

**AGENDA**


**ENGINEERING COMMITTEE MEETING  
LEUCADIA WASTEWATER DISTRICT**

Thursday, September 7, 2017 – 8:30 a.m.  
1960 La Costa Avenue, Carlsbad, CA 92009

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1. **Call to Order**
2. **Roll Call**
3. **Public Comment**
4. **New Business**
  - A. Authorize the General Manager to execute Task Order No. 33 to the Engineering Design Services Agreement with Infrastructure Engineering Corporation (IEC) for engineering design services for the FY18 Gravity Pipeline Rehabilitation Project in an amount not to exceed \$33,610. (Pages 2 - 7)
5. **Information Items**
  - A. Update of the Leucadia (L1) Force Main West Section Replacement Project.  
(verbal)
6. **Directors' Comments**
7. **General Manager's Comments**
8. **Adjournment**

## MEMORANDUM

**DATE:** August 31, 2017  
**TO:** Engineering Committee  
**FROM:** Paul J. Bushee, General Manager   
**SUBJECT:** Fiscal Year 2018 (FY18) Gravity Pipeline Rehabilitation Project Engineering Design Services

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**RECOMMENDATION:**

Staff requests that the Engineering Committee (EC) recommend that the Board of Directors:

1. Authorize the General Manager to execute Task Order No. 33 to the Engineering Design Services Agreement with Infrastructure Engineering Corporation (IEC) for engineering design services for the FY18 Gravity Pipeline Rehabilitation Project in an amount not to exceed \$33,610.
2. Discuss and take other action as appropriate.

**DISCUSSION:****Tactical Goal: Infrastructure and Technology / FY18 Gravity Pipeline Rehabilitation**

The FY18 Gravity Pipeline Rehabilitation project is included as a goal under the Technology and Infrastructure Strategy in the FY18 Tactics & Action Plan.

The District's 2013 Asset Management Plan (AMP) included a 5 year Capital Improvement Program for each of the five District asset categories – gravity sewers, manhole, pump stations, force mains, and jointly-owned facilities. The gravity sewer pipeline category included an annual gravity pipeline project for the programmatic replacement of vitrified clay pipe (VCP). This programmatic replacement was intended to replace the older VCP lines, starting with the older Leucadia area, which have been noted to have root intrusion.

The shift in Field Services focus from hydro-cleaning to Closed Circuit Television (CCTV) inspection has resulted in the discovery of significant pipe defects throughout the collection system that are of a high priority for repair. In 2014, Staff developed a process to generate and maintain a prioritized list of pipelines with defects, a Repair Priority List, as a result of CCTV inspections. Defects discovered include major sags, severe cracks, offset joints, broken pipe and other major defects in the collection system. In 2015, Staff added manholes to the Repair Priority List. Staff believes the repair of pipelines and manholes with defects on the Repair Priority List take precedence over the programmatic replacement of VCP lines due to root intrusion. Therefore, the Gravity Pipeline Rehabilitation Project (Project) for FY18 and subsequent fiscal years will focus on the repair of prioritized collection system defects on the Repair Priority List.

The FY18 Project is anticipated to include the repair or rehabilitation of thirteen (13) gravity line segments and eight (8) manholes.

IEC has submitted a proposal, attached, to complete the design phase of the FY18 Project. The Scope of Services includes:

Task 1 – Project Management and Administration

- Two meetings – discuss preliminary engineering assessment and 90% design review.

Task 2 – Preliminary Engineering Assessment

- Prepare a preliminary engineering assessment composed of an overview map and a spreadsheet of recommendations.
- Preliminary engineering assessment will consist of:
  - Review CCTV records of facilities recommended for repair
  - Obtain and review record drawings for facilities recommended for repair
  - Perform a limited site reconnaissance for each facility to assess site constraints

Task 3 – Final Design

- Prepare bid package.

The proposed cost for these design services is \$33,610. Staff has reviewed and discussed the scope of work and proposed fee with IEC. Staff believes the proposal is fair and reasonable. Therefore, staff recommends the execution of Task Order No. 33 to the Engineering Design Services Agreement with Infrastructure Engineering Corporation (IEC) for engineering design services for the FY18 Gravity Pipeline Rehabilitation Project.

**FISCAL IMPACT:**

Staff appropriated funds in the FY18 Budget in anticipation of this project. The budget contains sufficient funds to cover the design services under this agreement.

ier:PJB

Attachment

August 31, 2017

Mr. Ian Riffel  
Leucadia Wastewater District  
1960 La Costa Avenue  
Carlsbad, California 92009

**RE: Proposal for Engineering Services for FY 18 Gravity Sewer Repairs Project**

Dear Mr. Riffel:

Infrastructure Engineering Corporation (IEC) is pleased to provide the Leucadia Wastewater District with this proposal for Engineering Services for the FY 18 Gravity Sewer Repairs Project. The proposed scope of services and fee is based on discussions with District staff and the highlighted sites in the attached repair priority list.

**PROJECT BACKGROUND AND APPROACH**

As documented in the District's Asset Management Master Plan prepared by Dexter Wilson Engineering, Inc., dated January 2013, the District systematically inspects its gravity sewer system via closed circuit television (CCTV). As District staff performs these CCTV sections gravity main sections in need of repair are flagged for repair within the District's sewer maintenance and operation software system. On an annual basis, these facilities flagged for repair are compiled into a capital improvement project for potential repair or rehabilitation.

IEC prepared bid documents for the FY17 Gravity Sewer Repair Project. This project came in significantly over the engineer's estimate. IEC concurred with District staff that the project should be split into two projects and rebid. The two projects are summarized below.

- FY18 Gravity Sewer Cured-in-Place Lining Project. This project includes the cured-in-place lining repairs from the FY17 project as well as an additional thirteen (13) gravity line segments and eight (8) manholes identified as priority level 3 lining repairs since the FY17 went into design. This letter proposal is for the preliminary and final design for this project.
- FY18 Gravity Sewer Repair Project. This project will include the excavated repairs proposed under the FY17 project and identified through the priority repair process in the time since the FY17 went into design.

We have prepared this scope and approach to provide a preliminary review of all facilities identified as level three priority with the following exceptions.

- Facilities already addressed under the FY17 project. These facilities have already gone through preliminary review and final design and will be incorporated into the FY18 Gravity Sewer Cured-in-Place Lining Project.
- The Quebrada and La Costa Golf Course lines. Preliminary and final design were completed for these facilities. They will be incorporated into a later FY18 Gravity Sewer Repair Project that will be limited to excavated repairs.
- The Orchard Wood Easement Line. IEC performed a preliminary review for this line during the FY17 Gravity Sewer Project. This line has a sewer sag located in a potentially

environmentally sensitive area. IEC recommended this line be broken out from the FY17 Gravity Sewer Repair Project and receive a thorough preliminary design effort with alternatives analysis as a stand alone project. If an excavated repair is required following this analysis, and the project does not require an extended environmental permitting process, this facility would be a candidate for inclusion in the later FY18 Gravity Sewer Repair Project.

- Facilities with a broken cleanout cap. The District is exploring the repair of these twelve (12) segments utilizing a UV cured short liner. These facilities will not be included in this project.

Additionally, the 17 sewer repairs included in the 2017 Gravity Pipeline Rehabilitation will be incorporated into the FY18 project to be bid together as one project.

#### *Preliminary Engineering Assessment Format*

Per the request of District staff during previous similar projects, in lieu of a formal preliminary design report, IEC proposes to perform a preliminary engineering assessment composed of an overview map and a spreadsheet of recommendations to be discussed in a review meeting with District staff and documented in meeting minutes.

IEC's below scope is crafted to be responsive to the above approach and does not include CEQA determination of the proposed project(s), environmental support, survey services, manhole inspection, flow monitoring, or a detailed preliminary design report or memorandum.

#### **SCOPE OF SERVICES**

The following detailed scope of services describes the specific tasks and deliverables that will be performed.

##### ***Task 1 – Project Management and Administration***

To expedite the project, we anticipate two coordination meetings will be required during the project, one to discuss the results of the preliminary engineering assessment and one to review the 90% bid package during final design. Additional coordination, project status reports and schedule updates will be addressed via e-mail and telephone.

##### ***Task 2 – Preliminary Engineering Assessment***

IEC will prepare a preliminary engineering assessment composed of an overview map and a spreadsheet of recommendations. The Preliminary Engineering Assessment will consist of the following:

- Review CCTV records of facilities recommended for repair. In general, IEC will review the CCTV records for suitability of proposed repair methods. It is assumed the District will provide Go-Pro videos of existing manholes for review.
- Obtain and review record drawings for facilities recommended for repair.
- Perform a limited site reconnaissance for each facility to assess site constraints including paving requirements, traffic control, access conditions, identification of the City of jurisdiction and bypass requirements. It is anticipated that the District will notify property owners and escort IEC staff to these site visits located on private property.



Mr. Ian Riffel  
Leucadia Wastewater District  
August 31, 2017  
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### ***Task 3 – Final Design***

Final design is expected to consist of a bid package containing D-sized sheets, CSI format specifications and a cost estimate. The D-sized sheets are anticipated to consist of a title sheet, a general notes sheet and a sheet containing an overview map of the District's system indicating location of facilities to be repaired or rehabilitated and a corresponding table documenting facility length, District segment number, existing pipe size and material and required repairs. A site specific plan view will be included for each site utilizing available aerial imaging.

This scope does not include right-of-way permit coordination, traffic control or surveying.

### **SCHEDULE**

IEC will attend a preliminary engineering feasibility assessment meeting at the District six weeks following the notice to proceed. Following the meeting IEC will prepare meeting minutes documenting the results of the meeting within one week. Following the meeting, IEC will prepare a 90% level bid package within four weeks. Following a two week review period by the District IEC will prepare a final signed bid package incorporating District comments within three weeks. Additional drafts or a change in scope from the scope proposed herein will require additional time and budget.

### **FEE**

The proposed level of effort and fee is indicated on the attached table. Billing will be in accordance with our current agreement for as-needed engineering services. We sincerely appreciate the opportunity to provide this proposal and assist the District with this project. Please contact me at (858) 316-7248 should you have any questions or need further information.

Sincerely,

Jamie Fagnant, P.E.  
Senior Project Engineer



**FEE ESTIMATE  
LEUCADIA WASTEWATER DISTRICT  
FY 18 Gravity Sewer Mains Repairs**

Task/ Subtask	Task/Subtask Description	<i>Sr. Project Manager (Rob Weber)</i>	<i>Sr. Project Engineer (Jamie Fagnant)</i>	<i>Engineer II/ CAD II Designer (Marie Fawcett)</i>	<i>Word Processor (Annette Moore)</i>	Subtask Labor-Hours	Subtask Labor Cost	Direct Cost	Total Cost
		\$190.00	\$160.00	\$120.00	\$75.00				
<b>TASK 1</b>	<b>Project Management and Administration</b>								<b>\$4,010</b>
	Design Meetings (2)	4	8			12	\$2,040	\$250	\$2,290
	Project Status Reports/Coordination	4	6			10	\$1,720	\$0	\$1,720
<b>TASK 2</b>	<b>Preliminary Engineering Feasibility Assessment</b>								<b>\$10,100</b>
	Review CCTV (25 sites)		5	25		30	\$3,800	\$0	\$3,800
	Review rec dwgs/site conditions/bypass requirements	4	8	16		28	\$3,960	\$0	\$3,960
	Site Visits		8	8		16	\$2,240	\$100	\$2,340
<b>TASK 3</b>	<b>Final Design</b>								<b>\$19,500</b>
	90% submittal	4	16	80		100	\$12,920	\$0	\$12,920
	Final Submittal	2	8	36	8	54	\$6,580	\$0	\$6,580
		18	59	165	8	250			
		\$3,420	\$9,440	\$19,800	\$600		\$33,260	\$350	<b>\$33,610</b>

**\$33,610**