

MEMORANDUM

Date: January 15, 2019
To: Board of Directors
From: Mark Martin, General Manager
Subject: Consider Approval of Shared Costs with Developer for Force Main Break at Cantova Lift Station and Requested Relocation of Line

RECOMMENDED ACTION

Approve the General Manager to commit the District to share one-half of the costs for emergency/interim repair of the sewer force main adjacent to the Cantova lift station. Estimates are a total cost of \$21,279.87 for the emergency and interim repairs by the District and Developer's contractor, including a 15% contingency for the contractor portion, of which the District would commit a maximum of one-half or \$10,639.94.

Approve the General Manager to commit the District to share one-half of the costs for relocation of the sewer force main adjacent to the Cantova Lift Station. Estimates are a total cost of is \$80,615.00 for the relocation, including a 15% contingency, of which the District would commit a maximum of one-half or \$40,307.50.

The above approvals to represent a total maximum District commitment of \$50,947.44 toward repairs and relocation. Funding to come from Sewer Replacement Reserves.

BACKGROUND

Attached is a memo from District Engineer Coastland Engineering on a situation related to breakage and potential realignment of a sewer force main adjacent to the Cantova Lift Station. A rough diagram of the situation is provided for discussion and reference.

On December 12, 2018, the Developer's contractor broke a District sewer force main while excavating to place a new sewer line to the lift station. Unfortunately, the District's plans did not show the proper alignment of the existing force main. The District's as-built plans in question were prepared by the engineering firm Creegan & D'Angelo in April of 1987. When requested to place USA markings to indicate the path of the District's facility, the markings matched the District's as-built plans. The actual location and alignment were far off-plan. A temporary repair was effected the day of the break.

The existing alignment of the broken line impacts a newly installed customized manhole (customized for proper flow direction) and gravity flow sewer line that was designed without the expectation of the sewer line being in its current alignment. Because of this, the Developer is requesting the District to pay for part of the relocation and repair of the line. The Developer has a fast approaching deadline to meet to have their new line in place to properly serve model homes at the Murieta Gardens "78" project for K. Hovnanian Homes.

At end of business January 4, 2019, the Developer's engineer, Baker-Williams provided a rough estimate of the repairs effected by the Developer's contractors and an estimated amount to relocate and effectively repair the force main. A copy of this estimate is provided for your review. Copies of the District's work orders related to the emergency and interim repair with costs are also included for your review. The unanticipated cost to

relocate the line is significant. Based on the amount of the estimated relocation effort, Board approval is required if a relocation is desired and partly paid for by the District.

The Improvements Committee has recommended this item to the full Board and recommends a cost-sharing approach. Staff concurs given the unique circumstances of the matter. As a reminder, the Developer will need to submit detailed cost information once the project is complete to confirm final total costs of which the District will share one-half of the costs up to this item's approval limit.

As of November 30, 2018, the Sewer Replacement Reserves maintained a balance of \$2,836,876.



COASTLAND

CIVIL ENGINEERING - CONSTRUCTION MANAGEMENT - BUILDING DEPARTMENT SERVICES

January 4, 2019

Mr. Mark Martin
General Manager
Rancho Murieta Community Services District
Via email: MMartin@ranchomurieta.com

Subject: Conflict Between New Murieta Gardens Gravity Sewer Main and Existing Force Main Near the Cantova Lift Station

Dear Mark,

As requested, below is a brief summary of the conflict between the new Murieta Gardens gravity sewer main being constructed by the developer and the existing RMCSO force main near the Cantova Lift Station ("Sewer Main Conflict"):

December 12, 2018 (~4 pm): District received notification that an existing asbestos concrete pipe (ACP) force main was exposed during digging operations. The ownership, function and disposition of the pipe was not initially known at the time of discovery.

- Based on feedback from field inspectors, the line was first exposed and potentially compromised by an excavator, and then broken with hand tools. Sewage was released at high pressure once the pump station came back on line.
- The District's Operations Director was called to assist and a temporary patch was installed.
- The location of the break was near the Murieta Gardens subdivision gravity main connection near the Cantova lift station.

December 13 (~8 am): Paul Siebensohn informs District Engineer Coastland Engineering of the break and temporary fix, and requests that Coastland provide a recommendation for a permanent fix. Upon discussion with Coastland field inspectors and the Developer's Engineer of Record (Baker Williams), Coastland understood the following:

- The broken pipe is 4" ACP, inserted into a 6" ACP without a fitting. The break is in close proximity to a 90-degree bend with thrust block, from which the ACP headed vertically downward to an unspecified depth. The contractor was not able to conduct further excavations due to concerns about the stability of the fragile ACP pipe and concerns that the thrust block above the vertical segment would become unstable, may cause further damage and may compromise the safety of workers. In the process, approximately 7-8 feet of the vertical segment of ACP line was uncovered. The contractor eventually backfilled the 7-8 foot excavation that day.
- The ACP pipe is not in the location shown on the USA markings, based on District maps. The ACP line was shown to tie into the southerly side of the Cantova lift station wet well but it was uncovered on the easterly side of the wet well.
- The new gravity line is almost completely constructed from the nearest upstream manhole. The only remaining portion of the gravity line remaining to be built is a small portion from the new manhole to the existing wet well. The new gravity line is designed to be approximately 17 feet deep.

Santa Rosa
1400 Neotomas Avenue
Santa Rosa, CA 95405
Tel: 707.571.8005

Auburn
11865 Edgewood Road
Auburn, CA 95603
Tel: 530.888.9929

Pleasant Hill
3478 Buskirk Avenue, Ste. 1000
Pleasant Hill, CA 94523
Tel: 925.233.5333
www.coastlandcivil.com

- The horizontal location of the ACP pipe was explained as roughly parallel to the proposed gravity line, but still just outside the trench wall. Based on this understanding, Coastland issued a field directive via email to repair the line in place by removing the existing thrust block and ACP pipe and installing new HDPE pipe with restrained joints to replace the damaged pipe and replace the 90 degree bend. This directive assumed that the compromised pipe and thrust block could be held in place with shoring during the remainder of construction of the gravity line.

December 14: Baker Williams suggests to Coastland via phone call that the ACP pipe be moved and relocated, and wants District to pay for potholing to determine location of ACP pipe. The engineer states this would remove several 90-degree bends and eliminate 4 inch "pinch point". However, the District replied by stating that the capacity is not needed and direction is given to proceed with repairing the pipe in place as directed on December 13.

December 17:

- Coastland has an additional discussion with Mike Robertson that morning and learned that over the weekend, Poelman Construction had clarified that the trench wall needed to be widened to complete the installation of the developer's gravity main, which means that the ACP pipe is within the trench of the gravity pipe, and it is therefore not possible to shore the trench and safely install the gravity line. The ACP pipe will need to be relocated in order to install the gravity main.
- During the 1:15 pm site meeting attended by District, Coastland, Baker Williams, JDP and Poelman, the following was discussed:
 - The first attempt at placing a District camera in the force main to trace the approximate location had failed because of the 90-degree bends and camera size.
 - It was determined that the District would hire EDCO (a sewer service contractor), since they had a smaller camera and could do the work. EDCO would place their camera in the force main at the break point. The loose trench area had deteriorated over the weekend, during recent rain events. The AC paving was dangerously overhanging the open trench and needed to be cut back. Safety concerns were discussed.
 - If inserting the camera at the break point did not work, a bypass of sewage may be needed. Options on how a bypass would be accomplished, including utilizing trucks, was discussed.

December 19: District and EDCO were able to successfully use the camera in the existing pipe break to view and approximate the location of the sewer line. They marked the approximate sewer line location on the ground to document the location. Staff completed the repair, secured the site, and left the excavation open.

December 26: Baker Williams provided a sketch for the re-routing of the District force main for District review. They request additional potholing to positively locate the pipe, as the actual location and depth of the connection point is unknown.

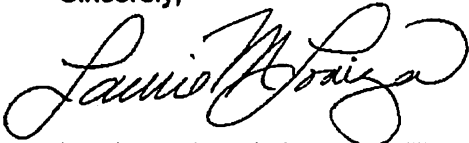
December 28: Conference call is set up to discuss status between the District General Manager (Mark Martin), Coastland (Dane Schilling and Laurie Loaiza), Baker Williams (Mike Robertson) and Developer (John Sullivan). The following was discussed:



- Baker Williams will prepare a cost estimate by Friday, January 4. It is understood that JDP is not able to give an accurate cost estimate until potholing is complete, so the numbers will be a preliminary estimate.
- The next step will be to set up a conference call to discuss responsibility between the Developer and the District. There is not concurrence at this time as to who will pay to relocate the force main line.

If you have any questions, please feel free to call me at (530) 968-4235. Thank you.

Sincerely,



Laurie Loaiza c/o Dane Schilling, District Engineer

cc:

Mark Martin, General Manager Rancho Murieta CSD
Dane Schilling, Coastland Civil Engineering

F:\Projects\Rancho Murieta CSD\107-3410 Rancho Murieta CSD\TO#5 - Murieta Marketplace\Murieta Gardens I & II Infrastructure Plan\Construction submittals\Force Main Conflict





Photo 1: Trench excavation at force main break, illustrating sloughing of trench under existing AC , dated 12/17/18.



Photo 2: Trench excavation after initial backfill dated 12/13/18. Concrete area in middle of trench is top of thrust block on existing 90 degree bend.





Photo 4: Temporary repair at break dated 12/12/18.

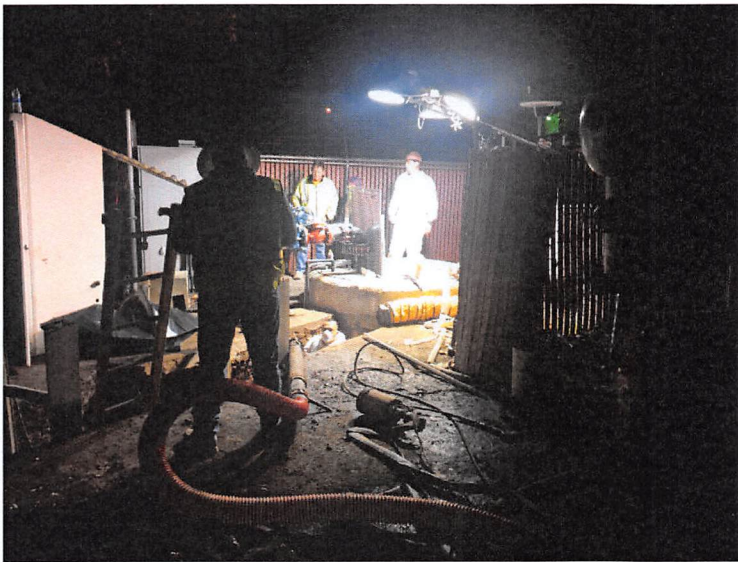


Photo 5: Site when force main was broken dated 12/12/18.





EXISTING 8" SS

EXISTING 8" SS

POTHOLE TO CONFIRM DEPTH AND ORIENTATION OF LOWER 6" FM

EXISTING SS MH

EXISTING 6" FM FROM NEW USA MARKINGS, VERIFY

NEW 8" SS 17' DEEP

45 DEGREE ELBOWS AS NECESSARY - CONNECT TO EXISTING

45 DEGREE ELBOW DOWN

POTENTIAL FM RE-ALIGNMENT - 6-INCH DIP or PVC-C900 CL-200

EX LARGE CONCRETE THRUST BLOCK

RELOCATE EXISTING WHITE ENCLOSURE

WHERE 6" FM TURNS VERTICALLY DOWN

POTHOLE EX CONDUITS- PLACE NEW 6-INCH FM & AVOID EX CONDUITS

REPAIRED FM

EX 4" FM

WET WELL

4" to 6" ADAPTOR AND PLACE 2 - 6" ELBOWS - CONNECT TO EXISTING

EX 10" SS

6" FM PER OLD USA MARKING AND PLANS

Enclosure

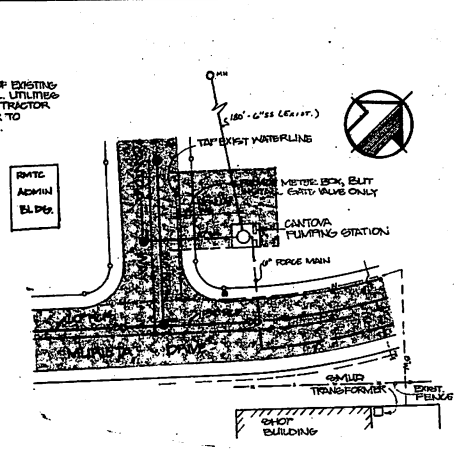
Utility box

Control Panel

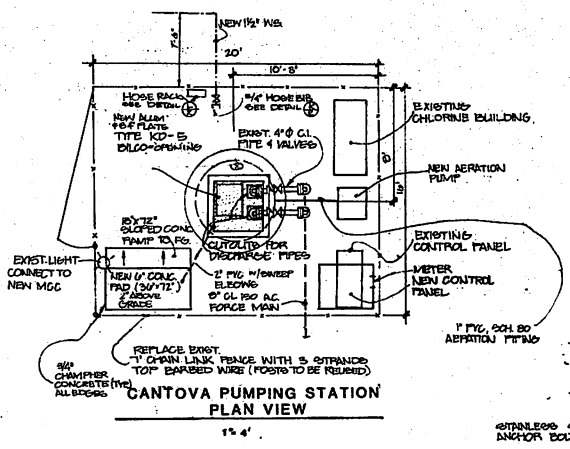
CANTOVA SEWER LIFT STATION
FORCE MAIN CONFLICT DETAIL
DEC 24, 2018 SCALE IS APPROXIMATE

DATE: 12/24/18 11:00 AM 1:00 PM 2:00 PM 3:00 PM 4:00 PM 5:00 PM 6:00 PM 7:00 PM 8:00 PM 9:00 PM 10:00 PM 11:00 PM 12:00 AM 1:00 AM 2:00 AM 3:00 AM 4:00 AM 5:00 AM 6:00 AM 7:00 AM 8:00 AM 9:00 AM 10:00 AM 11:00 AM 12:00 PM

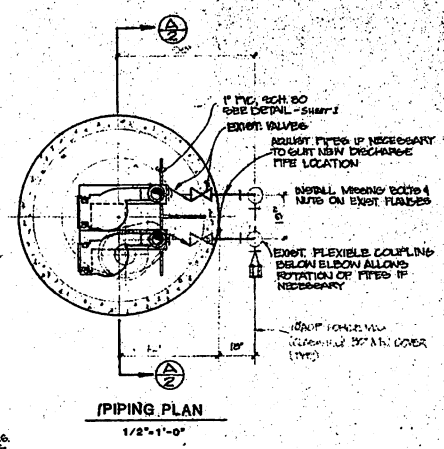
NOTE: LOCATION OF EXISTING ELBOW, GATE, FET, UTILITIES NOT KNOWN CONTRACTOR TO VERIFY PRIOR TO CONSTRUCTION.



PLAN VIEW
1" = 40'



CANTOVA PUMPING STATION
PLAN VIEW
1" = 4'



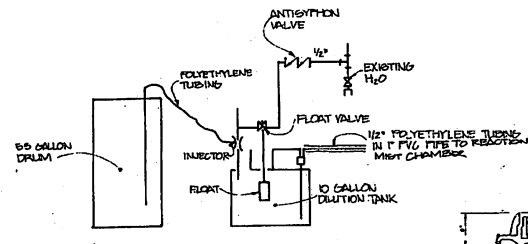
PIPING PLAN
1/2" = 1'-0"

NOTE: ABOVE GRADE STRUCTURES NOT SHOWN FOR CLARITY

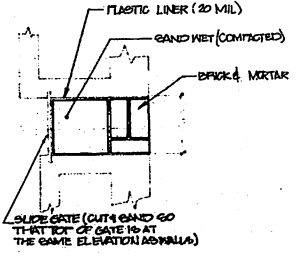
INSTALL MASONRY BOLTS 4 INTO ON EXIST. FLANGES

EXIST. FLEXIBLE COUPLING BELOW ELBOW ALLOWS ROTATION OF PIPES IF NECESSARY

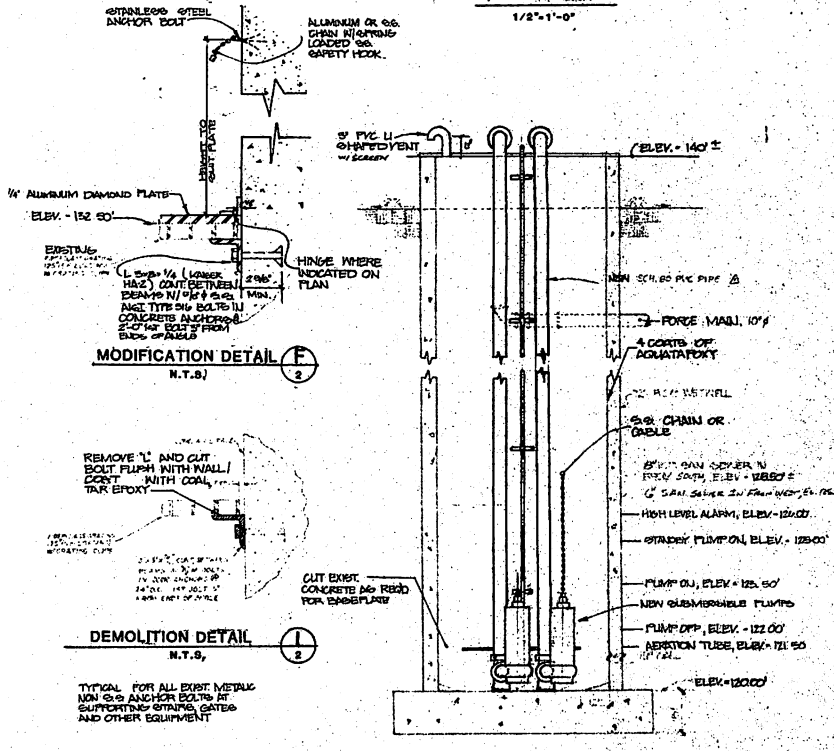
180° FLEXIBLE COUPLING (MIN. COVER 12")



ODOR CONTROL SYSTEM
N.T.S. (D)



DETAIL E
N.T.S.

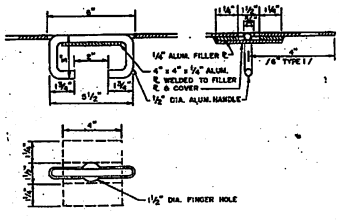


SECTION A
1/2" = 1'-0"

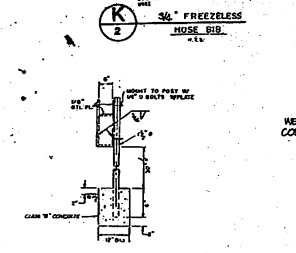
MODIFICATION DETAIL F
N.T.S.

DEMOLITION DETAIL I
N.T.S.

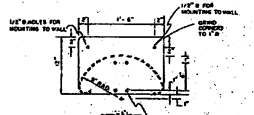
TYPICAL FOR ALL EXIST. METAL UNLESS SHOWN OTHERWISE AT SUPPORTING STRAIN GATES AND OTHER EQUIPMENT



HANDLE DETAIL G
N.T.S.



DETAIL H
N.T.S.



HOSE RACK DETAIL J
ENLARGED SCALE 1/2" = 1'-0"

CUT GRATING TO EXIT HANDLES (TYP)

NO.	DATE	REVISION
1	10/1/02	AS-BUILT
2	10/1/02	AS-BUILT
3	10/1/02	AS-BUILT
4	10/1/02	AS-BUILT
5	10/1/02	AS-BUILT
6	10/1/02	AS-BUILT
7	10/1/02	AS-BUILT
8	10/1/02	AS-BUILT
9	10/1/02	AS-BUILT
10	10/1/02	AS-BUILT
11	10/1/02	AS-BUILT
12	10/1/02	AS-BUILT
13	10/1/02	AS-BUILT
14	10/1/02	AS-BUILT
15	10/1/02	AS-BUILT
16	10/1/02	AS-BUILT
17	10/1/02	AS-BUILT
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28	10/1/02	AS-BUILT
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38	10/1/02	AS-BUILT
39	10/1/02	AS-BUILT
40	10/1/02	AS-BUILT
41	10/1/02	AS-BUILT
42	10/1/02	AS-BUILT
43	10/1/02	AS-BUILT
44	10/1/02	AS-BUILT
45	10/1/02	AS-BUILT
46	10/1/02	AS-BUILT
47	10/1/02	AS-BUILT
48	10/1/02	AS-BUILT
49	10/1/02	AS-BUILT
50	10/1/02	AS-BUILT

AS-BUILT

CREGAN & DANIELLO
CIVIL ENGINEERS
1000 10th Street
San Francisco, CA 94103
415.774.1100

ALAMEDA COUNTY COMMUNITY SERVICES DISTRICT
CANTOVA PUMPING STATION
SITE PLAN & PROJECT DETAILS
TREATMENT COUNTY 2002

488102

BAKER-WILLIAMS ENGINEERING GROUP

6020 Rutland Drive Suite 19
Carmichael, Ca 95628
(916)-331-4336 Fax (916)-331-4430

January 4, 2019

John M. Sullivan
Cosumnes River Land, LLC
P.O. Box 1230
Rancho Murieta, CA 95683

Subject: Cantova Sewer Lift Station - Force Main Conflict and Repair Cost Estimate
Our File No. 11-01-001

Dear John,

The following is the estimated cost related to the conflict between the existing sewer force main and proposed gravity sewer line.

A Cantova Sewer Lift Station - Initial Force Main Conflict				
ITEM	DESCRIPTION	QUANTITY	UNIT PRICE	AMOUNT
1	Force main emergency repair by JD Pasquetti	1 JOB	\$10,000.00	\$10,000.00
2	Engineering review, construction coordination	1 JOB	\$1,620.00	\$1,620.00
3	Draft Design for Repair	1 JOB	\$720.00	\$720.00
			SUB TOTAL A	\$12,340.00
B Cantova Sewer Lift Station - Force Main Repair				
ITEM	DESCRIPTION	QUANTITY	UNIT PRICE	AMOUNT
4	Pothole and explore as-built conditions	1 JOB	\$12,000.00	\$12,000.00
5	As-built survey and construction staking	1 JOB	\$2,600.00	\$2,600.00
6	Design for new tie-in details	1 JOB	\$4,500.00	\$4,500.00
7	Construction Management	1 JOB	\$1,500.00	\$1,500.00
8	Sewer Bypass per day- budget 2 days	2 JOB	\$12,000.00	\$24,000.00
9	Repair FM, Connect to Existing, Pavement repair, cleanup	1 JOB	\$20,000.00	\$20,000.00
10	Demo, ACP Haz Waste, trust block	1 JOB	\$5,000.00	\$5,000.00
11	Record Drawing - update plans	1 JOB	\$500.00	\$500.00
			SUB TOTAL B	\$70,100.00
			SUB TOTAL A & B	\$82,440.00
			Contingencies at 15%	\$12,366.00
			TOTAL ITEM A & B	\$94,806.00

Note:

- 1 This estimate is based on assumed utility information and is subject to change upon verification of actual field conditions.
- 2 Inspection fees have been excluded.
- 3 Summary of conflict issue is as follows:
 - The old plans for the Cantova LS FM re-alignment depicts the force main heading southerly from the LS.
 - The CSD Operation & Maintenance Manuel also depicts the existing 6-inch FM heading south from the LS
 - The old USA paint markings identified the FM alignment in the field is as shown on the old plans.
 - The new USA paint marks and flags now identify the FM confirming a conflict with the proposed 8-inch gravity main.
 - The design and installation of the 8-inch gravity sewer main jack and bore was determined based on the information received from the CSD and the old USA markings. Had the old records been archived correctly by proper "as-builts" then the FM location would have been known such that the alignment of the proposed 8-inch gravity main would have been different. A conflict now exists due to poor record keeping.

If you have any questions of need additional information, please call.

BAKER-WILLIAMS ENGINEERING GROUP

Michael Robertson

CANTOVA BREAK - EMERGENCY REPAIR

RANCHO MURIETA COMMUNITY SERVICES DISTRICT

No 36502

- Complaint
 Inquiry
 Security Water Wastewater Storm Drain Roads Levees Other _____

Priority

1 2 3

Date 12/12/18 Time 1500 hrs - 19:00 By _____ Account # _____

Name Cantova Lift Station Lot# _____

Address _____

Home Phone _____ Work Phone _____ Employee to: _____

Meter # _____ Size _____ Location _____

I.D.# _____ Previous Read: _____ Current Read: _____

Location of Work: Cantova Lift Station

Description: SEWER main broke by Pasquetti digging trench with excavator.

Corrective of Action: JAMES and TRAVIS WERE onsite to assist in repair. District provided vactor truck and repair band to make repair

MATERIALS & EQUIP.			
NO	ITEM	EA.	TOT.
1	Repair Band	245	245
3	Vactor truck	300	600
3	light standered	150	450
			1295

OUTSIDE CONTRACTOR			
HR	CONTRACTOR	\$	TOT.

CSD LABOR			
HRS	EMPLOYER	\$	TOT.
4	TRAVIS	93	372
2	JAMES	56	112
1	Cory	68	68
1	Pasul	137	137
			689

Action by: B/S Date: 12/12/18 Supervisor _____ Date: _____

Invoice to: Name _____ Escrow # _____

Address _____

Zip Code _____ Phone # _____

Service Supervisor [Signature] Date 12/20/18

Accounting Invoice # _____ Date _____

By: _____

Filing Date _____ By: _____

Subtotal Materials \$ 1295
 Subtotal O.S. CONST
 Total _____
 Plus % 3 O.H. _____
 Subtotal Labor 689
TOTAL INVOICE 1984.01



RANCHO MURIETA COMMUNITY SERVICES DISTRICT

Complaint
 Inquiry
 Security Water Wastewater Storm Drain Roads Levees Other _____

Priority

1 2 3

Date 12/19/2018 Time _____ By Ron Account # _____

Name _____ Lot# _____

Address CANTOVA LIFT STATION

Home Phone _____ Work Phone _____ Employee to: _____

Meter # _____ Size _____ Location _____

I.D.# _____ Previous Read: _____ Current Read: _____

Location of Work: _____

Description: Repair cantova lift station force main
AC pipe has hole. Damaged by contractor and
has temporary repair.

Corrective of Action: Dig pit back to place shoring box along
with removing asphalt. Vactors leaking sewage. used
chipping hammers remove concrete around D.I. pipe
and under AC line to be replaced. Remove 3' of AC
pipe and transition from 4" to 6". Installed new 4" to 6" DI pipe
transition w/ MJ Flang installed 3' of C-900 and connected
to AC pipe with coupler. Had Edco w/ vactors truck 6 hrs
to help with removing sewage from open pipe

Action by: _____ Date: _____ Supervisor Ron Date: 12/19/18

Invoice to: Name _____ Escrow # _____

Address _____

Zip Code _____ Phone # _____

Service Supervisor [Signature] Date 12/19/18

Accounting Invoice # _____ Date _____

By: _____

Filing Date _____ By: _____

MATERIALS & EQUIP.			
NO	ITEM	EA.	TOT.
1	6" ring tile caskel		7.42
1	2" x 4" SEMJ C153		39.25
1	4" PVC WDG Rest Gland		24.24
1	4" MJ C153 Bolt		14.28
1	4" HyMax coupler		180.00
1	Shipping		250.00
	Vactor Service		1,710.00
1	Vacuum Trailer	300	
	3 hrs used		600
	stand by 6 hrs		
			1,117.04
OUTSIDE CONTRACTOR			
HR	CONTRACTOR	\$	TOT.
6	Vactor service	1,710.00	
CSD LABOR			
HRS	EMPLOYER	\$	TOT.
9	BEAU	48	432
8	JAMES	56	448
8	GABE	48	384
2	Ron	88	792
1	Paul	137	137
			92,193

EDCO

Subtotal Materials	1,117.04
Subtotal O.S. CONST	1,710.00
Total	2,827.04
Plus % 3 O.H.	84.82
Subtotal Labor	2,193
TOTAL INVOICE	5,104.86