

SECTION IV—MEASURES AND ACTIVITIES

Requirement¹

- a. Maintain an up-to-date map of the sanitary sewer system, showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable stormwater conveyance facilities;
- b. Describe routine preventative operation and maintenance activities by staff and contractors, including a system for regular maintenance and cleaning of sanitary sewer system with more frequent cleaning and maintenance targeted at known problem areas. The Preventative Maintenance program should have a system to document scheduled and conducted activities, such as work orders;
- c. Develop a rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency. The program should include regular visual and TV inspections of manholes and sewer pipes, and a system for ranking the condition of sewer pipes and scheduling rehabilitation. Rehabilitation and replacement should focus on sewer pipes that are at risk of collapse or prone to more frequent blockages due to pipe defects. Finally, the rehabilitation and replacement plan should include a capital improvement plan that addresses proper management and protection of the infrastructure assets. The plans shall include a time schedule for implementing the short- and long-term plans plus a schedule for developing the funds needed for the capital improvement plan;
- d. Provide training on a regular basis for staff in sanitary sewer system operations and maintenance, and require contractors to be properly trained; and
- e. Provide equipment and replacement part inventories, including identification of critical replacement parts.
- f. Implement an outreach program to educate contractors involved in sewer construction or maintenance about the proper practices for preventing blockages in private laterals.²

Supporting Documents

A summary of the Benicia measures and activities related to this section and the supporting official documents are shown in Table IV.1.

A copy of each document follows the table.

¹ SWRCB Order No. 2006-0003-DWQ § B.13 (iv)

² Required by Regional Water Board only; nota requirement of Order 2006-003-DWQ.

TABLE IV.1—SUMMARY OF MEASURES AND ACTIVITIES

Item Required	Supporting Documents
<p>a. Maintain an up-to-date map of the sanitary sewer system</p>	<p><u>Water, Sewer and Storm Drain Utility Maps</u>. 2008. City of Benicia Engineering Division.</p> <p><u>Note</u>: This document is updated as necessary to reflect modifications and additions to the utility system.</p>
<p>b. Describe routine preventative operation and maintenance activities by staff and contractors</p>	<p><u>City of Benicia Operation and Maintenance Procedures—Preventative Maintenance</u>. November 2018. Memorandum from PW Maintenance Superintendent. (Refer to Table IV.2 following memo.)</p>
<p>c. Develop a rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency</p>	<p>City of Benicia <u>Capital Improvement Program FY 2019/20 – 2023/24</u> (Summary only).</p> <p><u>City of Benicia Operation and Maintenance Procedures—Infrastructure Continuous Improvement</u>. November 28,2018. Memorandum from PW Maintenance Superintendent.</p>
<p>d. Provide training on a regular basis for staff in sanitary sewer system operations and maintenance, and require contractors to be properly trained</p>	<p><u>City of Benicia Operation and Maintenance Procedures—Training</u>. November 2011. Memorandum from Management Analyst.</p>

Item Required	Supporting Documents
<p>e. Provide equipment and replacement part inventories, including identification of critical replacement parts</p>	<p><u>City of Benicia Operation and Maintenance Procedures—Equipment and Replacement Parts.</u> January 2019. Memorandum from Management Analyst</p>
<p>f. Implement an outreach program to educate contractors involved in sewer construction or maintenance about the proper practices for preventing blockages in private laterals.</p>	<p><u>Brochure “Plumbers & Sewer Contractors: Your Actions Can Prevent Sanitary Sewer Overflows!”</u> October 2009 was mailed to local plumbing contractors with a letter from the City Engineer. <u>List of plumbing contractors</u> from Administrative Secretary. Effective October 2009, Building Division staff hands out to contractors when issuing permits and has them available in the waiting area. Effective November 2011 the brochure is posted on the City’s website on the Bidder Notification webpage.</p>

Excerpt from
City of Benicia Sanitary Sewer
System Map



Public Works & Community Development Department
MEMORANDUM

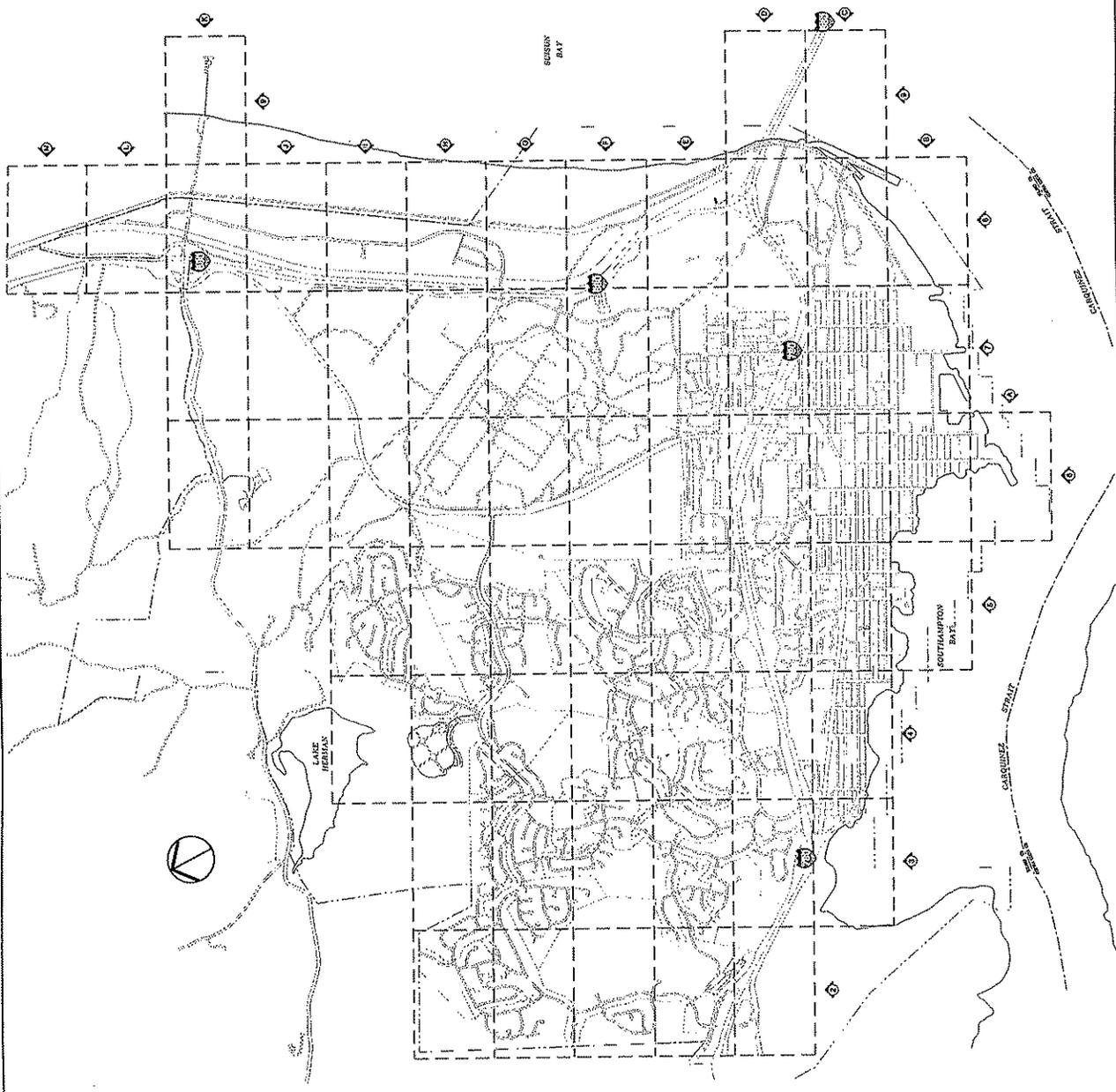
Date: March 30, 2010
To: Carrie Wenslawski, Management Analyst
From: Mike Roberts, Acting City Engineer
Re: **Map of Sanitary Sewer System**

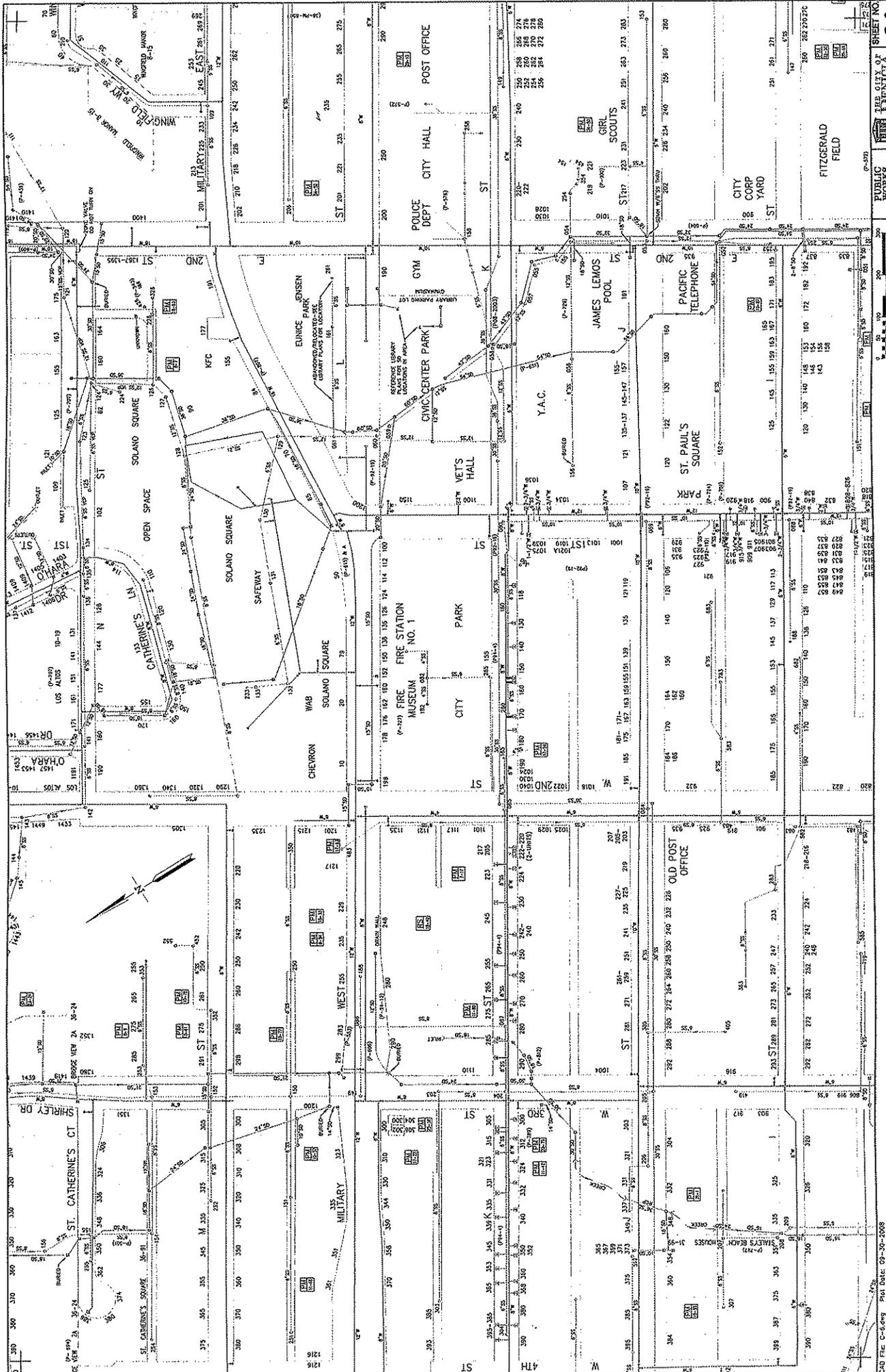
The Engineering Division is responsible for compiling, maintaining and publishing a citywide utility map book titled The City of Benicia Water, Sewer and Storm Drains Utility Maps. This document shows the approximate location and size of all water, sewer and storm drain lines. It is updated approximately every five years based on changes in the utility systems and funding constraints and was last updated in 2008.

I have attached excerpts from the utility map book, which shows the sanitary sewer system including gravity and force mains, and pump stations.

LEGEND:

- STREET OR HIGHWAY RIGHT-OF-WAY
- HIGHWAY CENTERLINE
- SUBMISSION BOUNDARY
- PARCEL LOT/PROPERTY LINE
- STORM DRAIN PIPE LOCATION
- STORM DRAIN BLOW-OFF VALVE
- STORM DRAIN CATCH BASIN / DROP INLET
- STORM DRAIN INLET / OUTLET HEADWALL
- STORM DRAIN MANHOLE
- STORM DRAIN PLUG
- SANITARY SEWER PIPE LOCATION
- SANITARY SEWER AIR RELIEF VALVE
- SANITARY SEWER BLOW-OFF VALVE
- SANITARY SEWER CLEANOUT
- SANITARY SEWER FRODSMAN VALVE
- SANITARY SEWER PUMP STATION
- SANITARY SEWER MANHOLE
- SANITARY SEWER METER
- SANITARY SEWER PLUG
- SANITARY SEWER VALVE
- WATER PIPE LOCATION
- WATER STORAGE TANK
- WATER PUMP STATION
- WATER AIR RELIEF VALVE
- WATER BACKFLOW PREVENTER
- WATER BLOW-OFF VALVE
- WATER LINE CAPPED DIG
- WATER DOUBLE CHECK VALVE
- WATER FIRE HYDRANT
- WATER MANHOLE / SERVICE ACCESS BOX
- WATER METER
- WATER VALVE





Routine Preventative Operation and Maintenance Activities



Public Works & Community
Development Department
MEMORANDUM

Date: November 17, 2011
To: File
From: Carrie Wenslawski, Management Analyst
Subject: City of Benicia Operation and Maintenance Procedures

PREVENTATIVE MAINTENANCE

OVERVIEW: The City of Benicia owns and maintains a sanitary sewer collection system that conveys wastewater to the City of Benicia Wastewater Treatment Plant (WWTP.) The system has 150 miles of sanitary sewers and 78 miles of storm drains.

MAINTENANCE: The City of Benicia has a preventive maintenance program to minimize sewer overflows and to keep the wastewater flowing to the treatment plant. The program employs a fulltime collection crew made up of four members that include journeymen and apprentice, plus the Maintenance Superintendent. The City uses high power Vac-Con equipment along with a Hydro-Jet vehicle, power rodder, and handrod to clean the sewer system. Table IV.2 lists relevant Public Works Maintenance activity sheets and provides examples of logs and other maintenance-related forms used to document field work.

The collection crew cleans and flushes sewer mains to maintain flow by removing obstructions, grit, grease, and build-up of other materials using flushing equipment on a weekly area selected schedule. (See Attachments.) The City's target for sewer cleaning activities is 8,000 – 15,000 feet per month. This range includes both flushing and rodding (for root removal.)

CCTV

The City uses Close- Circuit- Television (CCTV) to periodically inspect all pipes in and out of commercial, industrial and residential areas, in an effort to closely monitor known "watch areas" (refer to Section 7 FOG Control Plan for the "Watch Area" list, previously referred to as "Hot Spots") or other troubled areas. CCTV is utilized for preventative maintenance (PM), including predictive preventative maintenance (PDM).

Lift Station SCADA/Telemetry Project

The City presently has 23 sewage lift stations within its service area. Several years ago the City initiated a project to upgrade its lift station system. The goal of this project was to gain better

control over the system by modernizing the station control panels and continuously monitoring each station. A plan was developed to link each station to a central SCADA system located at the City's Wastewater Treatment Plant. The SCADA system monitors various activities at each station, collects and trends data, and notifies staff in the event of an alarm. All lift stations are scheduled to receive these upgrades. As of December 31, 2011, all twenty-three lift stations have been upgraded.

General Lift Station Maintenance

As part of the City's ongoing maintenance program, City staff inspects each sewage lift station at least once per week (see attached Lift Station Log) to ensure the stations are functioning properly. In addition, each lift station's wet well is cleaned a minimum of once per year using a vacuum truck (see attached Lift Station Cleaning Schedule). In order to ensure station reliability, the City maintains a basic spare parts inventory (see equipment and replacement parts memorandum.)

SmartCovers

In November 2008, the City purchased and installed three SmartCovers. A SmartCover is a sewer monitoring and alarm system that helps prevent spills/overflows. The vendor, Hadronex, monitors the equipment and notifies City staff via pager when the water level in the manhole reaches a preset level. City staff then goes to the location to verify the problem and troubleshoot for cause. See attached brochure for more information. The Smartcovers are located at the following locations:

1. Robert Semple Crossing manhole (for sewer overflows)
2. West Channel Road manhole (for sewer overflows)
3. Marina pump station (this one is for stormwater levels, not sewer)

CMMS

The City purchased Computerized Maintenance Management System (CMMS) softwares in 2010. This program is used to track preventative maintenance, archival record keeping, and work orders. Implementation of the CMMS is ongoing. CMMS fields will be populated as information is received on sewer lines, manholes, and periodic spill history.

TABLE IV.2 — MEASURES AND ACTIVITIES — SUMMARY OF ROUTINE PREVENTATIVE OPERATION AND MAINTENANCE ACTIVITIES

Item Required	Supporting Documents
<p>a. Routine Preventative Operation and Maintenance Activities</p>	<p><u>Example of Monthly Sewer Line Maintenance Cleanings</u>. 2018. PW Maintenance Division.</p> <p><u>Example of Top Down Sewer Cleanings</u>. 2018. PW Maintenance Division.</p> <p><u>Example of Periodic Sewer Cleaning Log</u>. 2018. PW Maintenance Division.</p> <p><u>Sedaru (CMMS) Screenshot Example</u>. 2018. PW Maintenance Division.</p> <p>I.T. Pipes (CCTV Video Inspection Software) Screenshot Example. 2018. PW Maintenance Division.</p> <p><u>Bayshore Road Sewer Force Main Plan of Operation (5 pages.)</u> PW Maintenance Division.</p> <p><u>Lift Station Cleaning Schedule</u>. September 2011. PW Maintenance Division.</p> <p><u>Lift Station Log</u>. November 2011. WWTP Supt.</p> <p><u>Annual Maintenance (Examples of Procedures)</u>. August 2007. WWTP Superintendent.</p>

Item Required	Supporting Documents
	<p><u>Focus Programs.</u> 2002. PW Maintenance Division.</p> <ol style="list-style-type: none"> 1. Sewer/Storm Line Replacement/Repair 2. Cleaning Sewer Mains & Storm Drains 3. Misc. Sewer Maintenance <p><u>SmartCover Brochure.</u> Hadronex/3T Equipment Company, Inc.</p>



**CITY OF BENICIA
PUBLIC WORKS MAINTENANCE DIVISION
COLLECTION SYSTEM
REPORT OF OVERFLOW**

During the month of February, 2014 there was one reportable overflow. The overflow is summarized in the table below.

DATE	LOCATION	TOTAL GALLONS	REACH SURFACE WATER?	MITIGATED CLEANED UP?	OES #	CIWQS EVENT ID
2/10/14	1550 East 3rd	74	No	Yes		803629

All overflows were reported in the CWIQS database and details of the SSO are available on the website. Clean up and mitigation of all overflows are managed in accordance with the City's *Overflow Response Procedures* that have been submitted to the Regional Board. Wherever possible and appropriate overflow locations have been or will be inspected via closed circuit television (CCTV) to determine if further repairs or cleaning is necessary.

Additional information and a summary of collection system activities including maintenance performed are included with this submittal. Detailed reports can be obtained by contacting the Public Works Maintenance Superintendent at (707) 746-4297.

Drake Valentine, Field Utilities & Street Supervisor

Date

Nathaniel Rankin, PW Maintenance Superintendent

Date

**CITY OF BENICIA MAINTENANCE DIVISION
MONTHLY UTILITY CUSTOMER RESPONSE TOTALS**

DATE: February 2014

TOTAL SEWER CALLS = 20

BACK-UPS

Main: 3
Lateral: 4
Main & Lateral: 0

REPLACEMENT

Main Foot Total: 87'
Lateral Foot Total: 0'

REPAIRS

Main: 0'
Lateral: 0'

OVERFLOWS

Total: 1
Total Gallons: 74

CLEANING METHODS

Jetted (Vactor): 10
Handrod: 0
Power Rod: 0
Ballooned: 0
Other: 3

PROBLEMS

Paper: 1
Roots: 7
Grease & Grit: 1
Broken Pipe: 0
Other: 2

CUSTOMER SERVICE

Owner Problem: 3
Odor: 0
TV Inspect: 7
Other: 0
After Hour Call-Outs: 3
M.H. Repaired: 0
Footage Cleaned: (sewer calls) 2,205'+ (monthly cleanings) 11,834' = 14,039' Total
Top Down Cleaned: 0

Monthly Sewer Line Maintenance Cleanings

Month:	Feb-18				
Date	Location	Line Size (in.)	Footage Cleaned	Cleaning Method	Initials
2/5/2018	Southampton/Panorama- Turner	8	950	JET	dg,cw
2/5/2018	926 Rose Dr.	4	35	JET	dg,cw
2/7/2018	164 Carlisle Way	4	20	JET	dg,cw
2/7/2018	100 Block Carlisle	8	500	JET	dg,cw
2/5/2018	425 West "I" St.	6	275	JET	dg,cw
2/5/2018	West 5th btwn "J" & "K"	6	350	JET	dg,cw
2/5/2018	Military West @ 7th St.	8	425	JET	dg,cw
2/5/2018	51 Alta Loma	6	125	JET	dg,cw
2/5/2018	821 Elane Way	6	750	JET	dg,cw
2/5/2018	720 West "I" st.	6	170	JET	dg,cw
2/5/2018	817 West "I" St.	12	200	JET	dg,cw
2/7/2018	Banbury Ct. @ Banbury Way	6	200	JET	dg,cw
2/5/2018	Sam's Harbor	6	200	JET	dg,cw
2/5/2018	West 14th @ Military	8	500	JET	dg,cw
2/8/2018	N @ O'Hare	6	355	JET	dg,cw
2/8/2018	West 3rd alley btwn "M" & St. Catherine	6	200	JET	dg,cw
2/8/2018	100 Block alley btwn Wets "G" & "H"	6	300	JET	dg,cw
2/8/2018	Sherman & Raymond	8	392	JET	dg,cw
2/5/2018	West 10th btwn "K" and "L"	8	200	JET	dg,cw
2/8/2018	Military West @ 5th St.	8	400	JET	dg,cw
2/8/2018	1323 West 5th	8	300	JET	dg,cw
2/8/2018	1328 West 5th St	6	225	JET	dg,cw
2/8/2018	Sherman @ Gloria Way	8	600	JET	dg,cw
2/8/2018	200 Block Alley btwn West "H" & "I"	6	262	JET	dg,cw
2/12/2018	900 Block West 4th @ "I" St.	6	200	JET	cg,dl
2/8/2018	280 West "K"	4	20	JET	dg,cw
2/8/2018	West 3rd @ West "K"	8	500	JET	dg,cw
2/8/2018	West "J" @ West 3rd	6	50	JET	dg,cw
2/8/2018	280 West "J" St.	4	200	JET	dg,cw
2/8/2018	West "J" @ West 2nd St.	6	190	JET	dg,cw
		Total Footage:	9094		

**CITY OF BENICIA
MAINTENANCE DIVISION
SEWER LOG**

Month: February

Year: 2018

LOCATION	MAIN SIZE	LAT SIZE	TV	ODOR PROB	OWNERS OR CITY	OVER-FLOW GAL.	CLEANING METHOD	PROB	FOOTAGE CLEANED	REPAIR FOOTAGE	DATE	TIME CALL RECEIVED	JOB TIME START/END	CO/OT REG HR	INT	O.E.S.#	EVENT I.D.
60 Vista Grande		4			Owner						2-4	1420	1500 1530	c/o	Mejr		
Blockage in customer lateral/cleaned area/informed customer that it is a private lateral																	
60 Vista Grande	6	4			Owner		Jet	Plug	160'		2-5	0835	0840 1000	Reg	Jg,cw, dl		
Blockage in customer lateral/cleaned area/informed customer that it is a private lateral																	
107 Carlisle											2-8	1330			Jg,dl		
Spoke with customer after splashing toilet during Top Down cleanings/CCTV/customer cleanout is buried																	
2259 Clearview Circle	6				Owner		Jet	Plug			2-14	1337	1345 1520	Reg	Jg,cc, dl		
Cleared blockage in private main/notified HOA																	
159 West J St		4			Owner		Jet	Plug			2-16	1143		Reg	me,iw		
Private sewer overflow/cleaned area around lat and in gutter																	
52 Alta Loma		3			Owner		Jet	Plug	50'		2-19	0955		c/o	Jr,cw		
Blocked sewer lat/cleared lat and jetted main																	
52 Alta Loma		3			Owner						2-20	0900		Reg	Jg,dl		
Follow up CCTV to lateral overflow/line partially blocked with roots/hung door tag																	
1329 West L St.	6	4			Owner		Jet	Plug	215'		2-21	1102	1110 1200	Reg	Jg,dl		
Cleared plug from private lateral/cleaned area surrounding clean out																	

Total Calls This Sheet Total Calls This Month 11

LOCATION **375 WEST "J" ST.**

MONTHLY BIMONTHLY QUARTERLY

H-80

BIANNUAL ANNUAL OTHER _____

LIVE MAIN LAT SIZE **6"** ACCESS MANHOLE LAMP HOLE CLEAN OUT

J A J D
"ONLY" TV - YES NO

EQUIPMENT NEEDED
 PROJET VACTOR HAND ROD RODDER BALLOON CAUSTIC

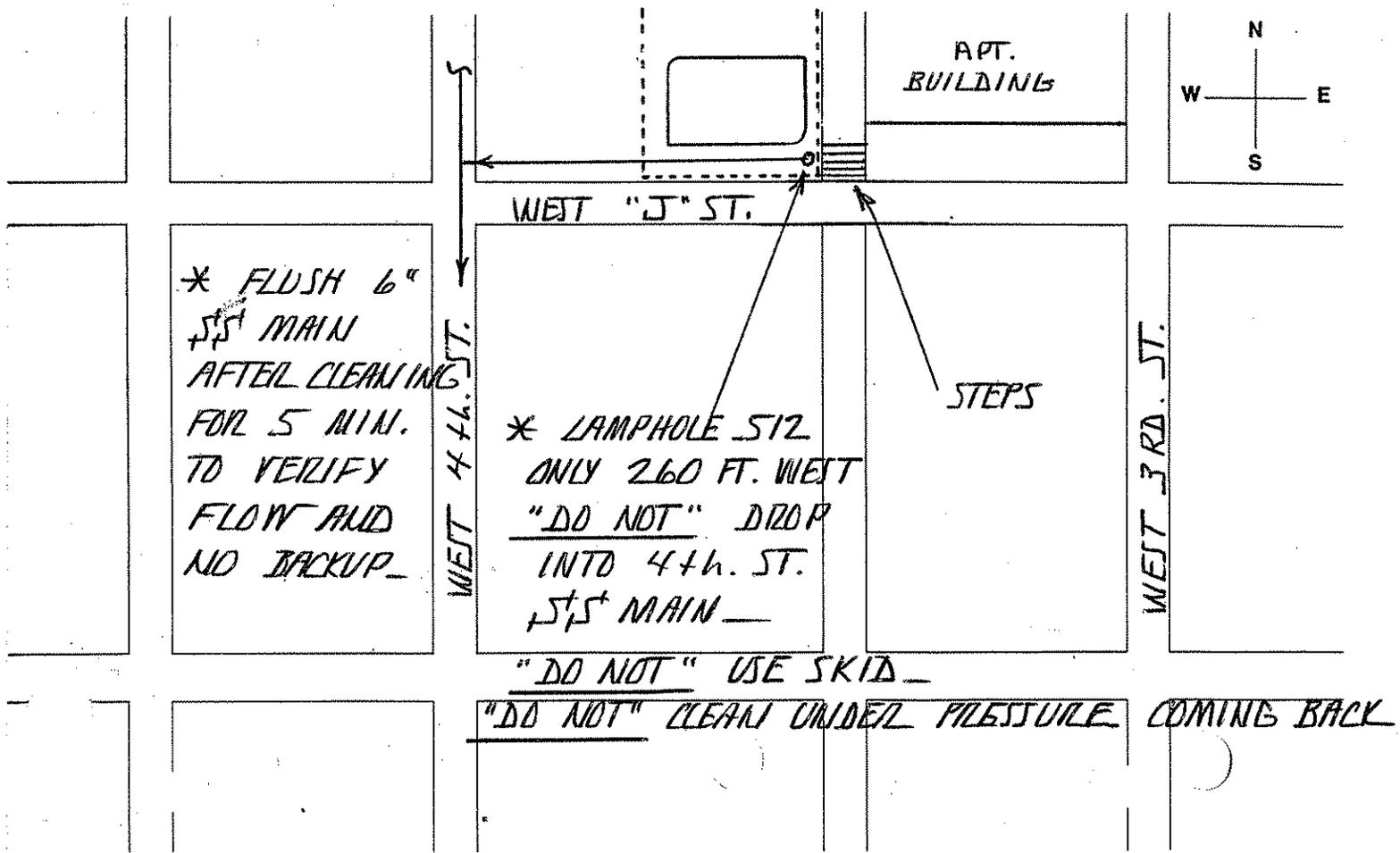
CLEAN LENGTH **260'** IN OUT

BLEM JOINT FLAT ROOT GREASE GRIT OTHER _____

* **BE CAREFUL NOT TO DROP INTO 4th. ST. MAIN.**

NOTES **LAMP HOLE 512 BEHIND PICKET FENCE NEXT TO STEPS.**

DATE	BY	DATE	BY	DATE	BY	DATE	BY	DATE	BY
8-30-05	CM JP								
4-24-06	CM TB								
10-12-06	CM BC								
1-30-07	CM JP								
4-17-07	CM BC Am								
7-24-07	CM AM								



Sedaru Screenshot Example
 Public Works Maintenance's Computerized Maintenance Management Software (CMMS)

The screenshot displays the Sedaru CMMS interface. At the top, there is a navigation bar with icons for pipes, manholes, valves, customers, pumps, and tanks. The main area is split into a map and a data panel. The map shows a network of green pipes and manholes on a satellite view. A callout box for 'SS-MN-2968' is visible. The data panel on the right provides details for a cleaning event.

main cleaning	
main cleaning	
date cleaned	type of cleaning
10/4/18, 8:17 AM	Top-Down
cleaning method	grit / gravel
Hydro	
roots	grease
action needed	obstruction type
repair crew	
Dn mc	
Back	by: jgant
	edit

I.T. Pipes Screenshot Example
CCTV Video Inspection Software

The screenshot displays the interface of the I.T. Pipes software. The central window shows a live video feed of a manhole inspection. Overlaid on the video are several data points:

- CITY OF BENICIA** (top left)
- USMH: 10699** and **DSMH: 10701** (top center)
- Access Point Manhole 10699** (bottom center)
- 0.0 ft.** and **0.00 ft** (bottom center)
- 2017-12-11 13 37 00 634 mbar 741 mbar** (bottom center)

The right sidebar contains a metadata table for the asset:

Field	Value
City	Benicia
Street	Panorama Dr
Location Code	
Sewer Use	
Drainage Area	
Year Laid	
Year Renewed	
Owner	
Total Length	412.9
Upstream MH	10699
Up Rim to Invert	
Up Grade to Invert	
Up Rim to Grade	
DS Manhole	10701
Down Rim to Invert	
Down Grade to Invert	
Down Rim to Grade	
Material	PolyVinyl Chloride
Shape	Circular
Height	8
Width	8
Pipe Joint Length	
Lining Method	
Sewer Category	

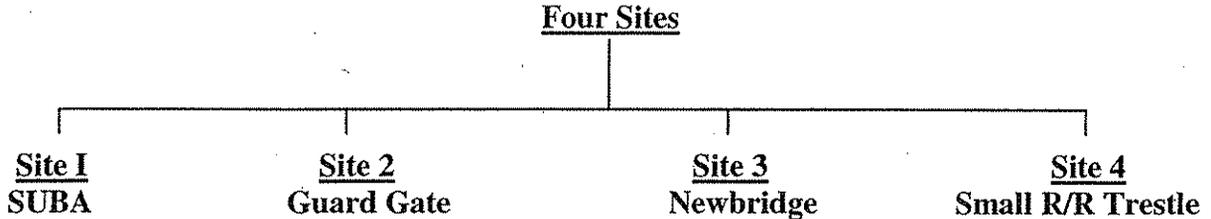
The bottom of the interface features a data table with the following columns: Data, Description, Value 1, Value 2, %, Code, Joint, VCR Time, Remarks, Grade, Clock 1, Clock 2, and Cont.

Data	Description	Value 1	Value 2	%	Code	Joint	VCR Time	Remarks	Grade	Clock 1	Clock 2	Cont.
01	Access Point Manhole				AMH			10699				
02	Water Level				10MMWL				0			
39.83	Tap Factory Made Active	4			TFA				0	9		
104.24	Tap Factory Made Active	4			TFA				0	9		
190.65	Tap Factory Made Active	4			TFA				0	3		
268.36	Tap Factory Made Active	4			TFA				0	3		
348.37	Tap Factory Made Active	4			TFA				0	3		
412.98	Access Point Manhole				AMH			10701		0		

Bayshore Road Sewer Force Main Plan of Operation

1. Scope:

- A. Replace (8) each 8" gate valves and associated fittings
- B. Replace (1) each 14" gate valve bonnet assembly



2. Schedule:

- A. Scope Job and Pre-Plan
- B. Order Material - Open Purchase
- C. U.S.A. Sites
- D. Crew Make-Up
 - 1. Dedicated Crew
 - 2. Ability to address emergent calls
 - 3. Contacts to respond to emergent sewer calls
- E. Coordination with Assist Trade Services
 - 1. "WWTP" Standby Support at Sewer Lift Stations
 - 2. PSC Standby support at Sewer Lift Stations
- F. Day or Night

3. Notification:

- A. Union Pacific Railroad
Mike Kerwood, Manager
(510) 891-7862
- B. Amports
Simon Peterson, Manager
(707) 745-1572
- C. Wastewater Treatment Plant
Jerry Gall, Superintendent
(707) 590-3328
- D. PSC
Erik Halden, Project Manager
(707) 746-8287
24-Hour Emergency No.
- E. Roberts & Brune Co.
Mike Rozenski
(925) 757-3710
- F. Emergency Procedures:
 - 1. Procedures
 - 2. Phone Numbers
- G. Contingency Plans

**Bayshore Road Sewer Force Main
Plan of Operation**

4. Traffic Control Plan:
- A. One Lane Traffic Flaggers Required
 - B. Gather and Stage Material and Equipment
 - 1. 2-way radios (2 ea)
 - 2. Stop/Slow Signs (2 ea)
 - 3. Slow Signs (2 ea)
 - 4. Arrow Signs (2 ea)
 - 5. Road Work Signs (2 ea)
 - 6. Right Lane Closed (1 ea)
 - 7. Left Lane Closed (1 ea)
 - 8. Prepare to Stop (2 ea)
 - 9. Flagger Ahead (2 ea)
 - 10. Cones (12 ea)
 - 11. Delineators (12 ea)
 - C. See Attached Traffic Control Plan
 - D. Site Safety
 - 1. Barricades (as required)
 - 2. Caution Tape

5. Gather/Fabricate/Stage:
- A. Material/Fabricate/Assemble/Pre-Stage
 - 1. See Attached Material Sheets
 - 2. See Attached Maps
 - B. "PPE" Safety Equipment
 - 1. Hardhats
 - 2. Ear Protection
 - 3. Boots
 - 4. Gloves
 - 5. Full Face Shield
 - 6. Tyvek Coveralls
 - 7. Face Shield
 - 8. Hand wipes
 - 9. Hand cleaner
 - 10. Disinfectant Wipes
 - C. Equipment
 - 1. Trash Pump with Discharge Hose
 - 2. Cut Off Saw
 - 3. Ductile Iron and PVC Blades
 - 4. Oxygen Acetylene Cylinder w/Torch
 - 5. Generator
 - 6. Submersible Pump
 - D. Tools
 - 1. Chisel for Flanges
 - 2. Drift Pin for Flange Bolt Holes
 - 3. O.D. Tape
 - 4. Vice
 - 5. Flashlight
 - 6. Soil Cutter
 - 7. Deep Sockets as required
 - 8. Pneumatic Hacksaw
 - 9. Backfill Tamper

Bayshore Road Sewer Force Main Plan of Operation

10. Saws-All/Skill Saw
 11. Hand Saws
 12. Battery Powered Hand Tools
 13. Angle Grinder w/Cutoff Wheels
 14. Wire Brush for Flange Face
 15. Wire Wheel for Flange Face
- E. Rigging Equipment
1. Lifting Eye for Trench Plate
 2. Chain Sling for Trench Plate
 3. Lifting Straps
 4. Chain and Shackles
- F. Shoring Materials
1. Wooden Wedge
 2. 2" x 4" Material
 3. 4" x 4" Material
 4. Thrust Block Form Material
 5. Plywood
 6. Stakes
- G. Vehicles
1. Vac-Con
 2. Utility Truck
 3. Back Hoe
 4. Dump Truck
 5. Light Tower
 6. Concrete Buggy
 7. Patch Truck
 8. Roller
 9. Portable Restroom
- H. Miscellaneous Parts
1. Rags (as required)
 2. 50:1 Mix (1 ea)
 3. Gas Can for Trash Pump
 4. Anti-Seize for Stainless Fasteners
 5. Coating for Steel Fasteners
 6. Digital Camera
 7. Extension Cord
 8. Tape (10 mil x 2")
 9. Crayon "RED" to Mark D.I.P.
 10. Gasket Material to Mark D.I.P.
 11. Gloves
 12. Water/Cups/Drinks/Food
 13. Medical Kit
 14. Hand wipes
 15. Tyvek Coveralls
 16. G-5 Traffic Box (8 ea)
 17. Metal Lid "SEWER" (8 ea)
 18. 8" SDR-35 Riser Pipe
 19. Trench Plate

**Bayshore Road Sewer Force Main
Plan of Operation**

6. Excavation Plan:

- A. Layout
- B. Sawcut
- C. Excavate and Remove Thrust Blocks
- D. Expose Tie-In Locations
- E. Plate Excavation

7. Ripout:

Establish Traffic Control Zone

- A. De-Water Site
- B. Retention Time at Sewer Lift Stations
- C. Remove/Replace 14" Valve Bonnet Assembly (could be frozen in place)
NOTE: Do not disturb existing 14" C-900 piping, 14" tee assembly or 8" gooseneck assembly.
- D. Remove 8" valve assemblies and associated piping

8. Installation:

Establish Traffic Control Zone

- A. Rig Valve Assemblies into Place
- B. Shore Assemblies in Place
- C. Fit-Up Assemblies
- D. Form Thrust Blocks
- E. Pour Concrete
- F. Place Drain Rock
- G. Place Riser Pipes
- H. Place A/B Rock Backfill/Compact
- I. Place G-5 Traffic Utility Boxes to Grade
- J. Cutback Excavation Site

9. Pave:

Establish Traffic Control Zone

- A. Remove Cutback From Excavation
- B. Prep Excavation Site
- C. Raise G-5 Traffic Utility Boxes to Grade Concrete in Place
- D. Asphalt Excavation Site

10. Lessons Learned:

**Bayshore Road Sewer Force Main
Plan of Operation**

Traffic Control Plan

Road Work Sign

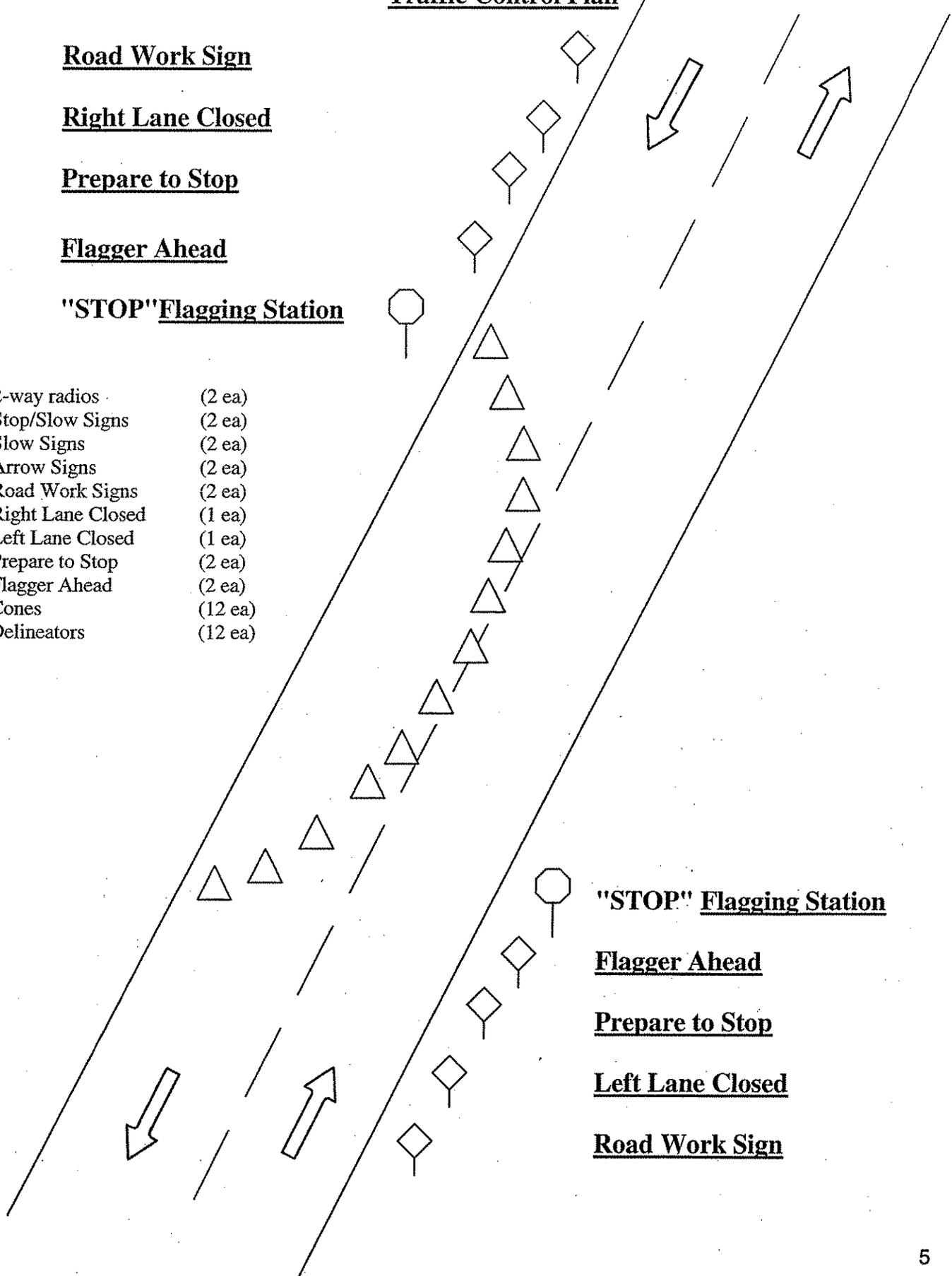
Right Lane Closed

Prepare to Stop

Flagger Ahead

"STOP" Flagging Station

- 2-way radios (2 ea)
- Stop/Slow Signs (2 ea)
- Slow Signs (2 ea)
- Arrow Signs (2 ea)
- Road Work Signs (2 ea)
- Right Lane Closed (1 ea)
- Left Lane Closed (1 ea)
- Prepare to Stop (2 ea)
- Flagger Ahead (2 ea)
- Cones (12 ea)
- Delineators (12 ea)



"STOP" Flagging Station

Flagger Ahead

Prepare to Stop

Left Lane Closed

Road Work Sign

CITY OF BENICIA
LIFT STATION CLEANING SCHEDULE
(FIRST WEDNESDAY OF EACH MONTH)

Month	Stations
January	Highlands, East 7th, Cambridge
February	Parkway Plaza , Barn , Sam's , East B St.
March	teal Court , Industrial Way, BI, Park Rd.
April	Tire Shop, Bayshore, Wharf, East 7th
May	Carlisle, Barn, Cambridge
June	Parkway Plaza, East B St. Park Rd , Corp Yard
July	Highlands, East 7th, Vans
August	Barn, West 8th St., Egret Court
September	BI, Park Rd, Cambridge
October	East 7th, Middle School, Parkway Plaza, East B
November	Barn, Fleetside 1, 2, 3,
December	Park Rd, East B , West 13th St. , Corp Yard

revised 9/30/11

A hodes

ANNUAL MAINTENANCE

CARE AND MAINTENANCE



Before starting work on the pump, make sure that the pump is isolated from the power supply and cannot be energized.

This applies to the control circuit as well.



NOTE for Ex version page 3.



Make sure that the pump cannot roll or fall over and injure people or damage property.

The following points are important in connection with work on the pump:

- Make sure that the pump has been thoroughly cleaned.
- Beware of the risk of infection.
- Follow local safety regulations.

The pump is designed for use in liquids which can be hazardous to health. In order to prevent injury to the eyes and skin, observe the following points when working on the pump:

- Always wear goggles and rubber gloves.
- Rinse the pump thoroughly with clean water before starting work.
- Rinse the components in water after dismantling.
- The oil housing may be under pressure. Hold a rag over the oil screw (oil plug) to prevent splatter.

Proceed as follows if hazardous chemicals have splashed into your eyes:

- Rinse your eyes immediately in running water for 15 minutes. Hold your eyelids apart with your fingers.
- Contact an eye specialist.

On your skin:

- Remove contaminated clothes.
- Wash your skin with soap and water.
- Seek medical attention, if required.

Inspection

Regular inspection and preventive maintenance ensure more reliable operation.

The pump should be inspected at least once a year, but more frequently under severe operating conditions.

Under normal operating conditions, the pump should have a major overhaul in a service shop at least every third year for permanent installation and every year for portable pumps. This requires special tools and should be done by an authorized service shop.

If the seals have been replaced an inspection of the oil is recommended after one week of operation.

NOTE! Regular check of the condition of the lifting handle and chain is important.

Inspection of hot water applications

Pumps in hot water applications shall undergo inspection or overhaul at a service shop as follows, depending on the time they have been submerged in the hot water:

Temp.	Mode of operation	Inspection	Shop overhaul
≤70°C (160°F)	Continuous	1000 hours	4000 hours
≤70°C (160°F)	Intermittent	twice a year	once a year

CARE AND MAINTENANCE

N-type impeller - replacing and setting clearance



Warning! The impellers may have very sharp edges.
Use protective gloves.

<p>N3085/3102</p> <p>1.</p>	<p>2.</p>	<p><i>Not valid for 3102 SH-version</i></p> <p>3.</p>
<p>NP/NS/NL3127</p> <p>(3x) 0,3 mm (0,012") 298 62 00 (1x) 1,5 mm (0,060") 298 62 01 (2x) 0,5 mm (0,020") 298 62 02</p> <p>A = 3x 0,3 + 1x 1,5 + 2x 0,5 = 2,9 mm</p> <p>1.</p>	<p>2.</p>	<p>3.</p>
<p>$X = A - B - C$</p> <p>4.</p>	<p>C =</p> <p>5.</p>	
<p>NT/NZ 3127</p> <p>A=3x 298 62 01</p> <p>1.</p>	<p>B</p> <p>2.</p>	
<p>A-B-0,25mm(0,01")</p> <p>298 62 00 0,3mm (0,012") 298 62 01 1,5mm (0,060") 298 62 02 0,5mm (0,020")</p> <p>3.</p>	<p>0,2 - 0,8 mm (0,008 - 0,032")</p> <p>I x 5</p> <p>4.</p>	

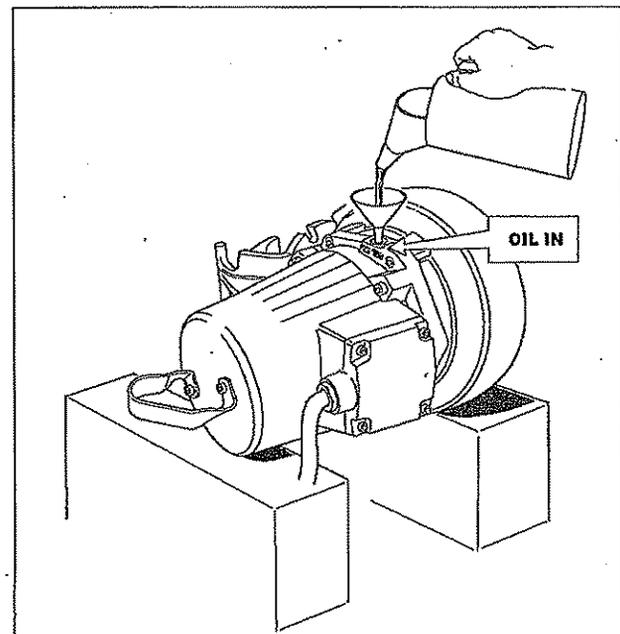
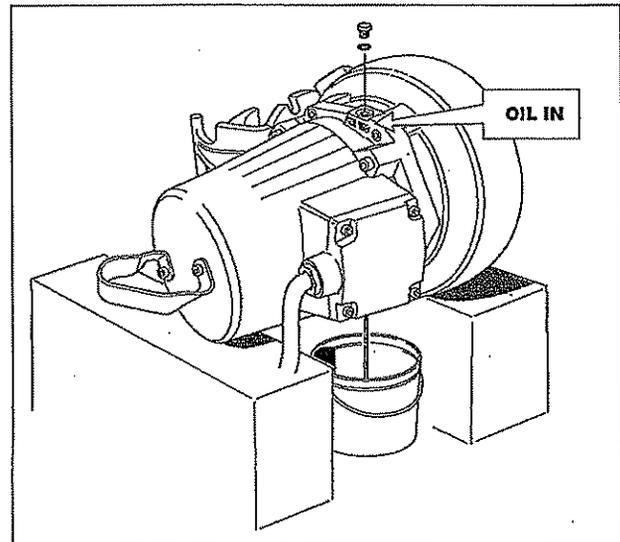
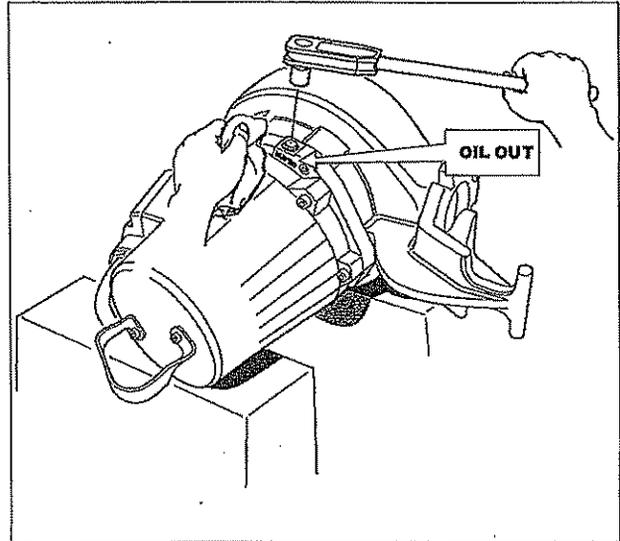
OIL CHANGE



The oil housing may be under pressure. Hold a rag over the oil plug to prevent splatter.

1. Lay the pump on its side on a bench or over two supports. Unscrew the oil housing screw (oil plug) marked "oil out". Emptying the oil must be done through the "oil out" hole.
2. Turn the pump. Unscrew the "oil in" oil hole screw/plug. In order to drain out all oil, the pump must be raised upright for a short while during drainage.
3. Replace the O-rings under the oil housing screws (plugs) with new ones.
4. Install the "oil out" screw/plug and fill with oil through the other hole. It is important that the oil be added through the hole marked "oil in" since the oil housing must contain some air for pressure equalization. The pump should be tilted slightly and put down again horizontally in order to get the full amount of oil in.

A paraffin oil with viscosity close to ISO VG32 is recommended (e.g. Mobil Whiterex 309). The pump is delivered from factory with this type of oil.



Approx. oil quantity		
	l	US quarts
3085	1.0	1.1
3085.280/290	0.8	0.8
3102	1.0	1.1
3127	2.0	2.1

<i>SEWER/STORM LINE REPLACEMENT/REPAIR</i>	CITY OF BENICIA Department of Public Works Maintenance Division Focus Program	
ACTIVITY NO. 3	DATE: 2/02	
DESCRIPTION & PURPOSE: Repair sewer or storm drain main to restore normal flow or to eliminate sources of I/I and blockage.		
SCHEDULING GUIDELINES: When collapsing sewer or storm drain mains, severe dips, and I/I are detected by television inspection.		
CREW SIZE	WORK METHOD	
1 - Maintenance Worker III 3 - Maintenance Worker II 1 - Maintenance Foreman * See Note	1. Call Underground Service Alert for location of utilities if situation does not require immediate attention. If situation does require immediate attention, call Underground Service Alert on emergency dig basis.	
EQUIPMENT	2. Place traffic control devices. Be sure equipment warning lights are on.	
Backhoe Dump Truck 3/4 Ton Utility Truck Compressor Jackhammer Tamper Traffic Control Devices	3. Excavate and expose damaged main. Repair or replace if necessary. 4. Compact excavation with 3/4" aggregate base topped off with a minimum of 2" of cutback material. 5. Have work order made to hot patch excavation. 6. Clean up tools and equipment. Note: Soil conditions and/or 5' depth dictate the use of shoring.	
MATERIAL	AVERAGE DAILY PRODUCTION	
3/4 AB Cutback, Pipe Couplings Proper Personal Safety Equip.	1 location per day 0.031 units per person per hour	
NOTES: * Crew size may increase depending on traffic control and field conditions. Complete pertinent paperwork. * Equipment failure rent from Hertz Big 4 - 747-4444		

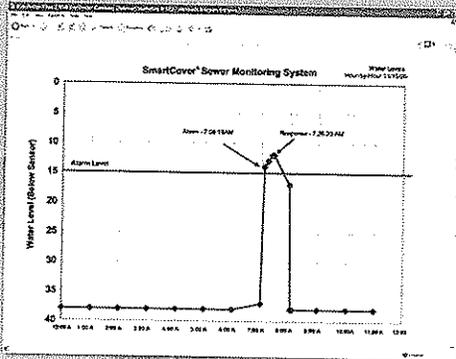
CLEANING SEWER MAINS & STORM DRAINS	CITY OF BENICIA Department of Public Works Maintenance Division Focus Program	
ACTIVITY NO. 9	DATE: 2/02	
DESCRIPTION & PURPOSE: Clean and flush sewer mains to maintain normal flow by removing obstruction, grit, grease, and build-up of other materials using flushing equipment. Regular, routine cleaning of inlets, outlets, catch basins, flapgates, culverts, drainage pipes to remove accumulated debris and ensure satisfactory drainage. Remove weeds and debris from channel and outfalls to eliminate stagnant water and to maintain proper flow. Clean storm drain pipes and culverts and sidewalk culverts to maintain normal flow of water.		
SCHEDULING GUIDELINES: Coordinate work with the Collection System preventive maintenance program. Consolidate work to minimize deadheading and partial days of work. All drainage structures should be cleaned and inspected once a year. Begin the inspection in early September and coordinate this work with other preparations for winter rainy season. Varies as to time of year.		
CREW SIZE	WORK METHOD	
2- Maintenance Worker II (2 man crew may consist of 1's, 2's, & a 3) Varies as to work	1. Place traffic control devices. Be sure equipment warning lights are on. 2. Flush upstream from downstream manhole using appropriate pressure. 3. Wash down manhole before proceeding to next assignment.	
EQUIPMENT	4. Vac-Con manhole during cleaning as required. 5. Clean Vac-Con debris body at WWTP.	
1 Hydroflusher 3/4 Ton Utility Truck 1 Vac-Con Unit 1 Power Rodder 1 Backhoe 1 Dump Truck Handrod Clam Shells	6. Utilize power rodder in appropriate locations. 7. Clean culverts and pipes to remove debris. 8. Clean minor storm drain channels and outfalls of debris. 9. Load debris into dump truck. 10. Locate truck near structure and out of traffic if possible 11. Remove grate. 12. Clean in and around drainage structure. Remove debris, load into truck. 13. Inspect structure to determine if additional cleaning or repair is needed. 14. Dispose of spoils/debris.	
MATERIAL	AVERAGE DAILY PRODUCTION	
Water Proper Personal Safety Equipment	6,000 lineal feet per day 375 lineal feet per person-hour	
NOTES: Crew varies from area being flushed and traffic. One person may be used for traffic control. Complete pertinent paperwork. The use of backhoe & dump truck may be needed on some culvert cleanings & addition of MW Foreman or MW II (Equip. Operator).		

<p><i>MISC. SEWER MAINT. PROGRAM</i></p>	<p>CITY OF BENICIA Department of Public Works Maintenance Division Focus Program</p>	
<p>ACTIVITY NO. 13</p>		<p>DATE: 2/02</p>
<p>DESCRIPTION & PURPOSE: All other sewer main and lateral maintenance activities.</p>		
<p>SCHEDULING GUIDELINES: Consolidate work to minimize deadheading and partial days of work.</p>		
<p>CREW SIZE</p>	<p>WORK METHOD</p>	
<p>Varies as to work. Schedule Accordingly.</p>	<p>Includes activities such as:</p> <ol style="list-style-type: none"> 1. Notifying public of sewer maintenance programs. 2. Survey/inspection of sewer maintenance programs and activities. 3. Providing assistance to Project Engineering for sewer C.I.P.'s. 4. Response to sewer system complaints. <p>Be sure to use most effective and efficient resources and methods to complete work satisfactorily.</p>	
<p>EQUIPMENT</p>		
<p>Varies as to work.</p>		
<p>MATERIAL</p>	<p>AVERAGE DAILY PRODUCTION</p>	
<p>Varies as to work. Proper personal safety equipment.</p>	<p>Quantity of work is measured by person-house used.</p>	
<p>NOTES: Describe the type of work competed on the work order. Complete pertinent paperwork. * Rent Equipment as needed - Hertz Big 4 - 747-4444</p>		

KNOW WHAT'S GOING ON IN YOUR SEWER
BECAUSE... ..IT HAPPENS™

SMARTCOVER®

Sewer Monitoring
and Alarm System



Detail of surcharge alarm showing results of early response. A sewage spill was prevented.

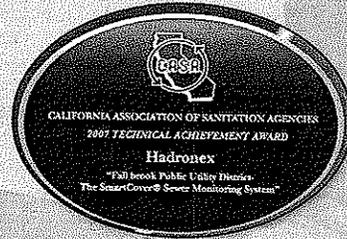
Example of intrusion alarm at SmartCover site. Intruder was caught.

7611 INBOX
SMARTCOVER ALARM
SURCHARGE
116TH AND MAIN
12 IN
5:18:42 PM
JUNE 5, 2007



Typical text display
of surcharge alarm.

Winner of the
California Association of Sanitation Agencies
Technical Achievement Award
with the Fallbrook Public Utility District.



- 7/24 Monitoring
- Real Time Alarms
- Trending Data
- Detect Intrusions
- Lift Station Backup
- No Confined Space Entry
- Cost Effective
- Stand-alone System

Prevent Sewer Spills...
...Avoid Fines & Bad PR!

HADRONEX

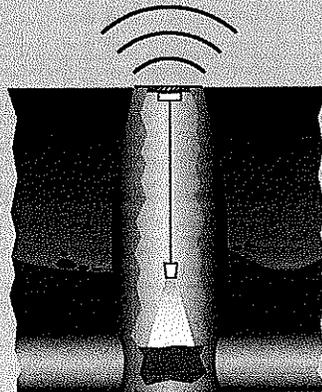
681 Engel Street • Escandido, CA 92029
760-291-1988 • Fax 760-291-1989 • 3166@hadronex.com

HADRONEX It Happens™

FEATURES

SmartCover® Features

- Small, easy-to-install sensor module mounted directly on manhole or enclosure cover
- Self-contained - no external connections, trenching or A/C power required
- RF antenna mounts on top of cover
- Ultrasonic sensor continuously measures water level to 1" accuracy
- Direct and immediate communication of alarms to responsible personnel
- One year between SmartCover® PowerPack changes
- Continuous data logging with remote web display
- Historical data always available



SmartCover® Field Unit Specifications

Weight.....	4.5 lbs.
Size.....	2" x 6" x 6"
Power.....	3.6 VDC input, provided by on-board SmartCover® PowerPack
Battery Life.....	One year, normal operating conditions
Environmental.....	IP-67, NEMA 6P, shock resistant, survives submersion
Mounting.....	Magnetic or mechanical, depending on application
Antenna Mounting.....	Low profile or high gain models. Traffic hardened
Sensor Cable Lengths.....	Sized to fit application
Level Sensor Range.....	Standard: 3 inches to 86 inches. 20 ft. range available.
Standard Measurements.....	Water level, intrusion, temperature, signal strength, battery voltage, pressure (option)

Communications

Method	2-way wireless digital radio, connects to existing nationwide networks
Status Reporting	Immediate upon alarm, reports on request, and "heartbeat" reporting every 10 hours
Alarms	High water level and intrusion on movement of manhole cover or hatch
Alerts	Battery low, sensor failure, communications failure

Secure Private Customer Web Page

Content	Level and temperature data, alarm and alert history, alarm acknowledgement, data logging, maintenance logs, site-specific information, downloadable data into spreadsheet format
Security	Password protected, Secure Sockets Layer, 128-bit encryption

Data Management and Two way Communication is Standard

- Your data accessed via HadroneX secure website
- Security through password protection
- Data can be downloaded to Excel™ spreadsheet
- Commands can be sent to unit via Internet to change alarm distance
- Multiple SmartCover® units provide sewer system status monitoring
- Additional software not required
- System is always powered up and communicating

APPLICATIONS

Manhole Monitoring Spill Prevention

SmartCover® monitors water level and alarms at pre-set high water condition.
PREVENTS SPILLS

Security Intrusion Detection

SmartCover® alarms when manhole cover or hatch cover is lifted.
NOTIFICATION OF UNAUTHORIZED ENTRY AND ILLEGAL DUMPING

Lift Station Independent Back-up

SmartCover® monitors water level in wet wells and alarms at pre-set high water condition.
PREVENTS LIFT STATION OVERFLOW

Remote Site Monitoring

SmartCover® monitors remote sites that have difficult access.
SPILL PREVENTION - REMOTE SECURITY

Sensitive Site Protection

SmartCover® protects ecologically fragile areas, below grade level buildings, hospitals, schools and shopping centers.
PROTECTS ENVIRONMENT

Storm Drain Monitoring

SmartCover® monitors water level in storm drains and sumps and alarms for high water level.
DETECTS STORM DRAIN SURCHARGES

Force Main Pressure Sensing

SmartCover® measures, tracks and logs pressure in a force main and alarms for pressure loss.
PROTECTS ENVIRONMENT FROM SEWER LINE BREAKS

Private Sewer Spill Protection

SmartCover® monitors water levels in private sewer laterals and alarms at pre-set high water condition. Unauthorized entry protection provided.
PROTECTS PRIVATE SEWER LATERALS THAT FEED UTILITY SEWER LINES

Utility Vault Protection

SmartCover® monitors utility vaults for high water, intrusions and hazardous conditions.
PREVENTS EQUIPMENT DAMAGE DUE TO WATER ENTRY

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Rehabilitation and Replacement Plan

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Summary of FY 2019/20 and 2020/21 Collection System CIP Projects¹

Project Name	Project No.	FY 19/20	FY 20/21	TOTAL
Sewer Master Plan Update	WWO-013	\$275,000	\$0	\$275,000
E. 7th St. Sewerline Replacement	WWO-032	\$276,000	\$0	\$276,000
Bayshore Road Gravity Main Rehabilitation	WWO-052	\$911,000	\$0	\$911,000
Bayshore Road Forcemain Sanitary Sewer Crossovers	WWO-061	\$560,000	\$0	\$560,000
East Channel Road Sewerline Improvement Project	WWO-063	\$230,000	\$3,490,000	\$3,720,000
West H Pipeline Replacement	WWO-080	\$283,000	\$0	\$283,000
EI Bonito Way Force Main Replacement	WWO-081	\$60,000	\$0	\$60,000
Sewer Line Replacement Program	WWO-082	\$200,000	\$650,000	\$850,000
Lift Station Upgrades	WWO-090	\$0	\$90,000	\$90,000

- The **Sewer Master Plan Update** consists of updating the 2011 Wastewater System Plan that would provide information on construction, operation, and maintenance of the wastewater collection and treatment facilities through 2040.
- The **East 7th Street Sewerline Replacement Project** consists of installing 510-feet of form in place liner from 616 East K Street to Manhole #12256, Manhole#12255, Manhole #12254, and Manhole #0 at 645 East J Street. An assessment of the eastern contributor to 7th Street Lift Station will also be conducted as part of this pipeline rehabilitation project.
- The **Bayshore Road Gravity Main Rehabilitation Project** consists of realigning the sanitary sewer main along Bayshore Road from Jackson Street to the City's Waste Water Treatment Plant due to sewer gas corrosion of pipeline materials.
- The **Bayshore Road Forcemain Crossovers Project** consists of crossing over connections from an 8" force main (FM) to the 12" FM. The City installed a 12" FM that runs along Bayshore from the Park lift station to E 7th St. A redundant 8" FM was installed in the late 1950's that runs parallel to the 12" FM. The 8" FM has reached its useful life. All connections to 8" FM must be transferred to the 12" FM prior to decommissioning.
- The **East Channel Road Sewerline Improvement Project** consists of replacing the existing 12-inch pipe with a 15-inch pipe from East 2nd Street to the extension of Industrial Court; and 18-inch pipe from that point to Industrial Way; and protecting the new sewerline by repaving the deteriorating roadway.
- The **West H Pipeline Replacement Project** consists of an assessment and mitigation of a sewer pipeline on West H Street. This pipeline is exposed due to the shoreline eroding. An assessment will be conducted first to determine the impact to the pipeline by erosion. Both the assessment and mitigation are planned for Fiscal Year 2018/19.
- The **EI Bonito Way Force Main Replacement Project** consists of installing a new 4-inch sewer force main approximately 626 feet in length from the future sidewalk stub at Highlands Lift Station (107 EI Bonito) to manhole #11914 at the intersection of EI Bonito Way and Corte Dorado.
- The **Sewer Line Replacement Program** consists of unanticipated repairs not covered within the maintenance budget. Unused funds carry over into the next fiscal year.
- The **Lift Station Upgrades Project** consists of increasing the lift station size at the East 7th Street and East B Street Lift Station Wet Wells.

¹ From City of Benicia Capital Improvement Program, Fiscal Years 2019/20 – 2023/ 24, Public Works Engineering Division, Adopted – May 28, 2019

Capital Improvement Plan

'19/'20 *thru* '23/'24

City of Benicia, California

Project # **WWO-013**
 Project Name **Sewer Master Plan Update**



Type **Improvement** Department **Public Works**
 Useful Life Contact **Public Works Director**
 Category **Wastewater Operations** Priority **Level 1 - Funded**

Account No.

Status **Active**

Description

An update of the 2011 Wastewater System Master Plan is recommended. The Plan would provide information on the construction, operation and maintenance of the wastewater collection and treatment facilities through 2035. It would include the use of a sewer model to identify and analyze required capacity improvements for major sewer pipelines and Capital Improvement Projects are recommended based on the results.

Justification

City of Benicia Strategic Plan
 Strategic Issue 1: Protecting Community Health and Safety
 Strategic Issue 4: Preserving and Enhancing Infrastructure

General Plan Goals:
 Goal 2.28: Improve and maintain public facilities and services.
 Goal 2.38: Protect water quality.
 Goal 4.7: Ensure that existing and future neighborhoods are safe from risks to public health that could result from exposure to hazardous materials.
 Goal 4.8: Protect sensitive receptors from hazards.
 Goal 4.16: Require hazardous materials and hazardous waste management handling and disposal procedures that are protective of human health and the environment.
 Goal 4.20: Reduce health and safety hazards associated with hazardous materials users, hazardous waste generators, and hazardous waste disposal sites and toxic air contaminants.
 Goal 4.21: Reduce significant hazards associated with pipelines, and high voltage transmission lines.

Expenditures	Prior	'19/'20	'20/'21	'21/'22	'22/'23	'23/'24	Future	Total
Planning, Design and Eng.	150,000	275,000						425,000
Total	150,000	275,000						425,000

Funding Sources	Prior	'19/'20	'20/'21	'21/'22	'22/'23	'23/'24	Future	Total
Wastewater Capacity Fund (WWC)	75,000	137,500						212,500
Wastewater Operations Fund (WWO)	75,000	137,500						212,500
Total	150,000	275,000						425,000

Budget Impact/Other

Capital Improvement Plan

'19/'20 *thru* '23/'24

City of Benicia, California

Project # **WWO-032**
 Project Name **E. 7th St. Sewerline Replacement**



Type Replacement Department Public Works
 Useful Life 60 years Contact Public Works Director
 Category Wastewater Line Projects Priority Level 1 - Funded

Account No. 720-8031-9999

Status Active

Description

The East 7th Street Sewerline Replacement Project consists of form in place liner 510-feet in length from 616 East K Street to Manhole #12256, Manhole #12255, Manhole #12254, and Manhole #0 at 645 East J Street. An assessment of the eastern contributor to 7th Street Lift Station will also be conducted as part of this pipeline rehabilitation project.

Note: Fold And Form

Justification

Regular on-going pipeline rehabilitation.

City of Benicia Strategic Plan

Strategic Issue 1: Protecting Community Health and Safety

Strategic Issue 4: Preserving and Enhancing Infrastructure

General Plan Goals, Programs, Policies:

Goal 2.28: Improve and maintain public facilities and services.

Goal 2.38: Protect water quality.

Goal 4.7: Ensure that existing and future neighborhoods are safe from risks to public health that could result from exposure to hazardous materials.

Goal 4.8: Protect sensitive receptors from hazards.

Goal 4.16: Require hazardous materials and hazardous waste management handling and disposal procedures that are protective of human health and the environment.

Goal 4.20: Reduce health and safety hazards associated with hazardous materials users, hazardous waste generators, and hazardous waste disposal sites and toxic air contaminants.

Goal 4.21: Reduce significant hazards associated with pipelines, and high voltage transmission lines.

Expenditures	Prior	'19/'20	'20/'21	'21/'22	'22/'23	'23/'24	Future	Total
Planning, Design and Eng.		43,000						43,000
Construction Costs		173,000						173,000
Construction Management		17,000						17,000
Contingency		43,000						43,000
Assessment	30,000							30,000
Total	30,000	276,000						306,000

Funding Sources	Prior	'19/'20	'20/'21	'21/'22	'22/'23	'23/'24	Future	Total
Wastewater Operations Fund (WWO)	30,000	276,000						306,000
Total	30,000	276,000						306,000

Budget Impact/Other

Rate funded.

FY 18/19 is for TV assessment.

10/4/18 moved \$173,000 construction cost from FY 18/19 to FY 19/20 and added soft costs (25% design, 25% contingency and 10% construction management).

Capital Improvement Plan

'19/'20 *thru* '23/'24

City of Benicia, California

Project # WWO-052
Project Name Bayshore Road Gravity Main Rehabilitation



Type Improvement **Department** Public Works
Useful Life 60-80 years **Contact** Public Works Director
Category Wastewater Line Projects **Priority** Level 1 - Funded

Account No. 720-8031-9999

Status Active

Description

•The Bayshore Road Gravity Main Rehabilitation Project consists of realigning the sanitary sewer main along Bayshore Road from Jackson Street to the City’s Waste Water Treatment Plant due to sewer gas corrosion of pipeline materials.

Justification

Regular on-going pipeline replacement/rehabilitation cycle.

City of Benicia Strategic Plan
 Strategic Issue 1: Protecting Community Health and Safety
 Strategic Issue 4: Preserving and Enhancing Infrastructure

General Plan Goals, Programs, and Policies:
 Goal 2.28: Improve and maintain public facilities and services.
 Goal 2.38: Protect water quality.
 Goal 4.7: Ensure that existing and future neighborhoods are safe from risks to public health that could result from exposure to hazardous materials.
 Goal 4.8: Protect sensitive receptors from hazards.
 Goal 4.16: Require hazardous materials and hazardous waste management handling and disposal procedures that are protective of human health and the environment.
 Goal 4.20: Reduce health and safety hazards associated with hazardous materials users, hazardous waste generators, and hazardous waste disposal sites and toxic air contaminants.
 Goal 4.21: Reduce significant hazards associated with pipelines, and high voltage transmission lines.

Expenditures	Prior	'19/'20	'20/'21	'21/'22	'22/'23	'23/'24	Future	Total
Planning, Design and Eng.	180,000							180,000
Construction Costs		650,000						650,000
Construction Management		98,000						98,000
Contingency		163,000						163,000
Assessment	20,000							20,000
Total	200,000	911,000						1,111,000

Funding Sources	Prior	'19/'20	'20/'21	'21/'22	'22/'23	'23/'24	Future	Total
Wastewater Operations Fund (WWO)	200,000	911,000						1,111,000
Total	200,000	911,000						1,111,000

Budget Impact/Other

Rate funded.
 10/4/18 Split \$200K in FY 18/19 to \$20K for pipe assessment and \$180K for design. Added soft costs to FY 19/20 (25% contingency and 15% for construction management for an underground project.)

Capital Improvement Plan

'19/'20 *thru* '23/'24

City of Benicia, California

Project # WWO-061
Project Name Bayshore Road Forcemain Sanitary Sewer Crossovers

Type Replacement **Department** Public Works
Useful Life 60 years **Contact** Public Works Director
Category Wastewater Line Projects **Priority** Level 1 - Funded

Account No. 720-8031-9999

Status Active



Description

The Bayshore Road Forcemain Crossovers Project consists of crossing over connections from an 8" force main (FM) to the 12"/14" FM. The City installed a 12"/14" FM that runs along Bayshore from the Park lift station to E 7th St. A redundant 8" FM was installed in the late 1950's that runs parallel to the 12"/14" FM. The 8" FM has reached its useful life. All connections to 8" FM must be transferred to the 12"/14" FM prior to decommissioning.

Justification

Regular on-going pipeline replacement/rehabilitation cycle.

City of Benicia Strategic Plan
 Strategic Issue 1: Protecting Community Health and Safety
 Strategic Issue 4: Preserving and Enhancing Infrastructure

General Plan Goals, Programs, and Policies:
 Goal 2.28: Improve and maintain public facilities and services.
 Goal 2.38: Protect water quality.
 Goal 4.7: Ensure that existing and future neighborhoods are safe from risks to public health that could result from exposure to hazardous materials.
 Goal 4.8: Protect sensitive receptors from hazards.
 Goal 4.16: Require hazardous materials and hazardous waste management handling and disposal procedures that are protective of human health and the environment.
 Goal 4.20: Reduce health and safety hazards associated with hazardous materials users, hazardous waste generators, and hazardous waste disposal sites and toxic air contaminants.
 Goal 4.21: Reduce significant hazards associated with pipelines, and high voltage transmission lines.

Expenditures	Prior	'19/'20	'20/'21	'21/'22	'22/'23	'23/'24	Future	Total
Planning, Design and Eng.	150,000							150,000
Construction Costs		400,000						400,000
Construction Management		60,000						60,000
Contingency		100,000						100,000
Total	150,000	560,000						710,000

Funding Sources	Prior	'19/'20	'20/'21	'21/'22	'22/'23	'23/'24	Future	Total
Wastewater Operations Fund (WWO)	150,000	560,000						710,000
Total	150,000	560,000						710,000

Budget Impact/Other

Rate funded. No design.
 Previous note: \$350K in FY 18/19 is for cleanouts (was \$400K.)
 10/4/18 changed total project cost of \$515K in FY 18/19 to \$710K over FY 18/19 and 19/20. Breakout as follows: FY 18/19 \$50K crossover design and \$100K cleanout design. FY 18/19 \$200K crossover construction and \$200K cleanout construction; \$50K crossover contingency and \$50K cleanout contingency; \$30K crossover CM and \$30K cleanout CM.

Capital Improvement Plan

'19/'20 *thru* '23/'24

City of Benicia, California

Project # **WWO-080**
 Project Name **West H Pipeline Replacement**



Type Replacement Department Public Works
 Useful Life 60-80 years Contact Public Works Director
 Category Wastewater Line Projects Priority Level 1 - Funded

Account No. 720-8031-9999

Status Active

Description

The West H Pipeline Replacement Project consists of an assessment and mitigation of a sewer pipeline on West H Street. This pipeline is exposed due to the shoreline eroding. An assessment will be conducted first to determine the impact to the pipeline by erosion. Both the assessment and mitigation are planned for Fiscal Year 2018/19.

Justification

Addresses manhole that may be impacted by erosion of the shoreline.

City of Benicia Strategic Plan
 Strategic Issue 1: Protecting Community Health and Safety
 Strategic Issue 4: Preserving and Enhancing Infrastructure

General Plan Goals, Programs, and Policies:
 Goal 2.28: Improve and maintain public facilities and services.
 Goal 2.38: Protect water quality.
 Goal 4.7: Ensure that existing and future neighborhoods are safe from risks to public health that could result from exposure to hazardous materials.
 Goal 4.8: Protect sensitive receptors from hazards.
 Goal 4.16: Require hazardous materials and hazardous waste management handling and disposal procedures that are protective of human health and the environment.
 Goal 4.20: Reduce health and safety hazards associated with hazardous materials users, hazardous waste generators, and hazardous waste disposal sites and toxic air contaminants.
 Goal 4.21: Reduce significant hazards associated with pipelines, and high voltage transmission lines.

Expenditures	Prior	'19/'20	'20/'21	'21/'22	'22/'23	'23/'24	Future	Total
Planning, Design and Eng.	50,000							50,000
Construction Costs		202,000						202,000
Construction Management		30,000						30,000
Contingency		51,000						51,000
Total	50,000	283,000						333,000

Funding Sources	Prior	'19/'20	'20/'21	'21/'22	'22/'23	'23/'24	Future	Total
Wastewater Operations Fund (WWO)	50,000	283,000						333,000
Total	50,000	283,000						333,000

Budget Impact/Other

Rate funded.
 10/4/18 Moved construction and CM from FY 18/19 (\$303K) to FY 19/20 (\$283K), and changed FY 18/19 \$30K design to \$50K to include both design and permitting. No net cost increase. Used 25% contingency and 15% construction management.

Capital Improvement Plan

'19/'20 *thru* '23/'24

City of Benicia, California

Project # **WWO-081**
 Project Name **El Bonito Way Force Main Replacement**



Type Replacement Department Public Works
 Useful Life 60-80 years Contact Public Works Director
 Category Wastewater Line Projects Priority Level 1 - Funded

Account No. 518-5357-9960

Status Active

Description

The El Bonito Way Force Main Replacement Project consists of Installing a new 4-inch sewer force main approximately 626-feet in length from future sidewalk stub at Highlands lift station (107 El Bonito) to manhole #11914 at the intersection of El Bonito and Corte Dorado.

Justification

Ongoing replacement/rehabilitation of the City's sewer collection system.

City of Benicia Strategic Plan
 Strategic Issue 1: Protecting Community Health and Safety
 Strategic Issue 4: Preserving and Enhancing Infrastructure

General Plan Goals, Programs, and Policies:
 Goal 2.28: Improve and maintain public facilities and services.
 Goal 2.38: Protect water quality.
 Goal 4.7: Ensure that existing and future neighborhoods are safe from risks to public health that could result from exposure to hazardous materials.
 Goal 4.8: Protect sensitive receptors from hazards.
 Goal 4.16: Require hazardous materials and hazardous waste management handling and disposal procedures that are protective of human health and the environment.
 Goal 4.20: Reduce health and safety hazards associated with hazardous materials users, hazardous waste generators, and hazardous waste disposal sites and toxic air contaminants.
 Goal 4.21: Reduce significant hazards associated with pipelines, and high voltage transmission lines.

Expenditures	Prior	'19/'20	'20/'21	'21/'22	'22/'23	'23/'24	Future	Total
Planning, Design and Eng.		60,000						60,000
Total		60,000						60,000

Funding Sources	Prior	'19/'20	'20/'21	'21/'22	'22/'23	'23/'24	Future	Total
Wastewater Operations Fund (WWO)		60,000						60,000
Total		60,000						60,000

Budget Impact/Other

Rate funded.
 Originally was \$35K for an assessment.
 10/4/18 changed to \$60K for design engineering of a 4"x650' forcemain in the street.

Capital Improvement Plan

'19/'20 *thru* '23/'24

City of Benicia, California

Project # WWO-082
Project Name Sewer Line Replacement Program



Type Maintenance **Department** Public Works
Useful Life 60-80 years **Contact** Public Works Director
Category Wastewater Line Projects **Priority** Level 1 - Funded

Account No. 710-8031-7087

Status Active

Description

The Sewer Line Replacement Program consists of unanticipated repairs not covered within the maintenance budget. Unused funds carry over into the next fiscal year. The City spent \$16,000 in Fiscal Year 2017/18 on Cannon's assessment on the Manhole Relocation on West 10th Street (approved at 11/7/17 City Council meeting.)

Justification

Ongoing proactive replacement/rehabilitation of the City's 150-mile sewer collection system.

City of Benicia Strategic Plan
 Strategic Issue 1: Protecting Community Health and Safety
 Strategic Issue 4: Preserving and Enhancing Infrastructure

General Plan Goals, Programs, and Policies:

Goal 2.28: Improve and maintain public facilities and services.

Goal 2.38: Protect water quality.

Goal 4.7: Ensure that existing and future neighborhoods are safe from risks to public health that could result from exposure to hazardous materials.

Goal 4.8: Protect sensitive receptors from hazards.

Goal 4.16: Require hazardous materials and hazardous waste management handling and disposal procedures that are protective of human health and the environment.

Goal 4.20: Reduce health and safety hazards associated with hazardous materials users, hazardous waste generators, and hazardous waste disposal sites and toxic air contaminants.

Goal 4.21: Reduce significant hazards associated with pipelines, and high voltage transmission lines.

Expenditures	Prior	'19/'20	'20/'21	'21/'22	'22/'23	'23/'24	Future	Total
Construction Costs	1,300,000	200,000	650,000	650,000	650,000	650,000	2,200,000	6,300,000
Total	1,300,000	200,000	650,000	650,000	650,000	650,000	2,200,000	6,300,000

Funding Sources	Prior	'19/'20	'20/'21	'21/'22	'22/'23	'23/'24	Future	Total
Wastewater Operations Fund (WWO)	1,300,000	200,000	650,000	650,000	650,000	650,000	2,200,000	6,300,000
Total	1,300,000	200,000	650,000	650,000	650,000	650,000	2,200,000	6,300,000

Budget Impact/Other

Rate funded.

Capital Improvement Plan

City of Benicia, California

'19/'20 *thru* '23/'24

Project # WWO-090
Project Name Lift Station Upgrades

Type Improvement
Useful Life 30 years
Category Wastewater Operations

Department Public Works
Contact Public Works Director
Priority Level 1 - Funded

Account No. 725-8032-9999

Status Active



Description

Increase the size of East 7th Street and East B Street Lift Station Wet Wells.

Justification

Increased capacity needs.

City of Benicia Strategic Plan
Strategic Issue 1: Protecting Community Health and Safety
Strategic Issue 4: Preserving and Enhancing Infrastructure

General Plan Goals:

Goal 2.28: Improve and maintain public facilities and services.

Goal 2.38: Protect water quality.

Goal 4.7: Ensure that existing and future neighborhoods are safe from risks to public health that could result from exposure to hazardous materials.

Goal 4.8: Protect sensitive receptors from hazards.

Goal 4.16: Require hazardous materials and hazardous waste management handling and disposal procedures that are protective of human health and the environment.

Goal 4.20: Reduce health and safety hazards associated with hazardous materials users, hazardous waste generators, and hazardous waste disposal sites and toxic air contaminants.

Goal 4.21: Reduce significant hazards associated with pipelines, and high voltage transmission lines.

Expenditures	Prior	'19/'20	'20/'21	'21/'22	'22/'23	'23/'24	Future	Total
Planning, Design and Eng.			90,000					90,000
Construction Costs				360,000				360,000
Construction Management				54,000				54,000
Contingency				90,000				90,000
Total			90,000	504,000				594,000

Funding Sources	Prior	'19/'20	'20/'21	'21/'22	'22/'23	'23/'24	Future	Total
Wastewater Capacity Fund (WWC)			90,000	504,000				594,000
Total			90,000	504,000				594,000

Budget Impact/Other

10/4/18 Changed FY 20/21 \$60K design to \$90K and FY 21/22 \$300K construction to \$90K and \$360K respectively to account for a 20% CPI since the figures were projected three years ago. Soft costs were added - 25% contingency and 15% construction management.



Public Works Department
MEMORANDUM

Date: November 28, 2018
To: File
From: Drake Valentine, Acting Public Works Maintenance Superintendent
Re: **City of Benicia Operation and Maintenance Procedures**

INFRASTRUCTURE CONTINUOUS IMPROVEMENT
(REHABILITATION and REPLACEMENT)

OVERVIEW: Description of sewer maintenance activities that identify condition of city maintained sewer mains.

ACTIVITIES: Respond to sewer system related calls for service; provide assistance to Engineering Department with developing technical information needed to complete Capital Improvement Projects; assist the Engineering Department with coordination of sewer related contracted services; make repairs in-house in manageable situations.

Proactive hydro cleaning and televised inspection to identify structural deficiencies follow up on main and lateral spill events to prevent reoccurrences, identify pipe segments that are candidates for placement on a routine cleaning schedule and to identify unapproved connections.

Perform scheduled hydro cleaning of mains and lift stations on a frequency necessary to insure reliable performance.

Receive requests for underground utility markings and staff accordingly to identify and mark utilities that could conflict with proposed underground work.

Respond to spill events, mitigate the issue and report such events in a manner suitable to the requirements of the appropriate regulatory agency.

PRIORITIZATION: Identify structural deficiencies that exist within 200 feet of surface waters (Carquinez Strait, Sulphur Springs Creek). Perform televising, cleaning, repair/replacement on infrastructure within close proximity of surface waters with a higher priority than those with comparable defects that aren't within close proximity of surface waters.

Operations and Maintenance Training

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Public Works & Community
Development Department
MEMORANDUM

Date: November 17, 2011
To: File
From: Carrie Wenslawski, Management Analyst
Subject: City of Benicia Operation and Maintenance Procedures

TRAINING

OVERVIEW: The wastewater (collections) training program has become an ongoing process that not only includes technical training, but also safety training for all the utility personnel assigned. Currently Lead and Journeymen are assigned apprentices whom they help train in the daily aspects of the operation, maintenance, and safety of the wastewater collection cleaning, and disposal systems.

ACTIVITY: The City of Benicia has budgeted funds to help maintain active relationships with the following organizations to help train the Collection Crew through classroom, seminars, correspondence, on-site, and self-pace courses: AWWA, CSUS-OWP, APWA, NPDES, and CWEA.

SAFETY TRAINING

The City has an Annual Safety Training Program, with trainings such as the Injury & Illness Prevention Program (IIPP), Confined Space, Lock-out/Tag-out, and Heavy Equipment Training. The IIPP training is site specific and a hard copy of the training can be found at the Wastewater Treatment Plant and the Public Works Maintenance Corporation Yard. Each site maintains safety training calendars specific to their needs. Hard copies can be found at the Wastewater Treatment Plant and the Public Works Maintenance Corp Yard. Also available is the City's safety committee (BENSAC) training calendar, which is located at F:/pubworks/Training BENSAC Current Training Calendar.

OTHER TRAININGS

SSO Report Training

The Maintenance Superintendent is responsible for coordinating sanitary sewer overflow (SSO) report training every other year. Typically, Dave Patzer with DFK Solutions trains staff and supplies updated manuals on SSOs and back-up reporting. This training covers the reporting requirements for sewer overflows to both the Regional Water Quality Control Board and the State Board. The review covers the required reporting and certification time frames, and what information needed to be reported to the respective Boards. In addition, laboratory staff review sample collection protocols, including sample collection techniques, preservation, and analysis. Attendees include management and supervisors from the Maintenance, Operations, and Laboratory Divisions and various line staff members.

First Aid & CPR Training

Every other year all Public Works staff are trained on First Aid and CPR. Training is conducted by an outside contractor who provides an EMSA Approved First Aid training course and an American Heart Association Heart Saver CPR course. The First Aid & CPR certification each employee receives is valid for two years.

Apprentice Program

The Field Utilities and Streets Worker Apprentice classification is an entry-level position within the Field Utilities and Streets series for the City of Benicia. These employees assist journey level staff in performing the more complex, and difficult tasks. Typically, employees are rotated annually between three departments to be trained in the city's sewer system, water distribution system and streets operations. Also, these employees learn sewer operations by hands-on training and through various correspondences such as Grade I Collections System Certification Programs.

Collection Maintenance Certification

The California Water Environment Association (CWEA) awards various grade level certifications to all individuals that pass their exam criteria. The City of Benicia has adopted this competency as a standard and requires all Maintenance Division staff (i.e. water distribution, sewer collection and streets) to obtain a Grade I Collection Maintenance Certification. This allows staff to be cross-trained.

Equipment and Replacement Part Inventory



Public Works Department
MEMORANDUM

Date: January 4, 2019
To: File
From: Carrie Wenslawski, Management Analyst
Subject: City of Benicia Operation and Maintenance Procedures

EQUIPMENT AND REPLACEMENT PARTS

OVERVIEW: The City of Benicia utilizes (but not limited to) equipment from this list for its maintenance activities on sewer mains, laterals, and manhole/associated sewer appurtenances:

- Vactor Combination Truck
- Power Rodder
- ¾ Ton Utility Truck
- 1 Ton Utility Truck
- Dump Truck
- Handrod
- Backhoe
- CCTV Van & Lateral Camera

Below is the City of Benicia’s lift station spare parts inventory:

Pumps

Mfg	Model	# Complete Pumps
Flyght	3085	1
Flyght	3102	1
Flyght	3127	2
Flyght	3151	1
Flyght	3201	1
3 Level Tranducers		
4 Floats		

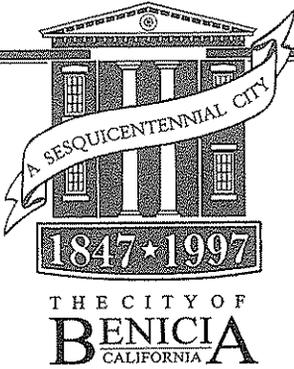
Electrical

Item
100 amp breaker
24VDC Power Supply
30 amp Breaker

Control and Communications

Item
HMI - EZ Touch
UPS - Sola
VFD - Power Flex
PLC CPU Module
Wireless Antenna

Plumber/Sewer Contractor Outreach



Public Works & Community Development Department

October 30, 2009

To whom it may concern:

The City of Benicia is sending the enclosed brochure to all plumbers and sewer contractors in the Benicia area in an effort to prevent sanitary sewer overflows. We are requesting that all plumbers who work on sewer laterals associated with the City's sewer collection system adhere to the following procedure. If, while you are performing maintenance on a homeowner's lateral, you push debris into the main line, it is your responsibility to remove the debris. If you are unable to remove the debris, please contact the City as soon as possible. We have experienced sewer overflows, which are due to lateral debris being pushed into the main lines and being left there.

In addition, if you are connecting to the City's sewer main line, or performing repair work on private sewer laterals, you need to have an encroachment permit filled out and an inspection completed by the City.

If you would like a copy of the City's engineering standard or have any questions, please call (707) 746-4240.

Thank you for your cooperation.

Sincerely,

Mike Roberts
Acting City Engineer

Enclosure

Plumbers & Sewer Contractors: Your Actions Can Prevent Sanitary Sewer Overflows!

What are Sanitary Sewer Overflows (SSOs)?

SSOs discharge untreated or partially treated human and industrial waste, debris and disease-causing organisms from the sanitary sewer onto the ground and into homes and potentially into waterways.

What are the impacts of SSOs?

SSOs may result in property damage, environmental damage and/or potential liability to you or your company. Allowing sewage to discharge to a gutter, storm drain or waterway may subject you to penalties and/or out-of-pocket costs to reimburse cities or public agencies for clean-up efforts and regulatory penalties.

How can you prevent SSOs? and avoid associated penalties & fines

When clearing plugged sewer laterals:

- Remove root balls, grease blockages and any other debris; don't push debris from the lateral to the sewer main.
- If you can't prevent a root ball from entering the sewer main when working in our service area, **please call Benicia Public Works Maintenance at (707) 746-4296**, so we can provide you with guidance (free of charge) on how to proceed.
- Use plenty of water to flush lines.
- Don't open manholes. Hazardous sewer gases that exist in manholes are undetectable and can be deadly. Call us to open manholes for you and please note that discharge into a publicly-owned manhole requires a permit. For more information, contact our Maintenance Division at (707) 746-4296.

When constructing sewer laterals:

- Check your work area. Gravel, backfill material and test plugs can become lodged in the sewer line and cause blockages. Make sure no debris is left in the sewer line before you backfill.
- Avoid offset joints – offset joints make sewer lines vulnerable to root intrusion & grease accumulation, cause debris hang-ups and make lines harder to clean. Properly bed your joints and don't hammer tap.
- Contact **Benicia's Permit Counter** for the engineering standard at **(707) 746-4240**.



Who Do I Call to Avoid SSO?

Help us help you...

If you require our free assistance to help clear root balls, grease blockages and other debris from a main sewer line to prevent SSO or to open a manhole in our service area, please call:

**Benicia Public Works
(707) 746-4240**



Bay Area Clean Water Agencies
A Joint Powers Public Agency



PLUMBERS WHO OBTAIN PERMITS IN THE CITY OF BENICIA

CONTACT NAME	BUSINESS NAME	STREET ADDRESS	CITY	ST	ZIP CODE
	A + WATERWORKS	66 GOLDFINCH	AMERICAN CANYON	CA	94503
ROBERT A AMOS	AARON PLUMBING	PO BOX 2657	VACAVILLE	CA	95687
JEFF RUDD	ADVANCED PLUMBING AND ROOTER SERVICE	45 Commerce Place # D,	VACAVILLE	CA	95687
	ADVANCED TRENCHLESS SEWER SOLUTIONS	4740 EAST SECOND STREET #32	BENICIA	CA	94510
	AURORA CONSTRUCTION	5053 Clayton Road	CONCORD	CA	94521
WILLIAM CASTILLO	BENICIA HEATING AND AIR	PO BOX 1022	BENICIA	CA	94510
	BENICIA HOME IMPROVEMENT CENTER INC	736 FIRST STREET	BENICIA	CA	94510
	BENICIA PLUMBING INC	265 CHANNEL COURT	BENICIA	CA	94510
CARLOS MEJIA	C M PLUMBING	PO BOX 72	VALLEJO	CA	923674
	CAL-BAY SERVICE	4740 EAST SECOND STREET #27	BENICIA	CA	94510
LEO DANIEL	DANIEL CONSTRUCTION	696 WEST K STREET	BENICIA	CA	94510
EMIL BAKIEV	EMIL'S RENOVATIONS	501 MIDWAY COURT	MARTINEZ	CA	94553
DAVID JEFFREY	FAST WATER HEATER COMPANY	12601 132 Avenue NE	KIRKLAND	WA	98034
	JA PLUMBING	28306 INDUSTRIAL BLVD. #B	HAYWARD	CA	94545
JOHN BARBER	JR BARBER CONSTRUCTION	134 RIO DEL MAR	AMERICAN CANYON	CA	94503
	JUST WATER HEATERS	3400 INVESTMENT BLVD	HAYWARD	CA	94545
BRIAN MCKIBBIN	K & M REMODELS	808 OHIO STREET	VALLEJO,	CA	94590
KEN ROBERTS	KEN ROBERTS CONSTRUCTION	802 WEST K STREET	BENICIA	CA	94510
MICHAEL KONESKY	KONESKY CONSTRUCTION	4369 ROSE LANE	CONCORD	CA	94518
JOHN LAVERTY	LAVERTY CONSTRUCTION	10 WINGFIELD WAY	BENICIA	CA	94510
LES BLAND	LB PLUMBING	1025 WESTERN AVE	VALLEJO	CA	94591
MARK EDWARDS	MR ROOTER PLUMBING	PO BOX 166	FAIRFIELD	CA	94533
CHAZ BUTLER	NORTHERN CALIFORNIA BATH	1313 N. MARKET BLVD., 100	SACRAMENTO	CA	95834
CHAZ BUTLER	NORTHERN CALIFORNIA BATH	1313 N. MARKET BLVD., 100	SACRAMENTO	CA	95834
PAT AMORDE	PREFERRED PLUMBING AND ELECTRICAL	4555 AUBURN BLVD 11	SACRAMENTO	CA	95841
VICTOR INIGUEZ	REMODEL PLUS	PO BOX 974	BENICIA	CA	94510
NOE	SUPERIOR PLUMBING AND DRAIN	2646 APPIAN WAY, SUITE 33	PINOLE	CA	94564
	TDW Construction	P O Box 111	LIVERMORE	CA	94551
WILLIAM FORD	WILLIAM FORD PLUMBING	P.O. BOX U	FAIRFIELD	CA	94533
	BLUE MOUNTAIN AIR, INC	707 ALDRIDGE RD., SUITE B	VACAVILLE	CA	95688

Plumbers Listed in the Telephone Book:

CONTACT NAME	BUSINESS NAME	STREET ADDRESS	CITY	ST	ZIP CODE
	Ernie's Plumbing & Sewer Service	ph# 707 552 2494			
	Rooterman Drain & Sewer Service	PO Box 4163	Vallejo	CA	552-7777
	Roto Rooter	ph# 707 642-9200			
	Integrity Plumbing	ph# 631-5720			
	House Doctor's Plumbing Service	ph# 643-9433			
	ABC Sewer & Drain	ph# 644-4222			
	Allen-Simmons Heating & Sheet Metal Co	1973 Cordelia Rd	Fairfield	CA	644-5428
	American Leak Detection	ph# 253-0330			
	Benjamin Franklin the Punctual Plumber	ph# 648-0126			
	Bluewater Plumbing	1695 Pine	Napa	CA	645-8110
	Boyle Plumbing & Drain Cleaning	ph# 747-4775			
	Brownings Plumbing	ph# 745-8732			
	D&D Plumbing Heating & Cooling	ph#552-6363			
	Edgewater Plumbing of Benicia	6170 Egret Ct	Benicia	CA	94510
	Fluid Resource Management	1201 Commerce Blvd	AMERICAN CANYON	CA	94503
	Gene Montheir Plumbing & Heating	434 Benicia Rd	Vallejo	CA	644-0182
	Goza Plumbing Inc.	PO Box 1143	BENICIA	CA	94510
	Hog Island Plumbing Co	552-6008			
	Wayne Horne Plumbing	647-3350			
	Hughes Plumbing	645-0164			
	IG Plumbing & Electric	647-1758			
	Gregory Kearnes Plumbing	224 Golden Brook Lane	AMERICAN CANYON	CA	94503
	Ken Mays Plumbing	558-0100			
	Marks Plumbing	552-5952			
	Robertson Plumbing & Construction	745-4125			
	Rooter Master Sewer & Drain	644-7700			
	Roter Rooter Plumbers	642-9200			
	Same Day Service Plumbing	552-1272			
	SOS Plumbing	3112 Tennessee	Vallejo	CA	
	Urban Plumbing	738-1826			
	Drain Right	644-6410			
	Flazers Affordable Drains and Repairs	552-5949			

Benicia, CA - Microsoft Internet Explorer

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Bidder Notification

The Bidder Notification page is designed to notice prospective bidders when the City will purchase supplies, projects or services valued at over \$2,500. The page will indicate what supply, project or service is being sought, the staff person to contact and the closing date. This page will be updated every Monday at noon.

Helpful Information



Information for Plumbers & Sewer Contractors

City's Website – Bidder Notification Webpage

Brochure “Plumbers & Sewer Contractors: Your Actions Can Prevent Sanitary Sewer Overflows!” is posted on this webpage under Helpful Information