



# Town of Apple Valley

Public Services

A Better Way of Life

May 14, 2015

Mr. Paul Onufer  
JPMB Investments, LLC  
556 S. Fair Oaks Ave. #337  
Pasadena, CA 91105

**Re: Sewer Feasibility Study – Jess Ranch Lakes RV Park**

Dear Mr. Onufer:

Attached is a copy of the sewer feasibility study you requested for the Jess Ranch Lakes RV Park. After you have reviewed this report, Town staff is available to answer any questions that you may have.

NOTE: The results of this study should not be interpreted as a guarantee of land use densities or project design. Specific project comments will be provided by the Town upon formal submittal of a development proposal.

If you have any questions or concerns, please give us a call at (760) 240-7000, ext. 7610.

Sincerely,

Tina Kuhns  
Administrative Analyst

cc: Carl Coleman, Altec Engineering  
Mike Cady, Public Works Manager  
Lance Miller, Director of Public Works

Enclosure



# So & Associates Engineers Inc.

16209 KAMANA RD., SUITE 200 • P.O. BOX 1712 • APPLE VALLEY, CA 92307 • PHONE (760) 242-2365 FAX (760) 242-3083

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May 8, 2015

113.0230-134

Final Report

Town of Apple Valley  
Public Works Department  
14955 Dale Evans Parkway  
Apple Valley, CA 92307

Attn: Mr. Dennis Cron  
Assistant Town Manager

**Reference: Report of Sewer Feasibility Study for Jess Ranch Lakes RV Park**

Dear Mr. Cron:

Per authorization from the Town of Apple Valley, So & Associates Engineers (SAE) has completed a sewer service review for the Jess Ranch Lakes RV Park, located at the north-east corner of Apple Valley Road and Jess Ranch Parkway. We have conducted a thorough review and obtained information from the Applicant's engineer (for the initial Draft report) and are pleased to submit this Final letter report for approval by the Town of Apple Valley.

## **A PROJECT DESCRIPTION AND ESTIMATED WASTEWATER FLOW**

The Project is a previously recorded RV-park with the proposal to change lot numbers 69-204 and 210-219 to single family residence (total of 146 lots). The Study Area is shown on Figure 1. More accurate delineation of the 146 lots are shown on Attachment #1 (per map provided by Applicant's engineer). While certain sewer capacity might have been reserved for the 146 RV lots in the past, we shall strictly consider the capacity needs for the new 146 residential lots. Since residential lots at Jess Ranch historically generate lower wastewater flow (associated with senior citizen housing tracts), we would assign a unit flow coefficient of around 200 gallons per equivalent dwelling unit instead in evaluating sewer capacity.

The estimated average daily wastewater flow from the full development of these 146 converted residential lots will be about 29,200 gallons (using the unit flow coefficient referenced above) with a projected peak flow of no more than 116,800 gallons per day (or 0.1168 mgd for subsequent review against trunk sewer capacity).

## **B. REVIEW OF AVAILABLE SEWER SYSTEM CAPACITY**

Figure 1 shows an existing 15-inch sewer pipe running along the converted residential lots which then connects to an 18-inch and 21-inch trunk sewer system. The 21-inch trunk sewer currently connects into the existing Jess Ranch Lift Station with the wastewater being pumped via a 6-inch and 8-inch force mains connecting to the Assessment District 3-A sewer system, subsequently flowing to the regional interceptor system, owned and operated by the Victor Valley Wastewater Reclamation Authority (VWVRA).

Because the existing 15-inch collector sewer serves several other tracts within the Jess Ranch development, we therefore conducted a review of segments of the 15-inch pipeline that traverse the converted residential lots and also address the concerns regarding the existing Jess Ranch lift station capacity and reliability separately.

For the 15-inch sewer pipeline, Manning's formula for estimating pipeline capacity will be used in this review as follows:

$$Q_{\text{flow}} = A \times V \text{ (velocity)}$$

$$V = \frac{1.486}{n} r^{2/3} S^{1/2}$$

n = Manning's coefficient, assumed at 0.013

r = Hydraulic radius (= R/2 for full flow pipe)

s = pipe slope

Pipe Slope	Sewer Pipe Capacity		Q <sub>p</sub> (146 lots)	Percentage of Q <sub>Design</sub>
	At Full Flow (mgd)	At ¾ Full Flow (mgd: approx.)		
0.40 %	2.6440	2.411	0.1168	4.84 %
0.42 %	2,7097	2.471	0.1168	4.73 %
0.43 %	2.7417	2.500	0.1168	4.67 %
0.46 %	2.8358	2.585	0.1168	4.52 %
0.47 %	2.8664	2.614	0.1168	4.47 %
0.54 %	3.0725	2.802	0.1168	4.17 %

Based on the above review, it is our opinion that the existing sewer system has adequate capacity for the 146 converted residential lots.

**Existing Jess Ranch Lift Station Review:** Per information provided by Town Staff, some interim improvements to the existing Station are being implemented as current pumps running time extends for about 14 to 16 hours per day. Perhaps slightly larger pumps (as permitted under the existing electrical supply system) or a new replacement pump may be considered. These are just interim solutions. For longer term consideration, a future replacement wastewater lift station must still be considered.

While the existing lift station force mains are 6-inch and 8-inch parallel pvc pipes, Town staff would continue to inspect and monitor the operational integrity of these pipes to ensure full reliability.

**C. ON-SITE / OFF-SITE SEWER AND ESTIMATED PRELIMINARY COSTS**

(a) On-site Sewer: Project developer will be responsible for internal collector sewer system to connect to the existing 15-inch pipe, plus laterals and related plumbing. All collector sewer pipelines must be minimum 8-inch in diameter, and all sewer improvements must be submitted for plan-check by the Town of Apple Valley.

(b) Off-site Sewer: Based on the capacity review in Section-B above, there will be no need for any off-site sewer. However, Applicant's engineer should meet with Town staff relative to the proposed tie-in location before any final design is initiated.

**D. LOCAL AND REGIONAL CONNECTION FEES**

(1) Local Buy-in Fee/Development Impact Fee: The Town of Apple Valley may include a local buy-in fee for parcels located outside of an existing established sewer assessment district but utilizes the facility of that established district. This fee is subject to adjustment for annual inflation. Project Applicant should verify with the Town of Apple Valley if the existing RV tract is included within an established assessment district. Further, Applicant should also check with the Town of Apple Valley staff relative to any other development impact fee(s).

(2) Local Connection Fee: The Town of Apple Valley currently proposes to levy a local sewer connection fee of \$703.80 per equivalent dwelling unit or EDU taking inflationary adjustment into consideration (to be effective 7-01-2015 following approval by the Town Council). Each EDU will be equivalent to 20 plumbing fixture units or PFU. This fee will be further adjusted annually for future inflations based on the ENR construction cost index and will be paid at final inspection of each permitted construction phase. Based on the proposed conversion to 146 residential lots, the estimated local connection fee will be as follows:

$$= \$ 703.80/EDU \times 146 \text{ EDUs} \qquad = \$ 102,754.80 \text{ (Effective 7-01-2015 after approval by Council)}$$

(3) Regional VVWRA Connection Fee: The regional treatment connection fee is currently established at \$200.00/PFU or \$4,000/EDU. Plumbing fixture unit determination is set forth by the Victor Valley Wastewater Reclamation Authority (VVWRA). For the purpose of this Study, each residential lot will be assigned as 1-EDU as used above for local fees. The actual connection fee will be based on the PFUs verified by Town staff from the approved plumbing plans. For this Project, the estimated total Regional Connection Fee is as follows:

$$= \$4,000/EDU \times 146 \text{ EDUs} \qquad = \$ 584,000.00$$

**E. SUMMARY**

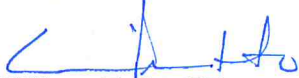
The proposed conversion from RV lots to residential lots should be able to receive service from the Town of Apple Valley following approval of the planning effort and construction of any required local connecting sewers. Each residential lot will then be subject to payment of local buy-in, connection, and Regional connection fees. Following is a summary of the related Project sewer costs:

• On-site Sewer pipeline costs	\$	By Developer
• Off-site Sewer cost	\$	None required
• Local Buy-in Fee	\$	To be verified
• Local Connection Fee	\$	102,754.80
• Regional Connection Fee	\$	<u>584,000.00</u>

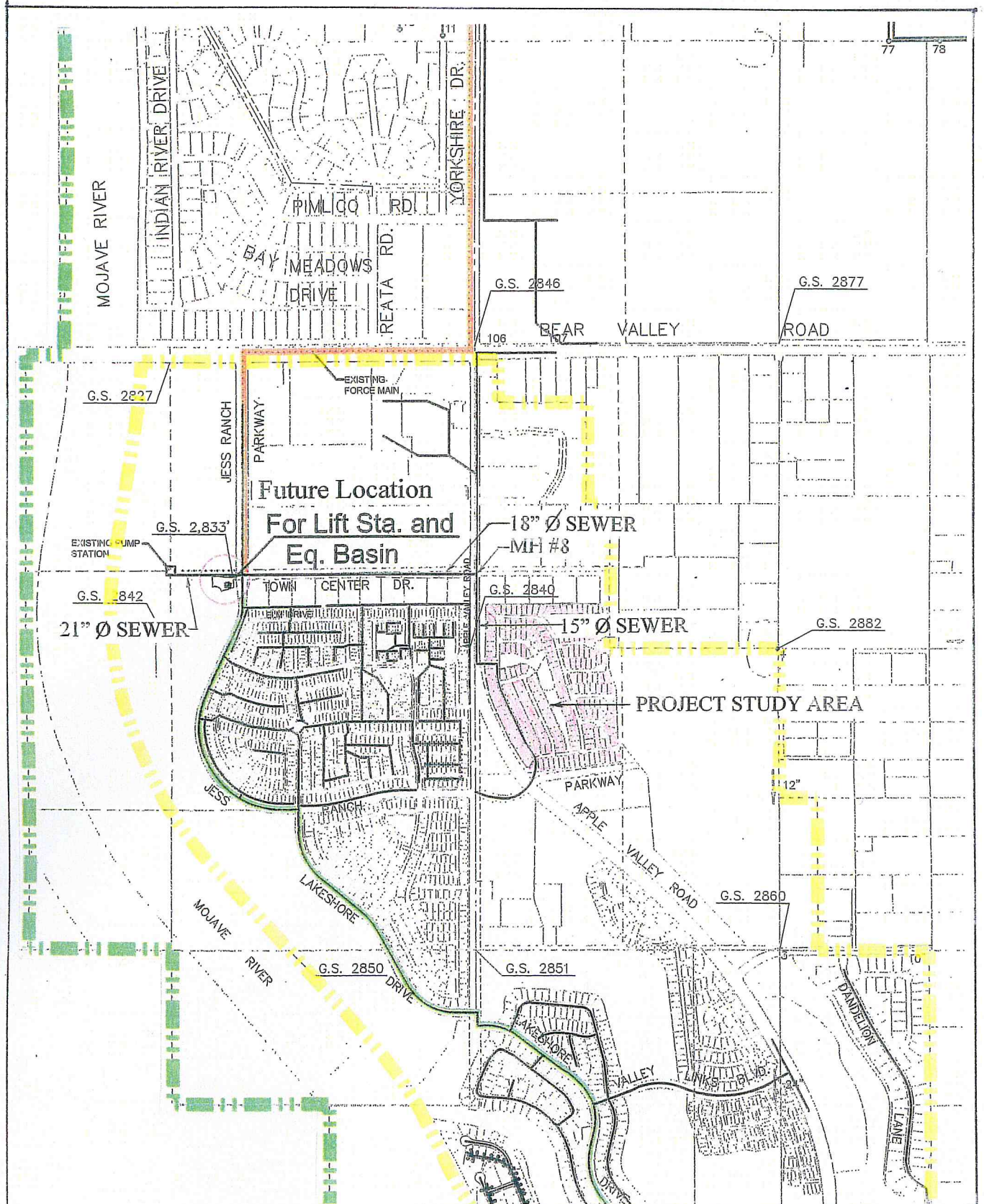
Total Estimated Sewer Connection Cost = \$ 686,754.80

The above costs are preliminary only and presented for planning purpose. The various connection fees are subject to annual inflationary adjustments (based on ENR construction cost index published by McGraw Hill Construction). Information provided in this Feasibility Study is valid for a period of 1-year from the date when the final study report is approved by the Town of Apple Valley. We trust that the review and information provided in this Study Report are both helpful to the Developer and Town of Apple Valley.

Very truly yours,



Wilson F. So, PE  
Sewer Department Engineer



**FIGURE 1**  
**TOWN OF APPLE VALLEY**  
**SEWER FEASIBILITY STUDY FOR**  
**JESS RANCH LAKES RV-PARK**

**DEVELOPMENT NOTES:**

1. MINIMUM HOUSE SIZE SHALL BE 1,500 SQ. FT.
2. MAXIMUM LOT COVERAGE TO BE 50% EXCLUDING PAVING.
3. 20' FRONT SETBACK FROM PRIVATE STREET.
4. 10' SETBACK FROM STREET SIDE PROPERTY LINE.
5. 5' SETBACK FROM ANY SIDE OR REAR PROPERTY LINE.
6. ALL SIDE YARDS ADJACENT TO RV LOTS SHALL HAVE A 6" HIGH SLUMPSTONE SEPARATION WALL SIMILAR TO EXISTING PERIMETER WALL.
7. HIGH SLUMPSTONE OR BROUGHT FROM EXISTING PERIMETER WALL.
8. PROJECT PERIMETER WALL SHALL BE 6" HIGH SLUMPSTONE WALL SIMILAR TO EXISTING PERIMETER WALL.
9. STONE WALL SHALL BE 6" HIGH SLUMPSTONE WALL.
10. INGRESS AND EGRESS CORNER OF PROJECT SHALL BE 45 DEGREES.
11. LOT NUMBERS TO CHANGE FROM RV TO SFR: 69-204, 210-219 FOR A TOTAL OF 146 LOTS.

**SPECIFIC PLAN AMMENDMENT**

CHANGING THE USE OF A PORTION OF LOTS FROM RECREATIONAL VEHICLE PARK TO SINGLE FAMILY RESIDENTIAL WITHIN EXISTING TRACT NO. 144B4 AT JESS RANCH.

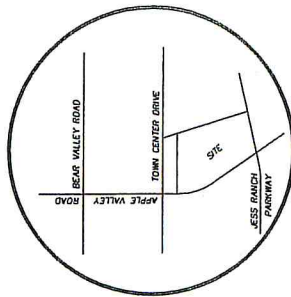
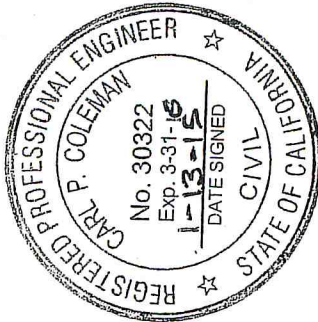
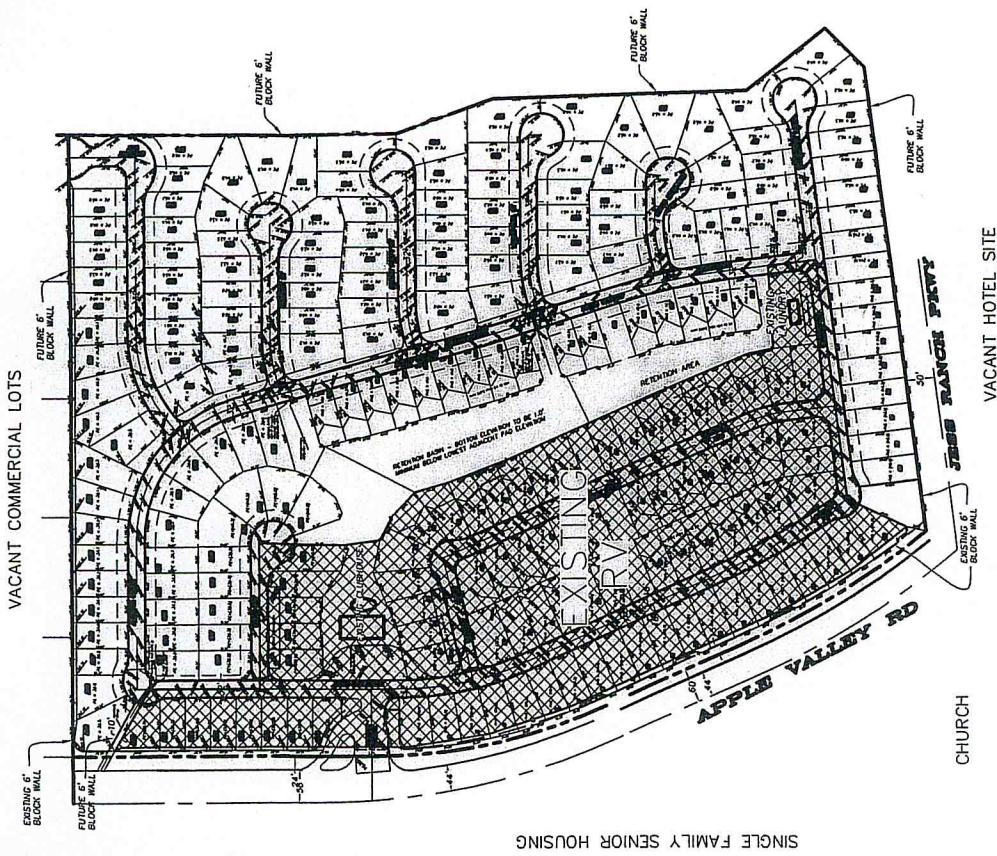
DENOTES EXISTING LOTS DEVELOPED AND USED FOR R.V. PARK PURPOSES



DENOTES UNDEVELOPED LOTS PROPOSED FOR SINGLE FAMILY HOMES



JESS RANCH FISH HATCHERY



SHEET 1 OF 1	DATE	REVISION	DESCRIPTION	BY	DATE	CROSSED BY: XXXX	DRAWN BY: XXXX	CHECKED BY: CPC	OALVO ENGINEERING CORP. 18551 Hillway 18 Apple Valley, CA 92307 (760) 937-7777 / (760) 242-2818 www.oalvo.com	JPMB INVESTMENTS, LLC C/O PAUL ANUSSER 566 SOUTH FAIR OAKS AVENUE, #337 PASADENA, CA 91105	SCALE: 1" = 100' WORK ORDER NO.: CONTRACT	SPECIFIC PLAN AMMENDMENT TRACT 144B4 APPLE VALLEY	SHEET 1 OF 1