

A G E N D A

SAN RAFAEL SANITATION DISTRICT BOARD OF DIRECTORS

THURSDAY – AUGUST 6, 2020 - 11:00 A.M.

Join Zoom Meeting at <https://zoom.us/j/92124731372>

Meeting ID: 921 2473 1372

Or by Phone:

One tap mobile

+16699006833,,92124731372# US (San Jose)

Dial by your location

+1 669 900 6833 US (San Jose)

Meeting ID: 921 2473 1372

Find your local number: <https://zoom.us/u/abAAVejtKK>

CORONAVIRUS (COVID-19) ADVISORY NOTICE

In response to Governor Newsom's Executive Order N-29-20, the San Rafael Sanitation District will no longer offer an in-person meeting location for the public to attend. This meeting will be available by virtual and teleconference.

If you experience an issue providing comments in the meeting or have any questions regarding the meeting, please contact the District Clerk (email cindy.hernandez@cityofsanrafael.org or phone 415-485-3132).

Members of the public may speak on Agenda items.

1. OPEN PERIOD

Opportunity for the public to address the Board on items not on the agenda.
(Presentations are generally limited to 2 minutes.)

2. MINUTES OF THE MEETING

Request approval as submitted – July 17, 2020

3. PAYMENTS

Request approval as submitted.

4. OLD BUSINESS

- a.** Adopt resolution authorizing the District Manager/District Engineer to execute a Professional Services Agreement for design related services for the 2020 Sewer Pipe Repair and Replacement Project.

5. NEW BUSINESS

- a. Adopt resolution rescinding Resolution No. 14-1084 and authorizing approved signatories on District checks.
- b. Discussion on electronic signatures.

6. INFORMATIONAL ITEMS

7. DIRECTOR REPORTS/REQUESTS FOR FUTURE AGENDA ITEMS

8. CLOSED SESSION – (REMOVED)

- a. **Public Employee Performance Evaluation**
California Government Code Section 54957
Title: District Manager

9. ADJOURNMENT

The next scheduled meeting is September 3, 2020.

SAN RAFAEL SANITATION DISTRICT
Minutes of the Meeting
July 17, 2020

Special Meeting

Via Teleconferencing

The meeting was called to order at 9:03 A.M. by Chair Phillips.

| | |
|--------------------|--|
| Attendance Board: | Gary O. Phillips, Chair Maribeth Bushey, Secretary/Director Katie Rice, Director and Acting Secretary/Director |
| Attendance Staff: | Doris Toy, District Manager/District Engineer David Nicholson, Senior Civil Engineer Cynthia Hernandez, District Secretary |
| Attendance Others: | Kerry Laiw Gerchow, Deputy County Counsel Dean DiGiovanni, CMSA Commissioner for SRSD |

1. OPEN PERIOD - No persons were present to address the Board.

2. MINUTES OF JUNE 5, 2020.

MOTION by Director Rice, seconded by Director Bushey, to approve the minutes of the June 5, 2020, meeting as presented.

AYES: Director Bushey, Director Rice, Chair Phillips
NOES: None
ABSENT: None

Motion Carried

3. PAYMENTS

MOTION by Director Bushey, seconded by Director Rice, to approve the payments for May 2020 in the amount of \$1,633,947.41 and for June 2020 in the amount of \$1,214,518.80 for maintenance and operation of the District and for capital improvements.

AYES: Director Bushey, Director Rice, Chair Phillips
NOES: None
ABSENT: None

Motion Carried

4. OLD BUSINESS

None.

5. NEW BUSINESS

- a. **Adopt resolution authorizing the District Manager/District Engineer to execute a Professional Services Agreement with Nute Engineering for design related services for the Bayside Acres Beach Sewer Relocation Project.**

District Manager Toy reported that this project had previously been discussed at the last couple of meetings and reviewed the following information: The sewer main is located on the beach and serves approximately 20 homes. The sewer was installed in 1972, and high tides and sea level rise were not an issue at that time. The sewer infrastructure is now in a tidal zone, and District staff has been unable to maintain it because the manhole lids are corroded shut. The alternative improvements presented at the May meeting were to replace the sewer main in the same alignment or further up the beach or to relocate it to the road above the homes. If the main is relocated to the road, the sewage would need to be pumped uphill either by private individual pump systems (privately owned and maintained) or by shared District pump systems (owned and maintained by the District), which would serve 2 to 4 homes. At the previous meetings, the Board favored the shared District pump systems, which would most likely be favored by the regulatory agencies as well. At the June meeting, the Board authorized staff to obtain a proposal for design services for this option from Nute Engineering. Manager Toy then reviewed Nute's proposed services with the Board, which would include property access permissions, site investigations, design and regulatory compliance, regulatory permitting, easement description development, and bidding services and reported that the design work is expected to be completed by the end of March 2021. She also reported that Nute's work would be done on a time-and-materials basis for an amount not to exceed \$380,000.

MOTION by Director Rice, seconded by Director Bushey, to adopt the resolution authorizing the District Manager/District Engineer to execute a Professional Services Agreement with Nute Engineering for design related services for the Bayside Acres Beach Sewer Relocation Project for an amount not to exceed \$380,000.00.

AYES: Director Bushey, Director Rice, Chair Phillips
NOES: None
ABSENT: None

Motion Carried

- b. **Adopt resolution authorizing the District Manager/District Engineer to execute a Professional Services Agreement with Schaaf & Wheeler for design related services for the 2020 Sewer Pipe Repair and Replacement Project.**

District Manager Toy reported that as part of the District's 80-Year Gravity Main Lifecycle Replacement Program, the District's goal has been to replace 1.6 miles of sewer line per year. She also reported that the District has almost completed its 10-year list of capital improvement projects; and in order to develop future projects, the District had televised approximately 8 miles of sewer last year. She then reported that as part of

the video inspection, the pipes are rated for their condition. Next, Manager Toy reported that the District had sent out a Request for Proposal (RFP) to four civil engineering firms. She also reported that the work in the RFP included an analysis of the televised sewers, a list of sewers recommended for replacement, design and preparation of construction contract documents, and design support during construction of the new sewers. She then reported that proposals were received from Schaaf & Wheeler and BKF; and after a thoughtful and considerate review, staff had decided to recommend Schaaf & Wheeler for this project. Manager Toy also reported that Schaaf & Wheeler has had previous experience with multiple similar projects for other cities in the Bay Area. She then reported that Schaaf & Wheeler had proposed to perform this work on a time-and-materials basis for an amount not to exceed \$308,000. The Board then inquired about the deciding factors for choosing a consultant when reviewing proposals for professional services. Manager Toy then reported that staff had put together a rating sheet for the proposals. She also reported that the design engineer on Schaaf & Wheeler's team is NASSCO PACP (National Association of Sewer Service Companies, Pipeline Assessment Certification Program) certified. After much discussion, the Board requested the District Manager to bring back additional information to the next meeting, including the proposal from BKF and the rating sheet for the proposals.

MOTION by Director Bushey, seconded by Director Rice, to continue this item to the next meeting to allow the District Manager/District Engineer to assemble the additional information requested by the Board.

AYES: Director Bushey, Director Rice, Chair Phillips

NOES: None

ABSENT: None

Motion Carried

c. Adopt resolution establishing the FY 2020-21 Sewer Connection Fees.

District Manager Toy reported that District Ordinance No. 56 states that the sewer connection fees shall be adjusted annually beginning July 1st based on the Engineering News Record Construction Cost Index (ENR Index) for San Francisco. She reported that this year, the increase in the ENR Index would result in a 3.94% increase in the District's sewer connection fees. She also reported that the Board may decide not to adopt this increase, but this might cause any future increases to be larger. Manager Toy then recommended that the Board adopt smaller incremental increases annually and recommended that the Board adopt the resolution establishing the FY 2020-21 Sewer Connection Fees, which includes a 3.94% fee increase. After a brief discussion, the Board decided that smaller incremental annual increases would be preferable to larger future increases.

MOTION by Director Bushey, seconded by Director Rice, to adopt the resolution establishing the FY 2020-21 Sewer Connection Fees.

AYES: Director Bushey, Director Rice, Chair Phillips

NOES: None

ABSENT: None

Motion Carried

d. Adopt resolution establishing the FY 2020-21 Appropriations Limit on tax proceeds (Proposition 4).

District Manager Toy reported that California's appropriations limit was initially established by Proposition 4 in 1979, which places an annual upper limit on the amount of money that the District can spend each year from State tax proceeds. She reported that this amount is updated annually and is based on changes in the population and per-capita personal income, both within the City limits and the unincorporated areas of San Rafael. She also reported that if the District's appropriations limit is less than the amount of tax revenue it receives from the State, the District can still keep the difference as long as the proceeds are used for capital projects; otherwise, the District would need to refund the difference to the ratepayers. Manager Toy then reported that the District's FY 2020-21 Appropriations Limit has been calculated to be \$1,298,617, and its anticipated tax revenue is expected to be approximately \$1.77 million. She also reported that the District will be able to keep the overage of approximately \$470,000 because it will be spent on capital projects.

MOTION by Director Bushey, seconded by Director Rice, to adopt the resolution establishing the FY 2020-21 Appropriations Limit on tax proceeds (Proposition 4).

AYES: Director Bushey, Director Rice, Chair Phillips

NOES: None

ABSENT: None

Motion Carried

e. Discussion on Board meeting schedule.

District Manager Toy reported that the monthly Board meeting is currently scheduled for the first Friday of the month at 9:30 A.M. She also reported that because the Chair has other obligations on Friday mornings, he has requested the Board to consider changing the meeting to a different day of the week. After a brief discussion, the Board decided to set the monthly Board meeting schedule for the first Thursday of the month at 11:00 A.M. beginning Thursday, August 6, 2020.

6. INFORMATIONAL ITEMS

a. Introduction to the new Senior Civil Engineer.

District Manager Toy reported that she wanted to introduce the new Senior Civil Engineer, David Nicholson. She reported that for the past three years he had worked for the City of San Rafael Public Works Department; and before that, he had worked for the County of Marin for approximately 17 years. She then reported that District staff is very excited to have him on board and that yesterday she had given him a long list of projects to do. The Board then welcomed him, and he reported that he was looking forward to working with the District Manager on the projects she had given him and was excited to get started.

7. DIRECTOR REPORTS/REQUESTS FOR FUTURE AGENDA ITEMS

a. Rotation of CMSA Chair.

Director Bushey reported that at the last Central Marin Sanitation Agency (CMSA) Board meeting, an issue had arisen with the CMSA Board Chair. She also reported that after an extensive discussion, a subcommittee was appointed to come up with a recommendation for the expectation of the rotation of the CMSA Chair. She then reported that she would be working with Michael Boorstein from Ross Valley Sanitary District (RVSD) to come up with a comprehensive proposal for a joint expectation of the rotation of the CMSA Chair.

8. CLOSED SESSION

Closed Session – Opened at 9:47 A.M.

a. Conference with Legal Counsel-Existing Litigation

California Government Code section 54956.9(d)(1).

Name of Case: *Buettner, et al. v. SRSD, et al.*; Marin County Superior Court, Case No. CIV-2000520

b. Public Employee Performance Evaluation

California Government Code Section 54957

Title: District Manager

Closed Session – Ended at 10:57 A.M.

Chair Phillips reported that no action was taken.

9. ADJOURNMENT

There being no further business to come before the Board, the meeting of July 17, 2020, was adjourned at 10:58 A.M. The next meeting of the San Rafael Sanitation District was scheduled for Thursday, August 6, 2020, at 11:00 A.M. via teleconferencing.

Respectfully submitted,

Maribeth Bushey, Recording Secretary

ATTEST THIS 6th DAY OF AUGUST 2020

Gary O. Phillips, Chair

SAN RAFAEL SANITATION DISTRICT
PAYMENT SUMMARY

July 1, 2020 - July 31, 2020
Vendor/Payee

| | Memo | Class | Acct # | Account Name | Amount |
|-------------------------------------|--|-------|--------|---------------------------------|--------------|
| ARAMARK UNIFORM SERVICES | Uniforms - weekly service ending 6/24/20 | 200 | 2021 | Uniforms | 148.97 |
| ARAMARK UNIFORM SERVICES | Uniforms - weekly service ending 7/01/20 | 200 | 2021 | Uniforms | 150.12 |
| ARAMARK UNIFORM SERVICES | Uniforms - weekly service ending 7/08/20 | 200 | 2021 | Uniforms | 148.97 |
| ARAMARK UNIFORM SERVICES | Uniforms - weekly service ending 7/15/20 | 200 | 2021 | Uniforms | 148.97 |
| ARAMARK UNIFORM SERVICES | Uniforms - weekly service ending 7/22/20 | 200 | 2021 | Uniforms | 150.12 |
| AT&T *4667 | Telephone Service - pump station dialers to CMSA from 5/20/20-6/19/20 | 100 | 2534 | Telephone service | 197.19 |
| AT&T *4667 | Telephone Service - pump station dialers to CMSA from 6/20/20-7/19/20 | 100 | 2534 | Telephone service | 197.17 |
| AT&T *8362 | Telephone Service - land lines for pump stations and dialers from 6/02/20-7/01/20 | 100 | 2534 | Telephone service | 318.38 |
| AT&T MOBILITY | Telephone Service - cell phone service from 6/04/20-7/03/20 | 100 | 2534 | Telephone service | 675.64 |
| BAY AREA AIR QUALITY MANAGEMENT DIS | Pump Stations - Glenwood Pump Station annual permit renewal fee for 9/01/20-9/01/21 | 200 | 2359 | Maint- pump sta's & force mains | 432.00 |
| BAY AREA AIR QUALITY MANAGEMENT DIS | Pump Stations - Riviera Pump Station annual permit renewal fee for 9/01/20-9/01/21 | 200 | 2359 | Maint- pump sta's & force mains | 514.00 |
| BPXPRESS | Francisco Blvd. East Sewer Rehabilitation Project - conformed specs | 300 | 4336 | Francisco Blvd. East-Medway(80) | 267.91 |
| BPXPRESS | Francisco Blvd. East Sewer Rehabilitation Project - plans and specs | 300 | 4336 | Francisco Blvd. East-Medway(80) | 313.66 |
| BRANDON TIRE | Vehicles - alignment for pump truck, vehicle #8149-18 | 200 | 2083 | Parts and repairs vehicles | 109.50 |
| BRANDON TIRE | Vehicles - six new tires for pump truck, vehicle #8149-18 | 200 | 2083 | Parts and repairs vehicles | 1,926.30 |
| BRANDON TIRE | Vehicles - two new tires for power rodder vehicle #8199 | 200 | 2083 | Parts and repairs vehicles | 931.27 |
| CALCON SYSTEMS, INC. | Pump Stations - pump station contact kits | 200 | 2359 | Maint- pump sta's & force mains | 4,909.92 |
| CALCON SYSTEMS, INC. | Pump Stations - replacement VFD for West Railroad PS | 200 | 2359 | Maint- pump sta's & force mains | 8,401.98 |
| CALIFORNIA DIESEL & POWER INC. | Pump Stations - Glenwood PS radiator replacement on Onan generator | 200 | 2359 | Maint- pump sta's & force mains | 6,635.93 |
| CALIFORNIA SANITATION RISK MGMT ATH | General Insurance - property insurance renewal for 7/01/20-7/01/21 | 100 | 2059 | General insurance | 14,839.00 |
| CAL-STEAM CO INC | Collection System - parts for new vector hose | 200 | 2360 | O&M - collection systems | 61.70 |
| CAL-STEAM CO INC | Pump Stations - force main ARVs | 200 | 2359 | Maint- pump sta's & force mains | 570.59 |
| CENTRAL MARIN SANITATION AGENCY | CMSA Connection Fees - 53 Montecito Road | 200 | 2210 | Connection fees payable cmsa | 6,252.73 |
| CENTRAL MARIN SANITATION AGENCY | Debt Service - semi-annual debt service payment for 9/01/20 | 400 | 4113 | Sewage treatment - debt service | 1,520,124.32 |
| CENTRAL MARIN SANITATION AGENCY | Service Charges - first quarter fuel charges for 7/01/20-9/30/20 | 400 | 4112 | Sewage treatment | 1,349,306.68 |
| CITY OF SAN RAFAEL | Vehicles - fourth quarter fuel charges for 4/01/20-6/30/20 | 200 | 2083 | Parts and repairs vehicles | 2,633.64 |
| CITY OF SAN RAFAEL | Vehicles - maintenance and repairs to vehicles # 8194, 8150, 8199, and 8198 on 2/21/20 and 6/11/20-6/19/20 | 200 | 2083 | Parts and repairs vehicles | 932.87 |
| COUNTY OF MARIN | Director's Fees - Katie Rice on 7/17/20 | 100 | 2282 | Director's fees | 100.00 |
| DURACABLE MANUFACTURING | Collection System - power rodder blades | 200 | 2360 | O&M - collection systems | 406.85 |
| EVOQUA WATER TECHNOLOGIES, LLC | Odor Control - odor control chemical delivered to pump stations on 7/17/20 | 200 | 2106 | Odor control chemicals | 10,692.15 |
| EWERS ENGINEERING INC | Force Main Condition Assessment Program Development, Phase 2 - engineering services for 5/01/20-6/30/20 | 300 | 4151 | Force Main Cond A | 10,200.00 |
| FORSTER & KROEGER INC. | Collection System - weed abatement for June and July 2020 | 200 | 2360 | O&M - collection systems | 3,600.00 |
| GOLDEN STATE LUMBER INC | Pump Stations - lumber for the planter box for the Third Street PS | 200 | 2359 | Maint- pump sta's & force mains | 203.86 |
| GOLDEN STATE LUMBER INC | Pump Stations - lumber for the planter box for the Third Street PS | 200 | 2359 | Maint- pump sta's & force mains | 14.09 |
| GOLDEN STATE LUMBER INC | Pump Stations - lumber for the planter box for the Third Street PS | 200 | 2359 | Maint- pump sta's & force mains | 3.51 |
| GOLDEN STATE LUMBER INC | Pump Stations - screws for the planter box for the Third Street PS | 200 | 2359 | Maint- pump sta's & force mains | 9.80 |
| JACKSON'S HARDWARE | Collection System - parts to repair the hand rodder | 200 | 2360 | O&M - collection systems | 29.27 |
| JACKSON'S HARDWARE | Collection System - tools to repair the hand rodder | 200 | 2360 | O&M - collection systems | 8.61 |
| JMB CONSTRUCTION, INC. | South Francisco Pump Station Improvements Project - progress payment #3 | 300 | 4148 | S. Francisco Pump Station (10) | 394,133.04 |

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|--------------------------------------|---|-----|------|----------------------------------|-----------|
| JMB CONSTRUCTION, INC. | South Francisco Pump Station Improvements Project - progress payment #3 retention for escrow account | 300 | 4148 | S. Francisco Pump Station (10) | 20,743.84 |
| KIMLEY-HORN AND ASSOCIATES, INC. | Third Street Sewer Rehab. Project Lootens Place to Mary Street - design and construction related services | 300 | 4340 | Third St (Hayes to Ritter) (80) | 14,770.00 |
| MAHER ACCOUNTANCY | Accounting Services - July 2020 | 100 | 2717 | Accounting services | 3,600.00 |
| MARIBETH BUSHEY | Director's Fees - Maribeth Bushey on 7/17/20 | 100 | 2282 | Director's fees | 100.00 |
| MARIN MUNICIPAL WATER DIS | Water - 44 Lagoon Road from 4/16/20-6/16/20 | 200 | 2536 | Water utility costs | 77.20 |
| MARIN MUNICIPAL WATER DIS | Water - 220 Tamal Vista Blvd. from 4/30/20-6/30/20 - water for vector truck | 200 | 2536 | Water utility costs | 844.77 |
| MARIN MUNICIPAL WATER DIS | Water - 220 Tamal Vista Blvd. from 4/30/20-6/30/20 - water for vector truck | 200 | 2536 | Water utility costs | 656.37 |
| MARIN MUNICIPAL WATER DIS | Water - 1271 Andersen Drive from 4/10/20-6/10/20 | 200 | 2536 | Water utility costs | 77.20 |
| MARIN MUNICIPAL WATER DIS | Water - 3106 Kerner Blvd. from 4/15/20-6/15/20 | 200 | 2536 | Water utility costs | 77.20 |
| MARIN MUNICIPAL WATER DIS | Water - Andersen Drive from 4/10/20-6/10/20 | 200 | 2536 | Water utility costs | 77.20 |
| MARIN MUNICIPAL WATER DIS | Water - Castro Ave. from 4/14/20-6/12/20 | 200 | 2536 | Water utility costs | 333.18 |
| MARIN MUNICIPAL WATER DIS | Water - Catalina Blvd. from 4/14/20-6/12/20 | 200 | 2536 | Water utility costs | 161.40 |
| MARIN MUNICIPAL WATER DIS | Water - E Francisco Blvd. from 4/14/20-6/12/20 | 200 | 2536 | Water utility costs | 207.50 |
| MARIN MUNICIPAL WATER DIS | Water - E Francisco Blvd. from 4/15/20-6/15/20 | 200 | 2536 | Water utility costs | 451.03 |
| MARIN MUNICIPAL WATER DIS | Water - Montecido Road from 4/15/20-6/15/20 | 200 | 2536 | Water utility costs | 103.91 |
| MARIN MUNICIPAL WATER DIS | Water - North San Pedro Road from 4/16/20-6/16/20 | 200 | 2536 | Water utility costs | 81.29 |
| MARIN MUNICIPAL WATER DIS | Water - Peacock Drive from 4/16/20-6/16/20 | 200 | 2536 | Water utility costs | 81.29 |
| MARIN MUNICIPAL WATER DIS | Water - Pl. San Pedro Road from 4/15/20-6/15/20 | 200 | 2536 | Water utility costs | 81.29 |
| MARIN MUNICIPAL WATER DIS | Water - Riviera Drive LT28 Sewer Pump from 4/16/20-6/16/20 | 200 | 2536 | Water utility costs | 77.20 |
| MARIN MUNICIPAL WATER DIS | Water - Simms Street from 4/10/20-6/10/20 | 200 | 2536 | Water utility costs | 77.20 |
| MARIN MUNICIPAL WATER DIS | Water - Woodland Ave. from 4/10/20-6/10/20 | 200 | 2536 | Water utility costs | 77.20 |
| MARIN RESOURCE RECOVERY INC | Pump Stations - dump fee for bushes from the West Railroad PS | 200 | 2359 | Maint- pump sta's & force mains | 45.00 |
| MARIN ROTO-ROOTER SEWER SERVICE, INC | Standby - service at 3 Hart Street | 200 | 2363 | Standby services | 650.00 |
| MARIN ROTO-ROOTER SEWER SERVICE, INC | Standby - service at 27 Tweed Terrace | 200 | 2363 | Standby services | 650.00 |
| MARIN ROTO-ROOTER SEWER SERVICE, INC | Standby - service at 501 San Pedro Cove | 200 | 2363 | Standby services | 2,055.03 |
| MILLER PACIFIC ENGINEERING GROUP | South Francisco Pump Station Improvements Project - geotechnical services for 4/06/20-6/07/20 | 300 | 4148 | S. Francisco Pump Station (10) | 1,664.80 |
| NETWORK ADJUSTERS, INC | Claims & Deductibles - deductible for claim by James and Margaret Sell for 92 Bret Harte Road | 100 | 2051 | Claims and deductibles | 10,000.00 |
| NUTE ENGINEERING | Consulting Services - engineering services for planned Marriott Hotel from 6/01/20-6/30/20 | 100 | 2325 | Consulting services | 808.00 |
| NUTE ENGINEERING | Francisco Blvd. East Sewer Rehabilitation Project - services from 5/01/20-6/30/20 | 300 | 4336 | Francisco Blvd. East-Medway(80) | 9,327.50 |
| NUTE ENGINEERING | Francisco Blvd. East at Grange Way Sewer and Storm Drain Project - engineering services from 6/1/20-6/30/20 | 300 | 4337 | Sewer Rep Richmond SR Bridge(80) | 3,975.00 |
| NUTE ENGINEERING | South Francisco Pump Station Improvements Project - services from 6/01/20-6/30/20 | 300 | 4148 | S. Francisco Pump Station (10) | 2,983.00 |
| PG&E a/c 2480926202-5 | Power - electric service for pump stations 6/10/20 to 7/08/20 | 200 | 2535 | Electric utility costs | 14,244.17 |
| PHILLIPS, GARY | Director's Fees - Gary O. Phillips on 7/17/20 | 100 | 2282 | Director's fees | 100.00 |
| ROSS VALLEY SANITARY | Public Outreach - COVID -19 advertising campaign from March 2020 to June 2020 | 100 | 2321 | Public outreach | 1,206.47 |
| SHAMROCK | Pump Stations - rock and soil for the Third Street PS planter box | 200 | 2359 | Maint- pump sta's & force mains | 70.92 |
| STAPLES INC | Office Supplies - computer speakers for online meetings | 100 | 2133 | Office & shop supplies | 27.24 |
| STAPLES INC | Office Supplies - three ink cartridges for fax machine | 100 | 2133 | Office & shop supplies | 53.92 |
| TELSTAR INSTRUMENTS INC | Pump Stations - replace motor starter at Mooring Road PS and motor starter electrical contacts at Marin Bay Park PS | 200 | 2359 | Maint- pump sta's & force mains | 2,249.13 |
| US BANK | Francisco Blvd. East Sewer Rehabilitation Project - encroachment permit | 300 | 4336 | Francisco Blvd. East-Medway(80) | 919.00 |
| US BANK | Miscellaneous Expenses - FasTrak payment to update new credit card information | 100 | 2389 | Miscellaneous expenses | 25.50 |
| US BANK | Office Supplies - appointment calendar | 100 | 2133 | Office & shop supplies | 14.70 |
| US BANK | Office Supplies - two webcams with microphones | 100 | 2133 | Office & shop supplies | 76.28 |
| US BANK | Pump Stations - crane control box parts for vehicle #8149 - second half of payment | 200 | 2359 | Maint- pump sta's & force mains | 728.48 |


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|---------------------------|--|-----|------|---------------------------------|-----------------|
| US BANK | Pump Stations - I-Beam Trolley | 200 | 2359 | Maint- pump sta's & force mains | 68.66 |
| US BANK | Pump Stations - plants for Third St Pump Station planter | 200 | 2359 | Maint- pump sta's & force mains | 121.93 |
| US BANK | Subscriptions - Marin Independent Journal renewal for 8 weeks | 100 | 2131 | Memberships and subscriptions | 120.00 |
| US BANK | Subscriptions - one year subscription to Zoom for online meetings | 100 | 2131 | Memberships and subscriptions | 149.90 |
| VERIZON WIRELESS | Telephone Service - wireless service for laptops 5/21/20-6/20/20 | 100 | 2534 | Telephone service | 342.27 |
| WOODLAND CTR AUTO SUPPLY | Collection System - tools to repair the hand rodder | 200 | 2360 | O&M - collection systems | 4.95 |
| WORKSMART AUTOMATION, INC | Pump Stations - renewal of TopView alarm notification software through 7/31/21 | 200 | 2359 | Maint- pump sta's & force mains | 675.00 |
| | | | | | \$ 3,436,793.83 |

4.a.

SAN RAFAEL SANITATION DISTRICT
Agenda Item No. 4.a

DATE: August 6, 2020

TO: Board of Directors, San Rafael Sanitation District

FROM: Doris Toy, District Manager/District Engineer 

SUBJECT: Adopt Resolution Authorizing the District Manager/District Engineer to Execute a Professional Services Agreement for Design Related Services for the 2020 Sewer Pipe Repair and Replacement Project

RECOMMENDATION:

Adopt resolution authorizing the District Manager/District Engineer to execute a Professional Services Agreement with Schaaf & Wheeler for design related services for the 2020 Sewer Pipe Repair and Replacement Project.

BACKGROUND:

As part of the 80-Year Gravity Main Lifecycle Replacement Program, it is the District's goal to replace 1.6 miles of pipe per year. The District has nearly completed its 10-year list of Capital Improvement Projects. In order for the District to develop future projects, the District began to televise approximately 8 miles of sanitary sewers throughout central and southern San Rafael during the winter of 2019. The sewer sizes vary between 6 inches and 21 inches; however, the majority are less than 15 inches. The sewers primarily consist of vitrified clay pipe (VCP).

ANALYSIS:

The District sent a Request for Proposal (RFP) to four civil engineering firms. The work described in the RFP includes the analysis of the existing sewers previously televised by the District in 2019, compilation of a list of sewers recommended for replacement, the design and preparation of construction contract documents, and design support during construction of the new sewers identified in the analysis.

Proposals were received from Schaaf & Wheeler and BKF. Both consultants had incorporated all the required items and had addressed and adequately analyzed the issues raised in the Request for Proposals. After a thoughtful and considerate review of the submitted information, staff recommends that Schaaf & Wheeler be selected as the firm to provide the engineering services. Attached are staff's evaluation summary sheets, which are based on the criteria listed in the Requested for Proposal.

Schaaf & Wheeler is currently designing the District's Woodland Avenue Sewer Improvement Project. They have had previous experience with multiple similar projects for cities in the Bay Area, i.e. the City of Belmont from 2014-2019 and the City of San Mateo from 2017-2020; and the design engineer on their team is NASSCO PACP (National Association of Sewer Service Companies, Pipeline Assessment Certification Program) certified, which is the accepted industry pipe condition rating system.

Schaaf & Wheeler proposes to perform the design related services for the District on a time-and-materials basis for an amount not to exceed \$303,000 for the 2020 Sewer Pipe Repair and Replacement Project.

At the July 17, 2020, Board Meeting, this agenda item was presented to the Board; however, the Board decided to continue this item to the next meeting so that staff could include additional information for the Board's review, i.e. BKF's proposal and staff's evaluation summary sheets. Also, the Board was seeking a formal explanation of why staff did not recommend award based on the lowest bid, as staff does for contractors on construction projects.

With some exceptions, public works contracts may be awarded only after having engaged in the competitive bidding process. Statutory exceptions to competitive bidding requirements are generally available only if the dollar value of the work involved is relatively small or where the nature of the work is not suited to competitive bidding, such as professional services contracts. The Public Contract Code also permits award of contracts without competitive bidding in circumstances involving work of: (i) an emergency nature or (ii) of a limited scope.

Professional services are exempt under Government Code §§4525 et seq. – specifically architectural, landscape architectural, engineering, environmental, land surveying, and construction project management services, which may be procured by a public agency without engaging in the bidding process. The standard for award of such contracts must be based upon the demonstrated competence and qualifications of the individual or firm for the services to be provided, and the price of the services must be fair and reasonable to the public agency.

The main reason bids work best with tangible items, i.e. construction projects, is the focus on price. If one is constructing a new pump station, the pump station has to be built according to its design. That will not change, so the goal is to find the best bid/price for the pump station. When seeking a professional service, when quality and value matter, it is often wiser to use a qualification-based selection system to select who is contracted, because the system focuses on finding a professional that has the best experience and skill for the job sought.

The agency may negotiate the contract with the top selected firm; if it is unsuccessful, the agency goes to the next selected firm and so on.

FISCAL IMPACT:

Schaaf & Wheeler's design related services for the 2020 Sewer Pipe Repair and Replacement Project will be funded by the 80-Year Life Cycle Sewer Replacement Program for Fiscal Year 2020-21.

ACTION REQUIRED:

Staff recommends that the Board adopt the resolution authorizing the District Manager/District Engineer to execute a Professional Services Agreement with Schaaf & Wheeler for design related services for the 2020 Sewer Pipe Repair and Replacement Project.

Attachments: Resolution
Professional Services Agreement
Proposal from Consultant, Exhibit "A"
Proposal from BKF
Request for Proposal
Evaluation Summary Sheets

SAN RAFAEL SANITATION DISTRICT

RESOLUTION NO. 20-1210

**A RESOLUTION OF THE BOARD OF DIRECTORS
OF THE SAN RAFAEL SANITATION DISTRICT
AUTHORIZING THE DISTRICT MANAGER/DISTRICT ENGINEER
TO EXECUTE A PROFESSIONAL SERVICES AGREEMENT WITH
SCHAAF & WHEELER FOR DESIGN RELATED SERVICES
FOR THE 2020 SEWER PIPE REPAIR AND REPLACEMENT PROJECT
FOR AN AMOUNT NOT TO EXCEED \$303,000.00**

**THE BOARD OF DIRECTORS OF THE SAN RAFAEL SANITATION DISTRICT,
COUNTY OF MARIN**, hereby resolves as follows:

The District Manager/District Engineer is hereby authorized to execute, on behalf of the San Rafael Sanitation District, a Professional Services Agreement with Schaaf & Wheeler for design related services for the 2020 Sewer Pipe Repair and Replacement Project, a copy of which is hereby attached and by this reference made a part hereof.

PASSED AND ADOPTED at a regular meeting of the San Rafael Sanitation District Board of Directors held on the 6th day of August 2020 by the following vote, to wit:

AYES:

NOES:

ABSENT/ABSTAIN:

SAN RAFAEL SANITATION DISTRICT

Gary O. Phillips, Chair

ATTEST:

Maribeth Bushey, Secretary

**PROFESSIONAL SERVICES AGREEMENT
FOR DESIGN RELATED SERVICES FOR THE
2020 SEWER PIPE REPAIR AND REPLACEMENT PROJECT**

This Agreement is made and entered into this 6th day of August 2020 by and between the SAN RAFAEL SANITATION DISTRICT [hereinafter "DISTRICT"], and SCHAAF & WHEELER (hereinafter "CONSULTANT").

RECITALS

WHEREAS, the DISTRICT has selected SCHAAF & WHEELER to perform the required design related services for the **"2020 Sewer Pipe Repair and Replacement Project"** (hereinafter "PROJECT"); and

WHEREAS, the CONSULTANT has offered to render certain specialized professional services in connection with this Project.

AGREEMENT

NOW, THEREFORE, the parties hereby agree as follows:

1. **DEFINITIONS.**

DISTRICT and CONSULTANT have outlined the scope of services to be provided, and related expenses as described in Exhibit "A" attached and incorporated herein.

2. **PROJECT COORDINATION**

A. **DISTRICT.** The District Manager/District Engineer shall be the representative of the DISTRICT for all purposes under this Agreement. The Senior Civil Engineer is hereby designated the PROJECT MANAGER for the DISTRICT, and said PROJECT MANAGER shall supervise all aspects of the progress and execution of this Agreement.

B. **CONSULTANT.** CONSULTANT shall assign a single PROJECT DIRECTOR to have overall responsibility for the progress and execution of this Agreement for CONSULTANT. Benjamin Shick is hereby designated as the PROJECT DIRECTOR for CONSULTANT. Should circumstances or conditions subsequent to the execution of this Agreement require a substitute PROJECT DIRECTOR for any reason, the CONSULTANT shall notify the DISTRICT within ten (10) business days of the substitution.

3. DUTIES OF CONSULTANT

CONSULTANT shall perform the duties and/or provide services as follows: the CONSULTANT agrees to provide professional services as an Engineering Consultant to prepare work outlined in the Proposal from CONSULTANT dated June 19, 2020, marked Exhibit "A" attached hereto, and incorporated herein by this reference. CONSULTANT agrees to be available and perform the work specified in this Agreement in the time frame as specified and as shown in Exhibit "A".

4. DUTIES OF THE DISTRICT

DISTRICT shall perform the duties as described and incorporated herein.

5. COMPENSATION

For the full performance of the services described herein by CONSULTANT, DISTRICT shall pay CONSULTANT on a time-and-materials basis for services rendered in accordance with the rates shown on the current fee schedule as described in Exhibit "A" attached and incorporated herein. The total payment will not exceed \$303,000.00 as shown on the Proposal Budget, set out in Exhibit "A".

Payment will be made monthly upon receipt by PROJECT MANAGER of itemized invoices submitted by CONSULTANT.

6. TERM OF AGREEMENT

The term of this Agreement shall be from the date of execution until the Project is complete.

7. TERMINATION

A. Discretionary. Either party may terminate this Agreement without cause upon thirty (30) days written notice mailed or personally delivered to the other party.

B. Cause. Either party may terminate this Agreement for cause upon ten (10) days written notice mailed or personally delivered to the other party, and the notified party's failure to cure or correct the cause of the termination notice, to the reasonable satisfaction of the party giving such notice, within thirty (30) days of the receipt of said notice.

C. Effect of Termination. Upon receipt of notice of termination, neither party shall incur additional obligations under any provision of this Agreement without the prior written consent of the other.

D. Return of Documents. Upon termination, any and all DISTRICT documents or materials provided to CONSULTANT and any and all of CONSULTANT's documents and materials prepared for or relating to the performance of its duties under this Agreement, shall be delivered to DISTRICT as soon as possible, but not later than thirty (30) days after termination.

8. OWNERSHIP OF DOCUMENTS AND DATA

The written documents and materials prepared by the CONSULTANT in connection with the performance of its duties under this Agreement, shall become the property of DISTRICT, once the CONSULTANT has been compensated under the terms of this Agreement. Any re-use of professional instruments of service furnished by CONSULTANT without CONSULTANT'S written authorization shall be at DISTRICT'S sole risk.

9. INSPECTION AND AUDIT

Upon reasonable notice, CONSULTANT shall make available to DISTRICT, or its agent, for inspection and audit, all documents and materials maintained by CONSULTANT in connection with its performance of its duties under this Agreement. CONSULTANT shall fully cooperate with DISTRICT or its agent in any such audit or inspection.

10. ASSIGNABILITY

The parties agree that they shall not assign or transfer any interest in this Agreement nor the performance of any of their respective obligations hereunder, without the prior written consent of the other party, and any attempt to so assign this Agreement or any rights, duties or obligations arising hereunder shall be void and of no effect.

11. INSURANCE

A. During the term of this Agreement, CONSULTANT shall maintain, at no expense to DISTRICT, the following insurance policies:

1. A commercial general liability insurance policy in the minimum amount of one million (\$1,000,000) dollars per occurrence and \$2,000,000 aggregate for death, bodily injury, personal injury, or property damage;

2. An automobile liability (owned, non-owned, and hired vehicles) insurance policy in the minimum amount of one million (\$1,000,000) dollars per occurrence;

3. If any licensed professional performs any of the services required to be performed under this Agreement, a professional liability insurance policy in the minimum amount of one million (\$1,000,000) dollars to cover any claims arising out of the CONSULTANT's performance of services under this Agreement.

B. The insurance coverage required of the CONSULTANT by Section 11. A., shall also meet the following requirements:

1. The insurance shall be primary with respect to any insurance or coverage maintained by DISTRICT and shall not call upon DISTRICT's insurance or coverage for any contribution;

2. Except for professional liability insurance, the insurance policies shall be endorsed for contractual liability and personal injury;

3. Except for professional liability insurance, the insurance policies shall be specifically endorsed to include the DISTRICT, its officers, agents, and employees as additionally named insureds under the policies;

4. CONSULTANT shall provide to PROJECT MANAGER, (a) Certificates of Insurance evidencing the insurance coverage required herein, and (b) specific endorsements naming DISTRICT, its officers, agents and employees, as additional insureds under the policies;

5. The insurance policies shall provide that the insurance carrier shall not cancel, terminate or otherwise modify the terms and conditions of said insurance policies except upon thirty (30) days written notice to DISTRICT's PROJECT MANAGER;

6. If the insurance is written on a Claims Made Form, then, following termination of this Agreement, said insurance coverage shall survive for a period of not less than five years;

7. The insurance policies shall provide for a retroactive date of placement coinciding with the effective date of this Agreement;

8. The insurance shall be approved as to form and sufficiency by PROJECT MANAGER and the County Counsel.

C. If it employs any person, CONSULTANT shall maintain Worker's Compensation and Employer's Liability Insurance, as required by the State Labor Code and other applicable laws and regulations, and as necessary to protect both CONSULTANT and DISTRICT against all liability for injuries to CONSULTANT's officers and employees.

D. Any deductibles or self-insured retentions exceeding \$20,000 in CONSULTANT's insurance policies must be declared to and approved by the PROJECT MANAGER and the County Counsel. At DISTRICT's option, the deductibles or self-insured retentions with respect to DISTRICT shall be reduced or eliminated to DISTRICT's satisfaction, or CONSULTANT shall procure a bond guaranteeing payment of losses and related investigations, claims administration, attorney's fees and defense expenses.

12. INDEMNIFICATION

CONSULTANT shall indemnify, release, and hold harmless DISTRICT, its officers, and employees against any claim, demand, suit, judgment, loss, liability, or expense of any kind, including attorney's fees, arising out of or resulting in any way from any negligent acts or omissions or negligence of CONSULTANT or CONSULTANT's officers, agents, and employees in the performance of their duties and obligations under this Agreement.

13. NONDISCRIMINATION

CONSULTANT shall not discriminate, in any way, against any person on the basis of age, sex, race, color, religion, ancestry, national origin or disability in connection with or related to the performance of its duties and obligations under this Agreement.

14. COMPLIANCE WITH ALL LAWS

CONSULTANT shall use due professional care to observe and comply with all applicable Federal, State and local laws, ordinances, codes, and regulations in the performance of its duties and obligations under this Agreement. CONSULTANT shall perform all services under this Agreement in accordance with these laws, ordinances, codes, and regulations.

15. NO THIRD-PARTY BENEFICIARIES

DISTRICT and CONSULTANT do not intend, by any provision of this Agreement, to create in any third party, any benefit or right owed by one party, under the terms and conditions of this Agreement, to the other party.

16. NOTICES

All notices and other communications required or permitted to be given under this Agreement, including any notice of change of address, shall be in writing and given by personal delivery, or deposited with the United States Postal Service, postage prepaid, addressed to the parties intended to be notified. Notice shall be deemed given as of the date of personal delivery, or if mailed, upon the date of deposit with the United States Postal Service. Notice shall be given as follows:

TO DISTRICT: Mr. David Nicholson, P.E. (Project Manager)
San Rafael Sanitation District
111 Morpew Street
San Rafael, CA 94901

TO CONSULTANT: Mr. Benjamin Shick, P.E. (Project Director)
Schaaf & Wheeler
2200 Range Ave., Ste. 201
Santa Rosa, CA 95403

17. INDEPENDENT CONSULTANT

For the purposes, and for the duration, of this Agreement, CONSULTANT, its officers, agents and employees shall act in the capacity of an Independent Consultant, and not as employees of the DISTRICT. CONSULTANT and DISTRICT expressly intend and agree that the status of CONSULTANT, its officers, agents and employees be that of an Independent Consultant and not that of an employee of DISTRICT.

18. ENTIRE AGREEMENT -- AMENDMENTS

A. The terms and conditions of this Agreement, all exhibits attached, and all documents expressly incorporated by reference, represent the entire Agreement of the parties with respect to the subject matter of this Agreement.

B. This written Agreement shall supersede any and all prior agreements, oral or written, regarding the subject matter between the CONSULTANT and the DISTRICT.

C. No other agreement, promise or statement, written or oral, relating to the subject matter of this Agreement, shall be valid or binding, except by way of a written amendment to this Agreement.

D. The terms and conditions of this Agreement shall not be altered or modified except by a written amendment to this Agreement signed by the CONSULTANT and the DISTRICT.

E. If any conflicts arise between the terms and conditions of this Agreement, and the terms and conditions of the attached exhibits or the documents expressly incorporated by reference, the terms and conditions of this Agreement shall control.

19. SET-OFF AGAINST DEBTS

CONSULTANT agrees that DISTRICT may deduct from any payment due to CONSULTANT under this Agreement, any monies which CONSULTANT owes DISTRICT under any ordinance, agreement, contract or resolution for any unpaid taxes, fees, licenses, assessments, unpaid checks or other amounts.

20. WAIVERS

The waiver by either party of any breach or violation of any term, covenant or condition of this Agreement, or of any ordinance, law or regulation, shall not be deemed to be a waiver of any other term, covenant, condition, ordinance, law or regulation, or of any subsequent breach or violation of the same or other term, covenant, condition, ordinance, law or regulation. The subsequent acceptance by either party of any fee, performance, or other consideration which may become due or owing under this Agreement, shall not be deemed to be a waiver of any preceding breach or violation by the other party of any term, condition, covenant of this Agreement or any applicable law, ordinance or regulation.

21. CITY BUSINESS LICENSE/OTHER TAXES

CONSULTANT shall obtain and maintain during the duration of this Agreement, a CITY business license as required by the San Rafael Municipal Code. CONSULTANT shall pay any and all State and Federal taxes and any other applicable taxes. CONSULTANT's taxpayer identification number is 77-0061375, and CONSULTANT certifies under penalty of perjury that said taxpayer identification number is correct.

22. APPLICABLE LAW

The laws of the State of California shall govern this Agreement.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the day, month and year first above written.

SAN RAFAEL SANITATION DISTRICT

CONSULTANT

Doris Toy, P.E.
District Manager/District Engineer

SCHAAF & WHEELER

APPROVED AS TO FORM:

By: _____

Kerry Laiw Gerchow
Deputy County Counsel

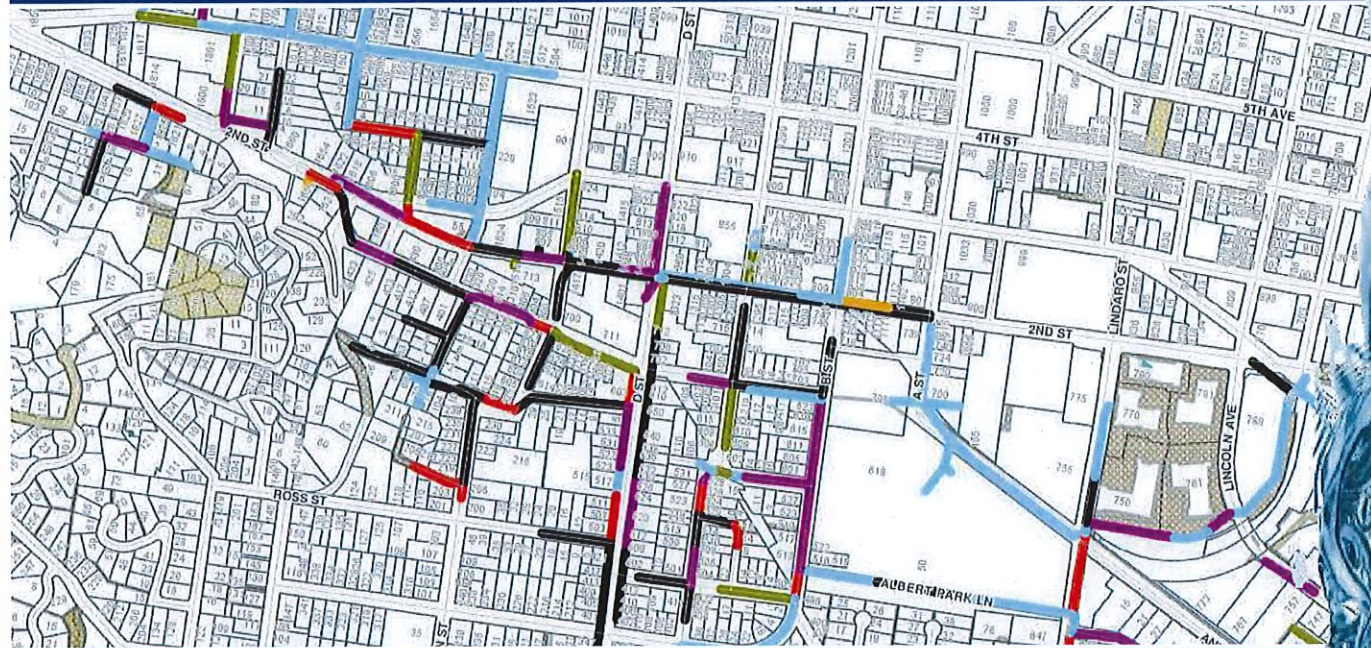
Title: _____

EXHIBIT "A"



Proposal for San Rafael Sanitation District

Engineering Design Services for 2020 SEWER PIPE REPAIR AND REPLACEMENT PROJECT



June 19, 2020

Schaaf & Wheeler
CONSULTING CIVIL ENGINEERS



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Schaaf & Wheeler
CONSULTING CIVIL ENGINEERS

2200 Range Avenue, Ste. 201
Santa Rosa, CA 95403
707-528-4848
Fax 707-528-0248

1. Cover Letter

June 19, 2020

Doris Toy
District Manager
San Rafael Sanitation District
111 Morpew Street
San Rafael, CA 94901

Subject: *Proposal for Engineering Design Services for 2020 Sewer Pipe Repair and Replacement Project*

Dear Doris Toy:

Schaaf & Wheeler is pleased to propose design, bid and construction support engineering services for the 2020 Sewer Repair and Replacement project to the San Rafael Sanitation District. We have extensive experience with similar sewer assessment and repair/replacement projects and are currently working on the Woodland Avenue Sewer Improvement Project for the District. We are excited about the opportunity of continue working with the District to improve the sewer infrastructure. Our team is positioned to provide the District with a comprehensive design meeting the goal of repairing and replacing 1.5 miles of sewer main in Year 2021.

Our knowledge of the District's sewer system, standards, and goals, combined with a robust approach led by professional engineers proficient in sewer assessment and design, are key to successfully completing the project efficiently, within schedule and budget. Our proposed team has been providing annual sewer replacement and rehabilitation design services to multiple agencies throughout the Bay Area in recent years.

The District will benefit from our team's extensive knowledge and experience with similar projects within residential and commercial neighborhoods. Schaaf & Wheeler is well versed in selecting construction methods and identifying construction constraints and restrictions to both achieve the goal of improving the sewer system and minimizing impacts during construction.

Benjamin L. Shick, PE, will serve as the project manager for this project. Ben has 17 years of experience improving and replacing sewer infrastructure, and has recent experience working with the District. Curran Price, PE will be the project design engineer. He has been working alongside Ben to complete several similar sewer replacement projects over the past 5+ years. I will provide QA/QC services for the project and bring more than 30 years of experience in sewer planning, design and construction support. We also have specialty subconsultants for geotechnical investigation and evaluation, surveying, and potholing. Our geotechnical engineering subconsultant has completed several projects for the District.

The enclosed proposal further discusses our project approach, work plan and team qualifications. We welcome the opportunity to meet with the District to discuss our proposal and qualifications. Should you need any further information or have any questions, please contact Ben Shick at (707) 528-4848 or BShick@swsv.com.

Sincerely,
Schaaf & Wheeler



Charles D. Anderson, PE
President



2. Project Understanding

The San Rafael Sanitation District 2020 Sewer Pipe Repair and Replacement includes reviewing approximately 8.5 miles of sewer inspection videos, developing a prioritizing of locations to be rehabilitated as part of capital improvement projects, developing project documents for two separate construction project for approximately \$2 to \$2.5 million each, and provide construction support. The CCTV inspection identified several issues within the existing sanitary sewer pipes including cracks, fractures, breaks, collapsed pipe, joint offsets and separations, sags, and infiltration. The goal of the project is to:

1. Reduce infiltration and potential overflows,
2. Improve pipe conditions to reduce maintenance needs.

The project includes condition assessment, topographic surveying, utility investigations, geotechnical investigation, developing bid documents, and assisting the District throughout the bid and construction phases of the project.

Schaaf & Wheeler has identified the following key elements for a successful project:

- **Coordination:** Schaaf & Wheeler will maintain close coordination with District staff throughout the course of the project. Monthly progress updates will be provided in addition to general correspondence throughout the course of work.
- **Schedule:** The District's goal is to repair and replace 1.5 miles of pipe in 2021 as part of this project. To meet this goal, it is important to expedite the review and assessment of CCTV data and to provide the District with a prioritized list of capital improvements. Once the improvements have been identified the field investigations and design phase of the project can commence.
- **Accurate Identification of Utilities:** Existing utilities will need to be accurately identified to minimize the potential for utility conflicts and issues during construction. Schaaf & Wheeler will perform detailed utility investigations and potholing during the design phase of the project.



Currently working on the design of sewer replacements for SRSD at:

- *B Street between 1st Street and Taylor Street;*
- *Woodland Avenue between B & Taylor Streets and Warner Court;*
- *Woodland Place; and*
- *Octavia Street.*

Tasks Included:

- *topographic surveying,*
- *utility investigations,*
- *geotechnical investigation,*
- *condition assessment,*
- *alternative evaluation,*
- *developing bid documents,*

Key Elements for Completing the 2020 Repairs and Replacements Successfully

- Detailed review and assessment of CCTV data
- Appropriate repair method selection
- Prioritization of improvements
- Stakeholder engagement
- Utility investigations
- Supplementary field investigations
- Topographic surveys
- Minimizing traffic impacts
- Efficient and timely public outreach
- Close coordination with the specialty subconsultants



- **Public Outreach:** The project is within residential and commercial neighborhoods. Public outreach will be necessary to coordinate and notify residents and businesses of the impacts and expectations during construction.
- **Traffic Impact Mitigation:** The project is located within busy downtown streets. Traffic control plans, restrictions, and requirements will be developed during design to minimize impacts during construction. It may be necessary to restrict work hours in certain locations to minimize impacts. Impacts to traffic will be taken into account when identifying repair/replacement methods. Schaaf & Wheeler has extensive experience with pipe repair/replacement projects in heavily congested areas and in locations where traffic detours are not possible.



Busy Downtown Streets will Require
Traffic Impact Mitigation
Schaaf & Wheeler brings extensive
experience with sewer improvement projects
in busy urban corridors



3. Project Approach, Work Plan and Level of Effort

Project Approach

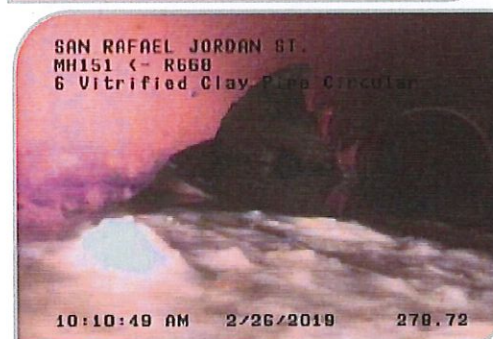
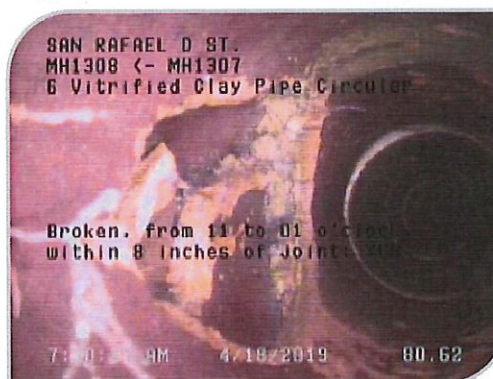
Schaaf & Wheeler's objective is to perform a detailed review and assessment of the CCTV data and field conditions, identify prioritized capital improvements meeting the District's goals and budget, and provide the District with cost-effective and constructible solutions that will mitigate existing condition related issues and reduce maintenance requirements. The proposed Schaaf & Wheeler team has successfully completed numerous sewer assessment and replacement projects throughout the Bay Area and is familiar with the District's standards and procedures.

Schaaf & Wheeler will facilitate a project kickoff meeting with the District and necessary stakeholders. The project goals, scope, budget, and schedule will be discussed to make sure everyone is on the same page. A data request list will be submitted to the District which will include all information that would be useful during the assessment and design.

Schaaf & Wheeler firmly believes that engaging all stakeholders including management, public relations, engineering, and operations & maintenance, early in the process is a great way to ensure all parties are on informed and everyone is working towards the same goal.

Schaaf & Wheeler's proposed approach for the design process is identified below and is further described within the scope of services in the following section.

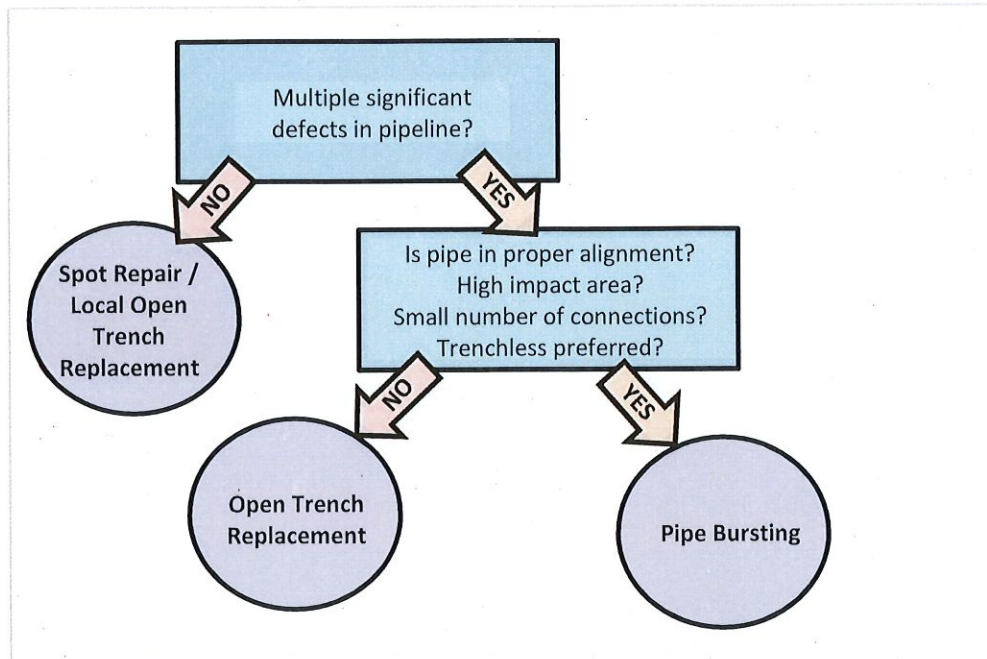
1. **Kickoff Meeting** – Is used to get all stakeholders in the same room and work through key project elements including:
 - a. Project Goals – Capacity, Engineering Requirements, O&M Requirements, District standards
 - b. Project Constraints – Budget, schedule, physical site constraints, utility constraints and conflicts, traffic coordination
 - c. Project Expectations – Construction contract type, construction methods, deliverables, project management/staffing, schedule
2. **Capital Improvement Project Identification** – A list of capital improvements will be developed based on the CCTV inspection data and District's input. The capital improvements will identify the existing issues, priority of improvement, potential rehabilitation methods, and preliminary construction costs. The data review, assessment methods, and capital improvements will be summarized in a report which will be submitted to the District for review and approval prior to proceeding with design.



Repair method will be selected based on
defect type, severity, and location

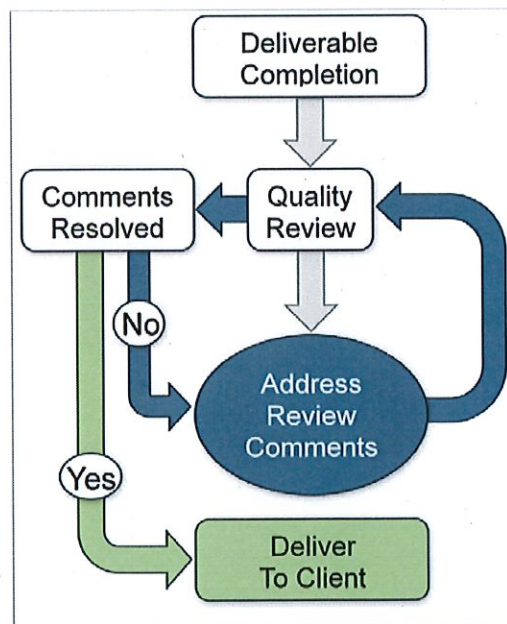


A flow diagram that identifies a typical evaluation of pipeline repair methods is illustrated in the figure below. The flow diagram is intended as a general representation of the repair method selection process and does not include all considerations.



General Pipeline Repair Method Selection Flow Diagram

3. **Design (35%, 65%, 95%, and Final Bid Documents)** – Each design submittal will be prepared and submitted as detailed in the scope of services below. Stakeholder input is critical at each submittal level to ensure that the project meets the District's expectations and goals. Schaaf & Wheeler will schedule and attend design review meetings with the District after each progress submittal.
4. **QA/QC Process** – Schaaf & Wheeler will perform an internal QA/QC review of each progress submittal prior to being submitted to the District. QA/QC staff will review all design documents, visit the site, and work with the project design team to identify and correct potential issues and conflicts.
5. **Bid and Construction Support** – Schaaf & Wheeler will stay actively involved with the project throughout the bid and construction phases as detailed in the scope of services below.



Schaaf & Wheeler's Typical QA/QC Process to Ensure Quality Deliverables



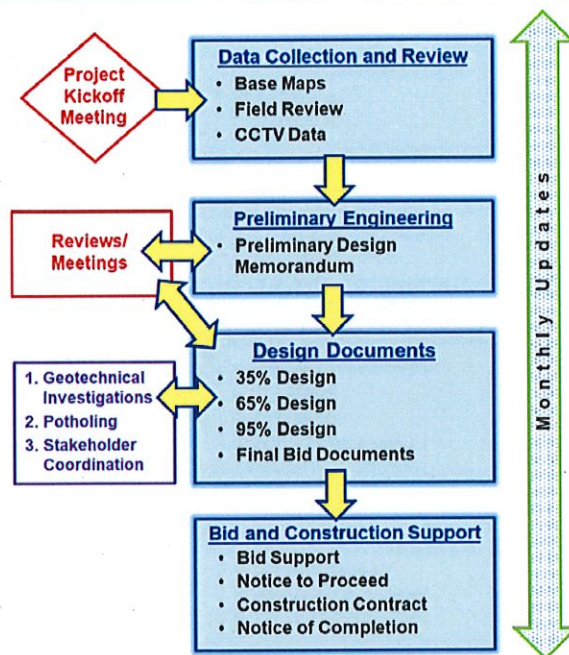
Schaaf & Wheeler's approach is further described in the Scope of Work below.

Scope of Work

Schaaf & Wheeler's proposed scope of work is included herein. This scope of services assumes that two separate sets of bid documents will be prepared with an estimated combined repair and replacement length of 1.5 miles and construction costs of \$2 million to \$2.5 million each.

Based on Schaaf & Wheeler's experience with similar sewer repair projects and initial review of the PACP reports, the following quantities of pipe repair and replacement methods are estimated for the design phase:

- 4,000+/- linear feet of open trench sanitary sewer replacement
- 4,000+/- linear feet of trenchless pipe replacement (bursting, reaming, HDD)
- Various spot repairs
- Manhole rehabilitations



Work Plan Schematic

Task 1: Project Management and Coordination

1. Schaaf & Wheeler shall be responsible for providing all contract management and quality control services throughout the duration of the project.
2. Kickoff Meeting: Schaaf & Wheeler will facilitate a project kickoff meeting with the District and necessary stakeholders. The project goals, scope, budget, and schedule will be discussed to make sure everyone is on the same page.
3. Schaaf & Wheeler will facilitate design review meetings with the District for each draft submittal (4 meetings).

Deliverables:

- Project Schedule and updates
- Meeting agendas and minutes for all design and coordination meetings

Task 2: Analysis of District's CCTV files for existing sewers

1. Review, assessment, and prioritization of approximately 8.5 miles of CCTV sewer inspection video files and PACP reports. Review of pipe segment locations to determine preliminary pipe repair methodologies and associated construction costs.
2. Review and assessment of existing pipe sized based on available flow data to determine which CCTV inspected sewers need to be upsized.



3. Develop a report summarizing the data, review process, assessment methodology, and recommended capital improvements. A preliminary estimate of probable construction cost will be prepared and included in the report.
4. Schaaf & Wheeler will facilitate a meeting with the District to review the preliminary report and capital improvements.

Deliverables:

- Report of recommended capital improvements based on results CCTV inspection. Report will include prioritized improvements, recommended construction methods, and estimated construction costs. The capital improvements will be separated into two separate capital improvement projects with the goal of grouping the improvements based on construction methods and project locations.
- A draft report will be submitted to the District for review and comment prior to finalizing. The final report will serve as a basis of design for the capital improvements to be included in the following design tasks.

Task 3: Design

1. Utility Investigation, Topographic Surveying & Basemapping:

Schaaf & Wheeler's subconsultant, Kier & Wright will perform utility research, topographic surveying and base mapping for the project. Utility research will consist of contacting all franchise utility providers for their utility plans within the area of work where digging is required. Design-level topographic surveying will be performed in locations where detailed topographic information is needed, such as full pipe replacement with open trench methods. Some repair methods and locations may not require topographic surveying, or might only require surveying key elements. Typical topographic surveys will include spot elevations of the ground, curbs, sidewalks, fences, trees, and utilities that are within the street Right of Way.

The surveying scope and limits of work will be defined following Task 1. This scope assumes the following:

- Perform utility research for all areas requiring excavation.
- Topographic surveying for approximately 4,000 linear feet of pipe repair/replacement.
- Two days of supplemental field surveys in locations where additional survey data is needed.
- Basemap preparation of all locations where topographic surveying is performed.

We anticipate that this scope will be sufficient to prepare detailed design documents for the improvements; however, if additional topographic surveying is deemed necessary it can be provided for an additional scope. If desired, additional surveying can be added as an optional task.

Deliverables:

- Utility maps from service providers
- Topographic surveying basemaps

2. Geotechnical Investigations, Evaluation, and Report:

This scope of services was developed to evaluate the subsurface conditions and provide recommendations for utility trenching, support, and backfilling. Schaaf & Wheeler's subconsultant, Miller Pacific will perform the following tasks to assist the design process:

- File review – Miller Pacific will review select information available online and information available pertinent to the site conditions in the vicinity of the project. In addition, should



prior site information be available, including geotechnical reports, subsurface information, grading information, test data, etc. will also be reviewed.

- Health and Safety Plan – Miller Pacific will prepare project-specific Health and Safety Plans (HSP) for the sites pertaining to the specific geotechnical on-site field activities. The HSPs will provide information including the proper personal safety equipment to be worn on-site, directions to the nearest public emergency room, and information for the key contact personnel involved in the project.
- Exploratory Borings – Miller Pacific will spend two days to drill, log and sample exploratory borings at various sites using conventional truck-mounted hollow-stem auger drilling equipment. Twelve to twenty conventional borings are anticipated at a typical depth of 10 to 15 feet.
- Traffic Control - Traffic control will be necessary to perform the proposed subsurface exploration. Signage and a flagman will be provided to caution on-coming cars. Traffic control plans will be prepared and submitted to the District and/or City for review. This proposal includes two days of traffic control.
- Utility Clearance - Underground Service Alert (USA) will be notified, and a private utility locator will be utilized to locate existing utilities prior to drilling.
- Permits, Site Access and Disposal of Drill Spoils – The borings will be backfilled with cement grout in accordance with the County of Marin's Environmental Health Services guidelines. Encroachment permits will be obtained from the City of San Rafael for the proposed subsurface explorations. It is assumed that there will be no fee for these permits. Spoils generated during drilling will be placed in 55-gallon drums, moved to a secure location near each site or to a location designated by the District, and analytically tested for off-site disposal. A subcontractor will transport the drums to an appropriate disposal facility. This proposal assumes up to four drums for disposal at a non-hazardous disposal facility.
- Laboratory Testing - In-situ Moisture/Density tests, Grain Size Distribution tests, Atterberg Limit tests, One-Dimensional Consolidation, and Soil Corrosion tests will be performed on the soil samples.
- "Screening-level" environmental testing and evaluation of spoils in order to identify disposal options and restrictions, including CAM17 metals, TPH, VOC, SVOC, PCB, pesticides, and corrosivity. A total of two "composite" samples will be for screening-level testing.
- Engineering Analysis and Report – Site excavation, backfill, shoring, dewatering, and pavement restoration, and other geological recommendations will be provided. The data obtained from the field investigation and the laboratory testing program will be utilized in the engineering analysis. Following the completion of the engineering analysis, a report will be prepared with conclusions and recommendations. The consultant shall conduct all field, topographic and control surveys, prepare all preliminary geotechnical studies and reports, and complete all preliminary design calculations as necessary.

Deliverables:

- Draft and final geotechnical report.

3. Utility Locating:

Schaaf & Wheeler's subconsultant, Best Testlab, Inc. will perform utility locating where potential utility conflicts exist. Best Testlab, Inc. will USA all locations to be potholed. This scope includes potholing 12 to 16 utilities over the course of two days. Additional potholing can be performed for an additional fee if deemed necessary; however, we do not anticipate the need for a significant amount of potholing since most of the pipes will likely be replaced at a similar line and grade to the existing pipes.



Deliverables:

- Potholing report

4. 35% Design Submittal:

Schaaf & Wheeler will visit each site identified for improvements to document existing conditions, take field measurements, inspect manholes (per MACP), and confirm basemapping.

Preliminary plan and profiles will be developed for the proposed improvements along with preliminary details for the 35% design submittal.

Schaaf & Wheeler will meet with the District to present and review the 35% design submittal.

Deliverables:

- 35% plans and estimate for two separate sets of bid documents.
- Letter report summarizing previous review comments and resolution of the review comments.

5. 65% Design Submittal:

Schaaf & Wheeler will initiate the detailed design effort which will include project layouts of sewer lines, plan & profiles, construction details, technical specifications, construction cost estimate, and a construction schedule. Potential utility conflicts will be identified and if deemed necessary utility potholing will be performed as identified in Task 2.3 above.

Schaaf & Wheeler will facilitate a design review meeting with the District to present and review the 65% design documents.

Deliverables:

- 65% plans, specifications, and estimate for two separate sets of bid documents.
- Letter report summarizing previous review comments and resolution of the review comments.

6. 95% Design Submittal:

After receiving and reviewing comments from the District, Schaaf & Wheeler will prepare the 95% construction documents. Construction documents will include detailed plans, technical specifications, and engineer's estimates. Schaaf & Wheeler will also review and edit the District's front end documents.

Schaaf & Wheeler will facilitate a design review meeting with the District to present and review the 95% design documents.

Deliverables:

- 95% plans, specifications, and estimate for two separate sets of bid documents.
- Letter report summarizing previous review comments and resolution of the review comments.

7. Final Bid Documents:

After receiving and reviewing comments from the District, Schaaf & Wheeler will prepare the final construction documents. Construction documents will include bid-ready plans, technical specifications, front end documents, and engineer's estimates. Final plans shall be printed on 22"x34" paper and shall be complete with final signatures ready for reproduction.

- The plans shall be drawn using AutoCAD
- The schedule of items shall address all items of work as specifically as possible and shall indicate as precisely as possible the quantities.



- Schaaf & Wheeler will provide a cost estimate with each design submittal in the format of the schedule of bid items.

Deliverables:

- Final PS&E submittal in both paper and electronic (AutoCAD, Word, Excel, and pdf) format for two contract bid documents.
- A letter report summarizing review comments and the resolution of the review comments

Task 4: Final Bid Phase and Bid Phase Support (for two contract bid documents)

1. Schaaf & Wheeler will facilitate the pre-bid meeting, set the agenda and respond to questions concerning the plans, specifications, and estimates prior to bid opening and prepare contract addenda, if required.
2. Assist the District in coordinating and posting the bid packages and addenda in an online advertising service.
3. Schaaf & Wheeler will review construction bids received, check references and make a recommendations to the District for award of construction contracts.

Deliverables:

- Prepare contract addenda, if required, including answers to bidder's questions, for distribution by an online service for two contract bid documents.
- Prepare bid summary sheet and letter of recommendation to the District for the award of the construction contract for two contract bid documents.

Task 5: Design Support during Construction (for two contract bid documents)

1. Schaaf & Wheeler will attend the pre-construction conference to respond to questions concerning the plans, specifications and estimates
2. Schaaf & Wheeler will be available to be called to the site in response to questions arising from the progress of the work. This scope of services includes up to three (3) site visits per construction contract (6 site visits total).
3. Schaaf & Wheeler will respond to Requests for Information (RFIs) from the contractor when called for by the District and prepare modifications or revisions that are related to the project's original scope and character. The District shall not be billed for nor shall they pay for any revisions to the plans and specifications that are required due to errors or omissions in the original contract documents
4. Schaaf & Wheeler will assist District staff in reviewing submittals from the contractor
5. Schaaf & Wheeler will assist the District in preparation of contract change orders, if necessary
6. Schaaf & Wheeler will attend weekly construction meetings and record the minutes. This scope of services includes attendance at up to 20 construction meetings per construction contract (40 meetings total). Additional meeting attendance can be provided for an additional fee if deemed necessary.
7. The consultant shall participate in the final walk through of the constructed project and assist in the preparation of "punch list" items in need of work
8. The consultant shall prepare record drawings following construction from mark ups by the contractor and the resident engineer. Submittal of record drawings shall be on 11"x17" and 22"x34" bond paper and electronic format.



Deliverables:

- Response to RFIs and Submittals from the contractor
- Modification or revisions that are related to the project original scope and character
- Contract change orders if necessary

Assumptions:

This scope of work and the associated fee estimate is prepared with the following assumptions.

- CCTV data for all of the existing sewer lines within the project limits will be provided by the District.
- The design and coordination of extensive utility relocations will not be required.



| Schaaf & Wheeler San Rafael Sanitation District 2020 Sewer Pipe Repair and Replacement Project Level of Effort (hours) June 19, 2020 | | Principal Project Manager | Associate Engineer | Assistant Engineer | Miller Pacific Engineering Group - Geotechnical | Kier & Wright - Surveying | Bess Testlabs - Potholing | Total Hours |
|---|--|---------------------------|--------------------|--------------------|---|---------------------------|---------------------------|-------------|
| Task 1 | Project Management & Coordination | 50 | 20 | 0 | 0 | 0 | 0 | 70 |
| 1.1 | Project Management & QA/QC Reviews | 40 | | | | | | 40 |
| 1.2 | Kickoff Meeting | 2 | 4 | | | | | 6 |
| 1.3 | Design Review Meetings (4 Meetings) | 8 | 16 | | | | | 24 |
| Task 2 | Analysis of CCTV files for existing sewers | 16 | 30 | 116 | 0 | 0 | 0 | 162 |
| 2.1 | Review Inspection Videos | 4 | 10 | 80 | | | | 94 |
| 2.2 | Develop Capital Improvement Project List | 4 | 8 | 16 | | | | 28 |
| 2.3 | Draft and Final Report | 8 | 12 | 20 | | | | 40 |
| Task 3 | Design | 89 | 182 | 460 | 123 | 256 | 48 | 1,158 |
| 3.1 | Utility Investigation, Topographic Surveying & Basemapping | 4 | 16 | 40 | | 256 | | 316 |
| 3.2 | Geotechnical Investigations, Evaluations, and Report | 2 | 6 | | 115 | | | 123 |
| 3.3 | Utility Locating | 4 | | 8 | | | 48 | 60 |
| 3.4 | 35% Design Submittal | 15 | 40 | 120 | | | | 175 |
| 3.5 | 65% Design Submittal | 32 | 60 | 160 | 8 | | | 260 |
| 3.6 | 95% Design Submittal | 24 | 40 | 100 | | | | 164 |
| 3.7 | Final Bid Documents | 8 | 20 | 32 | | | | 60 |
| Task 4.1 | Final Bid Phase and Bid Phase Support (1st Construction Contract) | 8 | 6 | 6 | 0 | 0 | 0 | 20 |
| 4.1.1 | Bid Phase Support | 4 | 2 | | | | | 6 |
| 4.1.2 | Post Bid Package | 2 | | 6 | | | | 8 |
| 4.1.3 | Review Bids | 2 | 4 | | | | | 6 |
| Task 4.2 | Final Bid Phase and Bid Phase Support (2nd Construction Contract) | 8 | 6 | 6 | 0 | 0 | 0 | 20 |
| 4.2.1 | Bid Phase Support | 4 | 2 | | | | | 6 |
| 4.2.2 | Post Bid Package | 2 | | 6 | | | | 8 |
| 4.2.3 | Review Bids | 2 | 4 | | | | | 6 |
| | TOTAL DESIGN AND BID PHASE | 171 | 244 | 588 | 123 | 256 | 48 | 1,430 |
| Task 5.1 | Design Support during Construction (1st Construction Contract) | 38 | 86 | 36 | 0 | 0 | 0 | 160 |
| 5.1.1 | Preconstruction conference | 2 | 4 | | | | | 6 |
| 5.1.2 | Site Visits During Construction (3) | 6 | 6 | | | | | 12 |
| 5.1.3 | Respond to RFIs | 4 | 8 | | | | | 12 |
| 5.1.4 | Submittal Review | 6 | 16 | 24 | | | | 46 |
| 5.1.5 | Assist with Contract Change Orders | 2 | 4 | | | | | 6 |
| 5.1.6 | Weekly Meeting Attendance (20) | 8 | 40 | | | | | 48 |
| 5.1.7 | Final Walk Through and Punch List | 6 | 8 | | | | | 14 |
| 5.1.8 | Record Drawings | 4 | | 12 | | | | 16 |
| Task 5.2 | Design Support during Construction (2nd Construction Contract) | 38 | 86 | 36 | 0 | 0 | 0 | 160 |
| 5.2.1 | Preconstruction conference | 2 | 4 | | | | | 6 |
| 5.2.2 | Site Visits During Construction (3) | 6 | 6 | | | | | 12 |
| 5.2.3 | Respond to RFIs | 4 | 8 | | | | | 12 |
| 5.2.4 | Submittal Review | 6 | 16 | 24 | | | | 46 |
| 5.2.5 | Assist with Contract Change Orders | 2 | 4 | | | | | 6 |
| 5.2.6 | Weekly Meeting Attendance (20) | 8 | 40 | | | | | 48 |
| 5.2.7 | Final Walk Through and Punch List | 6 | 8 | | | | | 14 |
| 5.2.8 | Record Drawings | 4 | | 12 | | | | 16 |
| | TOTAL DESIGN, BID AND CONSTRUCTION TASKS | 247 | 416 | 660 | 123 | 256 | 48 | 1,750 |



4. Project Schedule

| ID | Task Name | Duration | Start | Finish | 2020 May | 2020 Jun | 2020 Jul | 2020 Aug | 2020 Sep | 2020 Oct | 2020 Nov | 2020 Dec | 2021 Jan | 2021 Feb | 2021 Mar | 2021 Apr | 2021 May | 2021 Jun | 2021 Jul | 2021 Aug | 2021 Sep | 2021 Oct | 2021 Nov |
|----|--|----------|--------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 1 | Project Kickoff Meeting | 0 days | Mon 6/29/20 | Mon 6/29/20 | | | | | | | | | | | | | | | | | | | |
| 2 | Task 1: Project Management and Coordination | 350 days | Mon 6/29/20 | Fri 10/29/21 | | | | | | | | | | | | | | | | | | | |
| 3 | Task 2: Analysis of CCTV Files | 50 days | Mon 6/29/20 | Fri 9/4/20 | | | | | | | | | | | | | | | | | | | |
| 4 | 2.1: Review Inspection Videos | 15 days | Mon 6/29/20 | Fri 7/17/20 | | | | | | | | | | | | | | | | | | | |
| 5 | 2.2: Develop Capital Improvement Project List | 10 days | Mon 7/20/20 | Fri 7/31/20 | | | | | | | | | | | | | | | | | | | |
| 6 | 2.3: Draft and Final Report | 10 days | Mon 8/3/20 | Fri 8/14/20 | | | | | | | | | | | | | | | | | | | |
| 7 | District Review Draft Report | 10 days | Mon 8/17/20 | Fri 8/28/20 | | | | | | | | | | | | | | | | | | | |
| 8 | District Review Meeting | 0 days | Fri 8/28/20 | Fri 8/28/20 | | | | | | | | | | | | | | | | | | | |
| 9 | Prepare Final Report | 5 days | Mon 8/31/20 | Fri 9/4/20 | | | | | | | | | | | | | | | | | | | |
| 10 | Submit Final Report | 0 days | Fri 9/4/20 | Fri 9/4/20 | | | | | | | | | | | | | | | | | | | |
| 11 | Task 3: Design | 145 days | Mon 8/31/20 | Fri 3/19/21 | | | | | | | | | | | | | | | | | | | |
| 12 | 3.1: Utility Investigation, Topographic Surveying, and Basemapping | 30 days | Mon 8/31/20 | Fri 10/9/20 | | | | | | | | | | | | | | | | | | | |
| 13 | 3.2: Geotechnical Investigations and Design Memorandum | 60 days | Mon 8/31/20 | Fri 11/12/20 | | | | | | | | | | | | | | | | | | | |
| 14 | 3.3: Utility Locating | 20 days | Mon 11/9/20 | Fri 12/4/20 | | | | | | | | | | | | | | | | | | | |
| 15 | 3.4: 35% Design Submittal | 40 days | Mon 8/31/20 | Fri 10/23/20 | | | | | | | | | | | | | | | | | | | |
| 16 | District Review 35% Submittal | 10 days | Mon 10/26/20 | Fri 11/6/20 | | | | | | | | | | | | | | | | | | | |
| 17 | 35% Design Review Meeting | 0 days | Fri 11/6/20 | Fri 11/6/20 | | | | | | | | | | | | | | | | | | | |
| 18 | 3.5: 65% Design Submittal | 30 days | Mon 11/9/20 | Fri 12/18/20 | | | | | | | | | | | | | | | | | | | |
| 19 | District Review 65% Submittal | 10 days | Mon 12/21/20 | Fri 1/1/21 | | | | | | | | | | | | | | | | | | | |
| 20 | 65% Design Review Meeting | 0 days | Fri 1/1/21 | Fri 1/1/21 | | | | | | | | | | | | | | | | | | | |
| 21 | 3.6: 95% Design Submittal | 25 days | Mon 1/4/21 | Fri 2/5/21 | | | | | | | | | | | | | | | | | | | |
| 22 | District Review 95% Submittal | 10 days | Mon 2/8/21 | Fri 2/19/21 | | | | | | | | | | | | | | | | | | | |
| 23 | 95% Design Review Meeting | 0 days | Fri 2/19/21 | Fri 2/19/21 | | | | | | | | | | | | | | | | | | | |
| 24 | 3.7: Final Design Documents | 20 days | Mon 2/22/21 | Fri 3/19/21 | | | | | | | | | | | | | | | | | | | |
| 25 | Submit Final Design Documents | 0 days | Fri 3/19/21 | Fri 3/19/21 | | | | | | | | | | | | | | | | | | | |
| 26 | Bid and Design Support During Construction | 160 days | Mon 3/22/21 | Fri 10/29/21 | | | | | | | | | | | | | | | | | | | |



5. Statement of Qualifications

About Schaaf & Wheeler

| | |
|---|--|
| Firm Name | Schaaf & Wheeler CONSULTING CIVIL ENGINEERS |
| Project Manager/Main Contact | Benjamin L. Shick, PE Phone: (707) 528-4848; Email: bshick@swsv.com |
| Year of Establishment and Years in Business | 1985 – 35 Years in Civil Engineering Design |
| Type of Organization | Corporation, Incorporated in California |
| Number of Permanent Employees | 35 |
| Company Certifications | State of California Certified Small Business Enterprise (SBE) Certification No. 40527 |

Schaaf & Wheeler is a civil engineering firm focused in water resources. With over thirty years of commitment to solving flood control, stormwater, wastewater, potable water, and recycled water problems; Schaaf & Wheeler is recognized by public and private sector clients for its value-adding engineering. Certified as a small business enterprise by the State of California, Schaaf & Wheeler engineers operate from four locations: Santa Clara, San Francisco, Santa Rosa, and Salinas.

Our Areas of Focus: Schaaf & Wheeler has ten areas of focus:

- **Waste water** system master planning, engineering, and design of conveyance systems, including lift stations and pump stations;
- **Stormwater** management and drainage services, including master planning, engineering, and design of urban storm drain systems and pump stations;
- **Potable water** system master planning, modeling, engineering; and design of supply, storage, distribution systems, including tanks and booster stations;
- **Recycled water** systems planning, engineering, and design; including reclamation feasibility studies and customer retrofits;
- **Hydrology and hydraulics** analyses, including site evaluations and modeling;
- **Flood control analyses**, including floodplain studies and channel design, filing of letters of map revision, and FEMA coordination;
- **Watershed assessments**, erosion and sediment control, and bioengineered channel stabilization;
- **Water quality**, including design or review of best management practices (BMPs) for storm water treatment and hydromodification flow control facilities;
- **Construction management**, construction site observation, construction inspection services, value engineering, construction cost analysis, and constructability reviews;
- **Program management**, including management of subconsultants, containment of schedule and cost, and communications with client and stakeholders.



✓ Recently completed Sewer Design Projects for:

- Town of Corte Madera
- City of Milly Valley
- City of Belmont
- City of San Mateo

✓ Proficient in CIP Design Bid and Construction Support



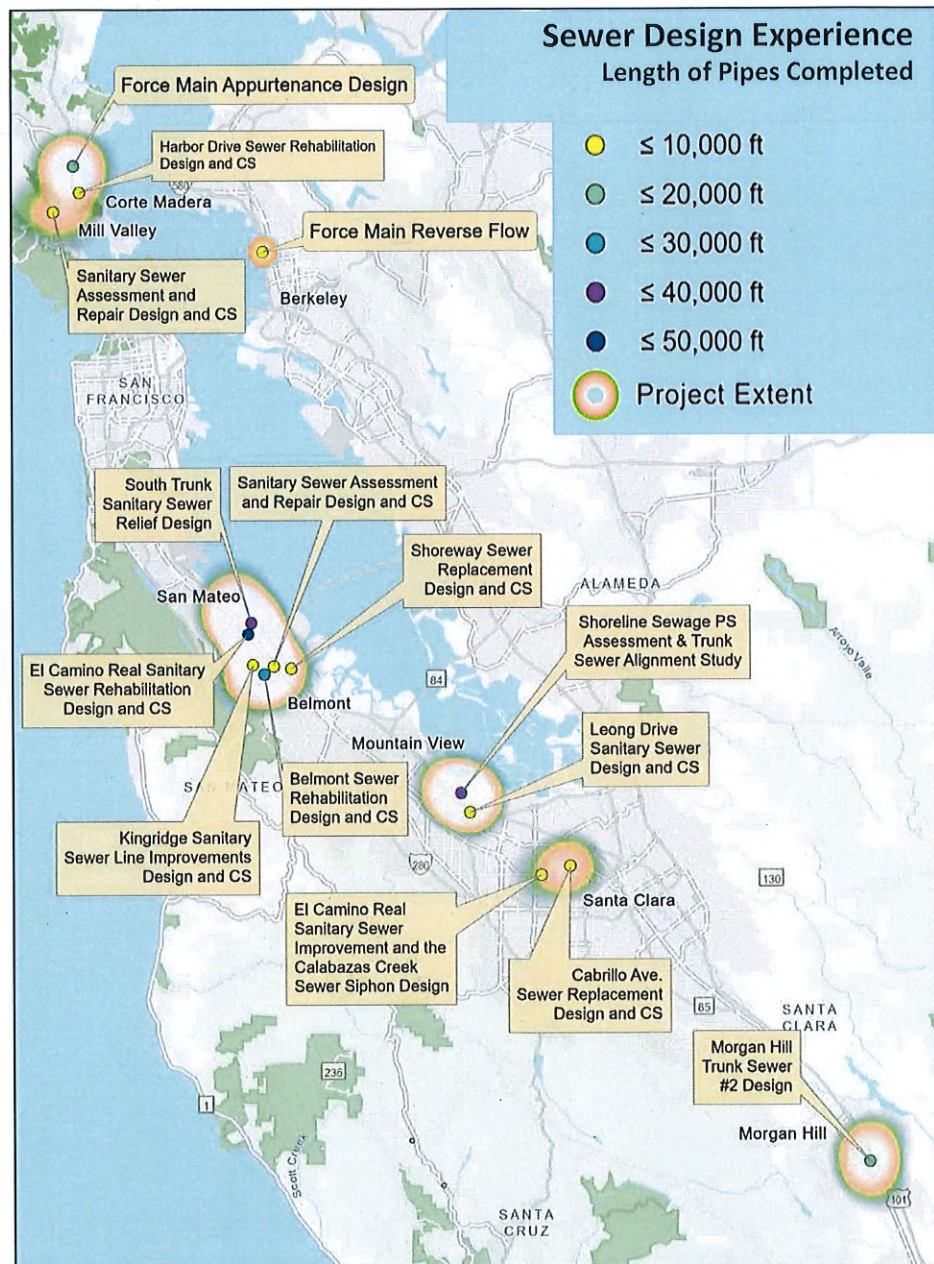
A. Experience

Schaaf & Wheeler's Experience in Wastewater Infrastructure Planning, Design and Construction Support

Wastewater – Sewer Design - The following table and map present Schaaf & Wheeler's experience in sanitary sewer replacement/rehabilitation, trunk alignment study and design.

The represented projects include:

- inspection,
- trenchless technology,
- CIPP,
- pipe reaming,
- pipe bursting,
- horizontal directional drilling (HDD)
- siphon design
- condition assessment,
- surveying and mapping,
- constructability review, and
- construction support





Schaaf & Wheeler Experience in Design of Wastewater Infrastructure

| Project | Client | Services Provided | | | | | | | | |
|--|--|---------------------|-----------------|------------------------|-------------------|------|--------------------|-----------------------|-------------|----------------------|
| | | Detailed Assessment | Detailed Design | Project Prioritization | Trenchless Design | CIPP | Construction Plans | Engineering Estimates | Bid Support | Construction Support |
| Sanitary Sewer Improvement Project | City of Morgan Hill | • | • | • | • | • | • | • | • | • |
| Sanitary Sewer Assessment and Repair Design and CS | City of Mill Valley | • | • | • | • | • | • | • | • | • |
| Woodland Sewer Improvement Project | San Rafael Sanitation District | • | • | • | | | • | • | • | • |
| Harbor Drive Sewer Rehabilitation Design and CS, CIP Project #18-201 | Sanitary District No. 2 of Marin County | • | • | • | | | • | • | • | • |
| El Camino Real Sanitary Sewer Rehabilitation Design and CS | City of San Mateo | • | • | • | • | • | • | • | • | • |
| Leong Drive Sanitary Sewer Design and CS | City of Mountain View | • | • | • | | • | • | • | • | • |
| Pump Station Q Force Main Reverse Flow Project | East Bay Municipal Utility District | | • | • | | | • | • | • | • |
| Force Main Appurtenance Projects | Ross Valley Sanitary District | • | • | • | | | • | • | • | • |
| Sewer and Water Replacement Design and CS | City of Belmont and Mid-Peninsula Water District | • | • | • | | • | • | • | • | • |
| Shoreway Sewer Replacement Design and CS | City of Belmont | • | • | • | | | • | • | • | • |
| 2018 Sanitary Sewer Rehabilitation Project – Various Locations | City of San Mateo | • | • | • | • | • | • | • | • | • |
| Force Main Appurtenance Design | Ross Valley Sanitary District | • | • | | | | • | • | • | • |
| Shoreline Sewage PS Assessment & Trunk Sewer Alignment Study | City of Mountain View | • | | • | • | | | • | | |
| El Camino Real Sanitary Sewer Improvement, and the Calabazas Creek Sewer Siphon Design | BRE Properties & City of Santa Clara | • | • | | • | • | • | • | • | • |
| Cabrillo Ave. Sewer Replacement Design and CS | City of Santa Clara | • | • | | | | • | • | • | • |
| Belmont Sewer Rehabilitation Design and CS | City of Belmont | • | • | • | • | • | • | • | • | • |
| Kingridge Sanitary Sewer Line Improvements Design and CS | City of San Mateo | • | • | • | • | • | • | • | • | • |
| South Trunk Sanitary Sewer Relief Design | City of San Mateo | • | • | • | • | • | • | • | • | |
| Sewer Infrastructure Evaluation and Design | City of Morgan Hill | • | • | • | • | • | • | • | • | • |
| Morgan Hill Trunk Sewer #2 Design | City of Morgan Hill | • | • | • | • | | • | • | • | • |



B. Relevant Project Experience

Woodland Sewer Improvement Project, San Rafael Sanitation District (2019 – 2020)

Client and Contact:

Karen Chew
Senior Civil Engineer
San Rafael Sanitation District
111 Morpew Street
San Rafael, CA 94915
Ph: 415.458.5369
Karen.Chew@cityofsanrafael.org

Contract Value:

\$237,213

Construction Cost: \$1,424,00
(estimate)

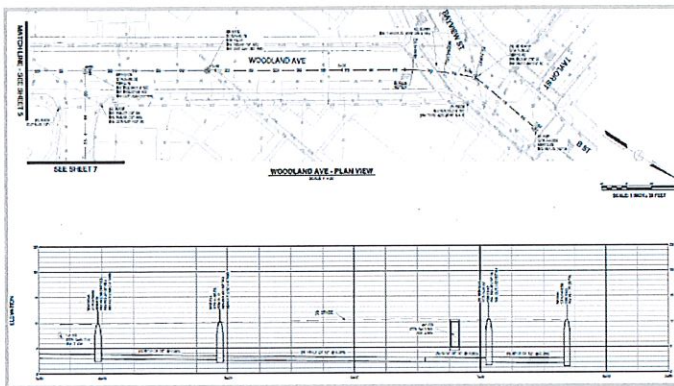
**The design was completed in
time and budget.**

Team Members:

Benjamin L. Shick, PE
Curran L. Price, PE
Charles D. Anderson, PE
Jonathan Ondracek

Subconsultants:

Kier & Wright
Bess Testlab

**Key Elements:**

- ✓ Sanitary sewer replacement
- ✓ Hydraulic Analysis
- ✓ Geotechnical investigations and evaluation
- ✓ Utility investigation, potholing, utility relocation, etc.
- ✓ Lateral Re-routing
- ✓ Public Outreach
- ✓ Bid and construction support services

The Woodland Avenue Sewer Improvement Project includes pipe replacement, rehabilitation, adjusting pipe slope, and re-routing laterals. The project is located along B Street, Woodland Avenue, Warner Court, Woodland Place, and Octavia Street. The existing sewer infrastructure is in poor condition, has flat slopes, and requires significant maintenance. The goal of the project is to:

- Redirect flows from Warner Court towards B Street,
- Eliminate backyard sewer mains along Woodland Place,
- Improve the pipe slopes to meet minimum velocity requirements,
- Improve the condition of the sewer infrastructure,

Schaaf & Wheeler coordinated topographic surveying, utility investigations and geotechnical investigation. Our engineers conducted condition assessment and developed alternatives. Currently, our engineers are preparing design documents for the project.



Shoreway Sanitary Sewer Rehabilitation, City of Belmont, 2017 - 2019

Client and Contact:

Bozhena Palatnik
Associate Civil Engineer
Department of Public Works
City of Belmont
1 Twin Pines Lane
Belmont, CA 94002
Ph: 650.595.7463
bpalatnik@belmont.gov

Contract Value:

\$129,000

Construction Cost (2018):

\$1,857,000

**The design was completed in
time and budget.**

Team Members:

Benjamin L. Shick, PE
Curran L. Price, PE
Jonathan F. Ondracek

Subconsultants:

Kier & Wright
Bess Testlab

**Key Elements:**

- ✓ Sanitary sewer rehabilitation and replacement, 8" to 18"
- ✓ CCTV data review, evaluation, and prioritization to identify project
- ✓ Hydraulic Analysis and Modeling of sewer system
- ✓ Utility investigation, potholing, utility relocation, etc.
- ✓ Easement evaluation and relinquishment
- ✓ Deep linear excavations within poor soils (Bay Mud) and high ground water
- ✓ Construction support services

Schaaf & Wheeler assisted the City of Belmont with the assessment of the feasibility of eliminating the existing sanitary sewer pump station along Shoreway Drive by installing a new deeper gravity sewer main. The feasibility analysis included detailed topographic surveying, geotechnical investigations, detailed utility investigations, sewer system modeling, and alternative evaluation.

The alternative of constructing a new 13 foot deep 18" PVC sewer main, demolishing and removing the existing sewer pump station, and re-routing all sewer laterals was selected as the most feasible and economical solution. Subsequently Schaaf & Wheeler developed detailed construction documents for the design and provided bid and construction support services.

Shoreway Drive is located in an area of shallow Bay Mud, high ground water, congested utilities, heavy traffic, and it parallels U.S. 101. Schaaf & Wheeler developed detailed construction documents identifying the existing conditions and requirements for excavation, trenching, shoring, dewatering, and backfilling.

The Shoreway sewer project was successfully designed and constructed within budget and schedule. The project resulted in significant long-term savings by eliminating an existing sewer pump station and reducing the operation and maintenance of the previously undersized flat sloped sewer mains (two sewer mains were replaced with one larger and deeper sewer main).

City of Belmont Sanitary Sewer Rehabilitation Projects, 2014, 2015, 2016 and 2017. Contract Value: 2014 - \$98,840; 2015 - \$567,000; 2016 - \$456,961; 2017 - \$194,000; Construction Cost: \$1,530,000 (2015 Project). Construction Dates: 2015 - Current.

The City of Belmont selected Schaaf & Wheeler to evaluate, prioritize, and design the rehabilitation and replacement of their high priority gravity sewer lines throughout the City. Construction methods include pipe



bursting, pipe reaming, horizontal directional drilling (HDD), open trench excavation, and CIPP lining. Schaaf & Wheeler has completed the rehabilitation and replacement design and construction support for:

| Linear Feet of Sewer | Year |
|---|------|
| 2.5 miles of City sewer gravity lines and associated manholes | 2014 |
| 2 miles of gravity sewer lines and associated manholes | 2015 |
| 5 miles of gravity sewer lines and associated manholes | 2016 |
| 2.5 miles of sewer rehabilitation | 2017 |



These sewer lines (some of them, gravity sewer lines) are located throughout the City in back yard easements and in City streets. Schaaf & Wheeler also applied for and obtained two separate Caltrans Encroachment Permits for sewer main and manhole work within El Camino Real.

As part of the Belmont sewer rehabilitation projects, Schaaf & Wheeler worked with Bess Testlabs for potholing and CCTV inspection.

El Camino Real Sanitary Sewer Rehabilitation, City of San Mateo (2017 – 2020)

Client and Contact:

Jimmy Vo
City of San Mateo
330 W. 20th Avenue
San Mateo, CA 94403
Ph: 650.522.7300
jvo@cityofsanmateo.org

Contract Value:

\$500,000

Construction Cost (2020):

\$3,100,000

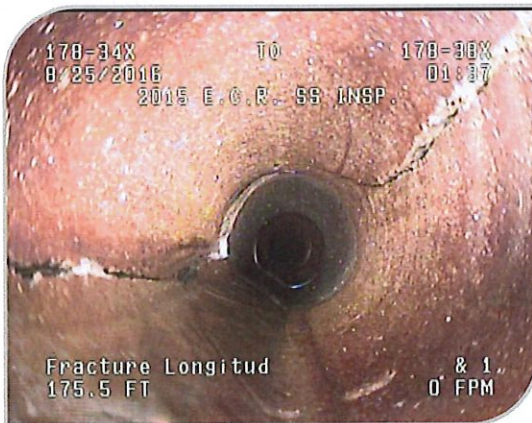
**The design was completed in
time and budget.**

Team Members:

Benjamin L. Shick, PE
Glen M. Anderson, PE
Curran L. Price, PE
Larry D. Johnson, PE
Jonathan F. Ondracek

Subconsultants:

Kier & Wright
Bess Testlab

**Key Elements:**

- ✓ 9,500+ LF of sanitary sewer rehabilitation, 6" to 18"
- ✓ CCTV data review and evaluation for all sewer infrastructure within and connected to El Camino Real.
- ✓ Manhole inspections and rehabilitation design
- ✓ Evaluation of condition related deficiencies
- ✓ Rehabilitation with cured-in-place pipe (CIPP), pipe bursting, open-trench, and spot repairs
- ✓ Utility investigation

The project includes addressing all of the City's condition related deficiencies along the El Camino Real corridor. Schaaf & Wheeler reviewed and evaluated the condition of all the City's sanitary sewer pipes and manholes within and adjacent to El Camino Real and developed a recommended improvement project to address all significant condition related issues. Subsequently Schaaf & Wheeler designed the rehabilitation and replacement of 9,050 LF of pipe and the rehabilitation and replacement of 110+ manholes.



Rehabilitation methods were primarily cured-in-place pipe (CIPP) and spot repairs; however, pipe bursting and open trench replacement methods were also used.

Tasks included:

- Review and evaluation of CCTV data
- Manhole inspections and rehabilitation
- Develop and design recommended improvements
- Replacement of sewer lines in easements with tight access
- Sewer line rehabilitation with cured-in-place pipe (CIPP)
- Sewer main replacement

The work included geotechnical investigations, easement research, Utility investigations, and Caltrans Encroachment Permit.

The project required close coordination with the City and the City's consultants working on additional sewer improvement projects in the area to ensure there weren't conflicts and overlap between projects. The project also required a detailed Caltrans Encroachment Permit application which was successfully handled and obtained by Schaaf & Wheeler.

Sanitary Sewer Repair Project, City of Mill Valley (2019 – 2020)

Client and Contact:

Ahmed Aly
Public Works
City of Mill Valley
26 Corte Madera Avenue
Mill Valley, CA 94941
Ph: 415-384-4755
AAly@ci.alameda.ca.us

Contract Value: \$129,495

Construction Cost: \$912,478

Key Personnel:

Benjamin L. Shick, PE
Curran L. Price, PE
Jonathan F. Ondracek



Key Elements:

- ✓ 6,700+ LF of sanitary sewer rehabilitation within busy downtown streets and backyard easements
- ✓ Sanitary sewer infrastructure evaluations
- ✓ Utility Investigation and CCTV
- ✓ Sanitary sewer design and CS
- ✓ Open trench replacement
- ✓ Pipe bursting

The City identified multiple "Hot Spot" locations where there are considerable maintenance and condition related issues throughout the City. Most of the "Hot Spot" sewer lines are located on steep hillsides and backyard easements where access is limited and difficult. Schaaf & Wheeler assessed each location to determine the cause of the issues, assessed the condition of the pipe and connecting manholes, and provided capital improvement recommendations along with estimates of probable construction costs.

Subsequently, Schaaf & Wheeler conducted additional surveys, investigations, and inspections at each project location to develop detailed bid documents for the recommended improvements.



The proposed construction methods include open trench replacement, spot repairs, pipe bursting, and cured-in-place pipe rehabilitation. The bid documents included detailed plan and profiles of pipes to be rehabilitated and replaced, construction details, photographs and descriptions of existing site improvements, details and descriptions for construction site access issues and restrictions, and technical specifications. The project is currently under construction.

Harbor Drive Sewer Rehabilitation, Town of Corte Madera, Sanitary District No. 2 of Marin County (2019 – 2020)

Client and Contact:

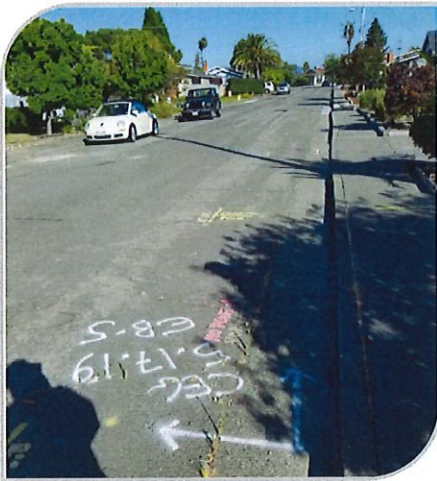
Fernanda Stefakick
Project Manager
Town of Corte Madera
300 Tamalpais Drive
Corte Madera, CA 94925
Ph: 415.927.5057
fstefanick@tcmmail.org

Contract Value: \$234,060

Construction Cost: \$3,000,000
(estimate, bidding in summer of 2020)

Key Personnel:

Benjamin L. Shick, PE
Curran L. Price, PE
Jonathan F. Ondracek



Key Elements:

- ✓ 7,100+ LF of sanitary sewer replacement
- ✓ Sanitary sewer infrastructure evaluations
- ✓ Utility Investigation and CCTV
- ✓ Condition assessment
- ✓ Sanitary sewer design and CS
- ✓ CIPP
- ✓ Open trench replacement
- ✓ Pipe bursting

Schaaf & Wheeler recently completed the design of the District's CIP Project #18-201 – Harbor Drive Sewer Rehabilitation project to replace existing sewer mains within the Harbor Drive, Seawolf Passage, and Madera Del Presidio areas. The project included:

- CCTV inspection, evaluation, and prioritization of existing sewer mains,
- Development of project alternatives to address condition and slope related issues
- Bid documents for sewer main, laterals, and manhole replacement.
- Following the construction of the sewer project Schaaf & Wheeler will be developing bid documents for storm drain improvements and pavement replacement along the same streets.

The project includes a total of 7,100+ LF of existing 6" and 8" VCP pipes that were installed between 1962 and 1976. The project area is located within a fill zone with poor soils and sagging pipes.

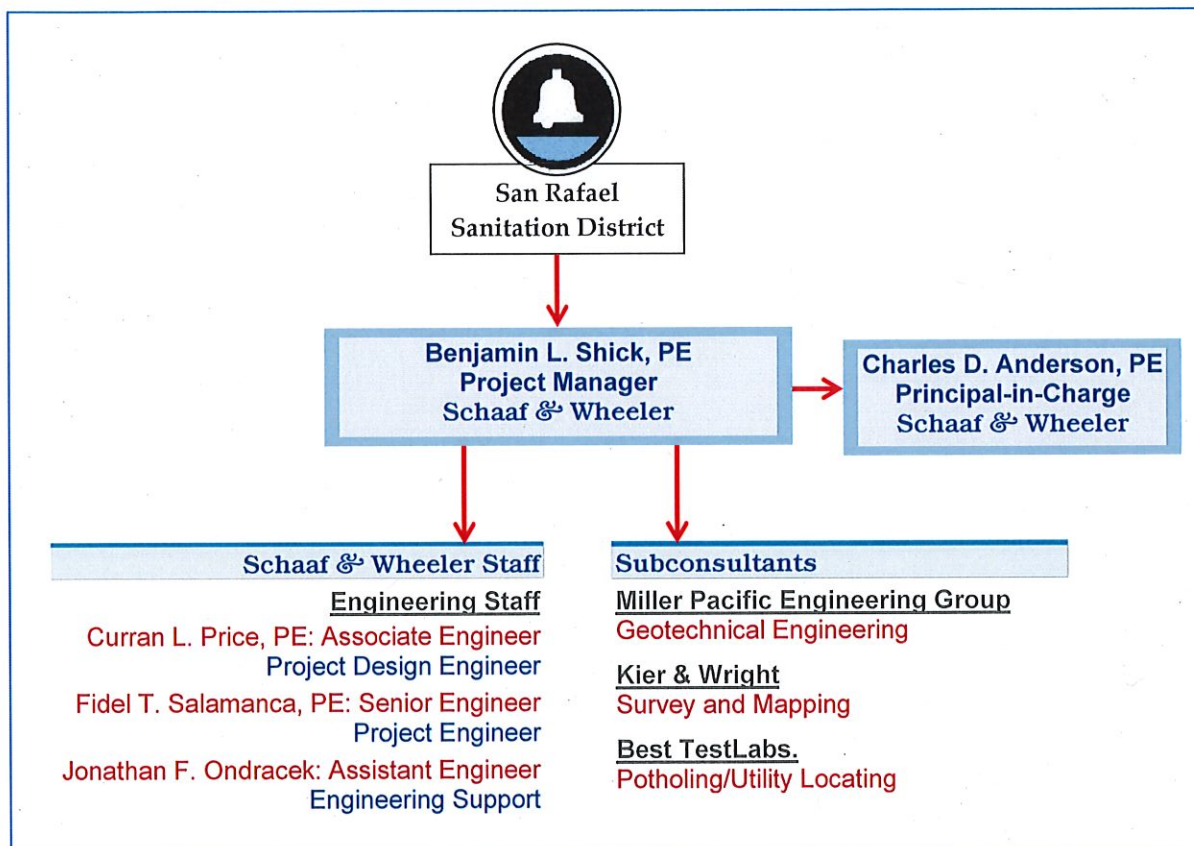


C. Team Organization

We have put together a dedicated team for the San Rafael Sanitation District (SRSD). The team will be led by Ben Shick, PE, who has successfully completed multiple sewer assessment and repair projects for municipalities throughout the Bay Area. Ben is currently working with SRSD on the Woodland Avenue Sewer Improvement Project.

Detailed resumes of the entire team are attached as Appendix.

Organization Chart





D. Our Team

Schaaf & Wheeler engineers bring extensive experience in design and construction support of wastewater infrastructure. Our team is familiar with the District's procedures, standards, and regulations. Our approach, qualifications, and experience with the District will result in an efficient and constructible project that meet the your budget and goals.

Benjamin L. Shick, PE - Project Manager

Our results-oriented team for the San Rafael Sanitation District is under the strong leadership of **Benjamin L. Shick, P.E. Ben has more than 17 years of experience** in infrastructure planning and design of waste water and stormwater conveyance systems, pump stations and water supply and distribution systems. These projects have involved construction methods including pipe bursting, horizontal directional drilling, open trench excavation, and CIPP lining.

Is an accomplished Project Manager – Benjamin L. Shick, PE is a vice president and an owner at Schaaf & Wheeler. He will be the **Project Manager** and provide his expertise in alternative analyses, design and construction support for the sanitary and storm sewer rehabilitation projects. Ben has served as project manager and project engineer of gravity sewers, storm drains, forcemains, sewage lift stations, stormwater pumping stations, floodplain investigation, shoreline protection studies, drainage studies, channel design and modeling, water rights permitting, wetland analysis and design, small bridge design for public agencies throughout the Bay Area. His management skills in every phase of the project - from feasibility study to construction documentation and construction support – help complete the project within schedule and budget.

Ben's sewer rehabilitation/replacement projects generally include siphon rehabilitation and replacement, manhole rehabilitation and replacement, pipe replacement, pipe rehabilitation, pipe placed on structural supports, etc.

He has extensive experience obtaining Encroachment Permits from Caltrans. Ben is proficient in water resources modeling tools: AutoCAD, WaterCAD, HEC-RAS, HEC-HMS, GeoRAS, MOUSE, and ArcGIS 9.0. Some of his recent relevant projects are:

- Woodland Avenue Sewer Improvement Project, San Rafael Sanitation District
- Harbor Drive Sewer Rehabilitation Project, Town of Corte Madera
- Sanitary Sewer Rehabilitation and Replacement Projects – City of Belmont
- Sanitary Sewer Repair Project, City of Mill Valley
- El Camino Real Sanitary Sewer Rehabilitation - City of San Mateo



Education

BSCE, Montana State University-Bozeman

MSCE, Montana State University-Bozeman

Licenses/Registrations

Registered Civil Engineer
California C68813

Affiliations

American Society of Civil Engineers
Floodplain Management Association

Years with Firm:
16+

Qualification Highlights:

- *Knowledge and Experience in Open Cut and Trenchless Technologies*
- *Currently working on the Woodland Avenue Sewer Project for SRSD.*

Award-Winning Projects

- ✓ *Water/ Sewer Main Replacement Project Completed for Mid-Peninsula Water District/ City of Belmont, APWA Honor Award for 2019*
- ✓ *Shoreway Sewer Replacement Project Completed for City of Belmont, Project of the Year Award for 2019*



- North Road Pump Station Rehabilitation Project – City of Belmont
- Belmont Sewer and Water Main Replacement – City of Belmont and Mid-Peninsula Water District
- Sanitary Sewer Rehabilitation Projects 2015 - Ongoing – City of San Mateo
- Force Main Appurtenance Projects – Ross Valley Sanitary District
- El Camino Real Sanitary Sewer/Water Improvement Project – BRE Properties/City of Santa Clara
- Storm Drain Improvement, Phase 1 and 2 – Town of Woodside
- Ageno-Brisa Storm Drain Design – City of Livermore
- Cabrillo Avenue Sewer Main Abandonment and Replacement – City of Santa Clara
- Kingridge Sanitary Sewer and Storm Drain Improvement Project – City of San Mateo
- Sanitary Sewer Pump Station Evaluation and Design – Town of Hillsborough
- Rehabilitation and Replacement Design of 32 Sanitary Sewer Pump Station – City of Alameda

Project Role: Ben has in-depth experience in cost control and optimizing resources to complete projects within schedule and budget. He will be responsible for day-to-day project management and design oversight for the entire length of the project. Ben will hold regular team meetings to make sure issues are resolved effectively and to allocate resources to critical tasks. He will work closely with the District staff to make sure contractual and procedural issues are identified and resolved.

Other Key Team Members

Charles D. Anderson, P.E. – Principal-in-Charge and Quality Control and Quality Assurance - Chuck is the president and an owner of Schaaf & Wheeler. He will provide expert peer review and QA/QC for the project. He brings 30 years of experience encompassing the areas of wastewater conveyance and pumping, stormwater collection and pumping, water supply and distribution, flood mapping and protection design, tide gate structures, FEMA requirements, sea level rise assessment, and groundwater and surface water hydrology. Chuck has led numerous multidisciplinary project teams to deliver responsively and responsibly from concept verification to design and construction. He has managed two large award winning levee projects for the City of Foster City and San Mateo. He has interacted often with FEMA, having completed numerous flood insurance studies (FIS) and letters of map revision (LOMRs) on behalf of public and private clients. His management skills in every phase of the project - from feasibility studies to construction document preparation and construction support - help complete projects within schedule and budget.

Experience Highlights:

- Completed Design and CS for CIP Projects since 1998
- Proficient at Providing QA/QC for Infrastructure Projects, especially Storm and Sewer Design
- Completed Award Winning Projects
- Completed Design of more than 40 Stormwater and Wastewater Pump Stations.

Years of Experience: 30

Project Role: Chuck will ensure quality control and quality assurance for all deliverables of the project. He will perform quality control several times throughout the project to minimize the need to fix problems further along in the project. Chuck will work with the Project Manager at Schaaf & Wheeler to provide critical reviews of alternatives and design methods. He will also scrutinize improvements for constructability and cost.

Curran L. Price, PE - Project Design Engineer. Our proposed project design engineer – Curran Price brings forth 12 years of in-depth experience in infrastructure design including sewer rehabilitation, wastewater facilities, flood protection, water pipelines, shoring systems, bridges, buildings, transportation, and slope stabilization projects. Curran has been involved with all phases from project conception to document preparation and construction support. He has completed the design of over 50 constructed projects. Curran is adept at preparing plans and specifications, performing calculations, cost estimates, and site inspections.

Qualification Highlights:

Curran is NASSCO PACP, MACP and LACP certified, Certificate #U-815-07000537.

Project Engineer for Annual Rehabilitation Projects for:

- Woodland Avenue Sewer Improvement Project, SRSD
- Harbor Drive Sewer Rehabilitation Project,



He has been the Design Manager for the City of Belmont Annual Sewer Rehabilitation Projects, and was Project Engineer for the 2018 sewer rehabilitation projects for City of San Mateo. Currently, Curran Price is working on the design of sewer main rehabilitation for the City of Mill Valley and Town of Corte Madera and sanitary sewer pump station upgrades for the City Alameda.

Project Role: Curran will be the lead design engineer for the project, taking the lead on performing field work and detailed design documents.

- Town of Corte Madera
- Sewer Rehabilitations - City of Mill Valley
- Sewer Rehabilitations - City of Belmont
- Sewer Rehabilitations - City of San Mateo

Years of Experience: 12

Fidel T. Salamanca, P.E. - Project Engineer – Fidel Salamanca is a senior engineer at Schaaf & Wheeler with more than 7 years of experience in designing water mains, pump stations for sanitary sewer and stormwater systems, open channels, culverts, and stormwater networks. He is currently managing the design and construction support for five (5) water mains for Contra Costa Water District. He has completed the campus-wide Water System Pipe Replacement preliminary design for seven (7) water mains for Sandia National Laboratories. He has valuable experience in storm drain master planning, modeling, analyzing and planning urban stormwater systems. He has completed Storm Drain Master Plans for the Cities of Alameda, El Cerrito, East Palo Alto, Palo Alto, Orinda, Mountain View, North San Jose, the Town of Moraga and County of Santa Cruz, Zone 5 & 6. Fidel has been involved in water quality related projects and has assisted trash capture feasibility studies for Bay Area cities. He assisted with the design of the trash capture devices for the City of Mountain View and San Jose. Fidel is also proficient in modeling software including ArcGIS, AutoCAD, EPA SWMM5, HY8, MIKE URBAN, MIKE 21, BAHM, HAMMER, Microstation, HEC-RAS, geo-RAS, HEC-HMS, geo-HMS, and HEC-1.

Qualifications Highlights:

- Currently working on design-build water pipe design for Contra Costa Water District
- Water Mains Design for Sandia National Laboratories
- Assessed and designed wastewater and stormwater pump stations
- NPDES Compliance

Years of Experience: 7+

Project Role: Fidel will be the project engineer and assist with the alternatives, design and construction support.

Jonathan Ondracek – Project Engineer - Jonathan is an assistant engineer at Schaaf & Wheeler. He has experience in modeling and design for wastewater and stormwater infrastructure projects. He is proficient in running hydraulic models to solve drainage issues and conduct level surveys for small design projects. Jonathan is currently working with Ben and Curran on the Belmont sewer and storm drain rehabilitation projects and San Mateo sewer rehabilitation projects. He is experienced at developing wastewater and stormwater projects from conception to completion. His previous projects have included design of bioretention systems and design of new storm sewer to alleviate drainage concerns. He has experience managing consultants for large-scale multidisciplinary projects during the design and construction phases. His modeling and design software skills include AutoCAD Civil3d, AutoCAD LT, EPASWMM 5, Mike Urban, and ArcGIS.

Experience Highlights:

- Modeling and Design for CIP Projects
- Woodland Avenue Sewer Improvement Project, SRSD
- Town of Corte Madera
- Sewer Rehabilitations - City of Mill Valley
- Working on City-Wide Storm and Sewer Rehabilitation Projects for Belmont

Project Role: Jonathan will be the engineering assistant and assist with the field investigations, design and construction support.



Subconsultant Key Personnel



Scott Stephens, PE, GE – Geotechnical Engineering – Scott Stephens of Miller Pacific Engineering Group (MPEG) is the Senior Project Manager and Reviewer for Geotechnical and Geo-Civil projects at MPEG. He has prepared numerous geotechnical investigations, geotechnical planning reports, geo-civil designs, environmental impact studies, and serves as a Peer Reviewer for several local governmental agencies. Scott has worked on hundreds of sanitary district and water district projects throughout Marin County. These geologic and geotechnical projects have been performed for: San Rafael Sanitary District, Central Marin Sanitary District, North Marin Water District, Novato Sanitary District, Marin Municipal Water District, Sewer Agency of Southern Marin, Sanitary Districts No. 2 & 5, and Sausalito Marin City Sanitary District. The services have included geologic and geotechnical investigations for new underground utilities, treatment plant improvements and retaining structure in a varied of geologic conditions varying from soft compressible marsh deposits (bay mud) to hard Franciscan bedrock.



Joseph Bohorquez – Potholing/Utility Locating - Joseph of Bess TestLabs, Inc. has managed numerous utility locating projects over the past 14 years for various DOT's, municipalities, public and private sector clients. He is generally responsible for the management and coordination of utility services such as Ground Penetrating Radar (GPR) utility locating, Radio Frequency (RF) utility locating, CCTV pipe inspections, Survey and Mapping, and Vacuum Excavation (potholing) services. He maintains multiple department services schedules throughout the duration of the several projects. Joseph prepares staff hours and fee estimates for the combined project teams. He reviews progress of services to ensure that the standards, time goals and budget requirements are met. His experience combined with his education brings an in-depth understanding of utility locating services and the needs/expectations of utility locating projects.



Ryan Amaya, PLS – Survey and Mapping - Ryan Amaya of Kier & Wright has over 20 years of land surveying experience, including construction surveying, boundary surveying, mapping, and subdivision work related to land development. Specific survey experience includes construction staking, topographic surveys, benchmark-level circuits, elevation monitoring surveys, tentative maps, parcel maps, final maps, condominium plans, plats and legal descriptions, lot line adjustments, lot combinations, reversion to acreage maps and ALTA/NSPS Land Title Surveys. Mr. Amaya has been at Kier & Wright since February of 1999. As a working principal, he currently manages and oversees all land surveying services provided out of Kier & Wright's Santa Clara office. His relevant projects are:

- Woodland Ave Sewer Improvement Project, San Rafael Sanitation District
- North Road Pump Station Rehabilitation Project, City of Belmont
- 2015-18 Sewer Rehabilitation Project, City of San Mateo
- City of San Mateo South Trunk Sanitary Sewer Relief Line
- City of San Mateo 42nd Avenue Sanitary Sewer Pump Station
- City of Half Moon Bay Bell Moon Sanitary Sewer Pump Station



The table below presents our entire team's role, experience and qualifications.

Schaaf & Wheeler Team Experience, Qualifications and Role

| Name | Role | Years of Exp. | Licenses, Certifications and Education |
|--|--------------------------------|---------------|---|
| Benjamin L. Shick, PE | Project Manager | 17 | Registered Civil Engineer California C68813 MSCE, Montana State University-Bozeman BSCE, Montana State University-Bozeman |
| Charles D. Anderson, PE | Principal-in-Charge | 30 | Registered Civil Engineer California C43776 Hawaii 15647; Nevada 11518; Washington 39715 MSCE (Water Resources Engineering), Stanford University, California BCE, Georgia Institute of Technology |
| Curran L. Price, PE | Project Engineer | 12 | Registered Civil Engineer California C74913 NASSCO PACP, MACP and LACP Certified # 7000537 CSI Construction Documents Technologist (CDT) Bachelor of Science in Civil Engineering, California State Polytechnic University, Pomona |
| Fidel T. Salamanca, PE | Project Engineer | 7 | Registered Civil Engineer, California C84851 BSCE, Civil Engineering, California Polytechnic State University, San Luis Obispo |
| Jonathan F. Ondracek | Project Assistant | 6 | Registered EIT BS, Civil Engineering, Purdue University, Indiana |
| Subconsultants | | | |
| Scott Stephens, PE, GE Miller Pacific Engineering Group | Geotechnical Investigations | 20 | Geotechnical Engineer No. 2398, CA, 1998 Civil Engineer No. 50482, CA, 1993 MSCE, Geotechnical Engineering, U.C. Berkeley BSCE, Civil Engineering, U.C. Berkeley |
| Ryan Amaya, PLS Kier & Wright | Survey & Mapping | 20 | Professional Land Surveyor State of California L8134 |
| Joseph Bohorquez BESS Testlab Inc. | Potholing/ Utility Locating | 14 | Licensed Contractor California No. 817532 BA Business Administration 2010, MBA Saint Mary's College of California 2016 |



E. Our Subconsultants

Firm Qualifications and Experience



Miller Pacific Engineering Group – Geotechnical engineering. Miller Pacific Engineering Group (MPEG) is a California corporation that has been providing professional geologic, geotechnical, and geo-civil engineering, geotechnical construction inspection, and geotechnical material testing services in the North Bay

Counties and greater San Francisco Bay Area since 1988. With a total staff of 20, including 8 professional licensees and 4 staff engineers and geologists, Miller Pacific serves a wide variety of clients, both public and private, from offices in Novato, Petaluma, and Napa.

MPEG is familiar with local conditions, having completed dozens of public works projects within the City of San Rafael, including dozens of sewer rehabilitation projects for the San Rafael Sanitation District, roadway and slope stabilization projects, and other capital infrastructure improvements. They have also worked on dozens of private projects throughout the City, and our familiarity with widely-variable local geologic conditions within the City allows for efficient planning and performance of geologic and geotechnical investigations.

MPEG has several registered geologists, civil and geotechnical engineers that are experienced with evaluation and rehabilitation of distressed pavements, including design of new pavements in accordance with Caltrans' Flexible Pavement Design Manual, Caltrans' Maintenance Technical Advisory Guide for Flexible Pavement Preservation, NAVFAC, AASHTO, and other common standards.

Their engineers have extensive experience in planning and executing subsurface exploration in challenging urban environments and are able to utilize a wide array of exploration subcontractors and equipment to collect the required data and keep project schedules on track in consideration of site-specific constraints, such as where utility conflicts, concrete or other unusual pavements, difficult traffic control situations, and other conditions exist.

Miller Pacific Engineering Group has completed Caltrans' Training and Certifying of Independent Assurance Samplers and Testers, and our in-house soils laboratory participates in and is currently accredited by the AASHTO Accreditation Program, maintains current Caltrans materials testing licensure, and is certified by the Division of the State Architect (DSA) as a Laboratory Evaluation and Acceptance (LEA laboratory) facility.

Previous project experience includes geologic and geotechnical evaluations and investigations, construction observation and testing, geo-civil design, expert witness services, and other tasks. Many projects have been completed under on-call or project specific contracts with the City and/or SRSD, while many others have been performed under subcontract to a Prime contractor or design team member.

Miller Pacific has performed hundreds of projects similar to those described in the RFP, including several dozen on behalf of the City of San Rafael and the San Rafael Sanitation District:

- ✓ SRSD 2018 Sewer Rehabilitation Project (2018)
- ✓ SRSD 2017 Sewer Rehabilitation Project (2017)
- ✓ SRSD Albert Park Pavement Rehabilitation (2017)
- ✓ SRSD 2016 Pipebursting (2016)
- ✓ Whistlestop Mixed-Use Development (2015)
- ✓ Biomarin Lincoln Parking Garage (2014)
- ✓ Biomarin Lab Building (2014)
- ✓ SRSD H Street Sewer Improvements (2014)
- ✓ SRSD Shaver Street Sewer Improvements (2014)
- ✓ SRSD Andersen Drive Easement Sewer Improvements (2012)
- ✓ SRSD Irwin Street (2012)
- ✓ SRSD Lincoln Avenue Sewer Improvements (2012)
- ✓ SRSD G Street Sewer Improvements (2012)
- ✓ SRSD Sun Valley Sewer Improvements (2012, 2015, 2016, 2017)
- ✓ SRSD 5th Street Sewer Improvements (2010)
- ✓ SRSD Magnolia & Acacia Sewer Rehabilitation (2010)
- ✓ SRSD Point San Pedro Sewer Rehabilitation (2010)
- ✓ SRSD Canal and E. Francisco Sewer Rehabilitation (2009)



Kier & Wright – Survey and Mapping. Kier & Wright Civil Engineers & Surveyors, Inc. (K&W) has been providing both public and private sector clients with land surveying and civil engineering services since 1972. Kier & Wright maintains a large-scale field survey, survey scheduling, and survey drafting operation and is resourced to efficiently produce a high volume of topographic surveys concurrently. Related services include:

- Topographic & Utility Surveys
- Right-of-Way Surveying
- Field Cross-Section Surveys
- Horizontal & Vertical Control Surveys
- ADA Surveys
- Topographic Boundary Surveys
- GPS Surveys
- As-Built Surveys
- Surveying for Due Diligence
- 3-D Laser Scanning

Kier & Wright's field survey operation is one of the largest in the Northern California. Their surveyors successfully prepare and process parcel maps, records of survey, lot line adjustments, and other survey documents involved in establishing and recording the precise locations of property lines.

Kier & Wright's ALTA surveys conform to the Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys and include additional details, such as land use zoning classifications and FEMA flood zone designations. Kier & Wright has prepared ALTA surveys for large real estate portfolios comprised of as many as 104 separate properties. With over 70,000 field survey hours logged in 2015, Kier & Wright's field survey operation is the largest in the Northern California.

Bess Testlab, Inc. – Potholing/Utility Location. Bess Testlab, Inc.

BTL
Bess Testlab Inc. (BTL), is a CPUC certified MBE/DBE company that provides solutions to mitigate the underground utility related risks associated with the design and construction of civil infrastructure projects. These solutions include: Ground Penetrating Radar (GPR)/concrete scanning, underground utility location, and vacuum excavation. Their utility locating services are performed by certified professional technicians, utilizing state-of-the-art cable and pipe locators, pipeline current mappers, Ground Penetrating Radar (GPR) systems as well as 3-D mobile scanning (LiDAR) to designate and map underground utilities. In addition, a fleet of vacuum excavation (potholing) trucks are also used to locate and determine the actual depth of underground utilities visually. They have been providing a complete range of services in California, Arizona and Nevada. Their clientele includes Utility Companies, Cities, Counties, Municipalities and Military Installations, Contractors, Consulting and Engineering firms.

BTL's typical services include: Utility Locating – electromagnetic pipe locators designate and mark out utilities; Ground Penetrating Radar – Latest techniques utilized in location of subsurface metallic and non-metallic objects; and Potholing – Non-destructive air-vacuum excavation exposing utilities being surveyed to determine their exact depth and location.

Kier & Wright has been working with Schaaf & Wheeler engineers for more than 15 years to provide storm water, wastewater and potable water services for Bay Area municipalities. K&W provided survey and mapping services for the:

- ✓ *San Rafael Sanitation District, Woodland Ave Sewer*
- ✓ *City of Belmont, North Road Pump Station and Force Main Project*
- ✓ *City of Belmont Sewer and Water Main Replacement Project*

Bess TestLabs provided potholing and utility locating services to Schaaf & Wheeler for:

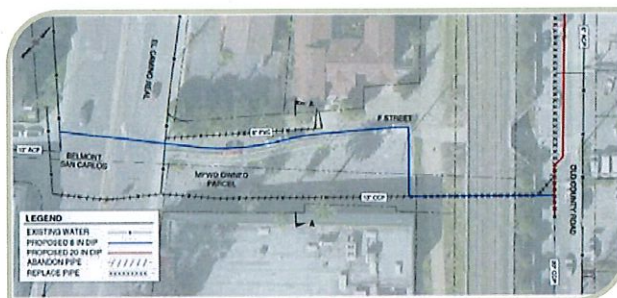
- ✓ *Belmont North Road Pump Station and Force Main Project*
- ✓ *Belmont Sewer and Water Main Replacement Project*
- ✓ *East San Mateo Lift Station Project*
- ✓ *Mountain View Leong Drive Sewer and Water Main Project*
- ✓ *Ross Valley Sanitary District, Force Main Appurtenance Project.*



What does the Schaaf & Wheeler Team Bring?

Schaaf & Wheeler team brings a number of assets that benefit the San Rafael Sanitation District:

- Schaaf & Wheeler is a small, local firm, responsive towards clients, specializing in wastewater and stormwater systems design and engineering. *The work will be conducted from our Santa Rosa Office and San Francisco Office.*
- Our engineers provide cost-effective, implementable solutions and designs that expedite the project completion with *minimal change orders during the construction phase.*
- Our proposed team is proficient at *assessing existing condition and recommending pipe repairs* for optimal performance.
- Our engineers specialize in various technologies including *open-cut, trenchless technologies, CIPPs, pipe reaming, pipe bursting, etc.*
- Schaaf & Wheeler has extensive experience with designing and permitting *sewer* and *storm water* infrastructure within *multiple jurisdictions.*
- Our engineers have extensive experience developing *traffic control plans and requirements in busy downtown corridors* to minimize impacts during construction.
- We are *familiar with the issues and conditions specific to the District* and have identified a number of specific issues and solutions for this project in our proposal.
- Schaaf & Wheeler is currently working on the design of the District's Woodland Avenue Sewer Improvement project. Our engineers are familiar with the District's standards, procedures and regulations.
- We bring a strong team under the leadership of a detailed-oriented, experienced, and skillful *Project Manager – Benjamin Shick, PE*, who has successfully completed several similar project through construction.
- *Curran Price, PE is the Project Design Engineer*, he is the design engineer along with Ben for sewer rehabilitation and replacement projects for SRSD, Mill Valley, Corte Madera, Belmont, Morgan Hill and San Mateo.
- Our *subconsultants* – Pacific Miller has completed several projects for SRSD. Kier & Wright and Bess TestLabs, Inc. have been *working with Schaaf & Wheeler to complete similar projects.*
- We have more than *30 years of experience* providing engineering services for large infrastructure projects in busy urban corridors and rural settings and understand the challenges involved with these settings and the methods to resolve them.



Old County Road Water Main Replacement Project
Completed for Mid-Peninsula Water District
in City of Belmont Required Caltrans Permit at
El Camino Real





Appendix: Resumes

Benjamin L. Shick, P.E. – Project Manager – Schaaf & Wheeler

Education

BSCE, Montana State
University-Bozeman

MSCE, Montana State
University-Bozeman

Licenses: Registered
Civil Engineer
California C68813

Affiliations: American
Society of Civil
Engineers;
Floodplain
Management
Association



Years of Experience: 17+

Completed Design & Construction of 50,000 LF of Sewer

Project Management Experience: 13+ years

Knowledge and Experience in Sewer Rehabilitation Trenchless

Technologies: CIPP, Pipe Bursting, Pipe Reaming, etc.

Benjamin L. Shick, P.E., has more than 17 years of experience in water resources infrastructure planning and design of wastewater conveyance systems, water supply and distribution systems, stormwater systems, and pump stations. Ben has completed the design of 50,000+ LF of sewer main rehabilitation and replacement projects in the recent past. Ben has conducted floodplain investigation, shoreline protection studies, drainage studies, channel design and modeling, water rights permitting, wetland analysis and design, small bridge design, infrastructure design, surveying, construction management, and construction quality control testing. He has been involved with all project phases from project initiation to construction document preparation and construction support. Ben is proficient in water resources modeling tools: AutoCAD, WaterCAD, HEC-RAS, HEC-HMS, GeoRAS, MOUSE, and ArcGIS.

Relevant Projects

Woodland Sewer Improvement Project, San Rafael Sanitation District, 2019 – 2020, Contract Value: \$237,213. This project includes pipe replacement, rehabilitation, adjusting pipe slope, and re-routing laterals along B Street, Woodland Avenue, Warner Court, Woodland Place, and Octavia Street. As Project Manager, Ben Shick coordinated topographic surveying, utility investigations and geotechnical investigation. Tasks included condition assessment and development of alternatives. Subsequently detailed design and bid documents are being prepared.

Harbor Drive Sewer Rehabilitation, Town of Corte Madera Sanitary District No. 2, 2019 – 2020, Contract Value: \$234,060. This project includes rehabilitation/replacement of 7,100+ LF of existing 6" and 8" VCP pipes - existing sewer mains within the Harbor Drive area. As Project Manager, Ben Shick coordinated CCTV inspection, conducted assessments and identified rehabilitation and replacement alternatives and methods. Subsequently the improvements were designed; currently our team is providing support services during construction.

Shoreway Sanitary Sewer Rehabilitation Design, City of Belmont, 2017 - 2019, Contract Value: \$129,000. As Project Manager, Ben Shick led the assessment of the feasibility of eliminating the existing pump station along Shoreway Drive by installing a new deeper gravity sewer main. The feasibility analysis included detailed topographic surveying, geotechnical investigations, detailed utility investigations, sewer system modeling, and alternative evaluation. Subsequently Schaaf & Wheeler developed detailed construction documents and provided bid and construction support services. The Shoreway sewer project was successfully designed and constructed within budget and schedule.

Mill Valley Sewer Repair Project, City of Mill Valley, 2019 – 2020, Contract Value: \$131,000. As Project Manager, Ben Shick provided evaluation, assessment, and design services for the City of Mill Valley's sanitary sewer system. This project prioritizes and develops a strategic plan to address the most critical infrastructure needs for future repairs to be constructed under the 2020 budget. Project tasks include surveys, investigations, and inspections for each project location to identify proposed improvements. 75% and 100% design documents along with construction support were provided for this project.

Sanitary Sewer Rehabilitation Projects, City of Belmont 2015, 2016 and 2017, Contract Value: 2015 - \$567,000; 2016 - \$456,961; 2017 - \$194,000. As Project Manager, Ben Shick led the evaluation, prioritization, and design of the rehabilitation and replacement of their high priority gravity sewer lines throughout the City. The 2015 Sewer Rehabilitation project consisted of the replacement and rehabilitation of approximately 2 miles of gravity sewer lines and associated manholes. Under Ben's supervision, Schaaf & Wheeler team provided detailed utility investigations, potholing, and sewer modeling services. The 2016 sewer rehabilitation project consisted of evaluating and preparing design documents for approximately 5 miles of gravity sewer lines located throughout the City in back yard easements and in City streets. Construction methods include pipe bursting, open trench excavation, and CIPP lining. A large portion of the sewer mains included within the City of Belmont sewer rehabilitation projects are located within backyard and side yard easements with difficult access and easement issues.

El Camino Real Sanitary Sewer Rehabilitation, City of San Mateo, 2017 – 2018, Contract Value: \$500,000. As Project Manager, Ben Shick reviewed and evaluated the condition of all of the City's sanitary sewer pipes within and adjacent to El Camino Real and developed a recommended improvement project to address all significant condition related issues. Subsequently the rehabilitation and replacement design of 10,050 LF of pipe and the rehabilitation and replacement design of 110 manholes were also prepared. Rehabilitation methods were primarily cured-in-place pipe (CIPP), pipe bursting and open trench replacement methods were also used.

Sanitary Sewer Rehabilitation Projects for City of Morgan Hill, 2019 – Present, Contract Value: \$162,285. Project Manager for 47 pipe segments. Evaluated and assessed the existing sewer infrastructure. Reviewed the existing sewer model to evaluate the pipe sizes and recommend the rehabilitation/replacement method. Visited each site to collect additional field data to properly assess the pipes and make recommendations. Prepared a TM summarizing the assessments, capital improvement recommendations and construction cost estimates. Subsequently designed the recommended improvements that include project basemapping, detailed utility investigations, evaluations to re-route



Benjamin L. Shick, P.E. – Project Manager – Schaaf & Wheeler

sewer mains and laterals from backyard easements, plan and profiles of sewer lines, construction details, technical specifications, and cost estimates. The proposed construction methods were tailored to minimize impacts and costs at each location. Construction methods include pipe bursting, open trench, spot repairs, and CIPP rehabilitation.

Belmont Water/Sewer Main Replacement, Mid-Peninsula Water District, 2017, Contract Value: \$87,610. As Project Manager, Ben Shick prepared engineering design for this joint CIP project for the water and sewer mains. The project consists of replacing the water mains, service lines and meters per the District's identified capital improvement projects and rehabilitating and replacing the sewer mains to address condition issues with the sewer mains. The project also includes additional street improvements. This project required close coordination and approval with multiple agencies including the City of Belmont, the Mid-Peninsula Water District, the Fire Marshal, Caltrans, and private developers. A Caltrans Encroachment Permit for the work along El Camino Real was prepared, submitted, and obtained.

North Road Sanitary Sewer Pump Station Design - City of Belmont (2017 – 2018), Contract Value: \$284,815. The project involves the engineering design, bid and construction support services for the rehabilitation of the pump station. As Project Manager, Ben Shick led the design for installation of a new wetwell, pumps, and associated equipment. He explored the option of obtaining a new easement to provide adequate space to operate and maintain the pump station. Schaaf & Wheeler design meets all local, state, and federal requirements for this pump station and the force main.

San Mateo Sanitary Sewer Rehabilitation Projects, City of San Mateo, 2014 – 2017, Contract Value: 2015 - \$191,000; 2017 – 2018 - \$500,000. As Project Manager, Ben Shick led and completed site investigations, inspections, researched existing data, and developed recommended alternatives for various sewer rehabilitation projects within the City of San Mateo. Provided detailed design of the recommended alternatives which consisted of: replacement of sewer lines across drainage channels (both above ground on piers, and below ground); replacement of sewer lines in back yard easements with tight access; replacement of sewer lines through large drainage box culverts; sewer line rehabilitation with cured-in-place pipe (CIPP); sewer main replacement and realignment; manhole rehabilitation and replacement; the work included geotechnical investigations, easement research, topographical surveying, environmental permitting, and Caltrans Encroachment Permit.

Kingridge Sanitary Sewer Improvements (6" and 8"; 3,100 LF), City of San Mateo, 2010 – 2015; Contract Value: \$927,673. As Project Manager, Ben Shick led and directed the team for system evaluation, hydraulic analysis of the existing Kingridge canyon sewer and storm drain system, development of improvement alternatives for the sewer main, and development and production of construction documents for the selected alternative of the project to replace and rehabilitate the 6-inch sanitary sewer main. Some of the key features were: Alternative evaluation for alignment and construction methods; Emergency repairs to mitigate active land movement; Capacity evaluation; Open cut pipe replacement, CIPP rehabilitation, pipe on piers, retaining walls, etc.; Securing right-of-access to project location including permanent sewer easements; Environmental permitting, mitigation, and monitoring; Construction support, special inspection, and material testing services.

El Camino Real Sanitary Sewer Improvement Project and the Calabazas Creek Sewer Siphon Design Projects, City of Santa Clara, 2006 – 2009; Contract Value: \$480,520. As Project Manager, Ben Shick led the design of 2,600 feet of parallel sewer line in El Camino Real from Flora Vista Avenue to Calabazas Boulevard. The project also included a separate design plan set for a replacement sewer siphon with dual pipes under Calabazas Creek as part of a Santa Clara Valley Water District channel improvement project. Existing lateral connections were improved through cured-in-place pipe (CIPP) lining of 2,600 feet of parallel collector sewer and reconstruction. Tasks included the design of relocation of existing water mains, storm drains, sewer laterals, and traffic signals.

Cabrillo Avenue Sewer Replacement Project, City of Santa Clara, 2013 – 2014; Contract Value: \$104,793. As Project Manager, Ben Shick led the installation of a new 12-inch sewer line in Cabrillo Ave to replace the existing sewer line that ran in a utility easement through residential parcels. Design included plan and profile of a new 12-inch PVC sewer main, associated manholes, and lateral connections. This project also included the design for replacement of several smaller sewer and storm drain lines necessary to facilitate the installation of the new sewer mainline.



Charles D. Anderson, P.E., President – Schaaf & Wheeler

Education

BCE, Georgia Institute of Technology

MSCE (Water Resources Engineering), Stanford University, California

Licenses

Registered Civil Engineer
California C43776 Hawaii
15647

Nevada 11518
Washington 39715

Affiliations

FMA, ASCE



Charles D. Anderson, P.E. has 30+ years of experience in the areas of wastewater and stormwater collection and pumping, water supply and distribution, flood control and drainage, surface water hydrology and groundwater. As a project manager he is involved in all phases of project management and implementation from project feasibility to construction document preparation and construction support for a wide range of public and private clients. He has completed numerous flood insurance studies (FIS) and letters of map revision (LOMRs) for FEMA. Chuck's projects generally have multidisciplinary teams that help policy makers to arrive at reliable decisions that protect communities from flood risk and the threat of climate change, most particularly sea level rise. His San Mateo Bayfront Levee Improvement project has won several state and regional awards. Chuck has demonstrated expertise in watershed and stochastic hydrology, open channel hydraulics, closed conduit hydraulics, pump station design, and storm drainage as well. His background also includes pipeline design, storage tank design, pump station design, hydraulic network modeling, wastewater collection includes septic systems, sanitary sewer design, pump station design, sanitary sewer modeling, and master planning.

Relevant Projects

Wastewater System Planning and Design

Rehabilitation of So. San Francisco Industrial Sewage Pump Stations 1, 2, 3, 4, 6, 7 and 8 (2010-19)

Sierra Point Sewage Pump Station – City of Brisbane/Wilsey Ham (2019)

Sanitary Sewer Pump Station Assessments - Cities of Alameda and San Mateo (2010)

South Trunk Relief Line - City of San Mateo (2010)

Sanitary Sewer Disposal System and Leachfields for Coyote Creek Golf Club – Castle & Cooke (1998)

Purissima Sanitary Pumping Station - Los Altos Hills (2000)

O'Keefe Road Sanitary Pump Station Relocation, Los Altos Hills - Biggs Cardosa Inc. (2003)

Mariner's Island No. 2 Sanitary Sewer Pump Station Rehabilitation - City of San Mateo (2004)

Stormwater System Planning and Design

Diridon Station Area Infrastructure Analysis – HMH Engineers (2016)

Warren Avenue Storm Drain Assessment – City of San Mateo (2016)

Storm Drain Master Plans - Half Moon Bay (2017), Santa Clara (2015), Milpitas (2012), Alameda (2008), Livermore (2006), and San Mateo (2004)

Laguna Area Storm Drain Analysis - City of Burlingame (2012)

Esplanade Storm Drain Outfall Replacement - Cotton Shires/City of Pacifica (2010)

Storm Drain Infrastructure PM and E. Laurel Creek Culvert Repair and Erosion Control - City of Belmont (2006)

Greenwood Avenue and Barroihlet Avenue Storm Drain Improvements - City of San Mateo (2006)

Soscol Area Residual Drainage Master Plan - City of Napa (2005)

Interior Drainage Analysis/LOMR for Lower Guadalupe River Project - CH2M-Hill and SCVWD (2005)

Stormwater Pump Stations

Chrysler Drive Pump Station Rehabilitation (230 cfs) – City of Menlo Park (2017)

Coyote Point and Poplar Avenue Pump Station Rehabilitation (250 cfs each) - City of San Mateo (2017)

Matadero Creek Storm Water Pump Station (390 cfs) - City of Palo Alto (2017)

PLC Programming Upgrades to 11 Stormwater Handling Sites – City of Palo Alto (2015 – 2017)

Design of Gippetti Pump Stations, Stormwater and Sewer Pump Stations – RJA & Assoc. (2015-2016)

City of Sunnyvale WPCP Master Plan and Primary Treatment Design – HDR, Inc. (2015)

Northside Pump Station Upgrades (180 cfs) - City of Alameda (2010)

San Francisquito Creek Storm Water Pump Station (300 cfs) - City of Palo Alto (2009)

Baylands Storm Water Pump Station No. 1 - City of Sunnyvale (2006)

Railroad Avenue OC Pumping Plant for Route 4 in Pittsburg - Mark Thomas & Company/Caltrans (2003)

Freedom Circle Stormwater Pump Station (70 cfs) - City of Santa Clara (2003)

Nelo-Victor Stormwater Pump Station Rehabilitation (200 cfs) - City of Santa Clara (2003)

Rambo Pump Station (150 cfs) - City of Santa Clara (2000)

Water Supply, Storage, and Distribution

Anderson Dam Seismic Retrofit Project - Santa Clara Valley Water District (ongoing)

San Jose General Plan Update, Water Supply Summary – David J. Powers & Assoc. (2015)

Kahakuloa Acres Private Water System Evaluation and Two Storage Tanks - Maui, Hawaii (2014)



Charles D. Anderson, P.E., President – Schaaf & Wheeler

Upper Miocene Canal, Paradise - Cotton Shires and Associates (2012)
Vista Pump Station and Water Tank Improvement - Town of Hillsborough/CSG Consultants (2010)
Kern River Raw Water Pumping Plant Forensic Investigation- Noriega and Bradshaw, LLP (2008)
Konocti Harbor Water Treatment, Storage, and Distribution Evaluation - Page Mill Properties (2007)
Potable wells, storage tanks, and water mains for Coyote Valley Specific Plan - City of San Jose (2006)
Waimanalo Reservoir Assessment, Martin v. State of Hawaii - State of Hawaii (2003)
Carmel Development Company Water System Mediation, Monterey - Harry & Linker, LLP (2000)
Highlands Booster Pump Station and Water Storage Tanks - Great Oaks Water Company (1998)
Well Nos. C-20, C-21, C-22, and C-23 - City of San Jose (2002)
Potable and Irrigation Water Supply, Storage & Distribution Systems for Coyote Creek Golf Club (1998)
Water System Network Modeling, Flow Testing, & Fire Flow Calculations - City of San Jose (2006)

Floodplain Management and Infrastructure

West Channel Enhancement – Google, Inc. (2018-2019)
San Francisquito-Adobe Creek Flood Study - Wood Rogers/ SCVWD (2016 – 2017)
Deer Island Flood Detention Basin – Marin County (2016-2017)
Drainage Review of Emergency Stabilization for Bear Gulch Road – Foundation Technologies, Inc. (2017)
Foster City Levee Improvements - City of Foster City (2016 – 2020)
Climate Change Impact Analyses - Alameda, Foster City, Menlo Park, Newark, San Jose, San Mateo (ongoing)
Berryessa/Penitencia Watershed Flood Study - Wood Rogers/SCVWD (2016)
Palo Alto Flood Basin Sea Level Rise Impact Study - SCVWD (2016)
Lower Penitencia Creek Improvements - Wood Rogers/SCVWD (2016)
Annual Levee Inspection - City of San Mateo (2016)
Colma Creek Floodplain Analysis – City of South San Francisco (2016)
Guadalupe River Bridge Hydraulics at Railyard Place - Biggs Cardosa Associates (2016)
Upper Llagas Creek Flood Protection Project - RMC Water & Environment/SCVWD (2016)
Permanente Creek Flood Protection Project - Hatch Mott MacDonald/SCVWD (2016)
Storm Water Detention Basins at Truckee River Floodwall - Reno-Sparks Indian Colony (2016)
San Francisquito Creek Hydrology Study Peer Review – SCVWD (2015)
Christopher Ranch Flood Study (2015)
Bayfront Canal Redwood City Flooding Issues – Stanford Real Estate (2015)
Old Mountain View Alviso Rd. Bridge Replacment Hydraulic Study - Biggs Cardosa Associates (2015)
Highway 101 Pedestrial/Bicycle Overcrossing at Adobe Creek – Biggs Cardosa Associates (2015)
Wrigley-Ford Creek Long Term Monitoring – HT Harvey & Associates (2015)
North Gilroy Neighborhood District Urban Services Area Amendment – EMC Planning Group (2014-2015)
Silicon Valley BART Extension Floodplain Analysis - Santa Clara Valley Transportation Authority (2013)
Bayfront Levee Improvement Project - City of San Mateo (2012)
San Tomas Aquino Creek Flood Study - Santa Clara Valley Water District (2012)
Recertification of Uvas, Stevens and Lower Penitencia Creek Levees – SCVWD (2009)
Truckee River Levee and Floodwall System - CFA Engineers (Sparks, NV) (2008)
O'Neill Slough Tide Gate Structure - City of San Mateo (2007)
Julian Street and William Street Bridge Retrofits at Coyote Creek - Biggs Cardosa Associates (2007)
S. Sutter County Flood Control Alternatives - Sacramento Area Flood Control Agency (2004)
SW Lemmon Valley Flood Control Master Plan/Channel Improvements - CFA, Inc. (Reno, NV) (2003)
Wooster Avenue Bridge Replacement - Advanced Engineering Design (San Jose) (2001)



Curran L. Price, P.E. – Associate Engineer - Schaaf & Wheeler

Education

Bachelors of Science in Civil
Engineering, California State Polytechnic
University, Pomona

Licenses

Registered Professional Engineer,
California C74913

NASSCO PACP, MACP and LACP
Certified 7000537

Affiliations

Redwood Empire ASCE



Curran Price, P.E., has over 12 years of experience in infrastructure design including wastewater facilities, water pipelines, shoring systems, bridges, buildings, transportation, and slope stabilization projects. Curran has been involved with all phases from project conception to document preparation and construction support. Curran is adept at preparing plans and specifications, performing calculations, cost estimates, and site inspections. He has completed the design of over 100 constructed projects. Curran has provided engineering services for the replacement of sewer mains and water pipelines using trenchless construction methods in Caltrans right of way.

Relevant Projects

Wastewater Systems

Woodland Sewer Improvement Project - San Rafael Sanitation District (2019 – 2020)
Harbor Drive Sewer Rehabilitation - Town of Corte Madera Sanitary District No. 2 (2019 – 2020)
Mill Valley Sewer Repair Project - City of Mill Valley (2019 – 2020)
Sanitary Sewer Rehabilitation Projects - City of Belmont (2015 - 2019)
Shoreway Road Sanitary Sewer Replacement - City of Belmont (2017 - 2018)
North Road Pump Station Rehabilitation - City of Belmont (2017 - 2018)
Sanitary Sewer and Manhole Rehabilitation Project - City of San Mateo (2015 - 2018)
Sewer Pump Station Improvements Project - Town of Hillsborough (2016 - 2018)
Ocean Colony Sanitary Sewer and Force Main Rehabilitation Project - City of Half Moon Bay (2016 - 2018)
Sanitary Sewer Pump Station Rehabilitation Project - City of Oakland (2016 - 2018)
Sanitary Sewer Main Emergency Repair - City of Half Moon Bay (2017)
Pump Station Rehabilitation - City of Alameda (2016 - 2017)
Mechanical Engineering Services - Bayfair Hall Pumps, Paru Pump Station - City of Alameda (2015 - 2016)
Force Main Appurtenance Project - Ross Valley Sanitary District (2015 - 2016)
Sanitary Sewer Pump Station Evaluation - City of Half Moon Bay (2015)
Trunk Main Replacement Phase 4 - Sonoma (2014)
Agua Caliente Creek Trenchless Replacement of Sewer Trunk Main with Double Barrel Siphon - Sonoma (2014)
Sanitation Local Hazard Mitigation Plan - Sonoma & Guerneville (2014)
Lateral Sewer Replacement Program - Occidental (2014)
Gloria Meekland Sewer and Water Replacement - Santa Rosa (2013)

Water Delivery Systems

Sanitary Sewer and Water Rehabilitation Project - City of Belmont & Mid-Peninsula Water District (2017 - 2018)
McGill Road Recycled Water Pipeline - Sonoma (2014)
Fifth Street East Recycled Water Pipeline - Sonoma (2014)
Seismic Hazards Mitigation for 48-inch Pipeline at Russian River Crossing - Forestville (2014)
Alternative Pipe Material for Corrosion Resistance, Collector 6 Chlorine Lines - Forestville (2013)

Storm Water, Hydrology and Hydraulics, and Floodplain Management

Storm Drain Master Plan - City of Alameda (2016 - 2017)
Storm Drain Rehabilitations for Detriorated Culverts - Town of Woodside (2015 - 2017)
Cove Stormwater Pump Station Evaluation - Marin County (2016)
Flood Study Green Valley Creek Crossing - Graton (2014)

Other Projects

Shoring Systems Design for Water Pipelines at 405 Freeway - Los Angeles (2011)
Soil Nail Wall Design for Hyrum Water Tanks - Provo, Utah (2011)
Excavation Design for Transbay Transit Center - San Francisco (2012)
Project Management of Soil Nail, MSE, and Soldier Pile Walls Rambla Vista Dr. - Malibu (2011)
Perimeter Wall Deisgn for Protection from Liqueifiable Soils - Kaiser Hospital, Redwood City (2011)



Fidel T. Salamanca, P.E. – Senior Engineer - Schaaf & Wheeler

Education

BSCE, Civil Engineering,
California Polytechnic State
University, San Luis Obispo

License

Registered Civil Engineer
California C84851

Professional Membership

Society of Civil Engineers,
Floodplain Management
Association,
ASCE Young Member Forum



Fidel T. Salamanca, PE, has more than six years of experience in planning and design of urban water and stormwater systems, open channels and pump stations. Fidel is proficient at hydraulic modeling for water system planning, pumps, reservoirs, and large watersheds. He has been involved in water quality related projects and has assisted trash capture feasibility studies for several cities. He has significant design experience in water, sanitary and stormwater pump stations, pipelines, and trash capture devices throughout the Bay Area. He has conducted several third-party reviews to ensure NPDES compliance. He is also proficient in ArcGIS, AutoCAD, EPA SWMM5, HY8, MIKE URBAN, MIKE 21, MIKE ZERO, MIKE 11, BAHM, HAMMER, Microstation, HEC-RAS, geo-RAS, HEC-HMS, geo-HMS, and HEC-1, InfoSWMM, and InfoWater.

Relevant Projects

On-Call Engineering Services - Port of Oakland, 2016 – Present, Contract Value: \$113,697. Schaaf & Wheeler prepared rehabilitation/replacement plans for the two lift stations. The two pumps convey flow through a common force main through the airport terminal. Fidel Salamanca is the design engineer. These plans will be used to rehabilitate the pump stations and eliminate failures associated with the existing ejector pumps. The design includes replacing the ejector pumps with rail mounted submersible pumps, integrating the pump controls to the existing SCADA system, installing a new valve vault, and adding check valves on the discharge piping to prevent backflows. Tasks included identification of necessary and desired improvements to each of the pump stations, pump station capacities, available power sources, station limitations, and other constraints or requirements influencing pump station design.

Pump Stations Improvements, City of Oakland, 2014 – 2015, Contract Value: \$411,000. Schaaf & Wheeler designed a new pump station as well as pump station improvements for 5 sanitary sewer pump stations operated by the City of Oakland. Fidel Salamanca was the project associate. Designs included upsizing pumps to meet sanitary sewer flow requirements, rehabilitating pump stations based on existing conditions and applicable code requirements, including O&M staff input during the design process, and adhering to permit requirements from following agencies: East Bay Regional Parks, Port of Oakland, Bay Area Rapid Transit System, and the Oakland International Airport.

Design for Relocation of Industrial Sewage Pump Station No. 1 - South San Francisco, 2017 – 2018, Contract Value: \$431,902. This pump station receives sewage from the Oyster Point commercial area and discharges sewage through a force main to a gravity sanitary sewer manhole. Schaaf & Wheeler developed a Basis of Design report including alternative pump station configurations (e.g. wet well / dry pit; variable speed and constant speed). Fidel Salamanca is the project associate. Our engineers have prepared the 90% level drawing submittal along with detailed structural design. The pump station design includes the force main design up to the discharge manhole, the valve vault configuration, and an on-site standby backup generator.

Water Main Design (Design Build) with ConQuest – Contra Costa Water District (2018-2019), Contract Value: \$234,040. As Project Manager, Fidel Salamanca provided engineering design and construction support services for phase 1 of the project. It includes five projects (5) with varying replacement lengths, multiple agency involvement, and permitting at each site. The water main sizes vary in diameter from 4 to 8 inches. Two of the five projects have been constructed, two of the five are under construction, and one of the five is being finalized in design.

Sandia National Lab Water System Master Plan and Design – Sandia National Lab (2018), Contract Value: \$149,925. Schaaf & Wheeler assisted Sandia National Lab (SNL) conduct a study of the potable and underground fire water system to improve the reliability and redundancy of the water distribution infrastructure. As Project Engineer, Fidel assisted the in developing a hydraulic model of the system and determining the performance of the existing system. The model is utilized to determine necessary improvements to meet use demands and fire flow requirements and thereby develop Water System Master Plan. Additionally, Schaaf & Wheeler assisted SNL with the preparation of 30% design drawings for seven (7) water main replacement projects. Fidel is reviewing pipe alignments to identify locations for additional fire hydrants, isolation valves, water meters, potential utility conflicts, and California Plumbing Code compliance.

Utility Impact Study Confirmation for Gateway Master Plan, Mountain View – Raimi and Associates (2019), Contract Value: \$90,000. This project includes the utility planning and modeling for the Master plan for North Bayshore Gateway area (Shoreline). Utility studies include water, sewer, recycled water and stormdrain. As Project Engineer, Fidel is building a model for all the four utilities to provide technical engineering support to the CEQA consultant for the City of Mountain View's CEQA documentation process. Project tasks entail confirmation of previous technical studies include the proposed development in Project Area; identification of available capacity and determination of needed revisions to previous study findings; and determine impacts of the development on planned capital improvement projects to assist City staff in planning future infrastructure improvement implementation.



Jonathan F. Ondracek – Assistant Engineer - Schaaf & Wheeler

Education

BS, Civil Engineering, Purdue University, Indiana

License

Registered EIT Indiana

Certifications

Dale Carnegie Management Training



Jonathan Ondracek has experience in modeling and design for stormwater and wastewater infrastructure projects. He is proficient in running hydraulic models to solve drainage issues and conduct level surveys for small design projects. As the Engineering Associate with the City of Fort Wayne, Indiana, Jonathan designed and managed over 20 stormwater projects from conception to completion. The projects varied from the design of bioretention systems, to the design of new storm sewer to alleviate drainage concerns. He has experience managing consultants for large-scale multidisciplinary projects during the design and construction phases. Jonathan managed and designed

15 Long Term Control Plan projects as well. His modeling and design software skills include AutoCAD Civil3d, AutoCAD LT, EPASWMM 5, Mike Urban, and ArcGIS.

Relevant Projects

Wastewater System Planning and Design

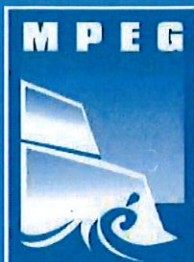
Woodland Sewer Improvement Project - San Rafael Sanitation District (2019 – 2020)
Harbor Drive Sewer Rehabilitation - Town of Corte Madera Sanitary District No. 2 (2019 – 2020)
Mill Valley Sewer Repair Project - City of Mill Valley (2019 – 2020)
North Road Pump Station Rehabilitation Project – City of Belmont (2018 – 2019)
Shoreway Sewer Replacement Project – City of Belmont (2017 – 2019)
El Camino Real Sanitary Sewer Rehabilitation Project – City of San Mateo (2017 – 2019)
East San Mateo Sanitary Sewer Lift Station Rehabilitation Project – City of San Mateo (2017 – on-going)
Building M101 Sanitary Sewer Lateral Repair – Port of Oakland (2018)
Tamarind Sanitary Sewer Pump Station Odor Control Improvements – City of Fontana (2018)
Industry and Tamarind Pump Station Improvement – City of Fontana (2017 – on-going)
Bypass Pumping Connections at Northside and Rabello Pump Stations – City of Santa Clara (2017)
2017 Sanitary Sewer Rehabilitation Project – City of Belmont (2017)
Delta Diablo Pump Station Improvements – County of Contra Costa (2017 - on-going)
Glasgow Regulator Modifications – City of Fort Wayne (2016)
Gathings Lift Station Rehabilitation – City of Fort Wayne (2016)
St. Joe Combined Sewer Overflow Relief Connections – City of Fort Wayne (2014 - 2015)

Stormwater Systems Planning and Design

2018 Storm Drain Improvement Project – City of Belmont (2018 – on-going)
Athlone Pump Station Upgrade – City of Atherton (2018 – on-going)
Little Wolf Creek Sinkhole Stabilization Project – City of Grass Valley (2017)
Huffman Putnam Sewer Separation – City of Fort Wayne (2015 - 2018)
Lakeside Sewer Separation – City of Fort Wayne (2015 - 2017)
200 E. Berry Pervious Pavement Improvements – City of Fort Wayne (2015 - 2016)
Reed Road Storm Drainage Improvement – City of Fort Wayne (2015 - 2016)
Engle Road Sewer Separation – City of Fort Wayne (2014 - 2016)
Taylor Hale Sewer Separation Phase I – City of Fort Wayne (2013 - 2015)
Ewing Street East/West Phase II Sewer Separation – City of Fort Wayne (2013 - 2014)
Maplecrest Road Storm Drainage Improvement – City of Fort Wayne (2013)
Becky Lane Storm Drainage Improvement – City of Fort Wayne (2012)
Karpeles Museum Rain Garden – City of Fort Wayne (2012)
Imagine Schools/Science Central Rain Gardens – City of Fort Wayne (2012)
Hazelett Road Storm Drainage Improvement – City of Fort Wayne (2011)
Balmoral and Hadley Storm Drainage Improvement – City of Fort Wayne (2010)

Hydrology & Hydraulics

Los Gamos and Oleander Drainage Study – City of San Rafael (2018)
Schick Storm Sewer Capacity Analysis – City of Fort Wayne (2012)



Miller Pacific Engineering Group

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Novato, CA 94947
415/382-3444

CURRICULUM VITAE

SCOTT STEPHENS, PE, GE



Registration
Geotechnical Engineer
No. 2398, CA, 1998
Civil Engineer
No. 50482, CA, 1993

Education
MSCE, Geotechnical
Engineering
U.C. Berkeley
Berkeley, CA, 1991

BSCE, Civil
Engineering
U.C. Berkeley
Berkeley, CA, 1988

Memberships
ASCE, American
Society of Civil
Engineers

GBA, Professional
Firms Practicing in the
Geosciences

ACEC of California,
American Council of
Engineering
Companies.
(Past Chapter
President)

Experience Summary

Scott Stephens is President of Miller Pacific Engineering Group and is responsible for the overall business management of the firm. He is also the Senior Project Manager and Reviewer for Geotechnical and Geo-Civil projects. He has prepared numerous geotechnical investigations, geotechnical planning reports, geo-civil designs, environmental impact studies, and serves as a *Peer Reviewer* for several local governmental agencies. He has conducted many forensic geotechnical investigations and has provided expert testimony on geotechnical issues including slope instability, retaining wall failure, foundation distress and groundwater seepage.

Scott has worked on hundreds of water district and sanitary district projects throughout Marin County. These geologic and geotechnical projects have been performed for; Central Marin Sanitary District, North Marin Water District, Novato Sanitary District, Marin Municipal Water District, Sewer Agency of Southern Marin, Sanitary Districts No. 2 & 5, San Rafael Sanitary District, and Sausalito Marin City Sanitary District. Our services have included geologic and geotechnical investigations for new underground utilities, treatment plant improvements and retaining structure in a varied of geologic conditions varying from soft compressible marsh deposits (bay mud) to hard Franciscan bedrock.

The geologic and geotechnical investigations typically include exploration of subsurface conditions, evaluation of geologic hazards, geotechnical design criteria for the recommended foundation system. During construction, Scott provides geotechnical consultation, and directs geotechnical observation and testing for site grading, foundation and keyway excavations, subsurface drainage, soil nails / tiebacks, pavement construction and other geotechnical construction items. He has provided complete Geo-Civil services including plans, details, specifications and contract document for retaining walls, landslide repairs and pedestrian bridges constructed for water and sanitary district projects. A few examples of his water or sanitary district projects include:

Novato Sanitary District (NSD) Treatment Plant Improvements, Novato CA

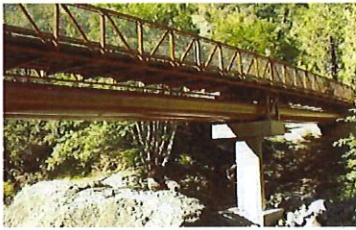
- Mr. Stephens conducted a geotechnical investigation, prepared the geotechnical report and provided geo-civil design for treatment plant improvements that included heavy structures supported on auger cast piles, site grading, wick drainage and surcharge fill to consolidate underlying bay mud, conveyance pipe line that connect two treatment plants and included directional drilling under Novato Creek and Highway 37 and a soil nail and shotcrete retaining wall to stabilize and old cut slope. Mr. Stephens reviewed plans and submittals and provided consultation. During construction he supervised the field and laboratory QA/QC soil and concrete testing for the retaining wall soil nails and shotcrete, settlement monitoring of surcharge fill, auger cast piles and tradition shallow foundations, subsurface drainage, and compacted structural fills.



SCOTT STEPHENS



Marin Municipal Water District (MMWD) Inkwells Bridge, Lagunitas CA



during construction.

Mr. Stephens provided the geologic and geotechnical investigation for the Inkwells Bridge. The environmentally sensitive location required small footprint foundations to avoid environmentally sensitive areas and "holes" in the creek bed. Geotechnical recommendation and criteria were provided for shallow foundations that bear on hard bedrock areas with rock anchors to provide supplemental uplift resistances against over-turning moments. The foundations provided both vertical and lateral support for twin 36-inch water transmission lines as well as a 170 foot long pedestrian/equestrian bridge. Geotechnical observation and testing services were provided

North Marin Water District (NMWD) Palmer Tank, Novato CA - a new 3,500,000 gallon water tank, pipeline and access road was construction in undeveloped hillside terrain. Mr. Stephens performed geologic and geotechnical studies with a focus to limit grading and minimize environmental impacts. He designed a cost-effective, reinforced shotcrete retaining wall with soil nails that supports a vertical cut behind the tank and creates the tank pad and surrounding service road. His Geo-Civil design of the shotcrete wall included plans and technical specifications that were incorporated into the contract documents. During the construction, we provided consultation, inspection and testing that included submittal review, proof and performance load testing on the soil nails, shotcrete and concrete compression tests, inspection of subsurface drainage, foundation subgrade conditions, field density testing of compacted fill for new fill slopes, and trench backfill and pavement sections. We summarized our inspection and testing in a letter report with as-built plans



RYAN AMAYA, PLS
PRINCIPAL, SURVEY PROJECT MANAGER

Registration: Professional Land Surveying License (PLS) State of California L 8134

Professional Affiliations: California Land Surveyors Association (CLSA)

Role & Responsibilities: Mr. Amaya will manage all schedules, manage all office surveying personnel, coordinate with field crews, meet all deadlines and ensure quality control for all surveying services provided throughout the duration of this project. He will serve as the project manager and primary point of contact for all project surveying services.



Background: Mr. Amaya has 20 years of experience in the surveying field. His experience includes construction surveying, boundary surveying, mapping, and subdivision work related to land development. Specific survey experience includes construction staking, topographic surveys, benchmark-level circuits, elevation monitoring surveys, tentative maps, parcel maps, final maps, condominium plans, plats and legal descriptions, lot line adjustments, lot combinations, reversion to acreage maps and ALTA/ACSM Land Title Surveys.

Representative Project Experience:

CITY OF SAN MATEO, SOUTH TRUNK SANITARY SEWER RELIEF LINE

This project included 8,000 linear feet of sewer improvements in the City's sanitary sewer improvement scope. Kier & Wright managed and coordinated the entire survey scope including aerial photogrammetry, field survey, traffic control and coordination with State, County and local agencies for permits. Kier & Wright was contracted under Schaaf & Wheeler to provide complete topographic survey and right-of-way mapping to Schaaf & Wheeler for sanitary sewer design.

CITY OF SUNNYVALE, WATER LINE REPLACEMENT

This project included 5,360 linear feet of water line replacement. Kier & Wright managed and coordinated the entire survey scope, including aerial photogrammetry, field survey, drafting and traffic control. Kier & Wright was contracted under Carollo Engineers to provide complete topographic survey and right-of-way mapping to Carollo Engineers for water line design over Bartlett Avenue, California Avenue, Acacia Avenue, Birch Avenue, Cedar Avenue and Dwight Avenue.

CITY OF HALF MOON BAY, KEHOE DITCH IMPROVEMENTS

This project included surveying of a 3,000-linear-foot ditch for a feasibility study to improve the flow of water into Pilarcitos Creek. Kier & Wright managed and coordinated the entire survey scope, including field survey and drafting. Kier & Wright was contracted by Schaaf & Wheeler to provide the topographic survey for their hydrologic/hydraulic analysis.

CITY OF SANTA CLARA, EL CAMINO SANITARY SEWER IMPROVEMENTS,

This project included 2,600 linear feet of sewer improvements in the City's sanitary sewer improvement scope. Kier & Wright managed and coordinated the entire survey scope including aerial photogrammetry, field survey, traffic control and coordination with State, County and local agencies for permits. Kier & Wright was contracted under Schaaf & Wheeler to provide complete topographic survey and right-of-way mapping to Schaaf & Wheeler for sanitary sewer design.



KIER & WRIGHT CIVIL ENGINEERS & SURVEYORS, INC.

3350 Scott Boulevard, Bldg. 22 • Santa Clara, California 95054 • 408-727-6665 • 408-727-5641 • kierwright.com



Joseph Bohorquez

General Manager

BESS
TESTLAB, INC.



Education

Saint Marys College,
Masters of Business
Administration

California State
University San Jose, BA
Business Administration

Skills

Operations
Management Project
Management Service
Operations
Management

Applied Organizational
Behavior

Strategic Management.

Utility Locating GPR

Joseph has managed numerous utility locating projects over the past 14 years for various DOT's, municipalities, public and private sector clients. He will be responsible for the management and coordination of utility services. He will develop multiple department services schedules and maintain those schedules throughout the duration of the project. He will prepare staff hours and fee estimates for the combined project teams. He will review the progress of services to ensure that the standards, time goals and budget requirements are met.

Professional Experience

2010 – Present

Bess Testlab, Inc. - General Manager

Responsible for project planning and progress, budgets, large capital expenditure recommendations, department coordination and integration, strategic planning, customer relationships, safety, quality control, and senior management functions.

2008 – 2011

Bess Testlab, Inc. - Project Manager

Responsible for customer request and preparing proposals. Facilitated securing subcontracts for work requested. Managed labor efficiencies and project budgets for several projects simultaneously. Developed and implemented training, and operations materials and procedures. Prepared deliverables to clients. Approved final billing statements.

2003– 2010

Geovac, a division of Bess Testlab Inc.

Laboratory Assistant/ Field Technician

Field operations including: Utility Locating, Potholing, and Ground Penetrating Radar. Collected samples for metallographic analysis.

Related Experience

PG&E Gas Transmission and Distribution, California

Locating Master Service Agreements – Managed day to day operations of a \$3.9M utility locating project and a staff of 13 utility locators in multiple locations. Project tracked the centerline of multiple transmission lines from Antioch – Gilroy California. Responsible for production, field trouble shooting, and cost controls.

AECOM (URS) - Northern & Central, California

Supervised department operations and budgeting for Locating & Potholing Services – Sonoma US 101 Central A HOV Lanes, Cotati and Rohnert Park CA – US 101 Auxiliary Lanes, Santa Clara County – Sonoma US 101 Central B HOV Lanes, Petaluma CA – Sonoma US 101 Petaluma River Bridge & HOV Lanes, Petaluma CA – I-80 San Pablo Dam Road Interchange, San Pablo CA – US 101 Broadway Interchange Replacement Project, Burlingame CA, SR 25 Safety Project, Santa Clara and San Benito Counties, Caltrans On-Call 03A1103, 06A1146 & 04A4320 .

ARB Inc., - Northern & Southern, California

Perform utility investigation services using industry acceptable methods (i.e., electronic pipe and cable locating equipment, Ground Penetrating Radar (GPR), Pipeline Current Mapper (PCM), etc.) to determine the approximate horizontal position and count of existing utilities within the areas designated by ARB throughout Northern and Central California.

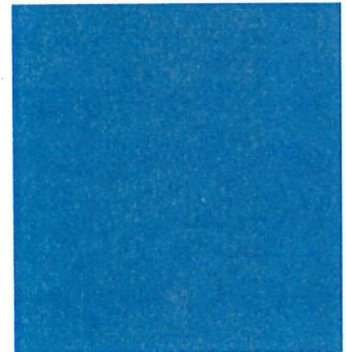
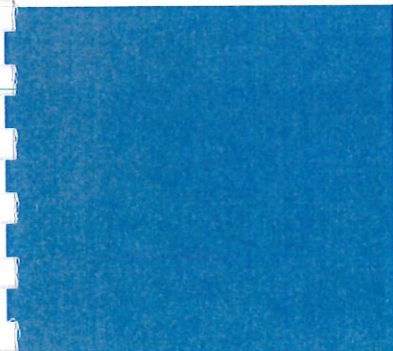
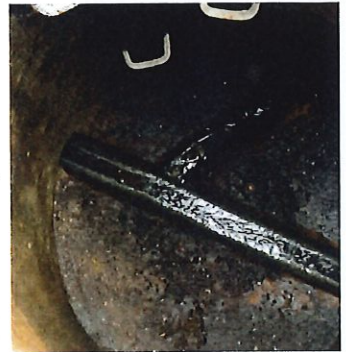
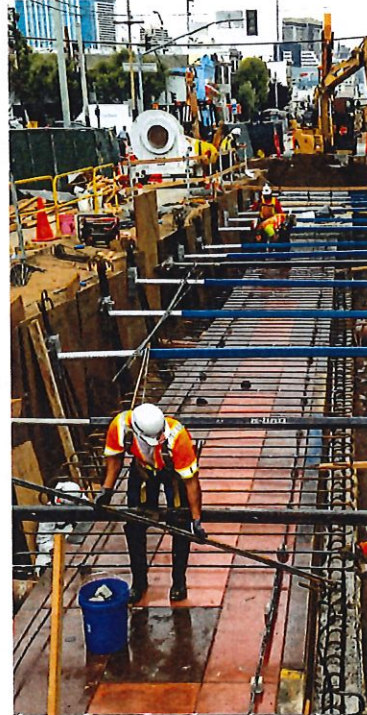
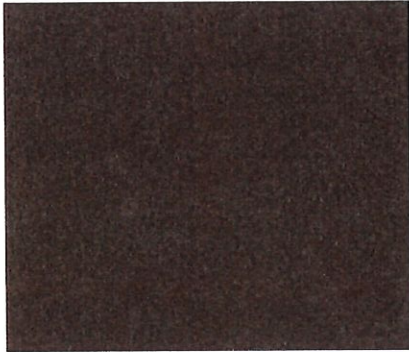
| Schaaf & Wheeler San Rafael Sanitation District 2020 Sewer Pipe Repair and Replacement Project Fee Proposal - August 4, 2020 | | Senior Engineer & Principal Project Manager | Associate Engineer | Assistant Engineer | Schaaf & Wheeler Subtotal | Miller Pacific Engineering Group - Geotechnical | Kier & Wright - Surveying | Bess Testlabs - Potholing | Project Expenses | Subconsultant and Expenses Markup (10%) | Total |
|---|---|---|--------------------|--------------------|---------------------------|---|---------------------------|---------------------------|------------------|---|------------|
| Hourly Rate | | \$210 | \$190 | \$175 | | | | | | | |
| Task 1 | Project Management & Coordination | 50 | 20 | 0 | \$ 14,300 | \$ - | \$ - | \$ - | \$ - | \$ - | \$ 14,300 |
| 1.1 | Project Management & QA/QC Reviews | 40 | | | \$ 8,400 | | | | | \$ - | \$ 8,400 |
| 1.2 | Kickoff Meeting | 2 | 4 | | \$ 1,180 | | | | | \$ - | \$ 1,180 |
| 1.3 | Design Review Meetings (4 Meetings) | 8 | 16 | | \$ 4,720 | | | | | \$ - | \$ 4,720 |
| Task 2 | Analysis of CCTV files for existing sewers | 16 | 30 | 116 | \$ 29,360 | \$ - | \$ - | \$ - | \$ - | \$ - | \$ 29,360 |
| 2.1 | Review Inspection Videos | 4 | 10 | 80 | \$ 16,740 | | | | | \$ - | \$ 16,740 |
| 2.2 | Develop Capital Improvement Project List | 4 | 8 | 16 | \$ 5,160 | | | | | \$ - | \$ 5,160 |
| 2.3 | Draft and Final Report | 8 | 12 | 20 | \$ 7,460 | | | | | \$ - | \$ 7,460 |
| Task 3 | Design | 89 | 182 | 460 | \$ 133,770 | \$ 30,180 | \$ 52,402 | \$ 22,620 | \$ 1,600 | \$ 10,680 | \$ 251,252 |
| 3.1 | Utility Investigation, Topographic Surveying & Basemapping | 4 | 16 | 40 | \$ 10,880 | | \$ 52,402 | | | \$ 5,240 | \$ 68,522 |
| 3.2 | Geotechnical Investigations, Evaluations, and Report | 2 | 6 | | \$ 1,560 | \$ 28,500 | | | | \$ 2,850 | \$ 32,910 |
| 3.3 | Utility Locating | 4 | | 8 | \$ 2,240 | | | \$ 22,620 | | \$ 2,262 | \$ 27,122 |
| 3.4 | 35% Design Submittal | 15 | 40 | 120 | \$ 31,750 | | | | \$ 400 | \$ 40 | \$ 32,190 |
| 3.5 | 65% Design Submittal | 32 | 60 | 160 | \$ 46,120 | \$ 1,680 | | | \$ 400 | \$ 208 | \$ 48,408 |
| 3.6 | 95% Design Submittal | 24 | 40 | 100 | \$ 30,140 | | | | \$ 400 | \$ 40 | \$ 30,580 |
| 3.7 | Final Bid Documents | 8 | 20 | 32 | \$ 11,080 | | | | \$ 400 | \$ 40 | \$ 11,520 |
| Task 4.1 | Final Bid Phase and Bid Phase Support (1st Construction Contract) | 8 | 6 | 6 | \$ 3,870 | \$ - | \$ - | \$ - | \$ - | \$ - | \$ 3,870 |
| 4.1.1 | Bid Phase Support | 4 | 2 | | \$ 1,220 | | | | | \$ - | \$ 1,220 |
| 4.1.2 | Post Bid Package | 2 | | 6 | \$ 1,470 | | | | | \$ - | \$ 1,470 |
| 4.1.3 | Review Bids | 2 | 4 | | \$ 1,180 | | | | | \$ - | \$ 1,180 |
| Task 4.2 | Final Bid Phase and Bid Phase Support (2nd Construction Contract) | 8 | 6 | 6 | \$ 3,870 | \$ - | \$ - | \$ - | \$ - | \$ - | \$ 3,870 |
| 4.2.1 | Bid Phase Support | 4 | 2 | | \$ 1,220 | | | | | \$ - | \$ 1,220 |
| 4.2.2 | Post Bid Package | 2 | | 6 | \$ 1,470 | | | | | \$ - | \$ 1,470 |
| 4.2.3 | Review Bids | 2 | 4 | | \$ 1,180 | | | | | \$ - | \$ 1,180 |
| TOTAL DESIGN AND BID PHASE | | 171 | 244 | 588 | \$ 185,170 | \$ 30,180 | \$ 52,402 | \$ 22,620 | \$ 1,600 | \$ 10,680 | \$ 302,652 |
| Task 5.1 | Design Support during Construction (1st Construction Contract) | 38 | 86 | 36 | \$ 30,620 | \$ - | \$ - | \$ - | \$ 400 | \$ 40 | \$ 31,060 |
| 5.1.1 | Preconstruction conference | 2 | 4 | | \$ 1,180 | | | | | \$ - | \$ 1,180 |
| 5.1.2 | Site Visits During Construction (3) | 6 | 6 | | \$ 2,400 | | | | | \$ - | \$ 2,400 |
| 5.1.3 | Respond to RFIs | 4 | 8 | | \$ 2,360 | | | | | \$ - | \$ 2,360 |
| 5.1.4 | Submittal Review | 6 | 16 | 24 | \$ 8,500 | | | | | \$ - | \$ 8,500 |
| 5.1.5 | Assist with Contract Change Orders | 2 | 4 | | \$ 1,180 | | | | | \$ - | \$ 1,180 |
| 5.1.6 | Weekly Meeting Attendance (20) | 8 | 40 | | \$ 9,280 | | | | | \$ - | \$ 9,280 |
| 5.1.7 | Final Walk Through and Punch List | 6 | 8 | | \$ 2,780 | | | | | \$ - | \$ 2,780 |
| 5.1.8 | Record Drawings | 4 | | 12 | \$ 2,940 | | | | \$ 400 | \$ 40 | \$ 3,380 |
| Task 5.2 | Design Support during Construction (2nd Construction Contract) | 38 | 86 | 36 | \$ 30,620 | \$ - | \$ - | \$ - | \$ 400 | \$ 40 | \$ 31,060 |
| 5.2.1 | Preconstruction conference | 2 | 4 | | \$ 1,180 | | | | | \$ - | \$ 1,180 |
| 5.2.2 | Site Visits During Construction (3) | 6 | 6 | | \$ 2,400 | | | | | \$ - | \$ 2,400 |
| 5.2.3 | Respond to RFIs | 4 | 8 | | \$ 2,360 | | | | | \$ - | \$ 2,360 |
| 5.2.4 | Submittal Review | 6 | 16 | 24 | \$ 8,500 | | | | | \$ - | \$ 8,500 |
| 5.2.5 | Assist with Contract Change Orders | 2 | 4 | | \$ 1,180 | | | | | \$ - | \$ 1,180 |
| 5.2.6 | Weekly Meeting Attendance (20) | 8 | 40 | | \$ 9,280 | | | | | \$ - | \$ 9,280 |
| 5.2.7 | Final Walk Through and Punch List | 6 | 8 | | \$ 2,780 | | | | | \$ - | \$ 2,780 |
| 5.2.8 | Record Drawings | 4 | | 12 | \$ 2,940 | | | | \$ 400 | \$ 40 | \$ 3,380 |
| TOTAL DESIGN, BID AND CONSTRUCTION TASKS | | 247 | 416 | 660 | \$ 246,410 | \$ 30,180 | \$ 52,402 | \$ 22,620 | \$ 2,400 | \$ 10,760 | \$ 364,772 |



**San Rafael
Sanitation
District**

Proposal for:

ENGINEERING DESIGN SERVICES FOR 2020 SEWER PIPE REPAIR AND REPLACEMENT PROJECT



PREPARED BY:



June 19, 2020



PROPOSAL FOR:

**ENGINEERING DESIGN SERVICES FOR
2020 SEWER PIPE REPAIR AND REPLACEMENT
PROJECT**

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| | Fee Proposal <i>(Separate Sealed Envelope)</i> |

Doris Toy
District Manager
San Rafael Sanitation District
111 Morpew Street
San Rafael, CA 94901

June 19, 2020
BKF Project No. 20200978

SUBJECT: 2020 SEWER PIPE REPAIR AND REPLACEMENT PROJECT

Dear Ms. Toy:

It is with great pleasure and enthusiasm that BKF Engineers (BKF) is submitting our proposal to assist the San Rafael Sanitation District (District) with engineering design services for 2020 Sewer Pipe Repair and Replacement Project. Inside this proposal, we have demonstrated why our extensive experience, professional team members, and use of cutting edge technologies make us the most qualified firm to help support the District's efforts. The following pages describe our understanding of the project, critical project issues, challenges, and milestone tasks, as well as our proposed project team and relevant project experience. The separately-sealed envelope submitted with this proposal contains our fee proposal with estimated hours and costs for services.

Our proposed project team includes seasoned professionals who have successfully completed similar sewer infrastructure repair and replacement projects. This team will stay intimately involved with this project from beginning to end, providing hands-on communication and coordination. Assigned personnel include BKF Vice President **Jason Kirchmann**, who has worked extensively with the City of San Rafael and coordinated projects with the District on several projects, will serve as the project lead. Jason will be supported by an experienced technical staff including **Becky Dower**, who will serve as our Engineering Manager and **Erik Bjornstrom** who will function as the Lead Technical Engineer. Supporting team members include **Yousra Tilden**, who will serve in a QA/QC Manager role, and **Jonathan Shattuck**, who will manage BKF's in-house land survey and underground locating field crews. Having these key services in-house allow us to coordinate effectively across multiple disciplines and exercise flexibility within the scope of work to successfully deliver the project. In addition to our proposed staff for this project, BKF has over 470 employees, including 146 licensed professional engineers, on which we can call upon for assistance, should it be determined that additional resources are necessary.

BKF is local. The project will be run out of our San Rafael office with support from our other 15 offices strategically located across California, if needed. With our San Rafael office less than 10 miles from the project site and the District's offices, BKF will be able to mobilize quickly to perform site visits and attend meetings on short notice. Our local office also allows field surveys and investigations to be performed more efficiently by combining local knowledge and minimal travel time.

We reviewed and accept the terms and conditions of the Sample-Professional Services Agreement included in the RFP and agree to sign the agreement upon award. If you need any additional information, please feel free to contact me during the selection process at (415) 930-7960 or jkirchmann@bkf.com. We would welcome the opportunity to discuss our approach and qualifications with you.

Sincerely,
BKF ENGINEERS



Jason Kirchmann, PE, PLS, QSD/P
Vice President/Project Lead

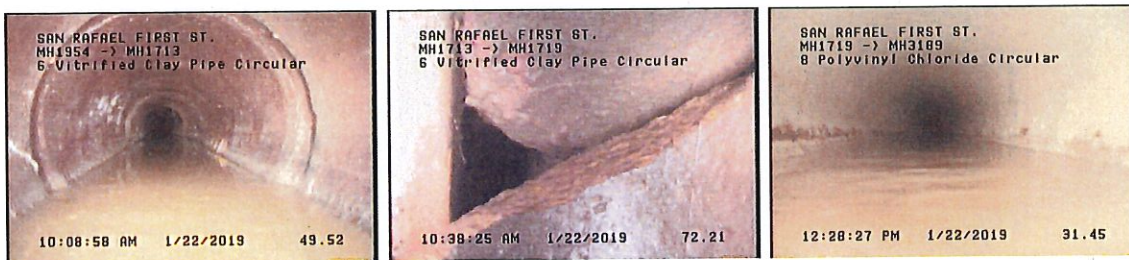
PROJECT UNDERSTANDING

The San Rafael Sanitation District televised approximately 8 miles of sanitary sewers throughout central and southern San Rafael during the winter of 2019. A large majority of the sewer facilities are at or have surpassed their service life. Maintenance of these facilities is cost prohibitive, making replacement and rehabilitation a necessity. The proposed project will utilize the data collected by the District in 2019 to develop a sanitary sewer repair and replacement plan, which will identify a minimum of 1.5 miles of sewer to be improved in 2021. The District is considering separating the 2021 project into two projects with a budget of \$2M to \$2.5M each. A detailed review of the District's collected data will be needed to prioritize the improvements for the 2021 year in order to achieve the goals of improving a minimum of 1.5 miles of sewer while staying within the allocated budget.

The project will include topographic surveying, utility investigations, geotechnical studies, assessment of collected reports/CCTV logs by the district, prioritized list of improvements, and preparation of construction documents, recommendations for future projects and support to the District during the bid and construction phases of the 2021 project.

BKF has identified the following project goals and objectives for the project:

1. Define appropriate rehabilitation/replacement method for each pipe segments based on the defects (location, length, number and severity), ease of access, and cost.
2. Identify reasons for pipe/structure failures and prepare a design that mitigates the issues for maximum lifespan of new facilities.
3. Package pipe segments with similar repair methods in a number of contracts that match with available budgets.
4. Identify, at a minimum, 1.5 miles of improvements to the approximate 8 miles of sewer televised by the District in 2019.
5. Prepare the contract documents on budget and in a timely manner to meet the deadlines for bidding the contracts in time for construction in 2021.
6. Develop large scale base mapping in efficient manner. The multi-faceted approach will include a combination of GIS data, as-built plans, sewer investigations performed by the District and field surveys.



PROJECT APPROACH

BKF will be using the District's Scope of Work provided in the Request for Proposals (RF) and our experience on similar projects as a baseline for our project approach. Once the Preliminary Design is done, separate packages will be prepared for each bid package. The content and proposed improvement packages will be decided by using the following criteria:

1. Method of rehabilitation or replacement
2. Location of repair
3. Permit acquirement duration (if necessary)
4. Impact on other projects happening at the same location (for example the sanitary sewer project should be before any road paving work in the area)
5. Available budgets

The following presents some of the challenges based on our review of the District's surveys and our prior experience on similar projects, such as the San Mateo Basin D Rehabilitation project (refer to page 18 in Section 5) and our approach to address them.

1. **CCTV/GIS/As-Built Data Accuracy** - The pipeline and manhole evaluation will be done in three steps:
 - *CCTV/GIS Integration* – BKF will integrate the CCTV information performed by the District into the City's GIS information.
 - *Clean Information* – BKF will "clean" up the data. This includes checking GIS information, CCTV reports, as-built plans, field notes and perform site visits to gain detailed information of deficient manholes identified in the District's logs. BKF will coordinate with the District's Maintenance and Design Staff to fill the missing information and to correct any mislabels, etc.
 - *Manhole and Repairs Field Investigations* – These will be done to all the upstream and downstream manholes of the identified pipe segments. The CCTV information does not provide manhole evaluation and the manhole inspections provide general condition notes. Therefore, BKF is proposing to conduct a field investigation of the manholes to gain additional data to inform design decisions. Also, the location of the repair to other utilities and the access to the repair will be recorded. The field investigation involves taking photos, checking manhole depths and conditions, checking accessibility and nearby utilities, and documenting everything on the GIS system directly from the field using electronic tablets to minimize data entry errors.
2. **Constructability Assessment** – Some methods of rehabilitation may not be feasible once they are verified in the field. Once the draft rehabilitation methods are established, BKF will check constructability and identify constraints, such pipes running close to structures, existing utilities nearby and overhead utilities. The proposed method of repair is then adjusted based on that field investigation and the desktop review.
3. **Rehabilitation /Replacement Validation** – A systematic criteria is needed to validate the method of rehabilitation or replacement. The key to a good design is conducting an alternatives evaluation by validating rehabilitation requirements, which includes identifying deficiencies, defining site constraints/challenges, evaluating environmental impacts and estimating rough order of magnitude cost for available rehabilitation methods. BKF will use a streamlined approach that we have used on several similar past projects. Our approach is based on determination of the best construction method, and getting the District's agreement and approval before proceeding with the preparation of the contract documents. This will help minimize surprises, changes and rework, thus saving the District time and budget.

BKF will work with the District to establish a set of criteria for picking the deficiencies that need to be fixed, such as the severity of the sags or the type and number of defects. BKF will augment the CCTV video inspections and GIS review with field investigations and surveys.

For each pipe segment identified, BKF will evaluate whether it needs to be replaced or rehabilitated/ repaired and method of rehabilitation. BKF will rank the identified projects based on hydraulic or structural deficiencies, method of construction, required permits, required easements (if any), ease of construction, required environmental clearance and timing of other projects in the area, such as road paving, available and budgets and the most efficient schedule.

BKF will establish a matrix of the different rehabilitation/replacement methods and the criteria of each method that takes into consideration, pipe size and material, pipe slope and depth, system configuration, type of defect, etc. Using the matrix shown on the following page, BKF identifies the rehabilitation or replacement method required for each pipe segment (refer to Table on page 5 for a sample).

It is important to select the most cost-effective alternative that provides the longest service life. BKF will prepare a Basis of Design Memorandum that summarizes the result of the condition assessment and the design recommendations. We will have discussions with the District staff and make recommendations to the District on method of construction.

4. **Public Outreach, Community and Board Communication** – Construction will occur in City streets and may impact traffic patterns or utility service. BKF will assist the District in communicating with the property owners who may be impacted by the project. The public outreach approach will include coordination with the District, preparation of informational mailers such as flyers, postcards or website posting, and one community meeting. BKF will be available to participate and present the project at one District Board Meeting.
5. **Minimizing Changes During Construction** – The most common type of change orders emerges from differing site conditions. As part of our services early in the project, we endeavor to provide as complete a picture of the existing conditions as possible. We also understand that available record information often will not represent exact as-built conditions. We will perform a thorough investigation of existing above and below ground utilities through field survey, site visits, record data reviews and potholing (if needed) and incorporate them into design to minimize surprises during construction. When a contractor does find field conditions which differ from the design plans, the team's response is critical in minimizing the impact to the project. BKF recognizes the importance of immediately addressing unforeseen field conditions encountered by a contractor during construction.
6. **Underground Utility Locating, GPR and Pothole Combination** – Some areas may have many restrictions related to existing utilities. In order to reduce construction change orders, if requested, BKF will perform underground utility locating with our in-house utility locating crews, including the use of Ground Penetrating Radar (GPR). In some cases, additional investigations may be required in the form of utility potholes. To minimize the number of potholes and the associated time for the work, BKF has used Ground Penetrating Radar (GPR) services to successfully identify the utilities' locations and approximate depths quickly. This will be followed by potholing, but only of the critical locations. This method has proven time and again to save our clients time and money.
7. **Control of Large Data** – Having large data that needs synthesis and analysis could be overwhelming and can have a lot of human error. The large data from the CCTV inspection is right away integrated into the GIS database. Also, using the tablets during field investigations reduces the number of error of data entering. BKF also will also utilize at least two staff members to review CCTV information and the defect identification and the proposed repairs. The QA/QC manager does another QA/QC review for all the work. The proposed repairs constructability are verified in the field and by a desktop review.

Table 1: Sample Rehabilitation/Replacement Methods Design Criteria

| Rehabilitation Method | Design Criteria | | | | | | | | | | | | |
|---|---|---|---|--|--------------------------------|-----------------------------------|--|-------------------|----------------|-------------------------------------|--------------------------------------|----------------------|----------|
| | Diameter Range | Pipe Material | Maximum Installation | Pipe Defects | Diversion of the Flow Required | Excavation of Entry and Exit Pits | Separate Connection of Laterals | Cleaning Required | Traffic Impact | Geotechnical Investigation Required | Utility Conflict Inspection Required | Pipe Diameter Change | Cost |
| Spot Repair | Any Size | All Types | 5-50 ft | 1. Isolated broken, fracture & offset problems 2. Enlarge small diameter pipes 3. Minor sags | YES | NO | Service connections are reinstated by excavation and reconnection | YES | Minor | Not required | NO | NO | \$ |
| Pipe Bursting/Reaming | 4-24 in | VCP PVC DIP (Difficult) No asbestos pipe allowed | 750 ft | 1. Broken and fracture problems 2. Enlarge small diameter pipes 3. Minor sags | YES | YES | Service connections are reinstated by excavation and reconnection | NO | Moderate | Required | YES | Increase | \$\$ |
| Cured-in-Place Pipe (CIPP) | 6-180 in | CMP VCP PVC PE DIP Steel | 1500 ft | 1. Small offset joints 2. Bends 3. Cracks 4. Multiple bends 5. Minor sags | YES | NO | A remote-controlled cutting device is used with a closed circuit TV camera to reopen service connections | YES | Minor | Not Required | NO | Decrease | \$\$ |
| Modified Cross Section Lining (deformed & reformed, swage lining, and rolldown) | Deformed/Reformed (4-15 in) Drawdown/Rolldown (3-24 in) Thin-Walled Lining (20-46 in) | CMP VCP PVC PE DIP Steel | Deformed/Reformed (2,500 ft) Drawdown/Rolldown (1,000 ft) Thin-Walled Lining (3,000 ft) | 1. Minor fracture and cracks 2. Small offsets 3. No water sags | YES | YES | A remote-controlled cutting device is used with a closed circuit TV camera to reopen service connections | YES | Minor | Not Required | NO | Decrease | \$ |
| Pipe Replacement Open Trench Trenchless (bore and jack, microtunneling, horizontal directional drilling) | Any Size | All Types | No limit | 1. Major water sags 2. Several severe defects | YES | YES | Service connections are reinstated by excavation and reconnection | NO | Major | Required | YES | – | \$\$\$\$ |

SCOPE OF WORK

TASK 1: PROJECT MANAGEMENT

Of first and foremost importance when starting a project, is having a clear understanding of the Scope of Services and limits of the work. It is the initial submittal of the preliminary plans that establishes the foundation and framework for a successful design, which is why having a clear understanding is so important. BKF will lead an initial “kick-off” meeting with the District’s assigned project manager. During the kick-off meeting, we will discuss the project in detail, confirm the project’s goals and objectives, and establish the appropriate communication protocol.

BKF will meet with the District at each of the proposed milestones to submit documents and receive comments. BKF will develop an agenda for each meeting, where we have specific items we would like to discuss with the District. Similarly, BKF will develop meeting minutes and an open action item matrix for each meeting we hold with the District where decisions are made, so that they can be documented.

BKF will monitor the project scope, schedule and budget throughout the entire project. BKF will provide on-going correspondence with the District and periodic review meetings as necessary.

Deliverables:

- Meeting Agenda
- Meeting Minutes
- Project Schedule and Updates
- Action Item Matrix

TASK 2: BACKGROUND RESEARCH AND ANALYSIS OF DISTRICT'S CCTV FILES OF EXISTING SEWERS

BKF will perform a detailed review of the 2019 CCTV survey and manhole inspection logs. Additionally, we will gather existing drawings, specifications, studies, and supporting documents from the District and other local sources to better define the project’s opportunities and constraints. The research and data will be compiled into a report format for delivery to the District. The report will provide a high quality analysis of the video inspection results and will identify a list of recommendations for future Capital Improvement Projects (CIP).

Deliverables:

- Report of analysis, data collection and recommendation of future CIP alternatives

TASK 3: EXISTING CONDITIONS MAPPING AND STUDIES

Base Mapping

BKF will prepare a base map of existing conditions for use in the construction plans. In an effort to be efficient with our services, the base map will be a composite of available public resources, such as the City of San Rafael and the County of Marin GIS systems. The available data from the GIS systems is anticipated to include contours, aerial photography, schematic utility locations, assessor parcel lines and other relevant map data. BKF’s in-house surveyors will supplement the collected data by performing select topographic mapping in critical areas. The topographic field survey will include “dips” of sewer structures, spot elevations, curbs, sidewalks, fences, trees and surface evidence of utilities within the contemplated project area. The datasets will be combined to establish the existing conditions for the project. This composite approach will save the consultant team time and the District money by focusing field survey efforts only in areas where high detail topography is needed.

BKF will gather existing drawings, specifications, studies and supporting documents from the District, the City of San Rafael, and franchise utility providers. This information will be compiled and inserted into the base map to further refine the underground utility mapping.

Geotechnical Investigation

BKF’s subconsultant RGH will assess subsurface conditions and to provide recommendations for trenching, support, and backfilling for the project as follows:

Review of Existing Information ("Desktop Review")

RGH will review the following information for the pipeline areas:

- Existing published geologic maps
- Bay Mud thickness maps
- Existing geotechnical studies in the City of San Rafael database
- Existing geotechnical studies in the Marin County database
- Existing geotechnical reports prepared by RGH

Based on the above review, RGH will develop anticipated subsurface conditions for the pipeline segments being considered for repair and replacement. In doing so, we will identify areas where subsurface exploration with borings would be beneficial to the project.

Health and Safety Plan

RGH will prepare a project-specific Health and Safety Plan that will cover proposed subsurface exploration locations. The plan will cover job site safety, COVID-19 safety requirements, personal protective equipment, project personnel contact information, and directions to nearest Emergency Room.

Utility Clearance

RGH's engineer or geologist will conduct a surficial reconnaissance of the areas where subsurface exploration is recommended and mark planned exploration locations in white paint. RGH will contact Underground Service Alert (USA or 811) so that their members can mark their facilities within the area of our planned exploration.

Permits

RGH will obtain drilling permits for the borings from County of Marin Environmental Health Services. The permits are required for drilling within the County of Marin. In addition, RGH will obtain an Encroachment Permit from the City of San Rafael (City) for drilling within their Right-of-Way. It is assumed that there will be no fee for the Encroachment Permit.

Traffic Control

Traffic control will be required for the boring locations. RGH will develop a Traffic Control Plan (TCP) for the planned boring locations. The TCP will include recommended signage, cone set up, and flagman. The TCP will be submitted to the City for review and approval. During the exploration program, traffic control will be provided per the approved plan.

Field Exploration Program

Once cleared for utilities and permits approved, RGH will explore the subsurface conditions in the previously identified areas by drilling eight to ten borings on the order of 10 to 20 feet deep using a truck-mounted auger rig. Our engineer or geologist will log the borings and obtain bulk and relatively undisturbed samples for visual examination, classification, and laboratory testing. As required by the County, the borings will be backfilled with cement-bentonite grout. Soil cuttings generated during drilling will be placed in drums and tested for off-site disposal. Disposal assumes that the cuttings can be taken to a non-hazardous disposal facility.

Laboratory Testing Program

Selected samples representative of the material types encountered will be laboratory tested to determine certain characteristics pertinent to our analysis. These may include moisture content, dry density, shear strength, classification (Atterberg Limits and percent of silt and clay), and corrosion.

Engineering Analysis and Report

Based on the review of existing information and analysis of the field and laboratory work, we will develop the following geotechnical information:

1. A brief description of soil, bedrock, and groundwater conditions;
2. A discussion of seismic hazards that may affect the areas of repair and replacement; and
3. Specific conclusions and recommendations concerning:

- a. Primary geotechnical engineering concerns and mitigating measures, as applicable;
- b. Trench excavation characteristics;
- c. Directional drilling characteristics, if required;
- d. Bore and jack characteristics, if required;
- e. Lateral forces for shoring and sending/receiving wall design, as applicable;
- f. Trench backfill requirements; and
- g. Supplemental geotechnical engineering services.

RGH will be available to consult with the District during the course of our work to transmit preliminary design data as needed. Upon completion, the results of the study will be presented in a written report including summaries of the field and laboratory work.

TASK 4: DESIGN PLANS, SPECIFICATIONS AND COST ESTIMATE (PS&E)

35% Design Submittal: BKF will prepare 35% construction drawings. The drawings will reflect the project limits, preliminary details, the horizontal and vertical alignment of the new sewer (where applicable), profiles of critical utility crossings, locations of sewer laterals and cleanouts, and limits of the pavement reconstruction.

BKF will review boilerplate technical specifications provided by the District and update them to accommodate this project.

BKF will prepare a basis of design memorandum which will include an analysis of the CCTV and manhole inspection logs, recommended improvements to satisfy the District's goal of a minimum of 1.5 miles of sewer improvements and a description of future projects along the length of the approximate 8 miles of sewer televised by the District in 2019. BKF will also prepare a Preliminary Engineer's Opinion of Probable Construction Cost (Estimate).

Deliverables:

- 35% Construction Drawings
- 35% Specifications
- 35% Engineers Opinion of Probable Construction Cost

65% Design Submittal: BKF will meet with the District to discuss the 35% review comments prior to commencing with documents for the 65% submittal. BKF will address the District's comments and increase the level of detail in the construction documents.

The 65% Special Provisions and Technical specifications will be updated to incorporate the District's comments and additional items shown on the 65% drawings. A bid sheet with material quantities and units of measure will be added. BKF will update the Preliminary Engineer's Opinion of Probable Construction Cost (Estimate).

Potential utility conflicts will be identified during the 35% Design phase. After review by the District, BKF will discuss specific locations which may benefit from further investigation such as electromagnetic underground utility detection, ground penetrating radar and potholing. Underground locating and potholing services can be performed as described in the optional tasks below as part of the 65% design phase.

Additionally, BKF will submit plans to utility companies and other agencies for review and comment. BKF will work with the District and other agencies in an effort to resolve conflicts brought to our attention.

At this stage, if requested by the District, the bid and construction packages will be separated into two sets to match the allocated funding and to encourage medium-sized contractors to participate in the bid process.

Deliverables:

- 65% Construction Drawings
- 65% Technical Specifications
- 65% Engineers Opinion of Probable Construction Cost

95% Design Submittal: BKF will meet with the District to discuss the 65% review comments prior to commencing with documents for the 95% submittal. BKF will address the District's comments, incorporate the results of the underground utility locating/potholing (if any) and increase the level of detail in the construction documents.

Technical specifications will be refined to reflect project specific items and comments from the District. Front end specifications are anticipated to be prepared by the District, however BKF will review and make recommendations to the District regarding edits to the front end specifications for coordination with the technical specifications and project plans.

Deliverables:

- 95% Construction Drawings
- 95% Technical Specifications
- Front End Specification Comments
- 95% Engineers Opinion of Probable Construction Cost (Estimate)

Final Bid Documents: After District review of the 95% design submittal, BKF will meet with the District to discuss their final comments. BKF will incorporate and address the District's comments in the final documents. BKF will make adjustment to the Basis of Design Memorandum to discuss any changes in project assumptions throughout the process.

Deliverables:

- Signed and Sealed Final Construction Drawings (22"x 34" bond prints)
- Signed and Sealed Final Technical Specifications
- Final Engineers Opinion of Probable Construction Cost
- Final Basis of Design Memorandum

TASK 5: PUBLIC OUTREACH

BKF will prepare a letter describing the project design schedule and process allowing property owners to comment. The intent of the public outreach process is to provide a way for property owners to provide input that may be valuable to the design, construction, or maintenance of the new sewer system. Additional public outreach materials such as letters, flyers, informative post cards and website postings will be prepared as requested by the District.

BKF will be available to present the design process and final design elements to the District's Board for approval.

Deliverables:

- Public outreach documents (flyers, letters, postcards, etc.) in hard copy format
- Attendance and presentation at District Board meeting, including supporting information for inclusion in the agenda packet

TASK 6: BIDDING ASSISTANCE

Upon completion of the Final Bid Documents and prior to the District sending the project out to bid, BKF will be available to consult with the District regarding any final questions on/or interpretations of the construction documents. During the Bid Phase, BKF will facilitate a pre-bid meeting, set the meeting agenda, provide responses to bidders' questions, participate in the bid opening process, review the validity and completeness of the bids, prepare a bid tabulation, provide recommendations to award the project to the most responsive bidder(s) and if needed, prepare bid addenda to each bid package.

Deliverables:

- Bid document addendums
- Meeting agenda and minutes
- Pre-bid meeting sign-in sheet

TASK 7: DESIGN SUPPORT DURING CONSTRUCTION

For each construction project, BKF will participate in the pre-construction conference and respond to questions concerning the plans specifications and estimates for each bid package.

- BKF will be available to conduct site visits requested by the district to observe construction, provide consultation to the District and respond to contractor's questions.
- BKF will respond to Requests for Information (RFI) from the contractor when requested by the District. Contract document addenda will be issued and plan revisions will be made when required.
- BKF will assist and consult with District staff in reviewing contractor submittals and shop drawings.
- BKF will support the district with contract change orders, if they occur.
- BKF will participate in weekly Owner, Engineer and Contractor (OEC) weekly construction meetings. BKF will be responsible for setting the meeting agendas and issuing minutes of the meetings.
- As the project nears substantial completion, BKF will perform a site walk and prepare a "punch list" of outstanding items for the contractor to complete in order for the District to accept and finalize the project. If requested, BKF will perform a final site walk to review items noted in the "punch list" once completed by the contractor.
- BKF will prepare record drawings for delivery to the District. Record drawings will be compiled based on contractor markups, inspection field notes and observed construction activities. Record drawings will be provided in PDF format, as well as 11"x 17" and 22"x 34" bond prints.

Deliverables:

- Response to RFIs and submittals
- Plan and Specification revisions, if necessary
- Meeting agenda and minutes
- Change order correspondence and issuance

DELIVERABLES

Except as specifically noted above, all deliverables will be provided in PDF format and the electronic files utilized to develop the deliverables (AutoCAD, ArcView, Microsoft Word, Microsoft Excel, etc). While some non-CAD software may be utilized to develop some of the project documents, all plans generated will be prepared in CAD compatible format and will be converted prior to final printing and delivery to the District. All deliverables are proposed to be provided in electronic format only, however, any number of hard copy deliverables can be provided upon request.

OPTIONAL SERVICES

Optional Task A: Pump Around Plan

It is anticipated that the project will require some pump around of sewer flows during construction. Over spills are a major concern during pump and operation. The pump around plans may be generated by the District, or made a requirement of the contractor subject to District approval in the form of a submittal. However, if requested, BKF will prepare specific Pump Around Plans. The Pump Around Plan will be developed during the 65% design phase and will include discussion with District office and maintenance staff to determine preferred rerouting to minimize pumping around and potential for spills. Pump around concepts may include tactics such as use of dry storm water pipes to avoid traffic disruption and risk to the pump routing pipes.

Optional Task B: Utility Locating and Potholing

If requested, BKF will provide field detection and marking of existing underground utilities in critical areas. The underground locating will use a combination of electromagnetic underground detection and ground penetrating radar (GPR) to detect the horizontal and vertical location of underground utilities. This scope assumes up to 10 project locations with markout not exceeding 100-feet outside the construction limits. Utility locating will be performed by BKF's in-house utility locating field crews.

If requested, BKF's subconsultant, Ghilotti Bros, Inc., will conduct utility investigations by potholing and exposing existing utilities in critical locations. This scope assumes up to 10 utility potholes.

The results of the utility locating and potholing will be added to the existing conditions base mapping and the design will be adjusted as necessary to accommodate the existing conditions.

Assumptions:

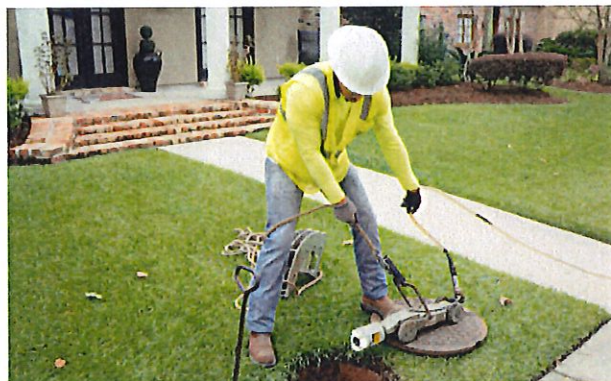
This scope of work assumes the following will be the responsibility of, and provided by the District:

- All construction inspection work and contract administration
- Any utility underground maps, CCTV videos of existing sewers, and any existing information in the possession of the District necessary to complete the design

Design and coordination of significant utility relocations, except as explicitly described above, will not be required.

Traffic control for construction activities will be the responsibility of the contractor, subject to District approval of contractor submitted traffic control plans.

BKF's services are limited to those expressly set forth in the described Scope of Work. BKF will provide the scope of services consistent with, and limited to, the standard of care applicable to such services.

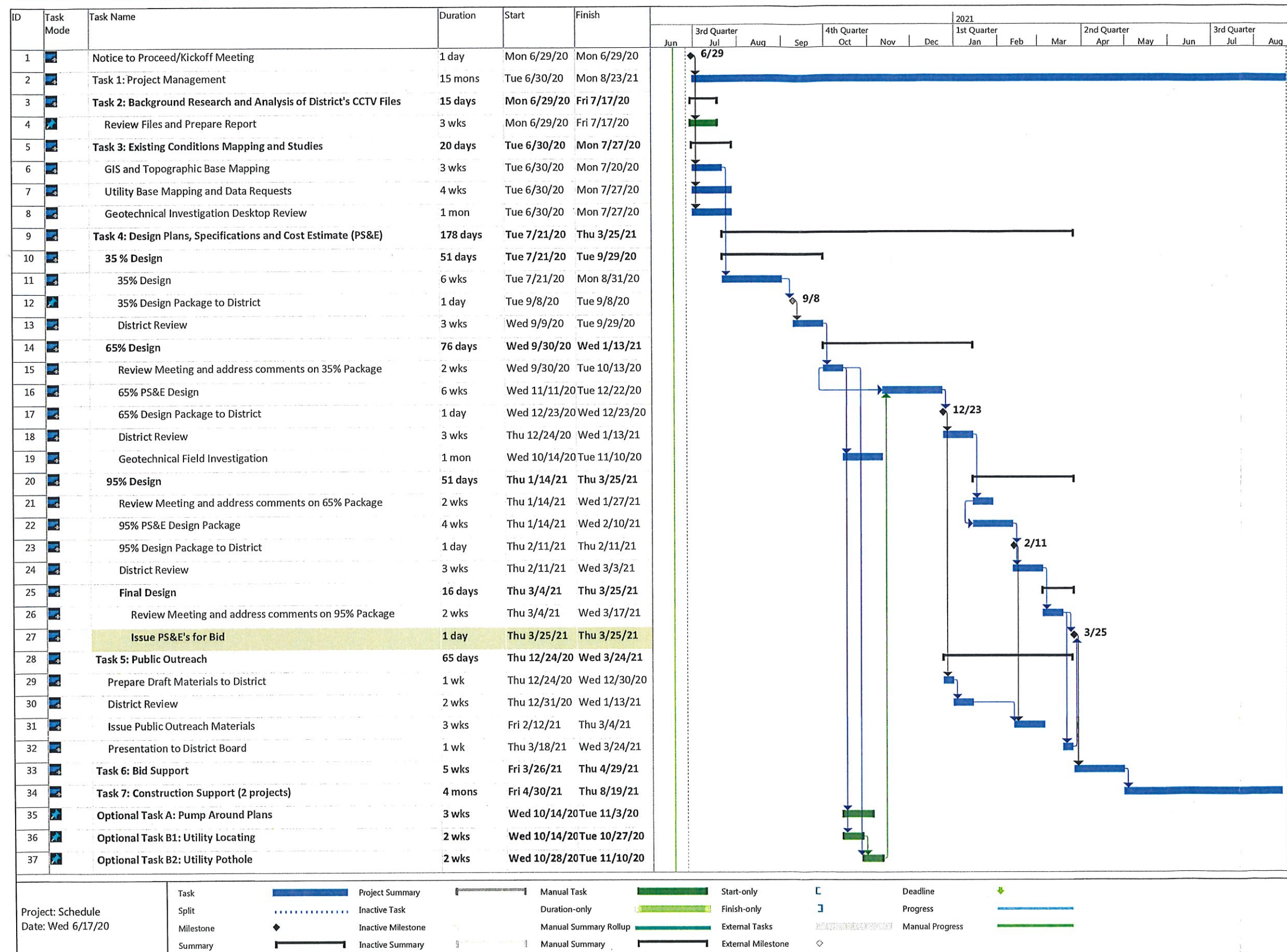


LEVEL OF EFFORT

| San Rafael Sanitation District 2020 Sewer Pipe Repair and Replacement Project CONSULTING SERVICES | | | | | | | | | Total BKF Hours | | |
|---|--|-------|-----------------|----------------|---------------------|---------------------|-----------------|-------------------|-----------------|----------------|----------------|
| | | QA/QC | Project Manager | Survey Manager | Engineering Manager | Sr Project Engineer | Design Engineer | Survey Field Crew | | RGH Geotech | GBI Pothole |
| Task | Description | Assoc | VP | SPM | EM | E3 | E1 | 2-Man | | | |
| 1 | Project Management & QA/QC | | | | | | | | | | |
| 1.1 | Project Management & QA/QC | 12 | 24 | 2 | | | | | 38 | | |
| 1.2 | Meetings | | 8 | | 16 | | | | 24 | | |
| Project Management & QA/QC Subtotal: | | 12 | 32 | 2 | 16 | 0 | 0 | 0 | 62 | 0 | 0 |
| 2 | Background Research and Analysis of CCTV files | | | | | | | | | | |
| 2.1 | Review CCTV files and logs | | 1 | | 2 | 12 | | | 15 | | |
| 2.2 | Analysis and Report | | 2 | | 24 | 48 | 12 | | 86 | | |
| Background Research and Analysis of CCTV files Subtotal: | | 0 | 3 | 0 | 26 | 60 | 12 | 0 | 101 | 0 | 0 |
| 3 | Existing Conditions Mapping and Studies | | | | | | | | | | |
| 3.1 | Base Mapping (2021 construction project limits) | | 4 | 6 | 2 | | 72 | 32 | 116 | | |
| 3.2 | Geotechnical Investigation (desktop review) | | 2 | | 1 | 1 | | | | 85 | |
| 3.3 | Geotechnical Investigation (field investigation) | | 2 | | 1 | 1 | | | 4 | 72 | |
| Existing Conditions Mapping and Studies Subtotal: | | 0 | 8 | 6 | 4 | 2 | 72 | 32 | 120 | 158 | 0 |
| 4 | Design Plans, Specifications and Cost Estimate (PS&E) | | | | | | | | | | |
| 4.1 | 35% Design | | | | | | | | | | |
| 4.1.1 | 35% Construction Drawings | | 8 | | 12 | 12 | 28 | | 60 | | |
| 4.1.2 | 35% Specifications | | 2 | | 2 | 6 | | | 10 | | |
| 4.1.3 | 35% Estimate | | 2 | | 2 | 4 | 12 | | 20 | | |
| 4.2 | 65% Design | | | | | | | | | | |
| 4.2.1 | 65% Construction Drawings | | 6 | | 10 | 16 | 32 | | 64 | | |
| 4.2.1 | 65% Specifications | | 2 | | 4 | 12 | | | 18 | | |
| 4.2.3 | 65% Estimate | | 1 | | 2 | 2 | 8 | | 13 | | |
| 4.3 | 95% Design | | | | | | | | | | |
| 4.3.1 | 95% Construction Drawings | | 4 | | 4 | 6 | 16 | | 30 | | |
| 4.3.2 | 95% Specifications | | 2 | | 2 | 4 | | | 8 | | |
| 4.3.3 | 95% Estimate | | 1 | | 1 | 1 | 8 | | 11 | | |
| 4.4 | Final Bid Documents | | | | | | | | | | |
| 4.4.1 | Final Plans | | 2 | | 4 | 2 | 10 | | 18 | | |
| 4.4.2 | Final Specifications (incl front end review) | | 2 | | 1 | 2 | | | 5 | | |
| 4.4.3 | Final Estimate and bid items list | | 1 | | 2 | 4 | 6 | | 13 | | |
| Design Plans, Specifications and Cost Estimate (PS&E) Subtotal: | | 0 | 33 | 0 | 46 | 71 | 120 | 0 | 270 | 0 | 0 |
| 5 | Public Outreach | | | | | | | | | | |
| 5.1 | Public Outreach | | 2 | | 2 | | 8 | | 12 | | |
| 5.2 | Board Presentation | | 4 | | 4 | | | | 8 | | |
| Public Outreach Subtotal: | | 0 | 6 | 0 | 6 | 0 | 8 | 0 | 20 | 0 | 0 |
| 6 | Bid Phae | | | | | | | | | | |
| 4.2.1 | Bid Addendums | | 2 | | 2 | 2 | 6 | | 12 | | |
| 4.2.1 | Pre-Bid Meeting | | 2 | | 2 | | 1 | | 5 | | |
| 4.2.3 | Bid opening and review | | 2 | | | 6 | | | 8 | | |
| Bid Phae Subtotal: | | 0 | 6 | 0 | 4 | 8 | 7 | 0 | 25 | 0 | 0 |
| 7 | Construction Support | | | | | | | | | | |
| 7.1 | Pre-Construction Meeting | | 2 | | 2 | | 1 | | 5 | | |
| 7.2 | Site Visits (3) | | 2 | | 8 | | | | 10 | | |
| 7.3 | RFI's | | 2 | | 2 | 2 | 2 | | 8 | 13 | |
| 7.4 | Submittals and Shop Drawings | | 2 | | 6 | 10 | 20 | | 38 | | |
| 7.5 | Change Order Support | | 2 | | 4 | | | | 6 | | |
| 7.6 | Weekly OEC Meetings (16) | | 10 | | 48 | | | | 58 | | |
| 7.7 | Final punch list site visit(s) | | | | 4 | | 2 | | 6 | | |
| 7.8 | Record drawings | | 1 | | 2 | 6 | 16 | | 25 | | |
| Construction Support Subtotal: | | 0 | 21 | 0 | 76 | 18 | 41 | 0 | 156 | 13 | 0 |
| Consultant Labor Totals | | 12 | 109 | 8 | 178 | 159 | 260 | 32 | 754 | 171 | 0 |

| San Rafael Sanitation District 2020 Sewer Pipe Repair and Replacement Project OPTIONAL SERVICES | | | | | | | | | Total BKF Hours | | |
|---|--------------------------|-------|-----------------|----------------|-----------------------|---------------------|-----------------|-------------------|-----------------|----------------|----------------|
| | | QA/QC | Project Manager | Survey Manager | Lead Project Engineer | Sr Project Engineer | Design Engineer | Survey Field Crew | | RGH Geotech | GBI Pothole |
| Task | Description | Assoc | VP | SPM | EM | E3 | E1 | 2-Man | | | |
| A | Optional Services | | | | | | | | | | |
| A | Pump Around Plans | | 2 | 2 | | 2 | 12 | 20 | 38 | | |
| B.1 | Utility Locating | | | 2 | 4 | | | 40 | 32 | | |
| B.2 | Utility Potholing | | | 2 | | 1 | | 8 | 11 | | 96 |
| Optional Services Total: | | 2 | 6 | 4 | 3 | 12 | 68 | 32 | 49 | 0 | 96 |

PROJECT SCHEDULE



EXPERIENCE AND HISTORY



CIVIL ENGINEERING . SURVEYING . PLANNING | SINCE 1915

For 105 years, BKF has been Delivering Inspired Infrastructure for our clients. Through this, we have earned our clients' trust and thereby won their repeat business. We work hard to help our clients achieve their goals and get their projects to the finish line. Because of our network of 15 offices in California, we have developed extensive local knowledge that provides us with a deep understanding of issues relating to feasibility, permitting, and entitlement approvals.

BKF provides civil engineering, land surveying, and land planning services for government agencies, institutions, developers, architects, contractors, school districts, and corporations. Our markets include public works, healthcare, education, residential, commercial, industrial, corporate, and transportation. We provide a number of specialty services including sustainable design, site accessibility consulting, hydrology/hydraulics, traffic signal design, and 3D laser scanning.

BKF's 105+ years of engineering, surveying and planning have produced some of the most recognized projects in California. By combining our years of experience in diverse markets with new, innovative approaches to problem solving, we have grown to our current 15 offices with 470 experienced staff. This success compelled **ENR California** to name BKF as the **2017 Design Firm of the Year!**

WATER RESOURCES

- Storm, Sewer and Water Systems
- Storm Water Quality Compliance
- Erosion Control & SWPPP
- Pump Station
- Detention Systems
- Hydraulic & Hydrology Studies
- Utility Master Planning & Design

CIVIL ENGINEERING

- Site Development
- Streetscape Design
- Parking Lot Planning & Design
- Grade Separations
- Joint Trench Coordination
- Site Grading

SURVEY

- GPS Surveys
- Right-of-Way Mapping
- ALTA/ASCM Surveys
- Topographic Mapping
- High Resolution Scanning
- GIS Mapping
- Subdivision Mapping
- Boundary Surveys
- Construction Surveying

TRANSPORTATION

- Geometric Roadway Design
- Traffic Signal Design
- Traffic Impact Studies
- Highway and Interchange Design
- Traffic Circulation
- Light and Heavy Rail

LAND PLANNING

- Master Planning
- Zoning Modification
- Permit Application
- Contract Planning to Public Agencies

ENTITLEMENT SUPPORT

- Review Permit Requirements
- Hard/Soft Cost Estimates
- Environmental Review Support
- Tentative Map Preparation
- Scheduling
- Feasibility Studies
- Due Diligence Reports

SPECIALTY SERVICES

- Landfill Reclamation
- Wetlands Permits
- Project Management
- Differential Settlement Site Design
- LEED Documentation Support
- Construction Management
- Expert Witness

BKF By the Numbers

STAFF :: nearly

470



EMPLOYEES

146

Professional Engineers

Logged over **119,000**
hours in 2019 making us one of the
largest surveying firms in California

Professional Surveyors

20

EXPERIENCE ::

105

Years

of Engineering History

FOUNDED ::

1915

15



Regional offices
strategically located
throughout California

500+

Public works projects in
last 10 years

In any given year, as a firm, BKF delivers more than \$100 million in public works construction, providing us a strong understanding of the current market trends and conditions. Below is a list of our firm's project experience relevant to the 2020 Sewer Pipe Repair and Replacement Project. A detailed description for each of the first three highlighted projects are included on the following pages.

SANITARY SEWER PROJECTS

- **Cleveland Avenue Sewer and Water Replacement, Santa Rosa**
- **Sewer Main Rehabilitation and Replacement, South San Francisco**
- **Basin D Sewer Rehabilitation, San Mateo**
- Forbes Avenue Sewer Improvements, San Rafael
- Woodland Avenue Sewer Improvements, San Rafael
- Talbot-Macklyn-Alderbrook Sewer & Water, Santa Rosa
- Biwana Drive Collection System Replacement, Santa Rosa
- Diamond Court & Belmont Court Sewer & Water, Santa Rosa
- College Street Sewer Replacement, Healdsburg
- Keiser Park Trunk Sewer Replacement, Windsor
- Hinebaugh Creek Sewer, Rohnert Park
- Wilmington Sanitary Sewer Pump Station, Petaluma
- Bay Road/Selby Lane Sanitary Sewer Rehab, Atherton
- Bayport Sanitary Sewer System, Alameda
- Citywide Sewer Improvement-Rehab Phases I & II, Burlingame
- Commercial Street Sanitary Sewer Project, San Carlos
- Crystal Springs Sanitary Sewer Replacement, Hillsborough
- Easton Creek Sanitary Sewer Rehabilitation, Burlingame
- Industrial Road Sanitary Sewer Rehabilitation, San Carlos
- Millbrae Sanitary Sewer Rehabilitation, Millbrae
- Pinehill Road Sanitary Sewer Rehabilitation, Hillsborough
- Polhemus Road Sanitary Sewer Main, San Mateo
- Redwood Shores Sewer System, Redwood City
- Redwood Road Sewer Replacement, Castro Valley
- San Lucas Sanitary Sewer Project, San Lucas
- Sewer Rehabilitation, E. Palo Alto Sanitary District
- Sanitary Sewer Infiltration/Inflow Study, San Carlos
- Sanitary Sewer Rehabilitation, Millbrae
- Sanitary Sewer System Improvements Ph I & II, Los Altos
- University Sanitary Sewer Replacement, Stanford
- Sanitary Sewer CIP, West Bay Sanitary District

PIPELINE PROJECTS

- ACWD Alvarado Niles Pipeline, Fremont
- Chevron Pipeline Relocation, Antioch
- Exbourne Pipeline, Belmont
- Kinder Morgan Pipeline Replacement, Antioch
- Oswald Pipeline Replacement, Los Gatos
- Pipe Bursting Project, San Carlos
- Portola Valley Pipeline, Woodside
- South Bay Water Recycling Infill Pipeline, Milpitas
- Surface Water Pipelines, Davis
- Throckmorton Area Pipeline, Mill Valley

BKF'S SAN RAFAEL PROJECTS

- SMART/Francisco Boulevard Flip - SRSD Force Main Relocation
- 21 San Pablo Avenue Slipout Repair
- Third Street at Hetherton Street Improvements
- Fire Station 54
- Downtown Station Area Plan
- On-Call Land Surveying Services
- Jessup Street Improvements
- Third Street at San Rafael High
- Francisco Boulevard East Sidewalk
- Pt. San Pedro Median Improvements
- Fire Station 55
- Albert Park Baseball Field

CLEVELAND AVENUE SEWER & WATER REPLACEMENT Santa Rosa

Cleveland Avenue water and sewer project is located on the west side of Santa Rosa, running parallel to Hwy 101 just south of the Coddington shopping center. The existing sewer and water system was installed before 1960 and had utilized its service life. In 2002, an additional trunk main was installed along Cleveland Avenue alleviating sewer flow from the regions to the north. This project involved the replacement of the existing water main, and connected two already improved regions, as well as connecting sanitary sewer lateral connections from the existing main to the larger trunk main.

There were three particular challenges which were faced in the design of the new system. The first was to create a system which fit into the existing streetscape and utility alignment, while maintaining City utility separation requirements and avoiding excessive road and traffic disruption. The second was design coordination with City representatives for a section of the alignment which goes through potentially contaminated base material. The final challenge involved modifying existing intersection curb ramps to accept modern ADA requirements without excessive reconstruction.

After the replacement of the water main and the sewer lateral connections, all lanes of the existing road that were disturbed by trenching got a full depth AC repair section for the full width of the lane to replenish the street surface's integrity and rejuvenate the neighborhood's overall quality.

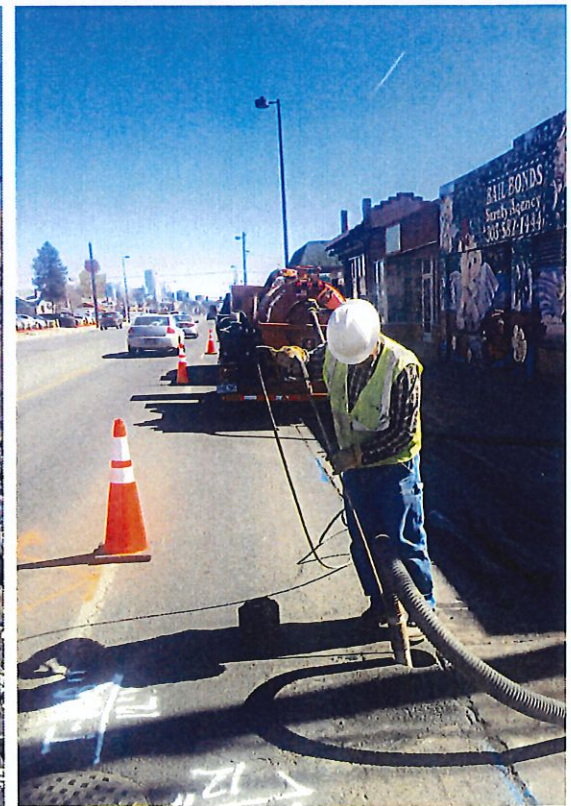
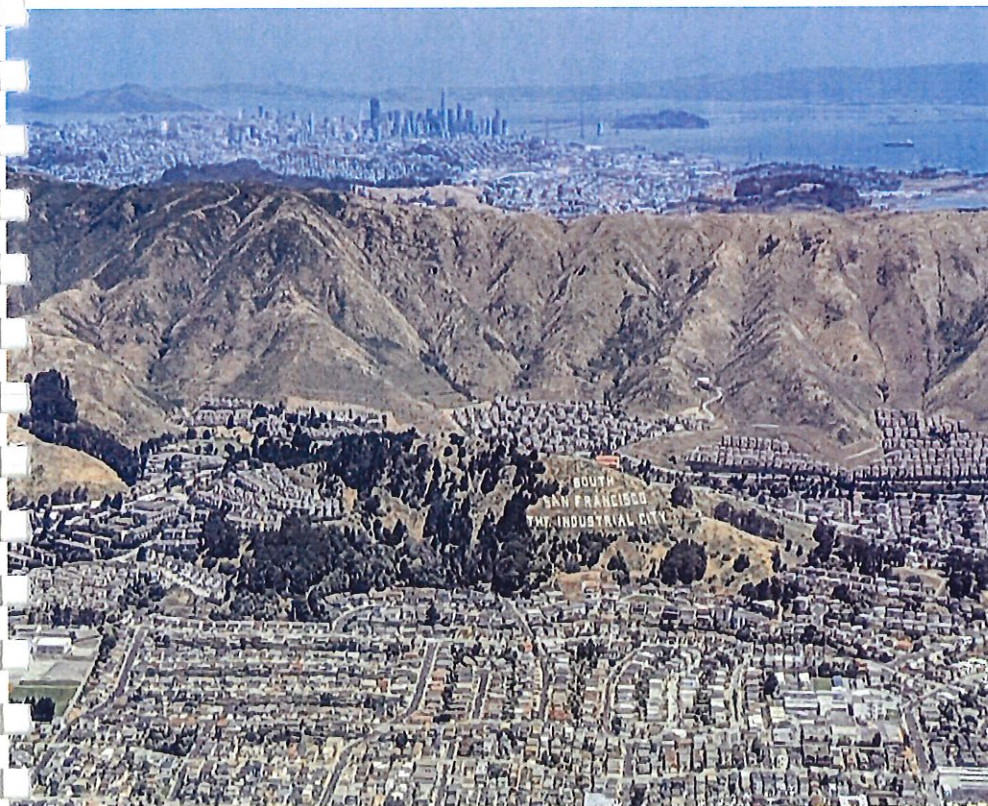
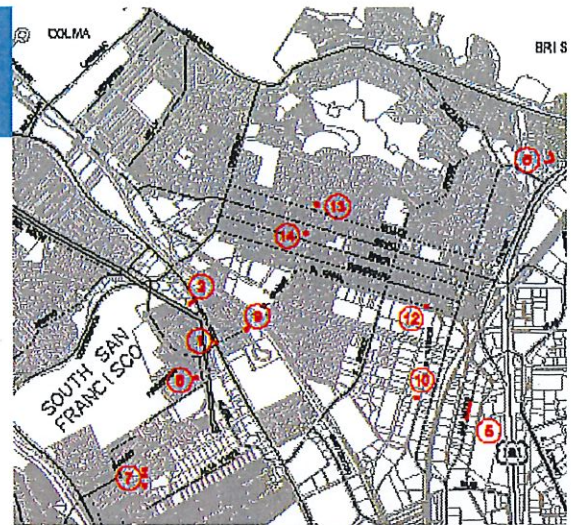
BKF provided plans, specifications, and engineer's estimate of cost and provided construction assistance to support the City of Santa Rosa Bid Phase and Construction Management efforts.



REHABILITATION & REPLACEMENT OF VARIOUS SEWER MAINS South San Francisco

BKF prepared contract documents for 26,700 LF of 6-inch to 12-inch sanitary sewer rehabilitation by CIPP, as well as contract documents for sewer replacement/pipe bursting of 6,156 LF of 6-inch to 10-inch sanitary sewer and 14 manholes (rehabilitation/replacement). The project included reconciling potholing and CCTV information with the City's GIS information to prepare the plans, specifications and the cost estimates for the two contracts. BKF also provided design services during construction and assisted in obtaining an encroachment permit from the City of San Francisco for crossing their pipelines and Caltrans for work on El Camino Real.

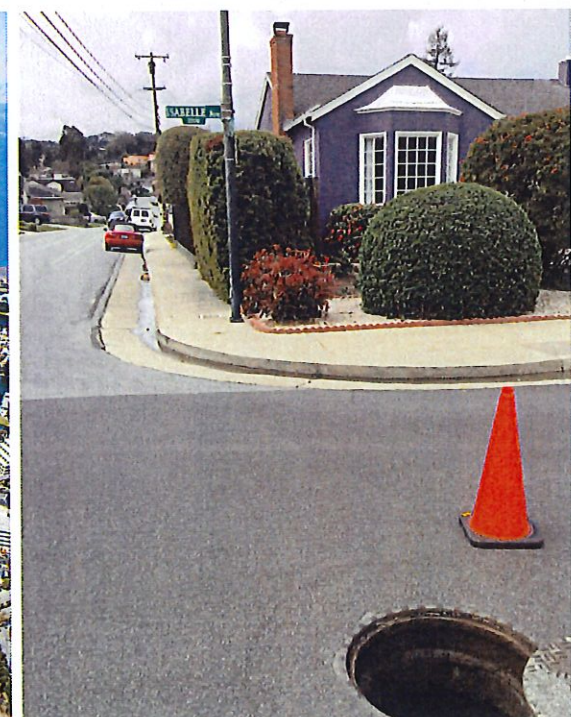
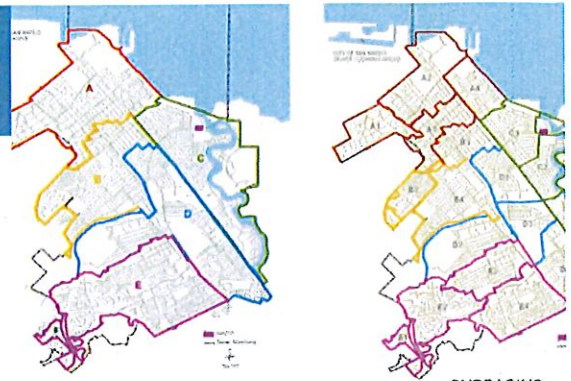
The BKF team worked closely with city staff and the geotechnical engineer to understand the defects, categorize them, and come up with solutions that were both cost efficient and constructible.



SAN MATEO BASIN D SEWER REHABILITATION

San Mateo

BKF used the CCTV data provided along with field investigations to determine the extent of repairs, rehabilitation, or replacement required. In addition to the reports from the video inspection projects, several sanitary sewer lines or manholes have been identified that require engineering design services for a variety of reasons such as difficult to access locations or unusual surface conditions. Manhole lining, repair, and replacement was required. BKF was hired to prepare plans, specifications and estimates for a single or multiple repair, rehabilitation and replacement projects as directed by the City. The first task was the preparation of a Condition Assessment Report. Work included review of the CCTV data of 760 pipe segments, evaluation of the conditions of the sanitary sewer system, and identification and prioritization of the locations of sewer system in the Basin D area to be rehabilitated. BKF prepared the contract documents for the high rated pipe segments from the Condition Assessment which includes 315 spot and segment repairs, replacement of 2,900 LF of 6-inch to 12-inch sewer lines/pipe bursting and rehabilitation/replacement of 21 manholes. The existing utilities were verified in the field by contacting utility companies, field survey, and potholing. Work included the preparation of a desk top geotechnical report. BKF assisted during bid period preparing addenda and conformed set of contract documents. BKF is providing design services during the project construction.



REFERENCES

The BKF team encourages you to contact our client references listed below. We are confident that each will attest to the quality of our services.

1.

Reference:

Hunter Young

Senior Civil Engineer

City of San Rafael

415.485.3454

hunteryoung@cityofsanrafael.org

2.

Reference:

Danny Chen

Assistant Engineer

City of Santa Rosa

707.543.3911

dchen@srcity.org

3.

Reference:

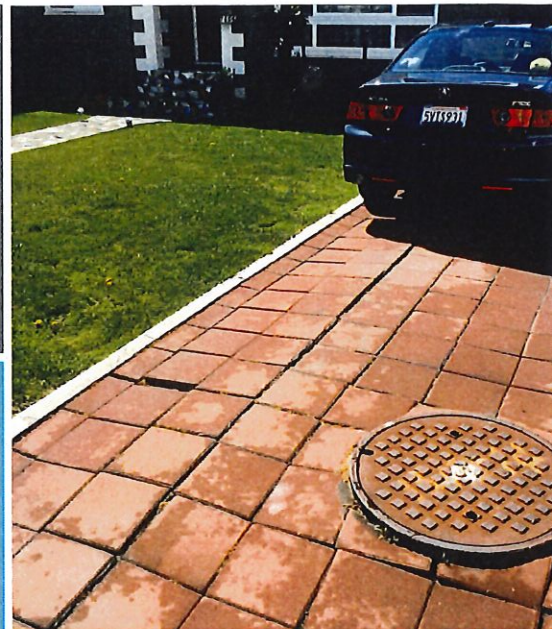
Carl Euphrat

Senior Civil Engineer

Town of Windsor

707.838.1212

ceuphrat@townofwindsor.com



ORGANIZATION CHART

BKF has selected a team of experienced staff for the 2020 Sewer Pipe Repair and Replacement Project. With 470 highly qualified staff members, we are organized for a quick response to meet your needs and pride ourselves on meeting demanding schedules. BKF's in-house capabilities in land surveying complement our strong civil engineering expertise. Our ability to facilitate project coordination among local, state, and federal agencies, utility owners, property owners, and other stakeholders has resulted in successful completion of many similar projects.

The key elements to a successful project design are coordination of resources, adherence to a schedule, cost control and quality control for the finished product. These elements are carefully integrated into our methodology. Assigning experienced staff as project managers and project engineers helps ensure that we deliver quality work products. The continuity and long tenure of our staff is evidence that our assigned personnel who we commit to the project will see the project through from start to finish.

The team proposed has been chosen based on relevant project history, years of professional experience, and current workload. The entire team is available for the duration of the project. If needed, BKF has the resources to provide additional experienced personnel, office support, and/or field staff. With more than 140 professional licensed civil engineers and 20 professional licensed land surveyors from which to draw resources, we are able to schedule multiple tasks simultaneously to respond to project needs quickly. Resumes for our team members are included on the following pages.



**San Rafael
Sanitation
District**

PROJECT MANAGEMENT TEAM

QUALITY CONTROL

Yousra Tilden, PE
QA/QC Manager
BKF ENGINEERS

Jason Kirchmann, PE, PLS, QSD/P
Vice President/Project Lead
BKF ENGINEERS
Becky Dower, PE
Engineering Manager
BKF ENGINEERS
Erik Bjornstrom, PE, QSD/P
Lead Technical Engineer
BKF ENGINEERS

SURVEYING

Jonathan Shattuck, PLS, PE
Survey Manager
BKF ENGINEERS

GEOTECHNICAL SERVICES

Eric Chase, GE, CE
Geotechnical Engineering
RGH CONSULTANTS

OPTIONAL SERVICES

Potholing Services
GHILOTTI BROS., INC.



BKF ENGINEERS, SURVEYORS, PLANNERS
470 SUPPORT STAFF

TEAM MEMBER RESUMES



JASON KIRCHMANN, PE, PLS, QSD/P VICE PRESIDENT/PROJECT LEAD

Jason has a wide variety of experience in civil engineering design and the construction of projects for local municipalities and private sector clients. He has provided design support and project management for commercial and civic, healthcare, residential, and education related projects, providing civil engineering and land surveying services. He assists in converting clients' ideas and desires into final construction documents.

Jason understands the importance of seamless coordination with clients, as well as the project team. He brings a keen sense of urgency to projects, consistently demonstrating the ability to stay on schedule and within budget.

EDUCATION

Santa Rosa Junior College
CEST Program

REGISTRATION

Professional Land
Surveyor, CA No. 8806
Professional Civil
Engineer, CA No. 78079
Qualified SWPPP
Developer and
Practitioner, No. 20085

AFFILIATIONS

Deputy County Surveyor
(County of Marin)
Acting Deputy City
Surveyor (City of San
Rafael)
California Land Surveyors
Association (CLSA)
Member American
Society of Civil Engineers
(ASCE)

TOTAL YEARS EXPERIENCE

17 years, 17 years with
firm

AWARDS

North Bay Business
Journal's 2018 "Forty
under 40" Award Winner

SELECT PROJECT EXPERIENCE

2019 Sewer Rehabilitation
Corte Madera

255 Margarita Drive Sanitary Sewer
San Rafael

Healdsburg College Street Sewer &
Water Main Replacement
Healdsburg

Eastside Trunk Sewer
Rohnert Park

Central Subway Sewer - Phase 2
San Francisco

Diamond Court & Belmont Court
Sewer & Water Replacement
Santa Rosa

Talbot/Macklyn/Alderbrook Sewer &
Water Replacement
Santa Rosa

Kaiser San Rafael Sewer Replacement
San Rafael

Los Gamos Drive Sewer Relocation
San Rafael

SMART/Francisco Boulevard Flip -
SRSD Force Main Relocation
San Rafael

MADF Sewer Grinder Improvements
Santa Rosa

Mill Valley 2017 Street/Sewer
Rehabilitation
Mill Valley

Petaluma Boulevard North Water &
Sewer
Petaluma

Chevron Sewer Line
Rohnert Park

524 Mission Avenue Utilities
San Rafael

Terra Linda/Duckett/Mulligan/Smith
Ranch Force Main
San Rafael

Keiser Park Trunk Sewer Main
Replacement
Windsor

G Street Improvements - Phase 1
San Rafael

Marin Sanitation Agency Maintenance
Building
San Rafael

Corte Madera SSD No. 2 Old Landing
Pump Station
Tiburon

Water Service Expansion - Lake County
Lucerne

North Marin Water District Recycled
Water Expansion
Novato

Las Gallinas Valley Sanitation District
Reclamation Parking Lot and Site
Improvements
San Rafael



BECKY DOWER, PE
ENGINEERING MANAGER

Ms. Dower has 11 years of experience in civil engineering design of commercial, institutional, multi-family residential, and mixed-use developments. Her responsibilities have included site grading, utility design, specification preparation, and cost estimating.

SELECT PROJECT EXPERIENCE

EDUCATION

B.S., Civil Engineering,
University of Nevada, Reno

REGISTRATION

Professional Civil Engineer
CA No. 80868

**TOTAL YEARS
EXPERIENCE**

11 years, 1 with firm

Sir Francis Drake Boulevard
San Rafael

Senior Living Grease Interceptor
San Rafael

MUP Phase 2 Redesign
San Rafael

Kaiser Foundation Health Plan
Kaiser SRF Los Gatos Medical Office
Building
San Rafael

Kaiser Foundation Health Plan
KP Los Gatos Parking Structure
San Rafael

Trash Rack Relocation and Mitigation
Planning
San Rafael

SMART/Francisco Boulevard Flip -
SRSD Force Main Relocation
San Rafael

Schoen Park
San Rafael

Pepperwood Preserve
Santa Rosa

Signorello Winery
Napa

Tomales Fire Station
Tomales

East Bay Regional Parks District
SF Bay Trail - Lone Tree Point
Rodeo

Brannan-Lincoln Street Crosswalk
Improvements
Petaluma

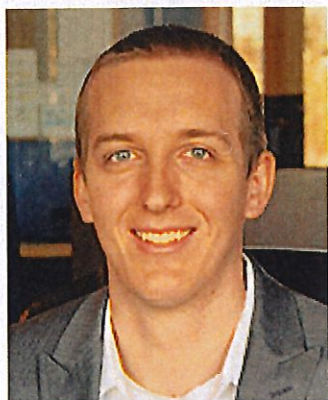
Sonoma County Junior College District
SRJC Student Housing
Santa Rosa

Calistoga Hills - Phase 1 Construction
Staking
Calistoga

Eden Housing/Del Nido Apartments
Santa Rosa

Mid-Peninsula Housing
MidPen Fairfield
Fairfield

HAWK Signal at Silver Rose
Calistoga



ERIK BJORNSTROM, PE, QSD/P

LEAD TECHNICAL ENGINEER

As a Civil Engineer, Erik provides design support to projects he is assigned. In coordination with project managers, he has worked on a variety of public works, residential, educational and commercial/industrial development projects providing civil engineering services. He provides support to the project team by completing a broad range of engineering tasks including the preparation of civil engineering reports, calculations, plans, specifications and estimates. Erik manages the schedules of technical staff and is responsible for assisting the team with the production of final construction documents.

SELECT PROJECT EXPERIENCE

EDUCATION

B.S., Civil Engineering,
 California Polytechnic
 State University

REGISTRATION

Professional Civil
 Engineer, CA No. 84875

CERTIFICATION

Qualified SWPPP
 Practitioner (QSP) &
 Developer (QSD)

TOTAL YEARS EXPERIENCE

7 years, 7 with BKF

Marin City Large Trash Capture Device
 Design
 San Rafael

Kaiser San Rafael Sewer Replacement
 San Rafael

255 Margarita Drive Sanitary Sewer
 San Rafael

SMART/Francisco Boulevard Flip -
 SRSD Force Main Relocation
 San Rafael

Cleveland Avenue Sewer & Water Main
 Replacement
 Santa Rosa

Diamond Court & Belmont Court
 Sewer & Water Replacement
 Santa Rosa

Talbot-Macklyn-Alderbrook Sewer &
 Water Replacement
 Santa Rosa

Mohawk Lift Station & Forcemain
 Realignment Phase I & II
 Santa Rosa

SWPPP for Effluent Storage Pond
 Calistoga

Breuner Marsh Restoration
 Richmond

Francisco Boulevard East Sidewalk
 Improvements
 San Rafael

Lincoln Avenue Curb Ramps Design
 San Rafael

Multi-Use Path Phase 2
 San Rafael

SMART Larkspur Extension
 San Rafael

Trash Rack Relocation and Mitigation
 Planning
 San Rafael

5th and D Street Bulb-Out Ramp
 San Rafael

Schoen Park
 San Rafael

Victor Jones Park
 San Rafael

Merrydale Development
 San Rafael

Kaiser Los Gatos Parking Structure
 San Rafael



YOUSRA TILDEN, PE

QA/QC MANAGER

Ms. Tilden has 34 years of project management experience including water and recycled water, and sewer pipeline projects, rate studies, and water and sewer system master plans. She has been responsible for design and construction administration, and the preparation of plans, specifications and cost estimates. She has an in-depth background in permitting and grant process, preparation of contract documents, and the ability to coordinate many agencies and consultants.

SELECT PROJECT EXPERIENCE

EDUCATION

M.S., Civil/Water
Resources Engineering,
Stanford University

B.S., Civil Engineering &
Engineering Mechanics,
California State University,
Fullerton

REGISTRATION

Professional Civil
Engineer, CA No. 48742

AFFILIATIONS

Member of the ASCE and
APWA

TOTAL YEARS EXPERIENCE

34 years, 7 with firm

SSF Sewer Rehabilitation
South San Francisco

City of San Mateo Basin D Sewer
Rehabilitation
San Mateo

SMART/Francisco Boulevard Flip -
SRSD Force Main Relocation
San Rafael

Central Subway Sewer Design Build
Work - Phase 2
San Francisco

Hunters Point Sewer Condition
Assessment
San Francisco

Branciforte Creek Sewer Siphon
Replacement
Santa Cruz

Alvarado Niles Pipeline
Fremont

Large Trash Capture Device
San Jose

Delta Coves Pipeline
Oakley

Gordon Main Repair at Ledgewood
Creek
Vallejo

MSN C2 Utility Relocation
Petaluma

Northrop Grumman Utilities
Replacement
Sunnyvale

Lookout Road Drainage Improvements
Hillsborough

Littlefield Avenue Sanitary Sewer Trunk
Repair
South San Francisco

Storm Drain Outfall Rehabilitation
Sunnyvale

Sanitary Sewer CCTV Inspection
San Mateo

Stormwater Treatment Facilities
Dublin

Gilead Sciences Hydrology & Hydraulic
Evaluation
Foster City

Interceptor Force Trunk Rehabilitation
Mountain View

Rehabilitation of Storm Drain Outfall
Sunnyvale

SMART Larkspur Extension
San Rafael

Merrydale Development
San Rafael



JONATHAN SHATTUCK, PLS, PE

SURVEY MANAGER

As Survey Project Manager, Mr. Shattuck is responsible for all phases of land surveying including construction, aerial and conventional topographic and planimetric surveys, boundary analysis and resolutions, right-of-way engineering, as-built surveys, digital terrain modeling, directing field and office survey efforts, contract document preparation, cost estimation, and contract administration. He provides coordination with clients, other professional consultants and reviewing agencies. In a supervisory role, he's been responsible for surveying tasks related to the design and construction of transportation, residential, commercial and public works projects throughout the North Bay and Central Valley.

SELECT PROJECT EXPERIENCE

EDUCATION

B.S., Civil Engineering
and Geomatics
Engineering, California
State University, Fresno

REGISTRATION

Professional Land
Surveyor, CA No. 8940

Professional Civil
Engineer, CA No. 83904

TOTAL YEARS EXPERIENCE

15 years, 8 with firm

Kaiser Sewer Replacement
San Rafael

Heron Court Pump Station
San Rafael

2019 Sewer Rehabilitation
Corte Madera

9th and Broadway
Sacramento

Actelion Ramp Survey
South San Francisco

Browns Valley Creek Bank Repair
Napa

Intersection of Rawhide and PFE Road
Roseville

Kaiser PV Carports - Manteca
Manteca

Mission Nurseries
Patterson

NE Antioch Annexation Area 1 & 2b -
Engineering
Antioch

PG&E Livermore Substation Training
Facility
Livermore

Silverado Trail Storm Damage Repair
Retaining Wall
Napa

Well Location Survey
Sacramento

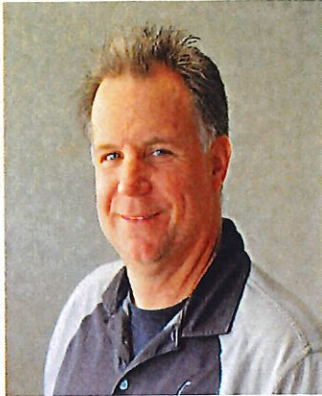
5th Avenue and D Street
San Rafael

Schoen Park
San Rafael

Buck's Landing
San Rafael

Easement at Southern Heights and
Courtwright
San Rafael

Kaiser MRI Trailer
San Rafael



ERIC CHASE, GE, CE
GEOTECHNICAL ENGINEER

Eric Chase is responsible for geotechnical studies, design, consultation, and construction observation. His experience includes roadways and bridges, water and wastewater pipelines and treatment plants, pump stations, power plants, port facilities, schools, hospitals, multi-story buildings, deep foundations, levees, hillside development, and residential construction. He has also performed seismic/geologic hazard evaluations for various Army installations and Navy facilities throughout the western United States. He has over 25 years of experience in geotechnical and earthquake engineering in the greater Bay area including Sonoma, Napa, Mendocino and Lake Counties, Humboldt County, Los Angeles, San Diego and the States of Alaska, Arizona, Washington, Nevada, Utah, and Kansas.

EDUCATION

B.S., Civil Engineering
California Polytechnic
State University, San Luis
Obispo

REGISTRATION

California Geotechnical
Engineer, No. 2628
California Civil Engineer,
No. 53150

AFFILIATIONS

American Society of Civil
Engineers
Chi Epsilon Honor
Society

TOTAL YEARS

EXPERIENCE

30 years, 20 with firm

SELECT PROJECT EXPERIENCE

2000 - Present
Principal Engineer
RGH Consultants
Santa Rosa, CA

1992 - 2000
Senior Engineer
Geomatrix Consultants, Inc.
San Francisco and Oakland, CA

1990 - 1992
Staff Engineer
Herzog Associates, Inc.



SUBCONSULTANTS

RGH CONSULTANTS (RGH)

Service: Geotechnical Engineering

RGH Consultants was founded in 1991 as a full service firm with expertise in geotechnical engineering, engineering geology, and construction observation and testing. RGH has grown to become one of the largest locally-owned geotechnical engineering firms in the North Bay. Headquartered in Santa Rosa, RGH has a satellite office in Napa. RGH's staff of professional engineers and geologists, field engineers and engineering technicians collectively have decades of experience in geotechnical engineering, engineering geology, construction observation, and materials testing in northern California with an emphasis on work in Sonoma and Napa Counties. These services have been provided on public works projects including design and construction of bike paths, roadways, bridges, and retaining walls.



✓ Geotechnical testing laboratory certified by AMRL, DSA, Army Corps & Caltrans

GHILOTTI BROTHERS (GBI)

Service: Potholing Services (Optional)

Ghilotti Bros., Inc. is a Marin County based general contractor. Since 1914, the firm has successfully completed numerous award-winning infrastructures, heavy highway, site development, aviation, rail, and marine-related projects for public and private owners. Ghilotti has state-of-the-art Vacmaster System 4000 trucks. GBI's experienced team can quickly and efficiently dig down deep with air locating underground utilities in the hardest of soils, without causing harm. This firm's combination of workmanship and quality equipment has led them to complete potholing for the County of Marin on Sir Francis Drake, East Boulevard for the City of San Rafael, as well as numerous companies around the Bay Area, including Facebook and Google.



Doris Toy
District Manager
San Rafael Sanitation District
111 Morphew Street
San Rafael, CA 94901

June 19, 2020

SUBJECT: 2020 SEWER PIPE REPAIR & REPLACEMENT PROJECT - FEE PROPOSAL

Dear Ms. Toy:

In this separately sealed envelope, we have included BKF Engineer's (BKF) Fee Proposal for the subject project. The Fee Proposal includes a breakdown of how the fee was developed, including the number of man-hours by tasks, classifications of staff, billing rates, and all incidental charges. We submit this to you on a time and materials basis with a maximum "not to exceed" number, which includes both direct and overhead costs.

Should you have any questions, or would like clarification on any aspect of our fee or the proposed services, please feel free to contact me at jkirchmann@bkf.com or (415) 930-7960. We look forward to hearing from you soon.

Sincerely,
BKF ENGINEERS



Jason Kirchmann, PE, PLS, QSD/P
Vice President/Project Lead

| San Rafael Sanitation District 2020 Sewer Pipe Repair and Replacement Project CONSULTING SERVICES | | | | | | | | | | Total BKF Hours | Total BKF Fee | RGH | | Total Subconsultant Fee <i>Includes Markup</i> | Estimated Total Fee per phase |
|---|---|-----------|-------|-----------------|----------------|---------------------|---------------------|-----------------|-------------------|-----------------|---------------|-----------|----------------|---|-------------------------------|
| | | | QA/QC | Project Manager | Survey Manager | Engineering Manager | Sr Project Engineer | Design Engineer | Survey Field Crew | | | Geotech | GBI Pothole | | |
| Task | Description | Full Rate | Assoc | VP | SPM | EM | E3 | E1 | 2-Man | | | | | | |
| 1 | Project Management & QA/QC | | | | | | | | | | | | | | |
| 1.1 | Project Management & QA/QC | | 12 | 24 | 2 | | | | | 38 | \$8,436 | | | \$0 | \$8,436 |
| 1.2 | Meetings | | | 8 | | 16 | | | | 24 | \$4,888 | | | \$0 | \$4,888 |
| Project Management & QA/QC Subtotal: | | | 12 | 32 | 2 | 16 | 0 | 0 | 0 | 62 | \$ 13,324 | \$ - | \$ - | \$ - | \$13,324 |
| 2 | Background Research and Analysis of CCTV files | | | | | | | | | | | | | | |
| 2.1 | Review CCTV files and logs | | | 1 | | 2 | 12 | | | 15 | \$2,759 | | | \$0 | \$2,759 |
| 2.2 | Analysis and Report | | | 2 | | 24 | 48 | 12 | | 86 | \$15,318 | | | \$0 | \$15,318 |
| Background Research and Analysis of CCTV files Subtotal: | | | 0 | 3 | 0 | 26 | 60 | 12 | 0 | 101 | \$ 18,077 | \$ - | \$ - | \$ - | \$18,077 |
| 3 | Existing Conditions Mapping and Studies | | | | | | | | | | | | | | |
| 3.1 | Base Mapping (2021 construction project limits) | | | 4 | 6 | 2 | | 72 | 32 | 116 | \$21,814 | | | \$0 | \$21,814 |
| 3.2 | Geotechnical Investigation (desktop review) | | | 2 | | 1 | 1 | | | | \$822 | \$16,665 | | \$18,332 | \$19,154 |
| 3.3 | Geotechnical Investigation (field investigation) | | | 2 | | 1 | 1 | | | 4 | \$822 | \$38,352 | | \$42,187 | \$43,009 |
| Existing Conditions Mapping and Studies Subtotal: | | | 0 | 8 | 6 | 4 | 2 | 72 | 32 | 120 | \$ 23,458 | \$ 55,017 | \$ - | \$ 60,519 | \$83,977 |
| 4 | Design Plans, Specifications and Cost Estimate (PS&E) | | | | | | | | | | | | | | |
| 4.1 | 35% Design | | | | | | | | | | | | | | |
| 4.1.1 | 35% Construction Drawings | | | 8 | | 12 | 12 | 28 | | 60 | \$10,100 | | | \$0 | \$10,100 |
| 4.1.2 | 35% Specifications | | | 2 | | 2 | 6 | | | 10 | \$1,910 | | | \$0 | \$1,910 |
| 4.1.3 | 35% Estimate | | | 2 | | 2 | 4 | 12 | | 20 | \$3,196 | | | \$0 | \$3,196 |
| 4.2 | 65% Design | | | | | | | | | | | | | | |
| 4.2.1 | 65% Construction Drawings | | | 6 | | 10 | 16 | 32 | | 64 | \$10,528 | | | \$0 | \$10,528 |
| 4.2.1 | 65% Specifications | | | 2 | | 4 | 12 | | | 18 | \$3,370 | | | \$0 | \$3,370 |
| 4.2.3 | 65% Estimate | | | 1 | | 2 | 2 | 8 | | 13 | \$2,065 | | | \$0 | \$2,065 |
| 4.3 | 95% Design | | | | | | | | | | | | | | |
| 4.3.1 | 95% Construction Drawings | | | 4 | | 4 | 6 | 16 | | 30 | \$4,938 | | | \$0 | \$4,938 |
| 4.3.2 | 95% Specifications | | | 2 | | 2 | 4 | | | 8 | \$1,552 | | | \$0 | \$1,552 |
| 4.3.3 | 95% Estimate | | | 1 | | 1 | 1 | 8 | | 11 | \$1,693 | | | \$0 | \$1,693 |
| 4.4 | Final Bid Documents | | | | | | | | | | | | | | |
| 4.4.1 | Final Plans | | | 2 | | 4 | 2 | 10 | | 18 | \$2,950 | | | \$0 | \$2,950 |
| 4.4.2 | Final Specifications (incl front end review) | | | 2 | | 1 | 2 | | | 5 | \$1,001 | | | \$0 | \$1,001 |
| 4.4.3 | Final Estimate and bid items list | | | 1 | | 2 | 4 | 6 | | 13 | \$2,149 | | | \$0 | \$2,149 |
| Design Plans, Specifications and Cost Estimate (PS&E) Subtotal: | | | 0 | 33 | 0 | 46 | 71 | 120 | 0 | 270 | \$45,452 | \$0 | \$0 | \$0 | \$45,452 |
| 5 | Public Outreach | | | | | | | | | | | | | | |
| 5.1 | Public Outreach | | | 2 | | 2 | | 8 | | 12 | \$1,932 | | | \$0 | \$1,932 |
| 5.2 | Board Presentation | | | 4 | | 4 | | | | 8 | \$1,672 | | | \$0 | \$1,672 |
| Public Outreach Subtotal: | | | 0 | 6 | 0 | 6 | 0 | 8 | 0 | 20 | \$3,604 | \$0 | \$0 | \$0 | \$3,604 |
| 6 | Bid Phase | | | | | | | | | | | | | | |
| 4.2.1 | Bid Addendums | | | 2 | | 2 | 2 | 6 | | 12 | \$2,016 | | | \$0 | \$2,016 |
| 4.2.1 | Pre-Bid Meeting | | | 2 | | 2 | | 1 | | 5 | \$973 | | | \$0 | \$973 |
| 4.2.3 | Bid opening and review | | | 2 | | | 6 | | | 8 | \$1,524 | | | \$0 | \$1,524 |
| Bid Phase Subtotal: | | | 0 | 6 | 0 | 4 | 8 | 7 | 0 | 25 | \$4,513 | \$0 | \$0 | \$0 | \$4,513 |
| 7 | Construction Support | | | | | | | | | | | | | | |
| 7.1 | Pre-Construction Meeting | | | 2 | | 2 | | 1 | | 5 | \$973 | | | \$0 | \$973 |
| 7.2 | Site Visits (3) | | | 2 | | 8 | | | | 10 | \$1,994 | | | \$0 | \$1,994 |
| 7.3 | RFI's | | | 2 | | 2 | 2 | 2 | | 8 | \$1,468 | \$ 2,540 | | \$2,794 | \$4,262 |
| 7.4 | Submittals and Shop Drawings | | | 2 | | 6 | 10 | 20 | | 38 | \$8,138 | | | \$0 | \$8,138 |
| 7.5 | Change Order Support | | | 2 | | 4 | | | | 6 | \$1,222 | | | \$0 | \$1,222 |
| 7.6 | Weekly OEC Meetings (16) | | | 10 | | 48 | | | | 58 | \$11,514 | | | \$0 | \$11,514 |
| 7.7 | Final punch list site visit(s) | | | | | 4 | | 2 | | 6 | \$1,046 | | | \$0 | \$1,046 |
| 7.8 | Record drawings | | | 1 | | 2 | 6 | 16 | | 25 | \$3,877 | | | \$0 | \$3,877 |
| Construction Support Subtotal: | | | 0 | 21 | 0 | 76 | 18 | 41 | 0 | 156 | \$28,232 | \$2,540 | \$0 | \$2,794 | \$31,026 |
| Reimbursable and Consultant Expenses | | | | | | | | | | | \$1,300 | \$500 | \$0 | | \$1,800 |
| General BKF Printing, Plotting, and Travel (1% of Total) | | | | | | | | | | | | | | | |
| Consultant Labor Totals | | | 12 | 109 | 8 | 178 | 159 | 260 | 32 | 754 | \$ 136,660 | \$ 57,557 | \$ - | \$ 63,312.70 | \$199,973 |
| Total Fees (Total fees include consultant and reimbursable markups pursuant to rate sheets) | | | | | | | | | | | | | | | \$201,773 |

| San Rafael Sanitation District 2020 Sewer Pipe Repair and Replacement Project OPTIONAL SERVICES | | | | | | | | | Total BKF Hours | Total BKF Fee | RGH | | Total Subconsultant Fee* <i>Includes Markup</i> | Estimated Total Fee per phase |
|---|-------------------|-----------|-----------------|----------------|-----------------------|---------------------|-----------------|-------------------|-----------------|---------------|----------|----------------|--|-------------------------------|
| | | QA/QC | Project Manager | Survey Manager | Lead Project Engineer | Sr Project Engineer | Design Engineer | Survey Field Crew | | | Geotech | GBI Pothole | | |
| Task | Description | Full Rate | \$219 | \$225 | \$204 | \$193 | \$179 | \$137 | \$295 | | | | | |
| Optional Services | | | | | | | | | | | | | | |
| A | Pump Around Plans | | 2 | 2 | | 2 | 12 | 20 | 38 | \$6,162 | | | \$0 | \$6,162 |
| B.1 | Utility Locating | | | 2 | 4 | | | 40 | 32 | \$16,186 | | | \$0 | \$16,186 |
| B.2 | Utility Potholing | | | 2 | | 1 | | 8 | 11 | \$1,739 | | \$16,800 | \$17,640 | \$19,379 |
| Optional Services Total: | | | 2 | 6 | 4 | 3 | 12 | 68 | 32 | 49 | \$24,087 | \$ - | \$16,800 | \$41,727 |



**San Rafael
Sanitation
District**

111 Morpew Street
San Rafael, CA 94915-1560

Telephone 415 454-4001
Facsimile 415 454-2270

Board of Directors

Gary O. Phillips, Chairman
Maribeth Bushey, Secretary/Director
Katie Rice, Director

District Manager/District Engineer

Doris Toy, P.E.

REQUEST FOR PROPOSALS

for

Engineering Design Services for

2020 Sewer Pipe Repair and Replacement Project

The San Rafael Sanitation District (District) hereby requests proposals from qualified consultants for the design and preparation of construction contract documents and design support during construction for the 2020 Sewer Pipe Repair and Replacement Project. It is the intent of the District to hire a qualified consultant who can provide project management, preliminary design, permitting assistance, final design services and construction design support services. The final product sought is construction contract documents including plans, specifications and cost estimates ready for bid.

Proposals shall be submitted by firms that have a capable and demonstrable background in the type of work described in the section entitled "Scope of Work" of this notice. In addition, all interested firms shall have sufficient, readily available resources, in the form of trained personnel, support services, specialized consultants and financial resources, to carry out the work without delay or shortcomings.

Interested consultants are invited to submit qualifications in accordance with the requirements of this Request for Proposals (RFP).

The proposals shall be submitted to the San Rafael Sanitation District, 111 Morpew Street, San Rafael, California 94901, no later than June 19, 2020 at 2:00 PM. Each proposer shall submit five (5) bound sets of the proposal in accordance with the section entitled "Proposal" of this notice.

Background

As part of the 80-year gravity main lifecycle replacement program, it is the District's goal to televise 10 miles of sewers each year and develop future capital projects from the results of these televised surveys. As part of this program, the District televised approximately 8 miles of sanitary sewers throughout central and southern San Rafael during the winter of 2019.

The inspected pipelines include two trunk sewers located in Second Street between East Street and A Street; D Street between Antonette Avenue and Second Street; Du Bois Street between Irwin Street and Bret Avenue; and other nearby sewers connected to these mainlines along the intersecting and adjacent side streets. Please see the attachments for a detailed map of all televised sewers that shall be analyzed as part of this proposal. Along with the results of the video surveys is a 437-page report compiled per NASSCO PACP inspection standards, included as an attachment to this proposal. The District will provide all associated video files for each sewer inspection to facilitate the analysis.

The sewer sizes vary between 6 inches and 21 inches; however, the majority are less than 15 inches. The sewers primarily consist of vitrified clay pipe (VCP), however, some pipes may be polyvinyl chloride (PVC) or high-density polyethylene (HDPE).

A majority of the televised sewers are located in the northern portion of San Rafael's Gerstle Park neighborhood. This neighborhood, bordered to the north by Second Street and Downtown San Rafael, and to the East by B Street and Albert Park, is predominantly residential with commercial businesses along Second Street and D Street. Root infiltration and offset joints are a common maintenance issue encountered in these sewers.

Additionally, the District would like to include the analysis of the Locust Avenue sewers from Grand Avenue to Deer Park Avenue. The gravity sewers at Locust Avenue are approximately 2,600 linear feet of VCP, ranging in size from 6 inches to 8 inches. These sewers will be televised by the District during Summer 2020.

Project Description

The work described in this RFP includes the analysis of the existing sewers previously televised by the District in 2019 shown in attached map, compilation of a list of sewers recommended for replacement, and the design and preparation of construction contract documents and design support during construction of the new sewers identified in the aforementioned analysis.

Scope of Work

The District is seeking consulting services to provide construction contract documents including plans, specifications and cost estimates for the repair and replacement of sewer main, lower laterals and manholes in undetermined various locations, potentially including the following areas: First Street, D Street, Locust Street, and other locations identified during the consultant's review of the District's CCTV files. District's goal is to repair and replace a minimum of 1.5 miles of sewer main in Year 2021. Since District wishes to include medium-sized contractors in the bidding process, District is considering to separate the construction project into two projects at approximately \$2M to \$2.5M each.

Consultant Responsibility

The consultant(s) chosen for this project shall be responsible for the following tasks:

Task 1: Analysis of District's CCTV files for existing sewers

1. The consultant shall be responsible for review of the 2019 Sanitary Sewer Televising Project's video files and PACP reports. The consultant shall deliver a high-quality analysis of the video inspection results and list of recommendations for future capital improvement projects (CIP).

Deliverables:

- Detailed report of analysis and recommendation of future CIP alternatives based upon results of the CCTV surveys.

Task 2: Design

1. The consultant shall conduct all field, topographic and control surveys, prepare all preliminary geotechnical studies and reports, and complete all preliminary design calculations as necessary
2. The consultant shall produce 35%, 65% and 95% submittal packages for review
3. The consultant shall prepare final bid documents incorporating all comments from previous reviews. Final plans shall be printed on 22"x34" paper and shall be complete with final signatures ready for reproduction.
4. The plans shall be drawn using AutoCAD

5. The schedule of items shall address all items of work as specifically as possible and shall indicate as precisely as possible the quantities.
6. The consultant shall provide a cost estimate in the format of the schedule of bid items.

Deliverables:

- 35%, 65%, 95% and 100% PS&E submittals in both paper and electronic (Word, Excel, and pdf) format, and engineer's cost estimate for two contract bid documents.
- A letter report summarizing review comments and the resolution of the review comments
- Final bid documents for two contract bid documents in both paper and electronic format (AutoCAD, Word, Excel, and pdf) format

Task 3: Final Bid Phase and Bid Phase Support (for two contract bid documents).

1. The consultant shall facilitate the pre-bid meeting, set the agenda and respond to questions concerning the plans, specifications, and estimates prior to bid opening and prepare contract addenda, if required.
2. Assist the District in coordinating and posting the bid package and addenda in an online advertising service.
3. The consultant shall review construction bids received, check references and make a recommendation to the District for award of construction contract.

Deliverables:

- Prepare contract addenda, if required, including answers to bidder's questions, for distribution by an online service.
- Prepare bid summary sheet and letter of recommendation to the District for the award of the construction contract.

Task 4: Design Support during Construction (for two contract bid documents)

1. The consultant shall attend the pre-construction conference to respond to questions concerning the plans, specifications and estimates
2. The consultant shall be available to be called to the site in response to questions arising from the progress of the work
3. The consultant shall respond to Request for Informations (RFIs) from the contractor when called for by the District and prepare modifications or revisions that are related to the project's original scope and character. The District shall not be billed for nor shall they pay for any revisions to the plans and specifications that are required due to errors or omissions in the original contract documents
4. The consultant shall assist District staff in reviewing submittals from the contractor
5. The consultant shall assist the District in preparation of contract change orders, if necessary
6. The consultant shall attend weekly construction meetings and record the minutes.
7. The consultant shall participate in the final walk through of the constructed project and assist in the preparation of "punch list" items in need of work
8. The consultant shall prepare record drawings following construction from mark ups by the contractor and the resident engineer. Submittal of record drawings shall be on 11"x17" and 22"x34" bond paper and electronic format.

Deliverables:

- Response to RFIs and Submittals from the contractor
- Modification or revisions that are related to the project original scope and character
- Contract change orders if necessary

District Responsibility

The District shall provide the following:

1. All construction inspection work and contract administration.
2. Any utility underground maps, CCTV videos of existing sewers, and any existing information in the possession of the District necessary to complete the design.

Payment and Cost Estimate

The method of payment to the successful proposer shall be on a time and materials basis with a **maximum “not to exceed” fee, as set by the proposer in his/her proposal**, as being the maximum cost to perform all work. This figure shall include direct costs and overhead such as, but not limited to, transportation, communications, subsistence and materials, and any subcontracted items of work to prepare preliminary and final design and deliver 100% Plans, Specifications and Estimate (PS&E). Progress payments will be based on actual hours, hourly costs and support service costs charged to the project on a monthly basis.

The Fee Proposal shall be submitted with the Proposal in a separate, sealed envelope. Inclusion of the Fee Proposal inside the Proposal is grounds for rejection of the Proposal. The District reserves the right to negotiate profit with the Consultant. The Fee Proposal shall include a breakdown of how the Fee was developed, including the number of man-hours by tasks, classifications of staff, billing rates, and all incidental charges, including subconsultants fees.

Please note that the Fee Proposal for Task 4, Design Support during Construction, may be submitted when Task 2, Design portion of the project is nearly complete.

Proposal

The proposal shall consist of five (5) bound sets containing 8½”x11” sheet sizes for the text and 11”x17” sheet sizes for any fold-out drawings. At minimum, it shall include:

1. Cover letter signed by the person authorized to negotiate a contract for proposed services with the District on behalf of the proposal team.
2. Project understanding outlining the consultant’s basic understanding of the project and identifying key issues to be addressed during the project and any insights.
3. A detailed project approach and level of effort, in accordance with the section entitled “Scope of Work” of this notice.
4. A project schedule including at minimum, those tasks outlined in the section entitled “Scope of Work” of this notice.
5. A Statement of Qualification (SOQ) that includes:
 - a. The proposer’s experience and history in performing this type of work, particularly those projects that have been successfully carried through construction
 - b. References of persons, firms, or agencies that the District may contact to verify the experience of the proposer
 - c. An organization chart setting forth the project manager and the staff
 - d. Experience for each individual expected to perform responsible portions of the work

- e. Experience for each sub consultant

Proposal Submittal

All proposals shall be received by the District no later than **June 19, 2020 at 2:00 PM** at the following address:

San Rafael Sanitation District
111 Morpew Street
San Rafael, CA 94901

Evaluation Criteria

A review and selection committee will evaluate the consultants based on the proposals and, if necessary, an oral interview to determine which consultant is best qualified to perform the work for this project. The committee will then determine a ranking of the consultants at which time the consultant fee envelopes will be opened and tabulated. The consultant fees will be evaluated to determine if the amount of the fee is considered a reasonable cost for the work outlined in the proposal. If the top ranked consultant has submitted a reasonable fee, the committee will make a recommendation to the District Manager that negotiations be opened to ensure that the top-ranked consultant has a full understanding of the expectations of the District, that the scope reflects all tasks anticipated and that the fee reflects completion of the project to the satisfaction of the District. In the event that the District and the top-ranked consultant are unable to come to an agreement as to scope and fee, the District reserves the right to close negotiations with the top-ranked consultant and open negotiations with the second-ranked consultant. Once an agreement is reached involving the scope and fee, the District Manager will make a recommendation to the San Rafael Sanitation District Board to award the project to the selected consultant and to authorize the District Manager to enter into an agreement with that consultant. If the Board is in agreement with the recommendation, District staff will proceed with the completion of the agreement and prepare the contract for execution.

Ranking of the proposals will be based on the following:

1. Inclusion of all required items and completeness of the proposal
2. Understanding of the work to be done
3. Clear description of the tasks
4. Commitment to adhering to the schedule of each task and overall project
5. Qualified and experienced personnel in the project team
6. Previous experience of similar projects completed on time and within budget

The District will notify each consultant regarding the outcome of the proposal selection process.

Tentative Schedule

| | |
|---|------------------------|
| Request for Proposals sent to consultants..... | May 13, 2020 |
| Responses from interested firms due at the District office..... | 2:00 PM, June 19, 2020 |
| Consultant Interviews (if necessary) | June 24, 2020 |
| Award Consultant at Board Meeting | June 26, 2020 |

District Contact

Inquiries and/or responses may be directed to:

Doris Toy, District Manager
San Rafael Sanitation District
111 Morpew Street
San Rafael, CA 94901

111 Morpew St., San Rafael, CA 94901

Doris.Toy@cityofsanrafael.org
Phone: 415-485-3484

Clarification offered by the District to one consultant shall be distributed to all known participants at the District's discretion.

Standard Consultant Agreement

The consultant selected to provide the scope of services shall use the San Rafael Sanitation District's standard professional services agreement. A copy of the template of this agreement is attached to this RFP. By submitting a proposal for the work, the consultant agrees to utilize the District standard agreement form for the contract. Contractually required insurance coverage and endorsement information is shown in the body of the document.

Attachments

San Rafael Sanitation District's *Professional Services Agreement* Template

Map of Sewers Televised by District in 2019

PACP Report of CCTV Surveys in 2019

Report of Manhole Inspections in 2019

District's Summary Spreadsheet of CCTV 2019 Results

CONSULTANT/FIRM NAME: Schaaf & Wheeler

| CRITERIA | MAX. POINTS | AVG RATING | NOTES SUMMARY |
|---|-------------|------------|--|
| Inclusion of all required items and completeness of the proposal | 15 | 15 | Consultant provided all materials cited in the RFP; Proposal is well organized and clearly written. |
| Understanding of the work to be done | 20 | 20 | Consultant has presented a clear and comprehensive understanding of the work to be done. Presentation and language directly conveys considerable experience in relevant scope of work. Smaller engineering firm that primarily designs storm, potable and wastewater. |
| Clear description of the tasks | 20 | 19.25 | Proposal included a project approach that detailed each task required and a scope of work necessary to complete the project. |
| Commitment to adhering to the schedule of each task and overall project | 15 | 14.75 | Proposed schedule meets the District's request for final bid documents for construction in early-mid 2021. |
| Qualified and experience personnel n the project team | 15 | 15 | Project personnel to be assigned to the project for both the Prime and Sub have a demonstrated wealth of direct project relevant experience spanning up to 30 years. Same team has worked on similar projects. PACP/MACP/LACP certified. |
| Previous experience of similar projects completed on time and within budget | 15 | 15 | Has experience completing similar projects, ie. City of Belmont Sewer Rehab Proj for 2014, 2015, 2016, 2017. ElCamino Real Sanitary Sewer Rehab, 2017-2020; City of Mill Valley 2019-2020 under construction; Harbor Dr Sewer Rehab for Corte Madera 2019-2020 just complete design. |
| POINT TOTAL: | 100 | 99 | |

CONSULTANT/FIRM NAME: BkF Engineers

| CRITERIA | MAX. POINTS | AVG RATING | NOTES SUMMARY |
|---|-------------|--------------|--|
| Inclusion of all required items and completeness of the proposal | 15 | 15 | Consultant provided all materials cited in the RFP; Proposal is well organized and clearly written. |
| Understanding of the work to be done | 20 | 18.75 | Consultant has presented a clear and comprehensive understanding of the work to be done. Presentation and language directly conveys considerable experience in relevant scope of work. Large civil engineering firm. |
| Clear description of the tasks | 20 | 20 | Proposal included a project approach that detailed each task required and a scope of work necessary to complete the project. |
| Commitment to adhering to the schedule of each task and overall project | 15 | 14.75 | Proposed schedule meets the District's request for final bid documents for construction in early-mid 2021. |
| Qualified and experience personnel n the project team | 15 | 11 | Team assigned to work on project has little sewer design experience; did not work on the similar projects listed. |
| Previous experience of similar projects completed on time and within budget | 15 | 10.25 | Consultant listed several sewer projects that it did not have any involvement. |
| POINT TOTAL: | 100 | 89.75 | |

S.a.

SAN RAFAEL SANITATION DISTRICT
Agenda Item No. 5.a.

DATE: August 6, 2020

TO: Board of Directors, San Rafael Sanitation District

FROM: Doris Toy, District Manager/District Engineer *DT*

SUBJECT: Adopt Resolution Rescinding Resolution No. 14-1084 and Authorizing Approved Signatories on District Checks

Summary

On December 31, 2008, the San Rafael Sanitation District terminated the accounting services with the County of Marin, which included the issuing of checks. However, the District has continued to use the County for collecting, safeguarding, and investing District funds. The County currently has an agreement with Bank of America for its banking services. Since the termination of accounting services with the County, we have obtained Maher Accountancy to perform this service for the District, including the issuing of checks. These checks require two authorized signatures.

Analysis

Per Resolution No. 14-1084, the Board authorized Doris Toy, the District Manager/District Engineer, and Karen Chew, the Senior Civil Engineer, to be the approved signatories on District checks. In the event that one of the signatories is not available, Gary Phillips, Board Chairman, and Katie Rice, Board Director, are the alternate approved signatories. However, since Karen Chew has retired and David Nicholson is now the Senior Civil Engineer, Resolution No. 14-1084 needs to be updated and amended. Staff would also like to add Maribeth Bushey, Board Secretary/Board Director as an alternate signatory.

Options:

1. Keep the same signatories listed on Resolution No. 14-1084, but replace Karen Chew with David Nicholson as one of the signatories and add Maribeth Bushey as an alternate signatory.
2. Appoint other signatories.

Action Required

Staff recommends that the Board of Directors of the San Rafael Sanitation District choose Option 1 and adopt the resolution rescinding Resolution No. 14-1084 and authorizing approved signatories on District checks.

Attachment: Resolution

SAN RAFAEL SANITATION DISTRICT

RESOLUTION NO. 20-1211

**A RESOLUTION OF THE BOARD OF DIRECTORS
OF THE SAN RAFAEL SANITATION DISTRICT
RESCINDING RESOLUTION NO. 14-1084 AND AUTHORIZING
APPROVED SIGNATORIES ON DISTRICT CHECKS**

WHEREAS, San Rafael Sanitation District (District) terminated the accounting services with County of Marin, which included the issuing of checks, on December 31, 2008; and

WHEREAS, District will continue to use the County's treasurer services, such as the collecting, safeguarding, and investing District funds; and

WHEREAS, County currently has an agreement with Bank of America for its banking services; and

WHEREAS, the County Treasurer will continue to be the authority on the District account; and

WHEREAS, District began issuing checks after December 31, 2008; and

WHEREAS, District checks require two (2) authorized signatures.

NOW, THEREFORE, IT IS HEREBY RESOLVED that the Board of Directors of the San Rafael Sanitation District, County of Marin, State of California, authorizes the following as the approved signatories: Doris W. Toy, District Manager/District Engineer; and David M. Nicholson, Senior Civil Engineer. In the event that one signatory is not available, Gary O. Phillips, Board Chairman; Katie Rice, Board Director; and Maribeth Bushey, Board Secretary/Director are the alternate approved signatories.

PASSED AND ADOPTED at a regular meeting of the San Rafael Sanitation District Board of Directors held on the 6th day of August, 2020, by the following vote, to wit:

AYES:

NOES:


ABSENT/ABSTAIN:

Gary O. Phillips, Chairman

ATTEST:

Maribeth Bushey, Secretary

SAN RAFAEL SANITATION DISTRICT
Agenda Item No. 5.b.

DATE: August 6, 2020
TO: Board of Directors, San Rafael Sanitation District
FROM: Doris Toy, District Manager/District Engineer 
SUBJECT: Discussion on Electronic Signatures

SUMMARY

District and City staff have been exploring electronic signatures for executing various documents, i.e. permits and agreements. Since we have been sheltering-in-place due to COVID-19 for the past five months, staff consulted with the City on whether it had found a product for electronic signatures and was advised that the City had just begun using Adobe Sign for this purpose.

After researching this matter, the City found that electronic signatures using Adobe PDF “stamps” or other internal product are legally binding per the Uniform Electronic Transaction Act (UETA), which California adopted in 1999.

The UETA was adopted by the Legislature in 1999 and became effective on January 1, 2000, (Civ. Code 1633.1 et seq.). The UETA defines an electronic signature as “an electronic sound, symbol, or process attached to or logically associated with an electronic record that is executed or adopted by a person with the intent to sign the electronic record. For purposes of this title, a “digital signature” as defined in subdivision (d) of Section 16.5 of the Government Code is a type of electronic signature.” A digital signature is defined as “an electronic identifier, created by computer, intended by the party using it to have the same force and effect as the use of a manual signature” (Gov. Code 16.5.). These definitions include signatures stored in Adobe Acrobat, PDF signatures, or copies of handwritten signatures that are “cut and pasted” onto documents as long as they are used by a person with the intent to sign the document (*See Espejo v. Southern California Permanent Medical Group*, 246 Cal.App.4th 1047 (2016).)

The UETA further provides:

- (a) A record or signature may not be denied legal effect or enforceability solely because it is in electronic form.
- (b) A contract may not be denied legal effect or enforceability solely because an electronic record was used in its formation.
- (c) If a law requires a record to be in writing, an electronic record satisfies the law.
- (d) If a law requires a signature, an electronic signature satisfies the law.

Note that the UETA does not apply to wills, codicils, or testamentary trusts, documents governing adoptions, divorce, or other family law matters or the Uniform Commercial Code. Additionally, the Cal. Court of Appeal held that a typed name at the end of an email is not an

enforceable electronic signature to execute a settlement agreement (*JBB Inv. Partners Ltd v. Fair*, 232 Cal.App.4th 974 (2014).)

In summary, as long as an electronic signature (1) is used by a person with the intent to sign the document, (2) the parties agree to conduct the transaction by electronic means (which only need be shown from context and surroundings and need not be expressly agreed), then these signatures are legally binding.

Staff has consulted with the District's legal counsel, and her comment was that all parties will need to agree to execute the document using electronic signatures, and the signatories will need to be authenticated. Adobe Sign has four methods of authentication: 1) by email; 2) by password; 3) by social; and 4) by knowledge base authentication.

In addition, the parties will need to return the entire document with their signature and not just the signature page.

The Adobe Sign subscription is \$360/year.

ACTION REQUIRED

Board to discuss electronic signatures and to consider using electronic signatures for Board documents, i.e. meeting minutes, resolutions, and agreements.