MEMORANDUM

Los Olivos Community Services District
Project Name – Job Number

Date: May 28, 2026

To: Guy Savage, General Manager

From: Erik Rutherford

Subject: Wastewater Collection & Conveyance Project - Cost Sensitivity and Uncertainty

The life cycle cost analysis presented in the Wallace Group's preliminary design report is based on numerous assumptions associated with various unit costs. By evaluating the sensitivity of the overall project cost to changes in specific unit costs, we can better understand the implications of uncertainty in the preliminary estimate.

Open cut trenching
Our estimate assumes that open cut trenching will be used for all gravity sewer infrastructure. A range of 30% in open cut trench costs results in a corresponding $5.6M range in capital costs for Scenario 1 – Gravity Collection + Pumped Conveyance.

8" Gravity Sewer	Baseline Unit Cost	-30%	+30%
	$360 (<10' deep)	$252	$468
	$400 (>10' deep)	$280	$520
Capital Cost	$51,180,900	$45,610,900	$56,750,00
% Difference		-10.9%	+10.9%

Horizontal Directional Drilling (HDD)
Our estimate assumes that HDD will be used for STEP pressure main installation as well as the force main to Solvang. Similar to open cut pricing's effect on the gravity option, varying the unit cost for 4" STEP pressure main by 30% results in a $4.5M variation in overall capital costs for Scenario 2 - STEP Collection + Pumped Conveyance costs.

4" STEP Sewer	Baseline Unit Cost	-30%	+30%
	$290	$203	$377
Capital Cost	$38,643,900	$34,189,500	$43,098,300
% Difference		-11.5%	+11.5%

Variation in the installation cost for the 6" force main to Solvang has a less pronounced impact on overall project costs. For both scenarios Scenario 1, a 30% range in HDD costs results in a $2.8M range in capital costs.

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6" SSFM	Baseline Unit Cost	-30%	+30%
	$330	$231	$429
Capital Cost (Scenario 1)	$51,180,900	$48,329,700	$54,032,100
% Difference (Scenario 1)		-5.6%	+5.6%
Capital Cost (Scenario 2)	$38,643,900	$35,792,700	$41,495,100
% Difference (Scenario 2)		-7.4%	+7.4%

Construction Cost Range
The cost ranges presented below represent the 'best case' and 'worst case' cost estimate by combining the +/-30% variation in construction costs for open cut trenching and HDD described above.

	Baseline	Low	High
Scenario 1	$51,180,900	$42,759,700	$59,602,00
Scenario 2	$38,643,900	$31,338,300	$45,949,500

Please note that the range shown above does not account for the other uncertainties and costs described below.

General Uncertainty Discussion
All construction projects come with varying degrees of uncertainty. Uncertainty in construction is often mitigated through the use of a contingency budget; projects with a higher degree of uncertainty should include a larger budget for contingency than projects with less uncertainty. Wallace Group's cost estimate includes a 30% construction contingency for both scenarios due to the preliminary nature of the design, although uncertainty between the scenarios will differ. The discussion below describes sources of uncertainty that are expected to differ between scenarios. Note that each of these topics have also been discussed in our preliminary report.

Buy-in agreement with Solvang
The terms of the agreement with City of Solvang for the conveyance and treatment of LOCSD's wastewater will have a direct impact on both the capital cost and the life cycle cost of the project. While we are assuming that the agreement will be based on average daily flows, which would likely be the same for both the gravity/STEP system, A STEP collection system might be advantageous if the agreement terms are based on loading (BOD, suspended solids, etc) or peak flows, as those are expected to be lower with a STEP system.

The agreement with Solvang will likely also depend on negotiations between the District and Solvang regarding other infrastructure improvements, such as capital improvement projects within the City's sewer system. There have also been discussions with the City about incorporating flow equalization into the District's project, to limit flows to the City. Stantec previously studied the potential for flow

equalization and determined that approximately 346,500 gallons of storage capacity would be necessary for the maximum day flow if discharging to Solvang's system were only allowed during low-flow periods. To put into perspective, 346,500 gallons is equivalent to the storage capacity of (30) 10-ft diameter, 20-ft deep wet wells filled to the top. The cost to build such a facility would likely be in the millions of dollars, along with ongoing operations and maintenance costs. If the capital improvement projects requested by the City address the capacity concerns associated with LOCSD's flows, then there should be no need to build additional equalization storage.

Dewatering
Costs for dewatering can be significant and variable. Groundwater levels change from year to year, and fluctuate throughout the year (fall versus spring). It is recommended that groundwater levels be studied further during detailed design to better understand the likelihood and extent of dewatering that will be necessary during construction. This will also impact potential conditions that we place on the contractor for timing of construction of work to help minimize impacts of dewatering, if possible.

Furthermore, we recommend working with the Regional Water Quality Control Board to establish the conditions associated with discharging groundwater to Alamo Pintado creek. Conditions may include treatment parameters, which should be known prior to bidding to better control construction costs.

Damage/Repair
The existing potable water distribution infrastructure appears to be asbestos cement pipe, which becomes brittle with age and is prone to leaks when trenching nearby. We expect that gravity sewer installation via open trenching will encounter issues with ACP piping during construction, particularly at crossings, and recommend that the contingency budget account for repair costs. ACP damage/repair concerns are not anticipated to be as prominent with the STEP system collection but can still occur.

STEP Tank and easement
We have assumed that for the STEP system, every parcel will require a new STEP tank and abandonment of the existing septic tank, modifications to the home's electrical distribution panel, and acquisition of an access/maintenance easement. To mitigate some of this design uncertainty, a parcel-by-parcel survey is recommended to identify potential tank installation area, panel location, and potential obstructions that will impact construction. It is also possible that some residents will refuse to grant an easement for the project. Additional legal fees beyond the cost of preparing the easement should be anticipated.

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Gravity Lateral Construction

Our report assumes that for the gravity collection system, every parcel will be able to flow by gravity to the main. Similar to the constructability concerns of the STEP tank install, there may be certain parcels where a gravity lateral will not work, and a grinder pump will be required to pump wastewater to the gravity main. Adding a grinder pump is fairly simple, however complications can arise from community acceptance if some parcels require pumps and some do not.

Similar to the STEP tank installation, the uncertainties associated with gravity lateral construction can be largely mitigated through additional surveying efforts to identify the location/depth of existing septic tanks and potential trenching routes.

Because the gravity system does not require easements on every property, the uncertainty in legal fees should be lower.

Other Cost Considerations

The life cycle cost analysis presented in the Wallace Group's preliminary design report is intended to aid the District in deciding between the two main options for sewer collection, and should not be considered the 'all-in' cost for the project. Other cost components, such as City of Solvang connection fees and capital improvements, legal fees for easement acquisition, Proposition 218 costs, bonding fees and interest, etc are not included in the LCCA, either because they are assumed to be relatively similar between the two options, or because we felt they were beyond the scope of the current contract. These costs should be incorporated into the Engineer's Report that will be prepared for the Proposition 218 Rate Study.