AECOM Sept. 13, 2016.

(2) Residential based on parcel count in SPA; number is less than AECOM analysis.

(3) Commercial RUE's not shown in AECOM FFS; estimate shown based on commercial flows/day divided by 221 gpd avg/residential connection.

As indicated in the 2013 PFS, "...careful project planning and management could result in administration fees as low as 20% of the construction costs", compared to the 35% assumption. The PFS further notes that a "design-build" type project could reduce administrative costs. The PFS calculated potential cost savings that in the range of \$1,500,000 in grants or cost reduction, and Engineering, Administration and Legal costs of 20% of the total construction costs.⁶⁴

Applying the potential cost reductions described above could result in savings of approximately \$4 million, and a total cost of \$16.8 million.

OPERATING COSTS

The 2016 FFS estimated annual operating costs of \$685,900 as summarized in **Table 7**. Costs include collection system power costs, line cleaning, inspection and replacement; labor assumes one operator would be required at the plant for half of the day, 5 days per week. For one of these days, an additional operator would likely be required to assist with maintenance.⁶⁵

As noted in the 2013 PFS, "O&M costs are approximate and actual costs could be half of the values presented depending on the final project." The PFS recommended that cost saving strategies such as sharing personnel and equipment with surrounding districts to perform O&M duties should be fully explored to lower annual costs.⁶⁶

⁶⁴ 2013 PFS, Section 10.2.2.

⁶⁵ 2016 FFS, Section 5.1.5.

⁶⁶ 2013 PFS, Section 10.2.4.

Table 7 Estimated Annual System Operating Costs and Allocations

Item	TOTAL Existing	Buildout
<u>Operating Costs (1)</u>		
Collection System	\$127,400	\$127,400
Treatment/Disposal	<u>558,500</u>	<u>558,500</u>
Total	\$685,900	\$685,900
<u>Units, Sq.ft. and RUE's</u>		
Residential Units (RUE's)	336	336
Commercial RUE	<u>55</u>	<u>83</u>
Total	391	419
Commercial Sq.ft.	228,990	349,529
<u>RUE's Load Adjusted</u>		
Residential	1.0	336
Commercial	2.0	<u>109</u>
Total		503
<u>Operating Cost Allocations</u>		
Residential	\$517,725	\$458,543
Commercial	<u>\$168,175</u>	<u>\$227,357</u>
Total	\$685,900	\$685,900
Allocation/RUE	\$1,541	\$1,365
Allocation/Com'l Sq.ft.	\$0.73	\$0.65
Operating Costs w/Savings (2) 50%		
Allocation/RUE	\$770	\$682
Allocation/Com'l Sq.ft.	\$0.37	\$0.33

(1) AECOM FFS, Sept. 13, 2016.

(2) O&M cost savings assumes 50% reduction in operations & maintenance costs.

5. DISTRICT BUDGET

This section describes a preliminary budget for a Los Olivos special district. Estimated costs are shown for a CSD; depending on the type of district or annexation, administrative costs could be less as described in Chapter 3. If the proposal moves forward, the budget will be refined adopted by the district board.

ADMINISTRATION & OPERATING EXPENDITURES

As shown in **Table 8**, ongoing management and administrative costs are estimated at just under \$200,000 annually. The first years, in advance of wastewater system operations, are assumed to require a smaller budget of slightly over \$100,000 due to less staff time, no office, and reduced equipment expenses. The lower operating costs may extend from one to three years, depending on the time required to plan and construct a wastewater system. The initial costs could be funded by a combination of community contributions and assessments.

Table 8 Estimated Overhead and Administrative Costs - Los Olivos CSD

Item	Annual Amount	
	First Year	Buildout
<u>Administration</u>		
Board	6,000	6,000 (3)
Legal	20,000	20,000
Accounting/Finance	15,000	15,000
Office Space, Utilities	0 (5)	15,000 (1)
Equip/Supplies/Internet	2,500 (6)	5,000
Memberships	3,000	3,000
Other Overhead/Admin.	<u>10,000</u>	<u>17,000</u> (2)
Subtotal (exc. Staff)	56,500	81,000
Admin. Staff Salaries/Benefits	\$54,000 (5)	\$108,000 (4)
TOTAL Expenditures	\$110,500 (5)	\$189,000
per Residential Unit Equivalent (RUE)	\$283 (7)	\$376 (7)
per RUE per month	\$24	\$31

(1) Assumes 500 sq.ft. at \$2.50 per month.

(2) Other/Contingency at 10% of other admin costs inc. staff.

(3) Assume stipend of \$100/month, 5 board members.

(4) 50% GM/Operator at \$100k, 50% Sec'y Treasurer \$60k, +35% taxes, benefits.

(5) Assumes first year (or more) primarily planning with no operational staff or contracts to administer; 50% staff assumed, and no office space required.

(6) Equipment/Supplies/Internet reduced first year due to no office space.

(7) Residential Unit Equivalents are "Load Adjusted" for commercial strength factor.

The budget assumes a part-time General Manager and part-time secretary/treasurer. The staff may be employees of the District, or may be contracted services from a private firm or another public agency. Similarly, the District may contract for other services such as accounting, from a private firm or public agency. A contingency of 10 percent of non-staff costs is included. The actual manner of obtaining services, levels of services, and associated benefits paid (if employees) will be determined by a future CSD Board.

WASTEWATER OPERATIONS

As described in Chapter 3, the 2016 FFS estimates annual operating costs at \$686,000. The prior 2013 study noted that these costs could be up to 50% lower depending on the final design, and depending on possible savings by contracting with surrounding districts.

OPERATING REVENUES AND RATES

Table 9 illustrates potentially rates required to cover the projected administrative and system operating costs, with and without potential operating cost savings. With the assumed savings, rates approach those of other tertiary treatment systems in the region (see **Appendix A**).

Table 9 Estimated Total Annual Admin. and Operating Costs and Rates - Los Olivos CSD

Item	Annual Amount		
	First Year	Ongoing	Buildout
<u>Admin and Operating Costs</u>			
Admin/Overhead	\$110,500	\$189,000	\$189,000
Wastewater System Operations		<u>685,900</u>	<u>685,900</u>
Total	\$110,500	\$874,900	\$874,900
<u>Units, Sq.ft. and RUEs (Load Adjusted)</u>			
Residential Units (RUEs)	336	336	336
Commercial RUEs	<u>109</u>	<u>109</u>	<u>167</u>
Total	445	445	503
Commercial Sq.ft.	228,990	228,990	349,529
<u>Total Admin and Operating Cost Allocations</u>			
Residential	\$83,400	\$660,400	\$584,900
Commercial	<u>27,100</u>	<u>214,500</u>	<u>290,000</u>
Total	\$110,500	\$874,900	\$874,900
Allocation/RUE	\$248	\$1,965	\$1,741
Allocation/Com'l Sq.ft.	\$0.12	\$0.94	\$0.83
<u>Allocations w/Savings (1)</u>			
Residential	\$83,400	\$401,500	\$355,600
Commercial	<u>27,100</u>	<u>\$130,400</u>	<u>\$176,300</u>
Total	\$110,500	\$531,900	\$531,900
Allocation/RUE	\$248	\$1,195	\$1,058
Allocation/Com'l Sq.ft.	\$0.12	\$0.57	\$0.50

(1) Assumes up to 50% potential system operations savings.

Actual rates will depend on the specific final system design, district management and administrative costs, and contracting and rate decisions to be made by the Board of Directors.

6. CAPITAL EXPENDITURES AND FUNDING

As described in Chapter 3, costs for the proposed system total \$20.9 million, or \$16.8 million if potential cost savings can be achieved. Total costs could be significantly lower if the system is phased to first serve only the commercial core, with other larger residential properties upgrading to improved onsite systems. These costs are assumed to be the same for all governance options. Additional grant funding may be possible for planning, design and construction to further reduce costs. Remaining costs are likely to be funded through debt issuance secured by benefit assessments paid by property owners, as described below.

CAPITAL FINANCING

A range of funding sources may be tapped to help pay for the system's planning and construction costs. Loans may also be utilized where possible to reduce finance costs. Examples of funding sources include:

- County of Santa Barbara
- State Water Resource Control Board's Clean Water State Revolving Fund and Water Recycling Funding Program
- United States Department of Agriculture's Water and Waste Disposal Loan and Grant Program

The governance entity will need to investigate and apply for these sources, and explore other opportunities for related funds, for example, to help fund sustainable energy sources such as solar panels to help reduce operating costs.

Table 10 illustrates the potential allocation of capital costs before and after possible cost reductions discussed in Chapter 3. The total costs are allocated to Residential Unit Equivalents ("RUE's). The table also shows an average load adjustment of "2" to reflect the increased costs attributable to wastewater from commercial uses, which varies depending on the type of use; for example, restaurants not only generate significantly greater flows than office or typical retail, but the waste "strength" also requires additional costs to process. For example, the SYCSD rates include a strength factor of "6" for restaurants. The actual adjustment factors will be determined after more detailed engineering analysis, and decisions to be made by a future governing board.

The allocations of costs have been adjusted for equipment required by commercial uses. For example, the system design includes an "equalization tank" to handle peak flows during the summer from tourists; these costs are allocated to commercial uses.

Table 10 Estimated Capital Cost Allocations

Item	Existing TOTAL	New	Buildout	
Total Improvement Costs (1)	\$20,869,000		\$20,869,000	
Equalization Tank (comm'l)	\$516,000		\$516,000	
Other (allocated per RUE)	\$20,353,000		\$20,353,000	
Costs w/Potential Savings	\$16,827,000		\$16,827,000	
<u>Residential Unit Equivalents (RUE's) (2)</u>				
Residential Units	336	0	336	
Commercial RUE's (3)	<u>55</u>	<u>29</u>	<u>83</u>	
Total	391	29	419	
Commercial Sq.ft.	228,990	120,539	349,529	
<u>RUE's Load Adjusted</u>				
Residential	1.00	336	0	336
Commercial	2.00	<u>109</u>	<u>57</u>	<u>167</u>
Total		445	57	503
<u>Capital Cost Allocations</u>				
Residential (RUE alloc.)	\$15,362,700	74%	\$13,606,500	65%
Commercial				
Commercial (RUE alloc.)	4,990,300		6,746,500	
Commercial (Tank)	<u>516,000</u>		<u>516,000</u>	
Subtotal Commercial	\$5,506,300	26%	\$7,262,500	35%
Total	\$20,869,000	100%	\$20,869,000	100%
Allocation/RUE	\$45,700		\$40,500	
Allocation/Com'l Sq.ft.	\$24.05		\$20.78	
<u>Allocations w/Savings</u>				
Residential	\$12,387,200	74%	\$10,971,100	65%
Commercial	<u>4,439,800</u>	26%	<u>5,855,900</u>	35%
Total	\$16,827,000	100%	\$16,827,000	100%
Allocation/RUE	\$36,870		\$32,650	
Allocation/Com'l Sq.ft.	\$19.39		\$16.75	

(1) AECOM Sept. 13, 2016.

(2) Residential based on parcel count in SPA; number is less than AECOM analysis.

(3) Commercial RUE's not shown in AECOM FFS; estimate shown based on commercial flows/day divided by 221 gpd avg/residential connection.

A likely source of financing is the US Dept. of Agriculture (USDA), which offers loans through its Rural Utilities Service Water and Environmental Programs (WEP) for the construction of waste facilities in rural communities. The program is targeted to communities with populations less than 10,000. These loans are commonly used for capital funding by public agencies and offer low interest rates and long amortization terms. Currently interest rates are between 1.625% and 2.75% for 40-year loans.

Table 11 shows the annual debt service for a loan to fund the system's costs. The debt amount includes \$150,000 for completing the USDA application, preparing an engineer's Report for assessments, forming an assessment district and conducting a vote to approve the assessment district. The assumed interest rate is assumed at 3%; actual rates will depend on financing conditions at the time the debt is issued. Debt issuance is approximately 10% of the area's assessed value.

GRANTS

In addition to its loan program, the USDA also offers Waste Disposal Predevelopment Planning Grants, and other forms of grants for construction. It is anticipated that a future governing board and staff will pursue grants to help fund the system and reduce costs to ratepayers.

ASSESSMENTS

Table 11 calculates annual assessment based on the system's cost and debt financing as described above. The allocations to commercial uses include a "load factor" to account for the additional waste processing required for commercial waste. An assessment engineer will determine the actual assessments, and the governing board of the district will adopt assessments. Assessments are likely to vary by specific commercial and residential use.

Although a benefit assessment is a fixed amount per parcel, the table illustrates the relative increase in tax burden when the assessments are added to existing property tax rates of 1.07% of assessed value. The resulting equivalent rates range from 1.44% to 1.53% compared to total assessed value in the area. The equivalent tax rates will vary by specific properties depending on their value. These average rates are less than generally accepted maximum caps of 1.8-2.0. Total debt is approximately 10% of total area value.

Table 11 Estimated Annual Assessments

Item		Existing TOTAL	Buildout		
<u>RUE's Load Adjusted</u>					
Residential	1.00	336	336		
Commercial	2.00	<u>109</u>	<u>167</u>		
Total		445	503		
<u>Debt Issuance</u>					
Improvement Costs		\$20,869,000	\$20,869,000		
Issuance Costs (1)		<u>\$150,000</u>	<u>\$150,000</u>		
Total		\$21,019,000	\$21,019,000		
Debt w/Potential Savings		\$16,977,000	\$16,977,000		
Annual Debt Service (2)	3.0%	\$909,000	\$909,000		
<u>Annual Debt Service Allocations - Load Adjusted</u>					
Residential		\$685,400	\$608,200		
Commercial		<u>\$222,700</u>	<u>\$301,500</u>		
Total		\$908,100	\$909,700		
Allocation/RUE		\$2,040	\$1,810		
Allocation/Com'l Sq.ft.		\$3.97	\$2.60		
Annual Debt Service w/Savings		\$734,000	\$734,000		
Allocation/RUE		\$1,650	\$1,460		
Allocation/Com'l Sq.ft.		\$3.21	\$2.10		
<u>Assessed Value</u>					
Residential		\$137,600,000	\$137,600,000	Burden 0.50%	Burden 0.44%
Commercial		<u>\$63,400,000</u>	<u>\$88,018,899</u>	0.35%	0.34%
Total A.V. (3)		\$201,000,000	\$225,618,899		
Debt Service/Total A.V.		0.45%	0.40%		
Total w/current Tax Overrides		1.53%	1.48%		
Total w/savings		1.44%	1.40%		

(1) Estimated issuance costs include loan process/application, assessment engineer's report, assessment district formation/vote.

(2) Rates (8/2016) are between 1.625% and 2.75%; 40 year USDA loan.

(3) Includes unsecured a.v. Excludes 23 vacant parcels and 42 rancho estates.



APPENDIX A

SUMMARY OF SEWER RATES IN THE REGION

Source: Laguna Sanitation District presentation re: FY16-17 rates

<u>Treatment Level</u>	<u>Agency</u>	<u>Monthly Rate</u>	<u>Inc.</u>
Tertiary	Summerland	\$113.45*	3.0%
	Lompoc	\$ 84.00	10.5%
	Laguna	\$ 80.31	6.0%
	Vandenberg Village	\$ 75.67	
Secondary	Montecito	\$102.40*	
	Santa Ynez	\$ 82.17*	3.7%
	Mission Canyon	\$ 69.87	3.7%
	Cuyama	\$ 66.00	
	Los Alamos	\$ 63.40*	
	Carpinteria	\$ 61.26*	
	Santa Barbara	\$ 47.87	5.5%
	Goleta West Sanitary	\$ 40.78*	9.6%
	Goleta Sanitary	\$ 36.57*	
	Guadalupe	\$ 36.05	3.1%
	Solvang	\$ 34.65	1.6%
Santa Maria	\$ 19.20	5.0%	
Primary	Mission Hills	\$ 39.53	
	Buellton	\$ 25.00	
Average		\$ 59.91	

* These rates include estimated property tax contributions.



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November 9, 2016

Larry Fay
Environmental Health Director
Santa Barbara County Public Health
2125 Centerpointe Parkway, Rm. 333
Santa Maria, CA 93455

SENT BY ELECTRONIC MAIL

Re: AECOM Update to Los Olivos Wastewater System Preliminary Engineering Report (September 13, 2016)

Dear Mr. Fay

Heal the Ocean has had the opportunity to examine the report *Update (Revisions) to Los Olivos Wastewater System Preliminary Engineering Report* ("the Report") prepared by AECOM at the request of the Los Olivos Wastewater Reclamation Committee, and we would like to go on record with the following observations.

General Comment:

Although this Report was done as an addendum to the original (2013 AECOM sewer engineering study, it still needs to contain information by which proper decisions can be made by citizens who need to know all costs associated with a wastewater system - including operation and maintenance (O&M), reporting and monitoring, etc. This report is lacking in specific information to render it an effective tool in the decision-making process for Los Olivos' future water infrastructure plans. There are a number of assumptions within the report that must be corrected as we will point out in this letter. There are also several issues within the report that warrant further explanation or follow up information. Finally, , and quite seriously, there are several aspects missing from the final cost estimates, which creates an inaccurate picture of this processes described Until these issues are addressed, we cannot support this report as a planning document to be used in the debate regarding the future of Los Olivos' water infrastructure.

Specific Comments:

MBR Plant:

The report should feature a section explaining why the Membrane Bioreactor (MBR) system has been chosen over other technologies for wastewater processing. The Introduction notes that this is the sole system of focus, but why have other alternatives been discounted? Since this report is an update to the AECOM *Los Olivos Wastewater System Preliminary Engineering Report* (2013) are we to assume this addendum report has

EXHIBIT F

been done to investigate just one alternative? The report needs to explain why the MBR system has emerged as the clear favorite.

Peat Moss Filtration System:

HTO has already told EHS its opinion that the monies used to produce this AECOM Report addendum to the *Los Olivos Wastewater System Preliminary Engineering Report* (2013) is a misuse of “Hannah-Beth Jackson” funds that were brought into Santa Barbara County for the express purpose of remediating septic system pollution, including the removal of septic systems from known “problematic” areas where nitrate levels are rising in groundwater as has been identified by the Regional Water Quality Control Board and the Santa Barbara County Board of Supervisors. The purpose of these funds were carefully discussed by HTO and EHS in many meetings, and the final report was presented (and voted on) by the Board of Supervisors before the final description of funding use was sent to the State Water Board for approval. Nowhere in this description, approved by both the Board of Supervisors and the State Water Board, is language describing use of funds for a “better septic system” that would still use the ground to filter wastewater over a groundwater water basin known for high nitrate levels.

Nevertheless, Heal the Ocean requests an improved discussion of how this peat moss filtration system was chosen as the best (and only) on site waste treatment alternative, as well as the only alternative to the proposed membrane bioreactor. While Section 3.2 of the Report provides a useful overview of the properties of peat moss (albeit with no sources or peer-reviewed studies to back up the claims made), there is no discussion of the space requirements and operations of the system as a whole. There should be a more in-depth analysis of methods by which the peat system is connected to existing septic systems, as well as the requirements for a drain field, and other details beyond cost and estimated dimensions (i.e., monitoring and reporting requirements).

Infiltration Ponds:

The section on infiltration ponds is lacking in safety considerations. The hydrogeologic evaluation of the area and its suitability for surface groundwater recharge is cursory at best. An effective evaluation would include available groundwater storage, a sustainable level of infiltration with and without groundwater pumping scenarios, and a careful consideration of geologic hazards associated with surface application of recycled water. These hazards include liquefaction, slope failure, and high groundwater levels. The Report contains few provisions for 100 or 1000 year storm scenarios or major earthquakes, and the effects that these scenarios would have on the infiltration ponds, the groundwater system, and surrounding areas.

Additionally, the Report makes several assumptions and claims regarding the cost of infiltration basins that are entirely unclear. How is the land acquisition cost calculated? Does Los Olivos have ideal land for infiltration basins? What is the cap on the price Los Olivos would pay for the ideal plot of land for infiltration basins?

Finally, this report fails to include a serious discussion of nitrates, which is why Los Olivos is listed within the "problematic" areas for septic systems. There needs to be a discussion of a monitoring system, how such a monitoring system would be conducted, together with costs associated with annual inspection, monitoring and the required filing of reports with the Regional Board.

Finally, what are the contingencies for unacceptable levels of nitrates reaching groundwater? What are the requirements relating to infiltration ponds that if the requirements cannot be met, renders the entire project infeasible? Title 22 includes a number of requirements, including residence time, treatment, and regular reporting. The AECOM report fails to acknowledge the extensive permitting process under Title 22, and the repercussions for the entire project if the governing body cannot receive, or loses approval, for the use of infiltration ponds. The AECOM Report needs to lay out the many steps required for the implementation of infiltration basins, as well as an appropriate plan for reaching required constituent levels and meeting Title 22 requirements.

Cost Estimates:

Table 5.7 provides estimates for the total capital cost of installing a membrane bioreactor system in the Los Olivos area. HTO believes that the section “Additional Project Costs” should be expanded, itemizing administrative, engineering, and legal costs to give a more precise estimate of costs incurred. With a project as large as building an MBR system, a plan without specifics can easily become far more expensive and also extend beyond estimated timelines, further raising project costs. Improved step-by-step plans for all aspects of this project, even those deemed trivial, with associated costs, would aid in planning efforts and keep the project on track.

Timeline:

Also overlooked in the Report is a clear timeline for building and installing the MBR system and associated infrastructure. An unclear timeline can increase costs beyond the 20% contingency allotted and create additional complications in the construction and implementation process. As evidenced by the inadequate review of complying with Title 22 requirements for infiltration basins, there are a number of aspects in this Report that have been oversimplified and which discount the major time requirements.

Conclusion:

Heal the Ocean remains dedicated to the health of the Santa Barbara County watershed and will continue to act with the best interest of its residents in mind. Because the AECOM *Update to Los Olivos Wastewater System Preliminary Engineering Report* lacks so many specifics that are key to planning decisions, the residents of Los Olivos cannot use this report to make an informed decision about moving forward with a wastewater plan without unnecessary financial risk.

Sincerely,



Hillary Hauser, Executive Director



Alex Bennett, Policy Associate

CC: David Brummond, Santa Barbara County Environmental Health Services
Santa Barbara County LAFCO