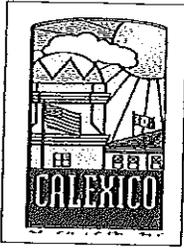


**AGENDA
ITEM**

12



AGENDA STAFF REPORT

DATE: September 20, 2017

TO: Mayor and City Council

APPROVED BY: Armando G. Villa, City Manager *Armando G. Villa*

PREPARED BY: David Dale, Public Works Director/City Engineer *David Dale*

SUBJECT: Authorize Public Works Director/City Engineer to Sign Change Order No. 1 with RADCO in the Amount of \$32,252.67 for the repair of (1) Sewer Manhole at the Intersection of Andrade Avenue and Rosas Street.

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Recommendation:

Authorize Public Works Director/City Engineer to Sign Change Order No. 1 with RADCO in the Amount of \$32,252.67 for the repair of (1) Sewer Manhole at the Intersection of Andrade Avenue and Rosas Street.

Background:

On June 21, 2017, the City Council approved an agreement with the lowest responsive bidder, RADCO, in the amount of \$36,250 to repair a dangerously corroded manhole to prevent a failure of the structure and a collapse and sinkhole at Andrade Avenue and Rosas Street. The project was scheduled to be completed within 12 hours. Due to events beyond the control of the Contractor, the project was prolonged more than 72 hours, and the excavation area doubled, causing increased costs and delays.

Discussion & Analysis:

The manhole at Andrade and Rosas Street is located on a large sewer trunk main. Normally for projects like this, research of existing conditions is completed, plans are made and engineering documents are prepared. Since this was an emergency project, sufficient Civil and Geotechnical engineering was not possible prior to requesting proposals from Contractors. RADCO specifically excluded sewer bypass and plugging for the project. Bypassing the sewer manhole was not practical because the raw wastewater would have to be pumped over State Highway 98. The City's plan was to turn off the main sewer lift station to prevent raw sewer from entering the project manhole. However, between the project manhole and the lift station there are several sewer connections, which meant that the manhole had raw sewage flowing through the manhole at all times. RADCO provided a plug to stop the sewage flow upstream, but it took

AGENDA
ITEM
12

longer than anticipated to complete the work, because of the existing material around the manhole was uncompacted sand, and other issues which could not have been anticipated by the Contractor. The sand sluffed off of the walls of the excavation, into the manhole base and created problems in the manhole and sewer pipeline. With these delays, the City was forced to turn on the sewer pump station and let the sewer flow through the uncompleted excavated manhole, which created more problems and delays. The Contractor's cost for completing the project was \$81,344.59 without any profit added in (\$42,252.67 over the contract amount of \$36,250.00). After discussions and meetings, an agreement was made to reduce the cost to the City by \$10,000. Therefore the proposed change order is in the amount of \$32,252.67.

Fiscal Impact:

FY 2017-2018 Budgeted Item
\$32,252.67 – Water Capital Fund

Coordinated With:

Public Works Department.

Attachment(s):

1. RADCO proposal dated June 5th, 2017
2. RADCO letter dated September 8th, 2017
3. RADCO cost analysis.
4. Change Order No. 1 Andrade Manhole Replacement Project



June 5, 2017

Proposal Submitted To: City of Calexico

Re: Manhole Replacement

PROPOSAL

SCOPE OF WORK:

Radco, Inc. will supply materials, equipment, and labor to complete the following:

Repair existing manhole shafting on Andrade Street. 14' deep, but leave mh base existing in place. Night work and prevailing wages included.

1. Mobilize/traffic control
2. Saw cut, demo and haul off to city's yard
3. Excavate and haul dirt to city yard
4. Shoring/shields
5. Install new shafting & rim/cover from base up
6. Grout joints
7. Backfill with sand to top, with 12" class II base
8. Install Raven 504 spray liner
9. Base and Pave

TOTAL PROPOSAL PRICE \$36,250.00

EXCLUSIONS: Testing, permitting, fees, construction water, engineering, SWPP, sewer bypass

PAYMENT SCHEDULE: Net Due in 30 Days

Respectfully Submitted By: **Terry A. Robertson II, VP/RMO**

This Proposal is valid for 30 days. Please contact Radco Inc. if time has elapsed. Any item not specifically stated on this document as included is excluded.

All material is guaranteed to be as specified. All work to be completed in a workmanlike manner according to standard practices. Any alteration or deviation from above specifications involving extra costs will be executed only upon written orders, and will become an extra charge over and above this estimate. Owner to carry fire, tornado and other necessary insurance. Our workers are fully covered by Workman's Compensation Insurance. We carry Commercial General Liability Insurance through Tyler Insurance Agency @ 760 352-2611.

Acceptance of Proposal – The above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payment will be made as outlined above.

Date of Acceptance: _____

Signature: _____



September 8, 2017

City of Calexico
Public Works Department
608 Heber Ave
Calexico, CA 92231

RE: Andrade Emergency Manhole Replacement

Dear Mr. David Dale,

Please accept this letter in response to our meeting regarding the issues we encountered during the manhole shaft replacement on Andrade Street. As per our conversation, there were many circumstances out of Radco's control on this project. The issue that was the biggest was the fact that the city couldn't get the sewer line shut down prior to our commencement of work. Because of this, we were fighting the flow of sewage the entire time, making the project a lot more difficult.

Per our understanding and agreement, the city was going to provide us with a dry manhole to work with. This was not the case. The live flowing sewage caused a snowball of other issues. The following items are issues that occurred and were out of our control and unforeseen:

- **Live sewer environment:** Our men had to work in live sewer, when we were supposed to have a dry manhole. The flow fluctuated constantly causing us to lose our excavation several times.
- **Plug:** We ended up plugging the manhole ourselves when the city couldn't get the line shut down. This was not in our contract to do, but did it so we could continue working
- The existing manhole zone had been worked on prior (sometime in the past) and was backfilled with loose desert sand instead of a binding crusher fine material. When the sewer was flowing, it would go higher than the shafts we removed and collect the loose sand material. It would then go into the sewer pipe, and clog the line.
- The loose sand material also caused other issues. All the loose material had to be excavated all the way to where the prior excavation stopped. This was further then our original saw cut/demo work area. So, our area that we originally had figured for replacing the shafts grew by double the square footage. This also caused a phone line to undermine and needed to be repaired.
- The existing base was connected to a shaft in a mono-lithic pour. We were not anticipating having to bring in demo equipment to break out the bottom shaft from the base. Typically, the base is separate from the shafting, allowing ease in removal and replacement. We spent time removing this and demoing it.
- The existing manhole used a different key-way then what the city of Calexico typically uses. Because of the this and the fact that we already had the new shafting on-site, we had pour a new base using Calexico's key-way.
- **Another leak found:** One good thing that happened from the larger hole, is that it allowed us to find another leak to the South. If un-found, this leak would've caused another issue with the roadway. We repaired it also.
- **Asphalt and backfill:** Due to the increase in the work-zone, we had to spend more money bringing in crusher fines, class II base and the paver charged more for the larger area.

615A S. US HWY 111, BRAWLEY, CA 92227 * PHONE 760-344-4004 * FAX 760-344-4005

- Traffic control: Due to the issues, our traffic control cost was more than doubled as well.

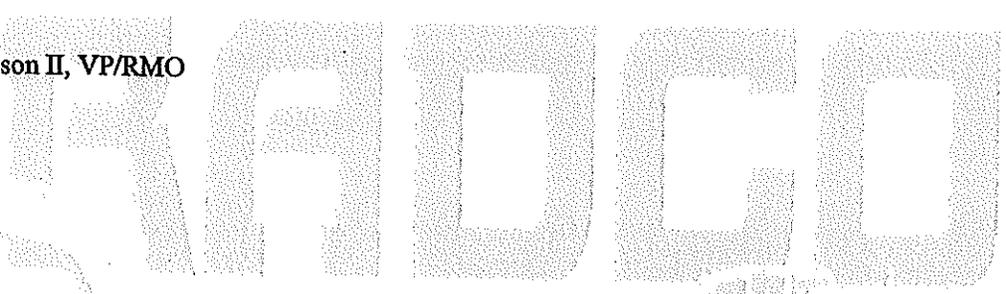
As you can see there was a snowball of issues, due to the sewer flow not being contained. Our original contract was for \$36,250.00. Due to the flowing sewage issues, we incurred \$81,344.59 in costs. There was \$42,252.67 of costs that were out of our control. After meeting, we agree that Radco is willing to lose \$10,000 of these charges in order to help the situation. Even though Radco does not feel it's their fault and that these issues arose from the fact that the sewage was not contained, we are still willing to take a loss of revenue to show "good father effort" toward the City of Calexico.

The total extra amount Radco is requesting is \$32,252.67. If this is acceptable to all parties, we can create a change order invoice and generate releases.

Sincerely,



Terry "Deuce" Robertson II, VP/RMO



Phone: 760-344-4004 Fax 760-344-4005

CALEXICO MANHOLE PROJECT

COST BREAKDOWN LABOR

<u>Week 1 - (7/25-7/28)</u>	<u>Classification</u>	<u>Reg</u>	<u>OT</u>	<u>DT</u>	<u>Employee</u>			<u>Amount overspent due to issues</u>				
					<u>Gross</u>	<u>Burden 30%</u>	<u>TOTAL</u>	<u>OT</u>	<u>DT</u>	<u>Gross</u>	<u>Employee Burden 30%</u>	<u>TOTAL</u>
Luis Lopez	Laborer	10	8.5	18	\$2,855.31	\$856.59	\$3,711.90	8.5	18	\$2,291.51	\$687.45	\$2,978.96
	Operator	14			\$1,039.08	\$311.72	\$1,350.80					
Alvaro Juarez	Laborer	10	12	13	\$2,654.26	\$796.28	\$3,450.54	12	13	\$2,090.46	\$627.14	\$2,717.60
	Teamster	14			\$784.84	\$235.45	\$1,020.29					
Ruben Hermosillo	Laborer	24	10.5	10.5	\$3,101.58	\$930.47	\$4,032.05	10.5	10.5	\$1,748.46	\$524.54	\$2,273.00
Steven Eugenio	Laborer		3	6.5	\$822.33	\$246.70	\$1,069.03	3	6.5	\$822.33	\$246.70	\$1,069.03
	Operator	8	1		\$690.50	\$207.15	\$897.65	1		\$96.74	\$29.02	\$125.76
Adrian Cruz	Laborer	19	5.5	4.5	\$1,894.86	\$568.46	\$2,463.32	5.5	4.5	\$823.64	\$247.09	\$1,070.73
Daniel Ojeda	Laborer	10	10.5	19.5	\$3,142.24	\$942.67	\$4,084.91	10.5	19.5	\$2,578.44	\$773.53	\$3,351.97
	Operator	14			\$1,035.02	\$310.51	\$1,345.53					
Miguel Ramirez	Laborer	16	5.5	18.5	\$3,016.80	\$905.04	\$3,921.84	5.5	18.5	\$2,114.72	\$634.41	\$2,749.13
Ruben Ramos	Laborer	11.5	11	6.5	\$2,065.10	\$619.53	\$2,684.63	11	6.5	\$1,416.73	\$425.02	\$1,841.75
Armando Rubio	Laborer	4.5	7.5	18	\$2,470.92	\$741.28	\$3,212.20	7.5	18	\$2,217.21	\$665.16	\$2,882.37
	Operator	6			\$441.60	\$132.48	\$574.08					
Pablo Torrez	Laborer	10.5	7.5	18	\$2,809.20	\$842.76	\$3,651.96	7.5	18	\$2,217.21	\$665.16	\$2,882.37
					\$28,823.64	\$8,647.09	\$37,470.73			\$18,417.45	\$5,525.22	\$23,942.67

<u>Week 2 - (8/3-8/9)</u>	<u>Classification</u>	<u>Reg</u>	<u>OT</u>	<u>DT</u>	<u>Gross</u>	<u>Employee Burden 30%</u>	<u>TOTAL</u>
Ruben Hermosillo	Laborer	6			\$338.28	\$101.48	\$439.76
Alvaro Juarez	Laborer	8			\$451.04	\$135.31	\$586.35
	Teamster	5			\$280.30	\$84.09	\$364.39
Luis Lopez	Laborer	4			\$225.52	\$67.66	\$293.18
	Operator	6			\$441.60	\$132.48	\$574.08
Daniel Ojeda	Laborer	10			\$563.80	\$169.14	\$732.94
	Operator	3			\$221.79	\$66.54	\$288.33
Armando Rubio	Laborer 1	5			\$268.65	\$80.60	\$349.25
	Laborer 4	1			\$56.38	\$16.91	\$73.29
					\$2,847.36	\$854.21	\$3,701.57

Week 1 total with Burden \$37,470.73
Week 2 total with Burden \$3,701.57

Total Amount Spent on Radco Labor on Project

\$41,172.30

TOTAL Labor spent due to issues

\$23,942.67

CALEXICO MANHOLE PROJECT - Cont.

**COST BREAKDOWN
BARE EQUIPMENT**

<u>Week 1 - (7/25-7/28)</u>	<u>Quantity</u>	<u>Desc.</u>	<u>Amount</u>	<u>Total</u>	<u>Amount spent due to issues</u>	
					<u>Overage</u>	<u>TOTAL</u>
350 Excavator	23	hours	\$150.00	\$3,450.00	16	\$2,400.00
938 Loader	14	hours	\$95.00	\$1,330.00	6	\$570.00
310 Backhoe	6	hours	\$40.00	\$240.00		
Foreman Truck w/tools	86.5	hours	\$30.00	\$2,595.00	40	\$1,200.00
				\$7,615.00		\$4,170.00
Week 2 - (8/3-8/9)						
938 Loader	3	hours	\$95.00	\$285.00	1	\$95.00
310 Backhoe	6	hours	\$40.00	\$240.00	2	\$80.00
Foreman Truck w/tools	16	hours	\$30.00	\$480.00	8	\$240.00
				\$1,005.00		\$415.00
Week 1 total equipment cost				\$7,615.00		
Week 2 total equipment cost				\$1,005.00		

Total amount spent on equipment **\$8,620.00**

Total Equipment Amount spent due to issues **\$4,585.00**

COST BREAKDOWN

Materials/Subcontractors

<u>Supplier</u>	<u>Description</u>	<u>Amount</u>	
Trebor Shoring Rentals	Shields	\$1,191.00	
Border Precast	Manhole	\$3,615.00	Extra - \$790.00 for the extra shaft
Clairemont Equipment	Dump truck	\$870.00	Extra - \$285.00 spent for hauling extra demo/sand
Clairemont Equipment	Light Tower	\$421.33	Extra - \$75 spent for the light tower day
Radco	Light Tower	\$300.00	Extra - \$75 spent for light tower
Clairemont Equipment	Concrete Saw	\$293.40	Extra - \$80 spent for saw, making cut larger
Gibson & Schaefer	Concrete	\$458.67	
Havens and Sons	Material trucking	\$3,111.50	Extra - \$803.60 for extra material trucking
IV Aggregates	Sand/Base	\$981.76	Extra - \$339.78 for extra material to backfill
KC Manufacturing	Air Compressor	\$466.52	Extra - \$239.22 for extra day of jack hammering, plugs
Lowe's	Mortar/grout	\$152.82	Extra - \$113.88 for mortar to seal up bottom
National Coating & Lining	Show up/not ready	\$2,555.74	Extra - \$2,555.74 for lining company to show up and not work
National Coating & Lining	Manhole coating	\$6,270.00	
SLA Paving	Pave patch	\$5,498.00	Extra - \$1,500 was charged by sub for larger area
Sunbelt Rentals	Concrete Mixer	\$184.90	Extra - \$184.90 for mixer that we wouldn't have needed
Superior Ready Mix	Concrete	\$2,792.28	Extra - \$1,689.76 was spent to repour base
Turner Trucking	Mobs	\$557.00	
Pauley	Repair phone line	\$1,832.37	Extra - \$1,832.37 to repair phone line

Total Spent on subs and materials **\$31,552.29**

Total Spent due to issues **\$10,564.25**

CALEXICO MANHOLE PROJECT - Cont.

TOTALS

<u>ITEM</u>	<u>Amount Spent</u>	<u>Amount Spent because of Issues</u>	<u>Difference</u>
LABOR / MANPOWER	\$41,172.30	\$23,942.67	-\$17,229.63
EQUIPMENT	\$8,620.00	\$4,585.00	-\$4,035.00
Materials/Subs	\$31,552.29	\$10,564.25	-\$20,988.04
TOTALS	\$81,344.59	\$39,091.92	-\$42,252.67

PROBLEMS/ISSUES - Out of our control

1. There was no way to completely shut down the existing sewer system without doing a bypass. We excluded a sewer bypass in our bid.

*If we had known the city was not planning on bypassing, we wouldn't have started the project until we had a meeting discussing what to do if Plan B was needed. Due to the excessive amount of sewer flow that couldn't be contained, we couldn't do our job efficiently.

2. Someone else, at some point worked on this manhole in the past. They backfilled with beach sand, instead of a material that was able to be compacted. Because of this, we fought the material the entire time. It kept sluffing off into the pipe and the trench box.

*If we had known we were working with a disturbed area, we would have taken a different approach to the project. We would have used a different shoring method as well as different equipment. Every time we got close to having the area cleaned out, the city would have to let the sewer run, which caused the sand to wash back into our workspace.

3. The bottom of the manhole (base) was poured monolithically with the bottom shaft.

*There was no way to tell this was done until we attempted to remove it. This caused several hours of extra work and time to try to remove. A few times that the city had to let sewer flow was because we couldn't finish chipping the shaft/bottom fast enough

4. Additional leak discovered on the 8" 45 deg bend

*While we were working on the manhole we found a leak in the 8" line that spilled in to the manhole. This was likely the reason the manhole area was sinking. We repaired that while we were there.

5. There was a 4" conduit to the South of the manhole, that dig-a-lerf did not mark out.

*This line was not marked out by dig a lert. We found it, but we ended up losing the line anyway because of the un-compacted earth around the manhole. The ground ended up washing away and caused the line to collapse into the pit.

6. Extra demo and asphalt.

*Due to the uncompacted fill sand that was in the hole, our workspace kept growing in size. It almost doubled in size, because of the areas collapsing. The good thing is, all of the material is gone now and replaced with solid fill material

7. Gas Line

*Due to the ground collapsing constantly, we ended up fighting with a 3" gas main as well. This limited our working area and digging area. It's actually a miracle that it didn't get damaged as well.

8. Pour new bottom

*When we finally realized the the bottom of the manhole wasn't straight and was connected to the bottom shaft, we poured a new base over the existing base.



CITY OF CALEXICO
PUBLIC WORKS DEPARTMENT
CHANGE ORDER NO. 1

Name of Project: Andrade Avenue Manhole Emergency Replacement

Name of Contractor: RADCO, Inc.

Date: 09/20/17

#	Description	Price Increase	Price Decrease	Time Extension
1	Additional construction services required to finalize above-mentioned project, please see letter dated September 8, 2017 from RADCO, Inc. for full detail of scope of work.	\$ 32,252.67		
	Sub-Total	\$ 32,252.67		
	Total	\$	32,252.67	
	Contract Amount	\$	36,250.00	
	Total Contract Amount (Contract + Change Order No. 1)	\$	68,502.67	

David Dale, Public Works Director/City Engineer
City of Calexico, 608 Heber Avenue, Calexico, California

Robert Ortiz, Project Inspector
City of Calexico, 608 Heber Avenue, Calexico, California

Terry Robertson II, VP/RMO
RADCO, Inc., 615A S. US HWY 111, Brawley, California