

16 October 2019

Mr. Erik Jorgensen, P.E.
Senior Civil Engineer
Eastern Municipal Water District
2270 Trumble Road
Perris, CA 92572

Subject: Golden Triangle Sewer Infrastructure Project
Proposal for Final Design

Dear Mr. Jorgensen:

Kennedy Jenks Consultants (KJ) is pleased to submit this proposal to Eastern Municipal Water District (District) for the final design of the Golden Triangle Sewer Infrastructure Project. The project consists of approximately 2,300 linear feet of a new 15-inch diameter sewer and is comprised of two pipeline segments, which will be designed as separate bid packages.

The first pipeline segment (approximately 230 linear feet) crosses Murrieta Hot Springs Road near Monroe Avenue and extends from the District's existing manhole (MH-15) to a new manhole (EMWD-1) and will be constructed via open-cut methods. This design package will be expedited to accommodate the developer's schedule.

The second pipeline segment starts at either the location of the new manhole locations (EMWD-7 or EMWD-8) and extends westward across Interstate I-15 then into Guava Street, terminating at an existing manhole located at Guava Street and Madison Avenue. The crossing of I-15 consists of two potential pipeline alignments which will be constructed via trenchless construction methods with the jacking and receiving pits located outside of Caltrans right-of-way. The pipeline length for the I-15 crossing is approximately 760 lineal feet for Alignment "A" (621 lineal feet within Caltrans) or approximately 790 lineal feet for Alignment "B" (361 lineal feet within Caltrans). The pipeline length within Guava Street is approximately 1,290 lineal feet.

The developer will be responsible for the design of the sewer system, within the Golden Triangle development, which will connect the two pipeline segments. The geotechnical investigation for this project is being performed by Kleinfelder, as a subconsultant to KJ, under a separate authorization.

SCOPE OF SERVICES

Task 1 – Project Management

1.1 Meetings: KJ will attend six (6) meetings/workshops throughout the project. The meetings will consist of the following:

- Progress Meeting
- Trenchless Evaluation Review Workshop
- 60% Design Review Workshop

- 90% Design Review Workshop
- Coordination meeting with the Developer's Engineer
- Coordination meeting with the City of Murrieta

1.2 Project Updates: Kennedy Jenks will prepare bi-weekly project updates consisting of an email report to the District. The updates will identify and discuss project issues, coordination efforts, action items, schedule, budget, and other items of concern.

1.3 Quality Assurance/Quality Control (QA/QC): KJ will conduct an effective quality assurance and quality control program and perform a review of all deliverables prior to submittal.

1.4 Management: This task addresses the management responsibilities associated with proper scheduling, budget control, invoice preparation and coordination.

- **Deliverable** – KJ will submit all meeting agendas/presentations to the District a minimum of three (3) working days prior to each meeting, and all meeting minutes within five (5) working days following the meeting. District comments will be incorporated, and final minutes will be submitted.

Task 2 – Trenchless Evaluation

2.1 Trenchless Evaluation: Staheli Trenchless Consultants (STC), as a subconsultant to KJ, will perform a trenchless feasibility study on the alternatives identified to confirm feasibility and determine the preferred trenchless method based on a cost and risk balance. STC will evaluate the geotechnical conditions at the site and identify feasible trenchless alternatives at crossing locations that meet the project criteria. For each crossing location, STC will identify design parameters for trenchless crossings and potential risk elements. Risk elements will be assigned a conceptual probability for comparison and a remedy for each risk will be presented and considered in the risk-cost analysis. A risk register will be developed for the trenchless crossings that can be used to determine whether to accept the risk, mitigate during design or pass the risk to the contractor. The risk probability will also be evaluated to give the District a sense of the appropriate contingency to carry on the project. Recommendations for trenchless crossing methods will be made based on the cost/risk analysis.

- **Deliverable** – KJ will submit an electronic copy (pdf) of the Trenchless Feasibility Technical Memorandum (TM). District's comments on the Draft TM will be incorporated into a Final TM. KJ will submit an electronic copy (pdf) of the Final TM.

Task 3 – Approvals from Caltrans

3.1 Permit Support: KJ will prepare support documents to obtain approvals from Caltrans for the proposed sewer alignment crossing I-15. STC will calculate the estimated settlement calculations based on the geotechnical conditions and prepare descriptions of the design

measures incorporated to minimize the risk to Caltrans property. It is our understanding the District will submit the permit application and supporting documents to Caltrans.

3.2 Caltrans Meeting: KJ and STC will attend a meeting with Caltrans along with District staff.

Task 4 – CEQA Documents

4.1 CEQA Support: It is our understanding the District will lead the CEQA compliance effort and file a Mitigated Negative Declaration with the County of Riverside in accordance to the State CEQA guidelines. KJ will provide the necessary sketches and descriptions needed for the MND application package. KJ will incorporate the mitigation measures from the MND into the bidding documents.

Task 5 – Design Survey

5.1 Design Survey: Cozad & Fox, as a subconsultant to KJ, will conduct a design survey investigation consisting of aerial topography to prepare base construction drawings, using 40-scale accuracy with 1-foot contours and 5-foot index contours. Cozad & Fox will perform the following:

- Control Survey – Perform a field control survey to recover existing control, boundary corners and street monuments necessary to tie the topographic surveys to the pipeline alignments. Seven aerial targets will be set to be used by the aerial photogrammetrist.
- Aerial Topographic Survey – Inland Aerial Surveys will perform the aerial topographic survey.
- Field Survey – Perform a field survey to verify the aerial topographic survey and to locate visible surface utilities such as manholes, water valves, utility boxes, poles, etc. The survey will measure rim and pipe inlet/outlet invert elevations of manholes and catch basins. Our scope does not include performing a ground survey within Caltrans right-of-way.
- Data Reduction – Reduce control and topographic data and develop topographic map utilizing NAD 83, Zone 6 horizontal datum and the NAVD88 vertical datum. Plot center lines, right-of-way and property lines to develop plan view CAD drawings.
- Pothole Survey – Perform a field survey to locate 15 utilities potholed by the District's pothole contractor.

5.2 Easement Documents (Optional): Cozad & Fox will research record maps on which the proposed easement will be based and prepare two (2) legal descriptions and plat maps for the proposed sewer facilities. It is assumed the District will provide the current title reports.

- **Deliverable** – KJ will provide two CDs of the aerial photography and the topographical mapping (AutoCAD and pdf)

Task 6 – Geotechnical Review

- 6.1 Geotechnical Review:** STC will review the existing geotechnical investigation plan to comment on the appropriate number of borings and pertinent information required for the trenchless feasibility study. STC will provide recommendations for geotechnical testing depending on the recommended trenchless methods. STC will develop a recommended approach for including baseline language in the specifications and the need for a Geotechnical Baseline Report (GBR).

Task 7 – Utility Review and Verification

- 7.1 Utility Research:** KJ will update the base map to show existing utilities, obtain utility record drawings, and perform utility coordination. KJ will coordinate with the District's environmental consultant to confirm jurisdictional boundaries. Following completion of the 60% design plans, KJ will send the plans to the utility companies for review and comment on the veracity of the location of their facilities.
- 7.2 Site Reconnaissance:** KJ will perform a site reconnaissance to confirm the base map have all pertinent and relevant features and potential site conflict information (including known sensitive environmental and/or cultural sites) needed by the Contractor for bidding and construction purposes.
- 7.3 Pothole Exhibit:** KJ will prepare a pothole exhibit showing the proposed pothole locations, and coordinate with the District on the locations. For scope purposes, it is assumed that 15 potholes will be identified. It is our understanding the District will retain a potholing company to perform potholing services. KJ will provide coordination assistance to the District and potholing company as required and survey identified pothole locations in accordance with Task 5.1.
- **Deliverable** – KJ will submit three (3) copies of the potholing exhibit for the proposed potholing locations

Task 8 – City of Murrieta Approval

- 8.1 Permit Coordination:** Once the plans for the sewer has been conformed to be adequate based on utility research and verification, KJ will submit construction drawings to the District for conveyance to the City of Murrieta for review and comment. Once comments from these agencies have been reviewed with District staff and addressed, KJ will resubmit signed drawings to obtain final approval and permits.
- KJ will obtain approval for the following:
 - Alignment
 - Backfill requirements
 - Compaction requirements
 - Allowable working hours
 - Traffic control requirements
 - Pavement (base and overlay) replacement requirements

- KJ will prepare documents to submit for encroachment permits and submit to the District. The District will submit for encroachment permits as required with each agency.
- KJ will coordinate the District’s project with any proposed projects from the City.

Task 9 – Preparation of Contract Documents

9.1 Design Plans: KJ will prepare detailed design plans in accordance with the District’s latest version of the EMWD Standards, and Caltrans and Murrieta requirements. Design drawings will be prepared in AutoCAD 2018 utilizing the District’s standard title block. KJ will prepare 60%, 90%, 100% and final design plans. Design review workshops will be conducted with the District following each submittal in accordance with Task 1.1. Our scope is based on the understanding that 9 design drawings will be prepared per the table below. It is assumed that traffic control plans will be prepared by the Contractor. Trenchless drawings will be prepared by STC. Kleinfelder will review the 90% design plans and specifications for conformance of the project documents with the conclusions and recommendations provided in the geotechnical investigation report.

Sheet No.	Description
1	Title Sheet
2	Legend and Abbreviations
3	General Notes
4	Plan and Profile (Murrieta Hot Springs)
5	Plan and Profile (Guava Road)
6	Plan and Profile (Guava Road)
7	Plan and Profile (I-15)
8	Trenchless Details
9	Miscellaneous Details

9.2 Contract Specifications: KJ will prepare project specifications in Microsoft Word utilizing the District’s existing front-end bidding documents and technical specifications, and supplement the District’s existing technical specifications as required. KJ will prepare complete specifications, including General Provisions (provided by the District), Special Provisions, Technical Specifications, Contract Documents (provided by the District), and detailed Bid Schedule. The specifications will incorporate the mitigation measures to be implemented by the contractor as identified in the Mitigation Monitoring and Reporting Program.

KJ will prepare a detailed work sequence as required along with the District’s standard shut down coordination table. Sequence of work shall include shutdown durations and sequencing for the connections to existing facilities.

- 9.3 Opinion of Probable Construction Cost:** KJ will prepare an opinion of probable construction cost presented as an Excel spreadsheet. The final cost opinion will be in accordance with the bid schedule. The cost opinion will accompany all design submittals.
- 9.4 Construction Schedule:** KJ will prepare a preliminary construction schedule for the project using Microsoft Project and will include any required project milestones.
- 9.5 Calculations:** STC will provide a memo containing signed and stamped calculations for the design of the trenchless crossing. These calculations will include pull loads, jacking forces, settlement calculations, frac-out, limiting lubrication process, and other calculations as necessary for the trenchless methods.
- **Task 9 Deliverables** – KJ will submit (8) sets of plans (6 true half size on 11" x 17" and 2 full size on 24" x 36") and specifications, two (2) construction cost estimates, and two (2) sets of design calculations at each design level, 60%, 90%, and 100%. Also, one (1) electronic copy of all documents will be submitted (PDF and original files) at each design level. Comments from the 100% design submittal will be incorporated into the final design submittal, which consists of one set of mylars and specifications wet signed and sealed by a licensed civil engineer. One (1) complete set of the final design documents will be provided that consists of the following; cost estimate, set of all calculations, plans (8 sets of true half size on 11 x 17) and specifications, and all related files on CD. The final documents will be provided both as a hard copy final design notebook (3-ring bound) and electronically (CAD, PDF, Word, Excel, and original formats on CD) to the District.

Task 10 – Services During Bidding

- 10.1 Pre-Bid Meeting:** KJ and STC will attend the pre-bid meeting and provide technical support to District's staff relative to immediate contractor's questions.
- 10.2 Addenda:** KJ will respond to questions and RFIs from potential bidders via addendum. KJ will prepare up to two (2) addenda as required. The addenda will be submitted to the District for review and distribution. KJ will provide a response should the bid amount be greater than the engineer's estimate.
- **Deliverable** – KJ will prepare up to two (2) addenda in the District's standard form which will be reviewed and issued by the District.

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BUDGET & SCHEDULE

KJ proposes to perform the base services described above on a time and materials basis in the not-to-exceed amount of \$229,487 in accordance with the enclosed fee proposal and our as-needed engineering rate schedule. KJ will submit the final contract documents within 240 calendar days following a Notice-to-Proceed. All out-of-scope items will be identified and brought to the District's attention for approval prior to proceeding.

Please feel free to contact me at (951) 375-5563 should you have any questions regarding this proposal. KJ appreciates the opportunity to work with the District on this project.

Very truly yours,

Kennedy/Jenks Consultants, Inc.



Ryan M. Huston, P.E.
Principal Engineer

Proposal Fee Estimate

Kennedy Jenks

CLIENT Name: Eastern Municipal Water District
 PROJECT Description: Golden Triangle Sewer - Final Design
 Proposal/Job Number: _____ 10/16/2019

As-Needed Rates	Eng-Sci-9	Eng-Sci-8	Eng-Sci-6	Eng-Sci-2	CAD-Design	Project Administrator	Total	KJ Labor	Sub STC	Sub Cozard&Fox	Sub Kleinfelder	KJ Sub-Markup	KJ ODCs	Total Labor	Total Subs	Total Expenses	Total Labor + Subs + Expenses
Classification:	Eng-Sci-9	Eng-Sci-8	Eng-Sci-6	Eng-Sci-2	CAD-Design	Project Administrator	Hours	Fees	Fees	Fees	Fees	5%	Fees				Fees
Task 1 - Project Management																	
1.1 Meetings (6)		24	4				28	\$7,640	\$6,720			\$336	\$1,000	\$7,640	\$7,056	\$1,000	\$15,696
1.2 Project Updates		8					8	\$2,240				\$0		\$2,240	\$0	\$0	\$2,240
1.3 QA/QC	8	28					36	\$10,200				\$0		\$10,200	\$0	\$0	\$10,200
1.4 Management		24				2	26	\$6,970	\$3,350			\$168		\$6,970	\$3,518	\$0	\$10,488
Task 1 - Subtotal	8	84	4	0	0	2	98	\$27,050	\$10,070		\$0	\$504	\$1,000	\$27,050	\$10,574	\$1,000	\$38,624
Task 2 - Trenchless Evaluation																	
2.2 Trenchless Evaluation	6	8		2			16	\$4,330	\$17,500			\$875		\$4,330	\$18,375	\$0	\$22,705
Task 2 - Subtotal	6	8	0	2	0	0	16	\$4,330	\$17,500		\$0	\$875	\$0	\$4,330	\$18,375	\$0	\$22,705
Task 3 - Approvals from Caltrans																	
3.1 Permit Support		4		8			12	\$2,400	\$5,410			\$271		\$2,400	\$5,681	\$0	\$8,081
3.2 Caltrans Meeting		4					4	\$1,120	\$2,500			\$125	\$200	\$1,120	\$2,625	\$200	\$3,945
Task 3 - Subtotal	0	8	0	8	0	0	16	\$3,520	\$7,910		\$0	\$396	\$200	\$3,520	\$8,306	\$200	\$12,026
Task 4 - CEQA Documents																	
4.1 CEQA Support		4		8			12	\$2,400	\$1,220			\$61		\$2,400	\$1,281	\$0	\$3,681
Task 4 - Subtotal	0	4	0	8	0	0	12	\$2,400	\$1,220		\$0	\$61	\$0	\$2,400	\$1,281	\$0	\$3,681
Task 5 - Design Survey																	
5.1 Design Survey		1		2		1	4	\$725		\$17,924		\$896		\$725	\$18,820	\$0	\$19,545
Task 5 - Subtotal	0	1	0	2	0	1	4	\$725	\$0	\$17,924	\$0	\$896	\$0	\$725	\$18,820	\$0	\$19,545
Task 6 - Geotechnical Review																	
6.1 Geotechnical Review		4	2		1		7	\$1,730	\$6,800			\$340		\$1,730	\$7,140	\$0	\$8,870
Task 6 - Subtotal	0	4	2	0	1	0	7	\$1,730	\$6,800		\$0	\$340	\$0	\$1,730	\$7,140	\$0	\$8,870
Task 7 - Utility Review & Verification																	
7.1 Utility Research		2	1	16		2	21	\$3,600	\$1,440			\$72		\$3,600	\$1,512	\$0	\$5,112
7.2 Site Reconnaissance		4		4			8	\$1,760				\$0		\$1,760	\$0	\$0	\$1,760
7.3 Pothole Exhibit		1		8			9	\$1,560				\$0		\$1,560	\$0	\$0	\$1,560
Task 7 - Subtotal	0	7	1	28	0	2	38	\$6,920	\$1,440		\$0	\$72	\$0	\$6,920	\$1,512	\$0	\$8,432
Task 8 - City of Murrieta Approval																	
8.1 Permit Coordination		1	1	12			14	\$2,430				\$0		\$2,430	\$0	\$0	\$2,430
Task 8 - Subtotal	0	1	1	12	0	0	14	\$2,430	\$0		\$0	\$0	\$0	\$2,430	\$0	\$0	\$2,430

Proposal Fee Estimate

Kennedy Jenks

CLIENT Name: Eastern Municipal Water District
 PROJECT Description: Golden Triangle Sewer - Final Design
 Proposal/Job Number: _____ 10/16/2019

As-Needed Rates	Eng-Sci-9	Eng-Sci-8	Eng-Sci-6	Eng-Sci-2	CAD-Design	Project Administrator	Total	KJ Labor	Sub STC	Sub Cozard&Fox	Sub Kleinfelder	KJ Sub-Markup 5%	KJ ODCs	Total Labor	Total Subs	Total Expenses	Total Labor + Subs + Expenses
Classification:							Hours	Fees	Fees	Fees	Fees		Fees				Fees
Task 9 - Contract Documents																	
9.1 Design Plans	8	30		24	212		274	\$46,400	\$8,960		\$2,850	\$591	\$1,000	\$46,400	\$12,401	\$1,000	\$59,801
9.2 Specifications	4	12	32	8		4	60	\$13,680	\$13,060			\$653	\$500	\$13,680	\$13,713	\$500	\$27,893
9.3 Cost Opinion			2	16	4		22	\$4,880				\$0		\$4,880	\$0	\$0	\$4,880
9.4 Construction Schedule			1	6	4		11	\$2,300				\$0		\$2,300	\$0	\$0	\$2,300
9.5 Calculations			2	2			4	\$1,020	\$2,720			\$136		\$1,020	\$2,856	\$0	\$3,876
Task 9 - Subtotal	12	47	56	40	212	4	371	\$68,280	\$24,740		\$2,850	\$1,380	\$1,500	\$68,280	\$28,970	\$1,500	\$98,750
Task 10 - Services During Bidding																	
10.1 Pre-Bid Meeting		4	4				8	\$2,040	\$2,000			\$100	\$100	\$2,040	\$2,100	\$100	\$4,240
10.2 Addenda	2	8	8	4	8		30	\$6,510	\$3,500			\$175		\$6,510	\$3,675	\$0	\$10,185
Task 10 - Subtotal	2	12	12	4	8	0	38	\$8,550	\$5,500		\$0	\$275	\$100	\$8,550	\$5,775	\$100	\$14,425
All Tasks Total	28	176	76	104	221	9	614	\$125,935	\$75,180	\$17,924	\$2,850	\$4,798	\$2,800	\$125,935	\$100,752	\$2,800	\$229,487
Optional Services																	
5.2 Easement Documents		2	4		8		14	\$2,680		\$4,464		\$223		\$2,680	\$4,687	\$0	\$7,367