

## SECTION IV—MEASURES AND ACTIVITIES

### Requirement<sup>1</sup>

- 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.<sup>2</sup>

### 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.

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<sup>1</sup> SWRCB Order No. 2006-0003-DWQ § B.13 (iv)

<sup>2</sup> 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 2011. Memorandum from Management Analyst. (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><u>Capital Improvement Program FY 2011–2016</u>. October 2011. City of Benicia.</p> <p><u>City of Benicia Operation and Maintenance Procedures—Infrastructure Continuous Improvement</u>. October 2009 (Revised August 4, 2014). 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> November 2011. 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 &amp; 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**

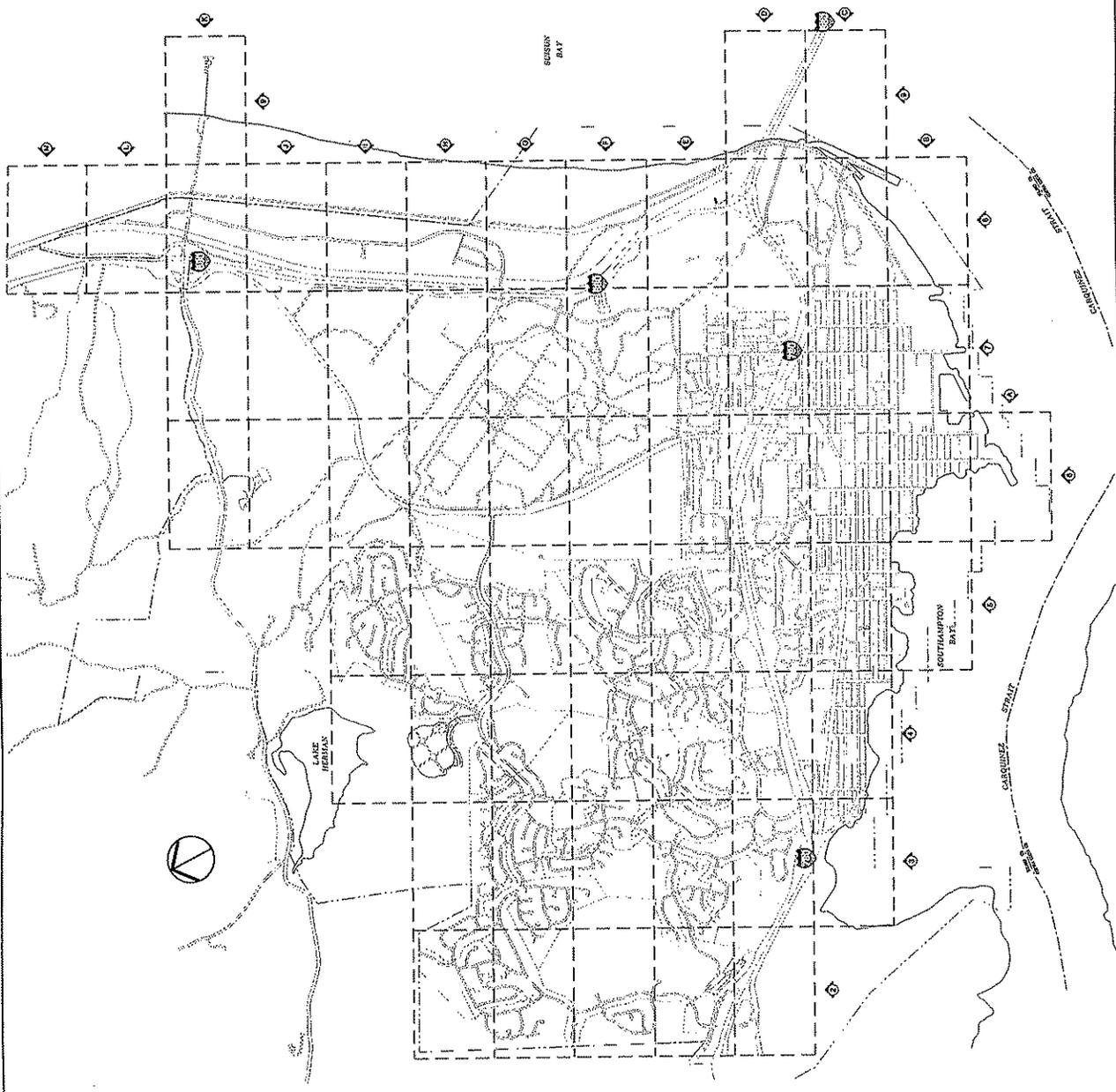
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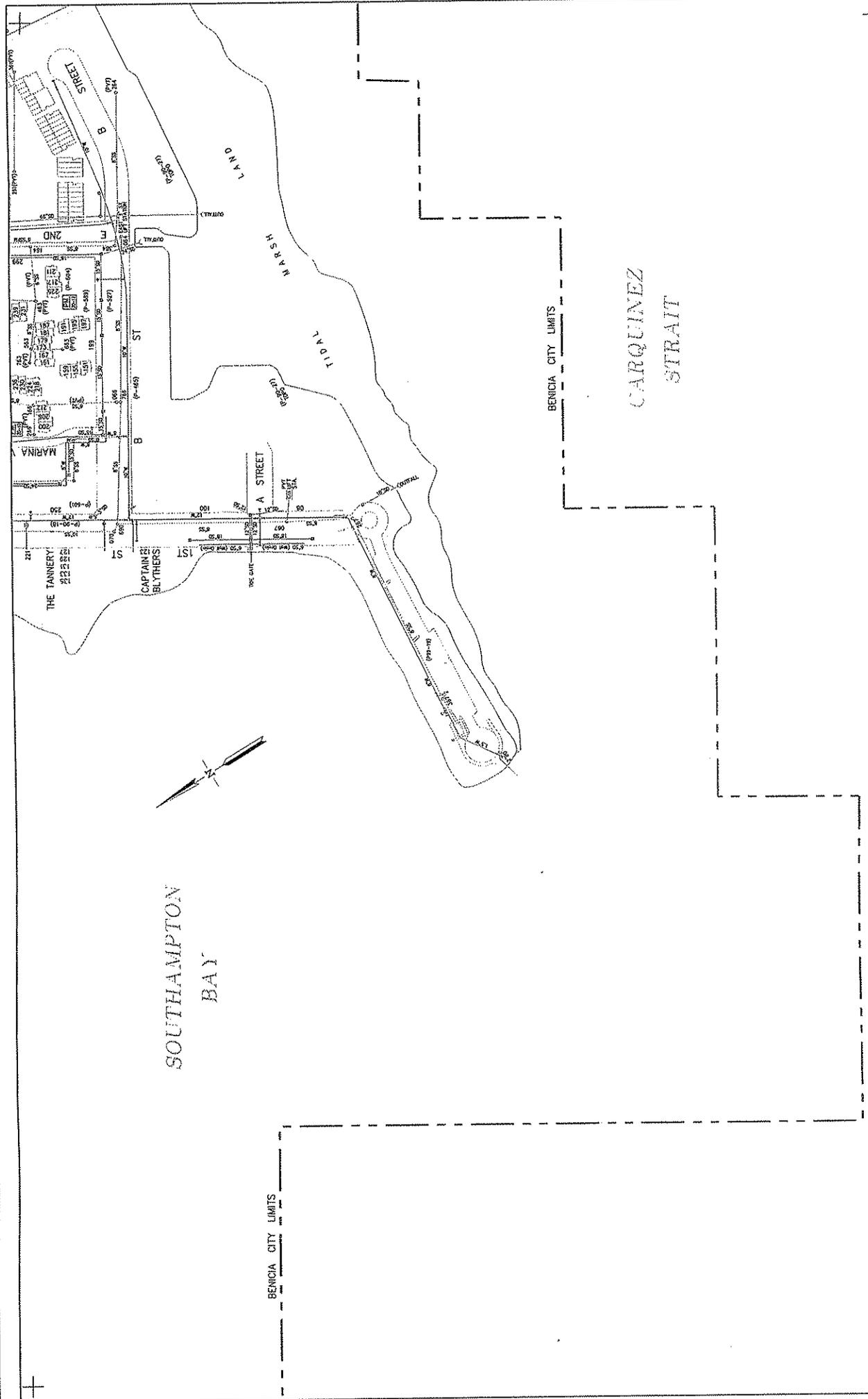
The Engineering Division is responsible for compiling, maintaining and publishing a citywide utility map book titled The City of Benicia Water, Sewer and Storm Drains Utility Maps. This document shows the approximate location and size of all water, sewer and storm drain lines. It is updated approximately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

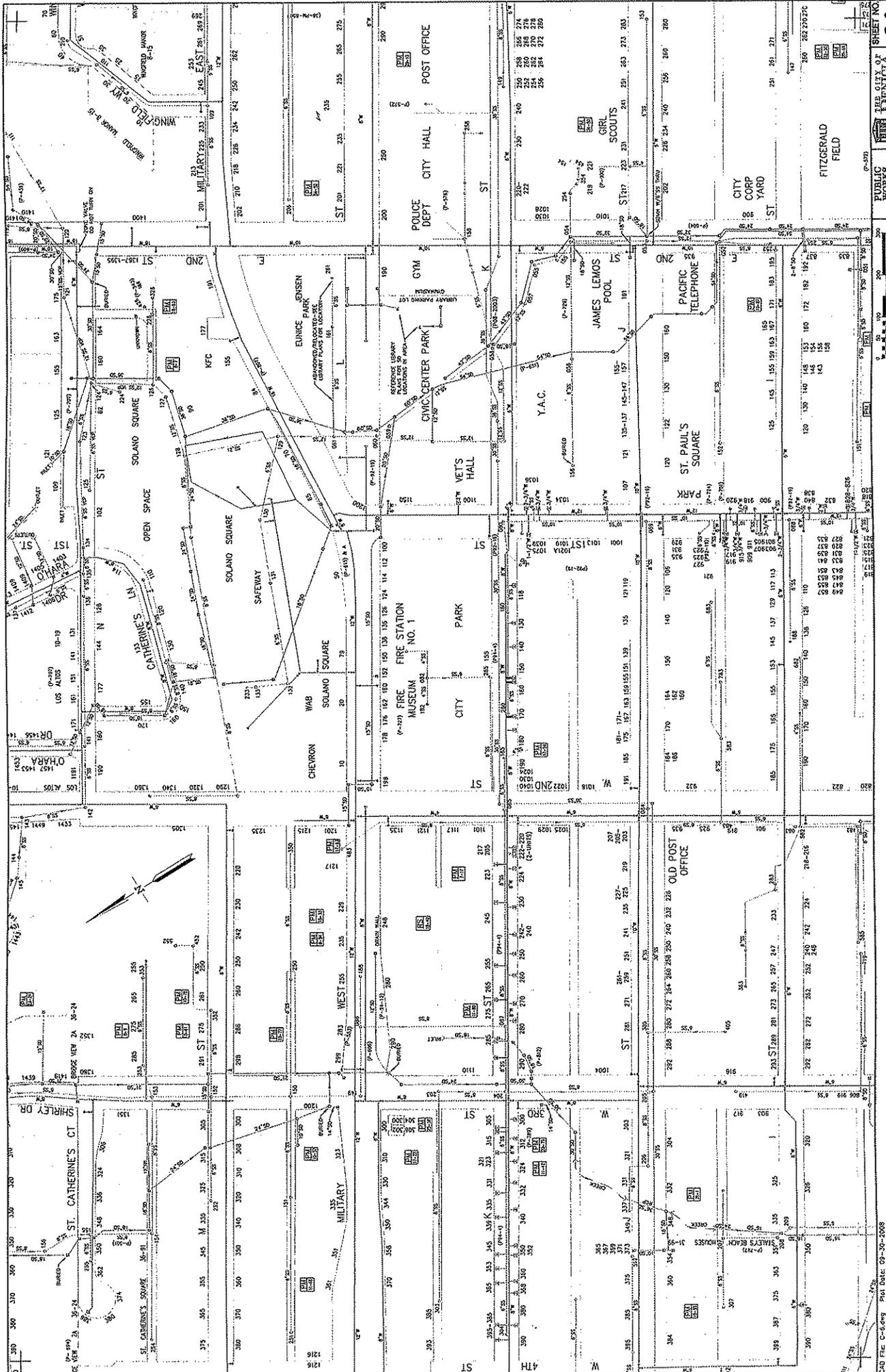
I have attached excerpts from the utility map book, which shows the sanitary sewer system including gravity and force mains, and pump stations.

LEGEND:

- STREET OR HIGHWAY RIGHT-OF-WAY
- HIGHWAY CENTERLINE
- SUBDIVISION 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

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**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 PW Maintenance Division Monthly Sewer System Report.</u> February 2014. PW Maintenance Division.</p> <p><u>Example of Periodic Sewer Cleaning Log.</u> 2005-2007. 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> <p><u>Focus Programs.</u> 2002. PW Maintenance Division.</p> <ol style="list-style-type: none"> <li>1. Sewer/Storm Line Replacement/Repair</li> <li>2. Cleaning Sewer Mains &amp; Storm Drains</li> <li>3. Misc. Sewer Maintenance</li> </ol> <p><u>SmartCover Brochure.</u> Hadronex/3T Equipment Company, Inc.</p>



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

F:\Pubworks\Maintenance\Sewer\Utility Sewer Totals 0910

MONTHLY SEWER LINE  
MAINTENANCE CLEANINGS

DATE	LOCATION	LINE SIZE	FOOTAGE CLEANED	CLEANING METHOD	INITIALS
2-13-14	East 3rd @ S St. E St. <sup>Park</sup> Ride	8"	370' / 350'	Jet	NW MC
2-18-14	End of East J @ 7th St.	6"	300'	Jet	NW DS
2-18-14	215 / 225 West H St.	6"	95'	Jet	NW DS
2-18-14	West 3rd alley M St @ Milit	6"	300'	Jet	NW DS
2-18-14	300 West H St.	6"	150' / 100'	Jet	NW DS
2-18-14	West 5th @ Continental Ave	6"	50' / 100' / 200'	Jet	NW DS
2-18-14	First St. @ B St.	8"	20' / 20' / 320'	Jet	NW DS
2-18-14	1024 East 2nd St.	6" / 12"	75' / 325'	Jet	NW DS
2-18-14	427 East I St.	6"	95'	Jet	NW DS
2-18-14	540 East I St.	6"	300' / 350' / 175'	Jet	NW DS
2-24-14	East 6th @ East L St.	6"	125' / 400'	Jet	NW MC
2-24-14	1 Commandants Lane	6"	400'	Jet	NW MC
2-18-14	West K St @ Daniel Hills	6"	360'	Jet	NW DS
2-24-14	100 Chelsea Hills	6"	100'	Jet	NW DS
2-24-14	Military @ West 7th St	8"	125' / 150' / 150'	Jet	NW MC
2-24-14	SI ALTO LOMA	6"	125'	Jet	NW MC
2-20-14	821 Elaine Way	6"	200' / 300'	Jet	NW DS
2-20-14	Sam's Harbor L/S	6"	200'	Jet	NW DS
2-20-14	817 West I St	12"	200'	Jet	NW DS
2-24-14	West 14th @ Military	8"	500'	Jet	NW MC
2-24-14	164 Carlisle Way	4"	20'	Jet	NW MC
2-24-14	Clearview Circle	8"	100'	Jet	NW JR
2-24-14	Southampton @ Panorama / Turner	8"	250' / 250' / 450'	Jet	NW JR
2-24-14	926 Rose Dr.	4"	35'	Jet	NW MC
2-19-14	100 Block West N St	6"	75'	Jet	MC DS
2-19-14	West 3rd alley M @ St Cath	6"	200'	Jet	DS MC



CITY OF BENICIA  
MAINTENANCE DIVISION  
SEWER CALLS

MONTH FEB YEAR 2014

LOCATION	MAIN SIZE	LAT SIZE	TV	ODOR PROB	OWNERS OR CITY	OVER-FLOW GAL.	CLEANING METHOD	PROB	FOOTAGE CLEANED	REPAIR FOOTAGE	REPLACE FOOTAGE	DATE	TIME CALL RECEIVED	JOB TIME START/END	CO/OT REG HR	INT	O.E.S.#	EVENT ID.
567 E. K St.	6"				City		Jet	plug	25'			2-3-14	11:15am	11:30am 12:00pm	REG	NW JR DS mc		
Main plugged																		
825 E. 6 <sup>th</sup> St.	6"	4"	32'		owner			Roots	275'			2-3-14	1:30 pm	1:45 2:10 pm	REG	NW JR DS		
Private lateral plugged advised owner to call plumber / city main clear																		
E. 6 <sup>th</sup> St park															REG	NW mc		
Advised by anonymous caller a problem was occurring near 6 <sup>th</sup> St. park PW investigated found no sign of release																		
717 West 2 <sup>nd</sup> St	6"				City		Jet	Roots	25'			2-4-14	11:15am	11:30am 12:00pm	REG	NW DS		
City main plugged																		
155 West K St.	6"				City		Jet	Grease Roots	50'			2-4-14	1:30 pm	1:45 2:30 pm	REG	NW DS JR mc		
City main plugged cleared / cleaned from MH#85 at West 2 <sup>nd</sup> St																		
Lift stations					City		Jet/vac					2-4-14		8:00am 1:00 pm	REG	NW DS		
Assist INWTP cleaning Parkway Plaza, East B St, Sanni's Harbor, Carlisle																		
115 West Channel	6"				City		Jet/vac	Roots in MH Flat	575'			2-6-14		8:00am 9:30am	REG	NW DS JR mc		
Caller reported problem w/ city main. PW found main clear cleaned as precautionary measure. Removed roots in MH																		
1580 East 3 <sup>rd</sup>	6"				City	74	Jet/vac	Roots	450'			2-10-14	5:30am	6:30 8:30 am	CO/REG	ME NW JR DS		803629
City main plugged / releasing at MH#198 / all release returned to system																		
8 Conde Delgado	6"				CITY		JET		300'			2-10	4:40 pm	4:40/7:40	C/O OT	ME CS		
JET MAIN - Plug on CITIZENS SIDE LAT.																		

CITY OF BENICIA  
MAINTENANCE DIVISION  
SEWER CALLS

MONTH FEB YEAR 2014

LOCATION	MAIN SIZE	LAT SIZE	TV	ODOR PROB	OWNERS OR CITY	OVER-FLOW GAL.	CLEANING METHOD	PROB	FOOTAGE CLEANED	REPAIR FOOTAGE	REPLACE FOOTAGE	DATE	TIME CALL RECEIVED	JOB TIME START/END	CO/OT REG HR	INT	O.E.S.#	EVENT I.D.
323 GULL PT.	4"				city			offsets			12'	2-11-14		7:00 am 1:00 pm	REG	NW OTR DS		
Replaced 12' of AC main w/ SDR-35 due to large offsets																		
710 East 7th St.	4"	4"			owner		Jet	Plug Roots	25'			2-20-14	10:30 AM	10:45 11:15 AM	REG	NW DS MC		
452 East I St.	6"	4"			owner		Jet	PVT	450'			2-25-14	4:15 pm	4:30 5:30 pm	R.T.	NW MC DS		
owner stated Private lateral was plugged / Plumber unable to clear problem in main / city main clear																		
717 West 2nd	6"				city			Roots			75'	2-25-14		7:00 AM 4:30 pm	REG	NW DS JR MC		
Replaced 6" clay main w/ SDR-35 due to severe root intrusion																		
657 Belvedere		4"			city		Jet	Paper	30'			2-28-14	9:00 AM	9:15. 9:40 AM	REG	NW JR DS DS		
Cleared lateral																		
823 West K St.	8"				125' city							2-10-14		10:30 AM 11:00 AM	REG	NW DS JR MC		
For details see CCTV log book																		
802 West K St	6"				105' city							2-10-14		11:10 AM 11:20 AM	REG	NW DS JR MC		
For details see CCTV log book																		
West K @ Wainwright	6"				170' city							2-10-14		12:30 1:00 pm	REG	NW MC		
For details see CCTV log book																		
1500 East 3rd St.	6"				86' city							2-10-14		1:30 pm 1:45 pm				
For details See CCTV log book																		

Total Calls This Sheet \_\_\_\_\_ Total Calls This Month \_\_\_\_\_



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

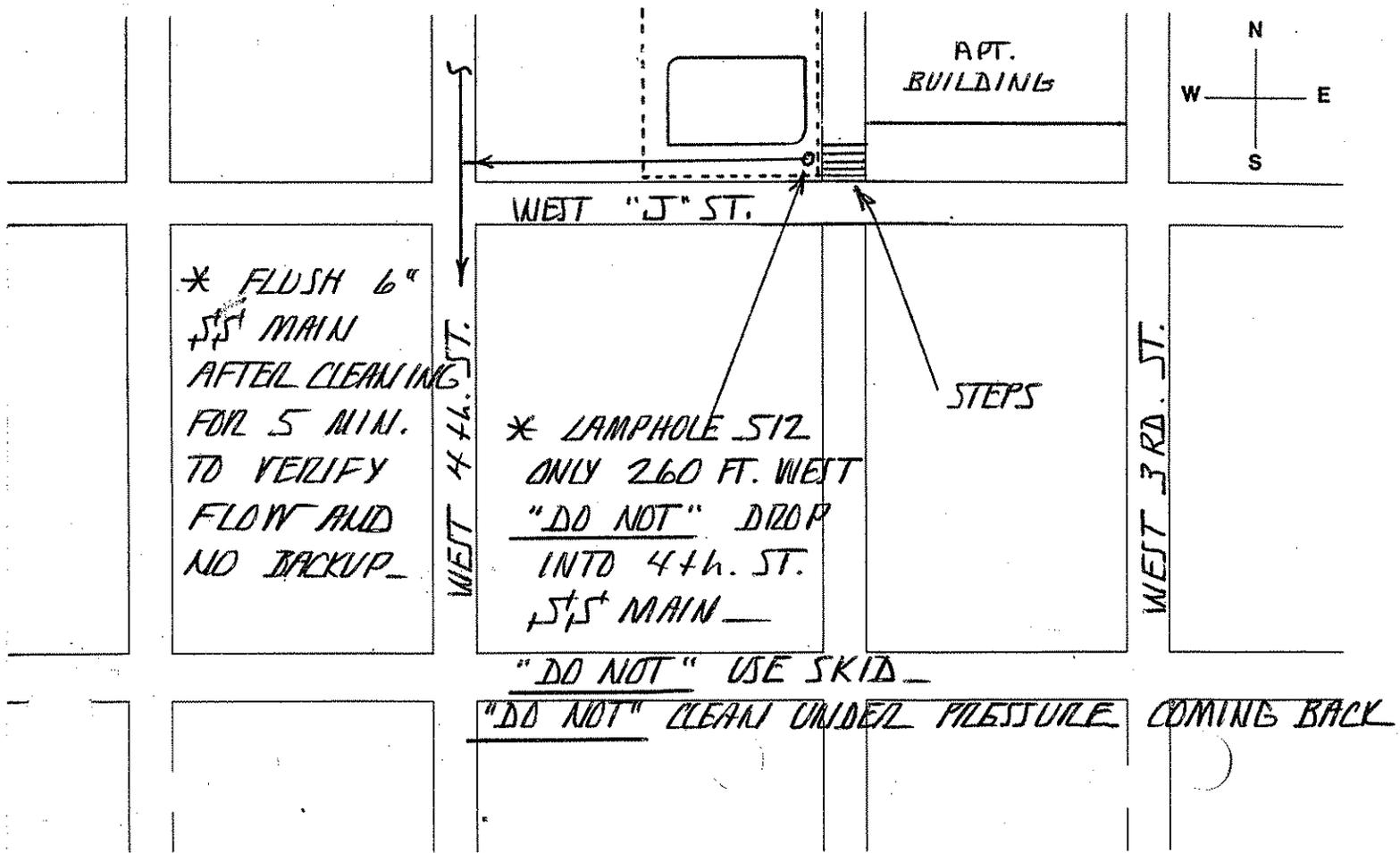
CLEAN LENGTH 260' IN  OUT

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.

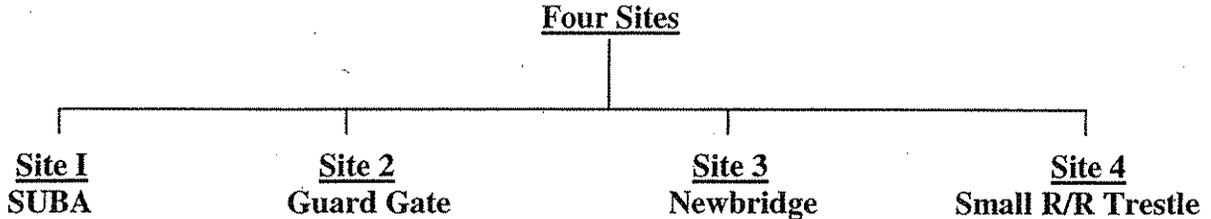
DATE	BY	DATE	BY	DATE	BY	DATE	BY	DATE	BY
8-30-05	CM JP								
4-24-06	CM TB								
10-12-06	CM BC								
1-30-07	CM JP								
4-17-07	CM BC Am								
7-24-07	CM AM								



# 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:

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

**Traffic Control Plan**

**Road Work Sign**

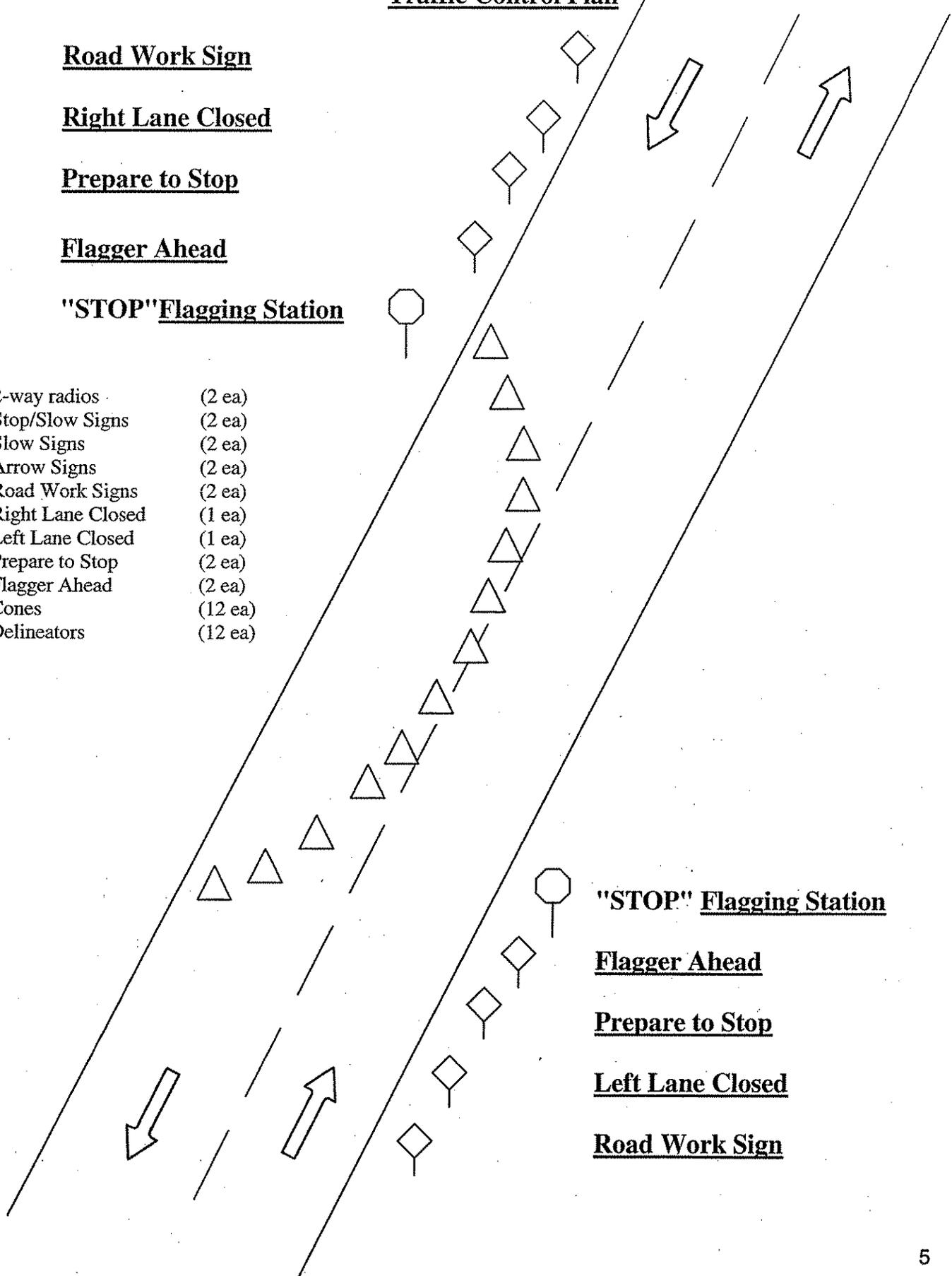
**Right Lane Closed**

**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
$\leq 70^{\circ}\text{C}$ ( $160^{\circ}\text{F}$ )	Continuous	1000 hours	4000 hours
$\leq 70^{\circ}\text{C}$ ( $160^{\circ}\text{F}$ )	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><b>N3085/3102</b></p> <p>1.</p>	<p>2.</p>	<p><i>Not valid for 3102 SH-version</i></p> <p>3.</p>
<p><b>NP/NS/NL3127</b></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>4.</p>	<p>5.</p>	
<p><b>NT/NZ 3127</b></p> <p>A = 3x 298 62 01</p> <p>1.</p>	<p>2.</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>4.</p>	

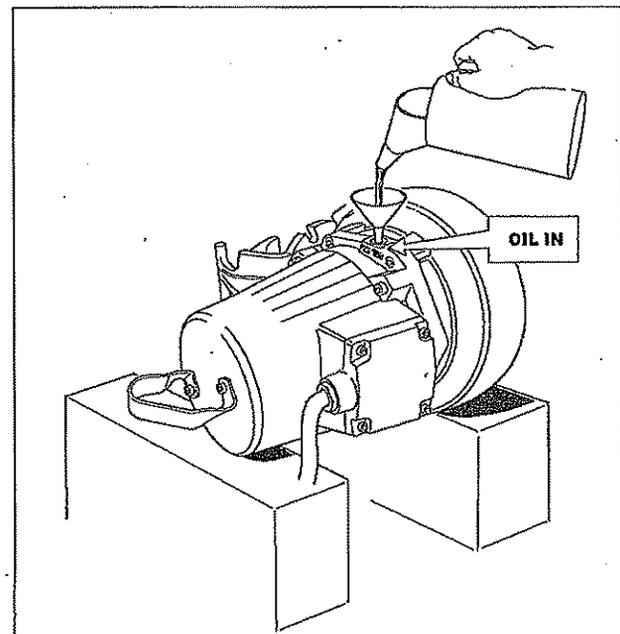
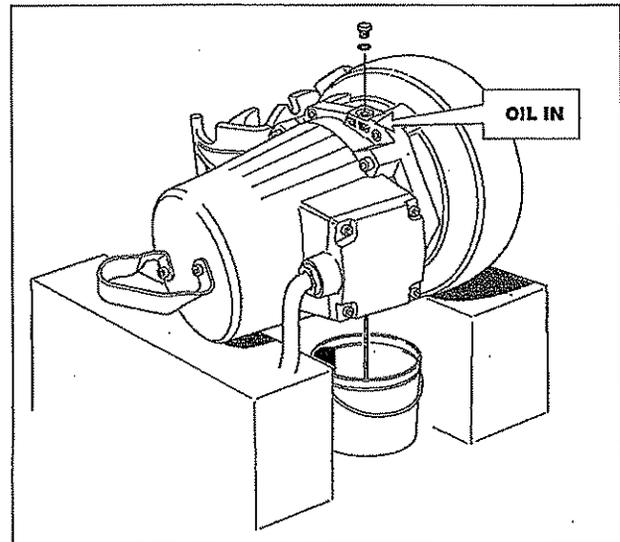
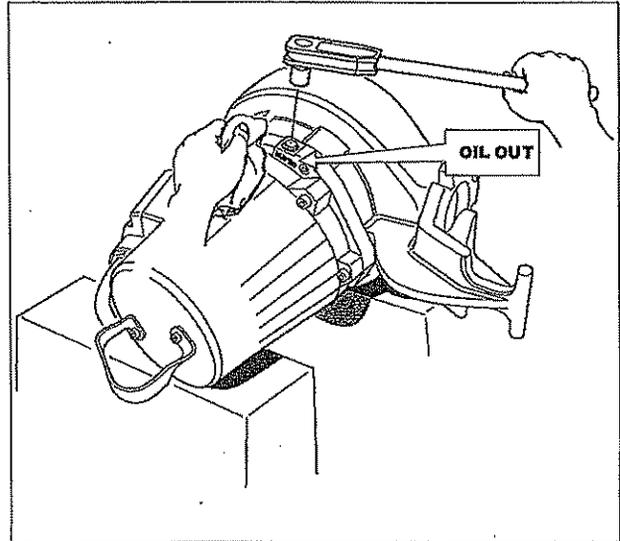
# OIL CHANGE



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

<b><i>SEWER/STORM LINE REPLACEMENT/REPAIR</i></b>	<b>CITY OF BENICIA</b> Department of Public Works Maintenance Division Focus Program	
<b>ACTIVITY NO. 3</b>	<b>DATE: 2/02</b>	
<b>DESCRIPTION &amp; PURPOSE:</b> Repair sewer or storm drain main to restore normal flow or to eliminate sources of I/I and blockage.		
<b>SCHEDULING GUIDELINES:</b> When collapsing sewer or storm drain mains, severe dips, and I/I are detected by television inspection.		
<b>CREW SIZE</b>	<b>WORK METHOD</b>	
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.	
<b>EQUIPMENT</b>	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.	
<b>MATERIAL</b>	<b>AVERAGE DAILY PRODUCTION</b>	
3/4 AB Cutback, Pipe Couplings Proper Personal Safety Equip.	1 location per day 0.031 units per person per hour	
<b>NOTES:</b> * Crew size may increase depending on traffic control and field conditions. Complete pertinent paperwork. * Equipment failure rent from Hertz Big 4 - 747-4444		

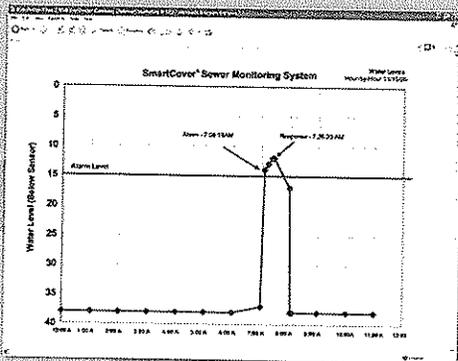
<p><b>CLEANING SEWER MAINS &amp; STORM DRAINS</b></p>	<p align="center"><b>CITY OF BENICIA</b>  <b>Department of Public Works</b>  <b>Maintenance Division</b>  <b>Focus Program</b></p>	
<p><b>ACTIVITY NO. 9</b></p>	<p><b>DATE: 2/02</b></p>	
<p><b>DESCRIPTION &amp; PURPOSE:</b>  Clean and flush sewer 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.</p>		
<p><b>SCHEDULING GUIDELINES:</b>  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.</p>		
<p align="center"><b>CREW SIZE</b></p>	<p align="center"><b>WORK METHOD</b></p>	
<p>2- Maintenance Worker II  (2 man crew may consist of 1's, 2's, &amp; a 3)  Varies as to work</p>	<ol style="list-style-type: none"> <li>1. Place traffic control devices. Be sure equipment warning lights are on.</li> <li>2. Flush upstream from downstream manhole using appropriate pressure.</li> <li>3. Wash down manhole before proceeding to next assignment.</li> <li>4. Vac-Con manhole during cleaning as required.</li> <li>5. Clean Vac-Con debris body at WWTP.</li> <li>6. Utilize power rodder in appropriate locations.</li> <li>7. Clean culverts and pipes to remove debris.</li> <li>8. Clean minor storm drain channels and outfalls of debris.</li> <li>9. Load debris into dump truck.</li> <li>10. Locate truck near structure and out of traffic if possible</li> <li>11. Remove grate.</li> <li>12. Clean in and around drainage structure. Remove debris, load into truck.</li> <li>13. Inspect structure to determine if additional cleaning or repair is needed.</li> <li>14. Dispose of spoils/debris.</li> </ol>	
<p align="center"><b>EQUIPMENT</b></p> <p>1 Hydroflusher  3/4 Ton Utility Truck  1 Vac-Con Unit  1 Power Rodder  1 Backhoe  1 Dump Truck  Handrod  Clam Shells</p>		
<p align="center"><b>MATERIAL</b></p>	<p align="center"><b>AVERAGE DAILY PRODUCTION</b></p>	
<p>Water  Proper Personal Safety Equipment</p>	<p>6,000 lineal feet per day  375 lineal feet per person-hour</p>	
<p><b>NOTES:</b> Crew varies from area being flushed and traffic. One person may be used for traffic control. Complete pertinent paperwork. The use of backhoe &amp; dump truck may be needed on some culvert cleanings &amp; addition of MW Foreman or MW II (Equip. Operator).</p>		

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

Alarm Designator	Location Description	Alarm Type	Distance	Acc. Contact	Alarm Date
0-112 Sewerage Water	Unit 00112	INTRUSION	#8		May 16, 2006 06:53:22 PST

View All Active Alarms    View All Active Cameras    View All Active Cameras

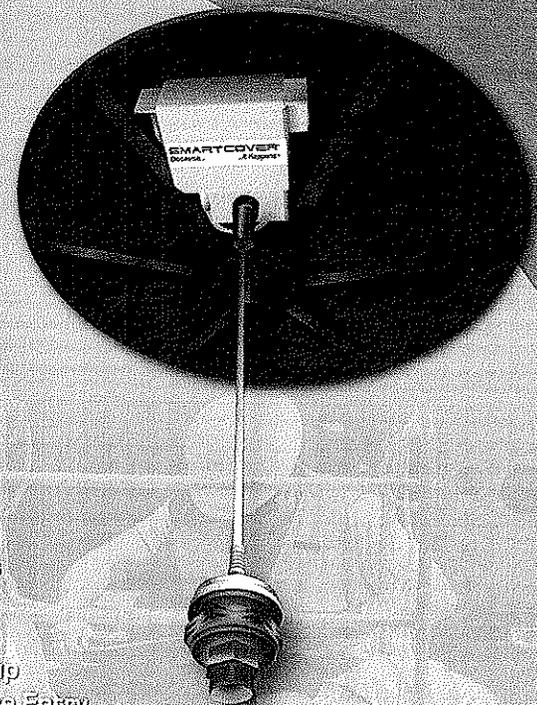
Example of intrusion alarm at SmartCover site. Intruder was caught.

7611  
INBOX  
SMARTCOVER ALARM  
SURCHARGE  
116TH AND MAIN  
12 IN  
5:18:42 PM  
JUNE 5, 2007  
175500 143-119



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 • Escondido, CA 92029  
760-291-1988 • Fax 760-291-1989 • 3166@hadronex.com

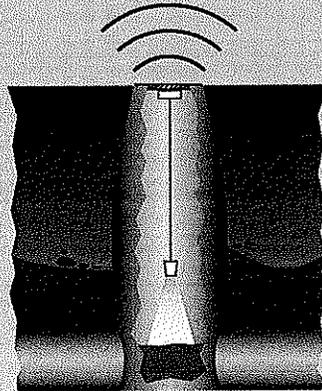
# HADRONEX

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**

# Rehabilitation and Replacement Plan

**City of Benicia**

**Capital  
Improvement  
Program**

**FY 2011-2016**

**Wastewater Capital Connection Revenues**  
 City of Benicia Capital Improvement Program

Revenue Descriptions	Prior	2005-06	1 2011-12	2 2012-13	3 2013-14	4 2014-15	5 2015-16	6-20 2016-31	Total
<b>Development</b>									
Capital License Tax	-	\$ -	\$ -	-	-	-	-	\$ -	\$ -
Park Dedication Fees	-	-	-	-	-	-	-	-	\$ -
Traffic Mitigation Fees	-	-	-	-	-	-	-	-	\$ -
Water Capital Connections	-	-	-	-	-	-	-	-	\$ -
Wastewater Capital Connections	-	-	25,000	25,000	-	-	-	7,372,400	\$ 7,422,400
<b>Grants</b>									
Local Grants	-	-	-	-	-	-	-	-	\$ -
State Grants	-	-	-	-	-	-	-	-	\$ -
Federal Grants	-	-	-	-	-	-	-	-	\$ -
<b>Operations</b>									
General Fund	-	-	-	-	-	-	-	-	\$ -
Gas Taxes	-	-	-	-	-	-	-	-	\$ -
Internal Service Funds	-	-	-	-	-	-	-	-	\$ -
Water Operations	-	-	-	-	-	-	-	-	\$ -
Wastewater Operations	-	-	-	-	-	-	-	-	\$ -
<b>Miscellaneous</b>									
Developer Contributions	-	-	-	-	-	-	-	-	\$ -
Special Fees and Charges	-	-	-	-	-	-	-	-	\$ -
Sale of Property	-	-	-	-	-	-	-	-	\$ -
Interfund Loans & Debt Issuance	-	-	-	-	-	-	-	-	\$ -
Reserved Funds	-	-	-	-	-	-	-	-	\$ -
<b>Annual Revenues</b>	\$ 0	\$ 0	\$ 25,000	\$ 25,000	\$ 0	\$ 0	\$ 0	\$ 7,372,400	\$ 7,422,400
<b>Annual Program Needs</b>	\$ 0	\$ 0	\$ 25,000	\$ 25,000	\$ 0	\$ 0	\$ 0	\$ 7,372,400	\$ 7,422,400
<b>Undetermined Funding Shortfall</b>	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
<b>Total CIP (5, 6-20, 20 Years)</b>							\$ 50,000	\$ 7,372,400	\$ 7,422,400

**Wastewater Capital Fund**      **Projects - Fund 044**  
**City of Benicia Capital Improvement Program**

WWC Project Descriptions	CP	Prior	1	2	3	4	5	6-20	Total
			2011-12	2012-13	2013-14	2014-15	2015-16	2016-31	
1 AB 1600 Review		-	25,000	25,000	-	-	-	50,000	100,000
2 System Capacity Improvements		-	-	-	-	-	-	7,322,400	7,322,400
<b>Total Program Needs</b>		\$ -	\$ 25,000	\$ 25,000	\$ -	\$ -	\$ -	\$ 7,372,400	\$ 7,422,400
<b>Total CIP (5, 6-20, 20 Years)</b>							\$ 50,000	\$ 7,372,400	\$ 7,422,400

### Capital Improvement Project Description

Project Name	<b>System Capacity Improvements</b>				Reference Number	WWC2
Project Manager/Dept	Knox/PW&CDD				Category	B
Project Origination Date					Council Priority	
Design Start		Construction Start			Completion Date	
Prior Council/Commission Approval and Date						

#### Project Description

SYSTEM CAPACITY IMPROVEMENTS - Construction of new facilities or enhancements/expansion of existing facilities (pipelines) to adequately serve customers. Funding indicated for FY 2016-2031 are for 8 sewer collection system capacity improvements identified in Table 9-1 in the 2011 Wastewater System Master Plan.

#### Funding Sources

		1	2	3	4	5	6-20	Total	%
Category	Prior	2011-12	2012-13	2013-14	2014-15	2015-16	2016-31		
City of Benicia General Fund	\$0							\$0	0%
City of Benicia Special Funds-Specify <sup>1</sup>	\$0						\$7,322,400	\$7,322,400	100%
Other-Specify	\$0							\$0	0%
Undetermined	\$0							\$0	0%
<b>Total Funding</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$7,322,400</b>	<b>\$7,322,400</b>	<b>100%</b>

Funding Comments.

<sup>1</sup> FY 2016-2031: The 2011 Wastewater System Master Plan (WWMP) identifies 8 projects that are fully or partially funded by the Wastewater Connection fund. Refer to Table 9-1 in the WWMP.

#### Cost Estimate

		1	2	3	4	5	6-20	Total	%
Category	Prior	2011-12	2012-13	2013-14	2014-15	2015-16	2016-31		
Planning, Design and Engineering	\$0							\$0	0%
Construction Costs	\$0							\$0	0%
Construction Management	\$0							\$0	0%
Contingency or Other - Specify <sup>1</sup>	\$0							\$0	0%
Long Range Estimate	\$0						\$7,322,400	\$7,322,400	100%
<b>Total Project Cost</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$7,322,400</b>	<b>\$7,322,400</b>	<b>100%</b>

Cost Comments.

<sup>1</sup> FY 11/12: \$200,000 is for digester cleaning and \$8630 is for Bayshore Force Main Replacement.

**Wastewater Operations Revenues**  
**City of Benicia Capital Improvement Program**

Revenue Descriptions	Prior	1 2011-12	2 2012-13	3 2013-14	4 2014-15	5 2015-16	6-20 2016-31	Total
<b>Development</b>								
Capital License Tax	-	\$ -					\$ -	\$ -
Park Dedication Fees	-	-					-	\$ -
Traffic Mitigation Fees	-	-					-	\$ -
Water Capital Connections	-	-					-	\$ -
Wastewater Capital Connections	-	-					-	\$ -
<b>Grants</b>								
Local Grants	-	-					-	\$ -
State Grants	-	-					-	\$ -
Federal Grants	-	-					-	\$ -
<b>Operations</b>								
General Fund	-	-					-	\$ -
Gas Taxes	-	-					-	\$ -
Internal Service Funds	-	-					-	\$ -
Water Operations	-	-					-	\$ -
Wastewater Operations	316,145	200,000	-	860,000	727,750	237,000	6,856,000	\$ 9,196,895
<b>Miscellaneous</b>								
Developer Contributions	-	-					-	\$ -
Special Fees and Charges	-	-					-	\$ -
Sale of Property	-	-					-	\$ -
Interfund Loans & Debt Issuance	-	-					-	\$ -
Reserved Funds	-	387,430	95,000	75,000	160,000	140,000	10,037,600	\$ 10,895,030
<b>Annual Revenues</b>	<b>\$ 316,145</b>	<b>\$ 587,430</b>	<b>\$ 95,000</b>	<b>\$ 935,000</b>	<b>\$ 887,750</b>	<b>\$ 377,000</b>	<b>\$ 16,893,600</b>	<b>\$ 20,091,925</b>
<b>Annual Program Needs</b>	<b>\$ 316,145</b>	<b>\$ 587,430</b>	<b>\$ 95,000</b>	<b>\$ 935,000</b>	<b>\$ 987,750</b>	<b>\$ 877,000</b>	<b>\$ 57,618,600</b>	<b>\$ 61,416,925</b>
<b>Undetermined Funding Shortfall</b>	<b>\$ -</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 100,000</b>	<b>\$ 500,000</b>	<b>\$ 40,725,000</b>	<b>\$ 41,325,000</b>
<b>Total CIP (5, 6-20, 20 Years)</b>						<b>\$ 3,482,180</b>	<b>\$ 57,618,600</b>	<b>\$ 61,100,780</b>

**Wastewater Operations Fund**  
**City of Benicia Capital Improvement Program**

**Projects - Fund 014**

WWO Project Descriptions	CP	Year Funding	Prior	1	2	3	4	5	6-20	Total
				2011-12	2012-13	2013-14	2014-15	2015-16	2016-31	
<b>Wastewater Operations</b>										
5 Facility Security and Ancillary Projects	WWOps	-	-	-	-	-	-	-	300,000	300,000
6 Corp Yard Improvements	WWOps	-	-	-	-	-	33,750	-	500,000	533,750
7 Odor Scrubber Media Replacement	WWOps	-	-	45,000	-	-	-	-	125,000	170,000
8 Replace Helical Scum Collectors	WWOps	-	-	-	-	-	-	-	150,000	150,000
9 RBC Replacement	WWOps	-	-	-	-	-	-	-	1,200,000	1,200,000
10 Water Reuse Project	Unknown	-	-	-	-	-	-	-	40,000,000	40,000,000
12 Rehab grit separator	WWOps	-	-	-	-	-	-	-	50,000	50,000
13 Master Plan Update	WWOps	-	-	-	-	-	-	-	500,000	500,000
14 Plant Cathodic Protection Improvements	Unknown	-	-	-	-	-	100,000	500,000	-	600,000
15 HMI replace with SCADA nodes	WWOps	-	50,000	-	-	-	-	-	-	50,000
17 Add actuators/controls-aeration basin gates	WWOps	-	-	-	30,000	-	-	-	-	30,000
18 Digester cleaning	WWOps	-	200,000	-	-	-	-	-	200,000	400,000
21 Replace belt filter press	WWOps	-	-	-	-	-	-	140,000	90,000	230,000
22 Upgrade/replace PLCs	WWOps	-	-	-	-	-	80,000	-	-	80,000
23 COMPLETED Lift Station Improvements	WWOps	-	-	-	-	-	-	-	500,000	500,000
25 Overhaul natural gas genset	WWOps	-	-	-	-	75,000	-	-	-	75,000
27 Rehab 4 MCCs	WWOps	-	-	-	-	-	-	-	200,000	200,000
28 Add third clarifier	WWOps	-	-	-	-	-	-	-	1,500,000	1,500,000
46 Boiler Control Panels	WWOps	-	-	-	-	-	-	-	40,000	40,000
47 Sludge Disposal Options	WWOps	-	-	-	-	-	-	-	450,000	450,000
48 Computerized O&M Manual	WWOps	-	-	-	-	-	-	-	10,000	10,000
49 Odor Scrubber Piping Modifications	WWOps	-	40,000	-	-	-	-	-	-	40,000
54 Alternative Energy Options	Unknown	-	-	-	-	-	-	-	725,000	725,000
55 Effluent Flow Recycle Pump Station	WWOps	-	30,000	-	-	-	-	-	-	30,000
56 Emergency Electrical MCC Connection Points	WWOps	-	-	50,000	-	-	-	-	-	50,000
57 Plant Electrical System Upgrade	WWOps	-	-	-	-	-	-	-	200,000	200,000
58 Chemical Tank Replacement	WWOps	-	15,000	-	-	-	80,000	-	-	95,000
59 Grit Separator Gates	WWOps	-	-	-	30,000	-	-	-	-	30,000
60 Influent Pumps Rehabilitation	WWOps	-	-	-	-	-	30,000	-	-	30,000

**Wastewater Operations Fund**  
**City of Benicia Capital Improvement Program**

**Projects - Fund 014**

WWO Project Descriptions	CP	Year Funding	Prior	1	2	3	4	5	6-20	Total
				2011-12	2012-13	2013-14	2014-15	2015-16	2016-31	
<b>Wastewater Line Projects</b>										
30	COMPLETED - East 3rd Street Sewer Main Reloca	WWOps	316,145	-	-	-	-	-	-	316,145
31	West H Street Sewerline Replacement	WWOps	-	-	-	-	-	-	50,000	50,000
32	East 7th Street Sewerline Replacement	WWOps	-	-	-	-	-	237,000	150,000	387,000
36	Semple School Area Sewer Main Relocation	WWOps	-	-	-	-	-	-	646,000	646,000
39	West Manor Neigh Sewer Main Replacement	WWOps	-	-	-	-	-	-	400,000	400,000
41	Wet Weather Program Re-Evaluation	WWOps	-	-	-	-	-	-	450,000	450,000
52	Bayshore Rd Gravity Main Rehabilitation	WWOps	-	-	-	800,000	664,000	-	-	1,464,000
61	Bayshore Force Main Replacement	WWOps	-	252,430	-	-	-	-	-	252,430
62	West Fork Sewerline Replacement	WWOps	-	-	-	-	-	-	911,600	911,600
63	East Channel Road Sewerline Replacement	WWOps	-	-	-	-	-	-	2,493,000	2,493,000
64	I-780 Crossing at West 7th Street Sewerline Replacement	WWOps	-	-	-	-	-	-	152,000	152,000
65	West 7th Street Sewerline Replacement	WWOps	-	-	-	-	-	-	646,000	646,000
66	I-780 at Rose Drive Sewerline Replacement	WWOps	-	-	-	-	-	-	4,399,000	4,399,000
67	Park Industrial Lift Station Replacement	WWOps	-	-	-	-	-	-	581,000	581,000
<b>Total Program Needs</b>			<b>\$ 316,145</b>	<b>\$ 587,430</b>	<b>\$ 95,000</b>	<b>\$ 935,000</b>	<b>\$ 987,750</b>	<b>\$ 877,000</b>	<b>\$57,618,600</b>	<b>\$61,416,925</b>
<b>Total CIP (5, 6-20, 20 Years)</b>								<b>\$ 3,482,180</b>	<b>\$57,618,600</b>	<b>\$61,100,780</b>

### Capital Improvement Project Description

Project Name	<b>West H Street Sewerline Replacement</b>				Reference Number	<b>WWO31</b>
Project Manager/Dept	Knox/PW&CDD				Category	B
Project Origination Date					Council Priority	
Design Start		Construction Start			Completion Date	
Prior Council/Commission Approval and Date						

#### Project Description

REPLACE 350' OF 6" IN THE 300 BLK OF W H STREET DUE TO SAGS THAT COLLECT SOLIDS WHICH CREATES BACK-UPS.

#### Funding Sources

Category	Prior	1	2	3	4	5	6-20	Total	%
		2011-12	2012-13	2013-14	2014-15	2015-16	2016-31		
City of Benicia General Fund	\$0							\$0	0%
City of Benicia Special Funds-Specify <sup>1</sup>	\$0						\$50,000	\$50,000	100%
Other-Specify	\$0							\$0	0%
Undetermined	\$0							\$0	0%
<b>Total Funding</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$50,000</b>	<b>\$50,000</b>	<b>100%</b>

Funding Comments.

<sup>1</sup> Wastewater Operations Fund

#### Cost Estimate

Category	Prior	1	2	3	4	5	6-20	Total	%
		2011-12	2012-13	2013-14	2014-15	2015-16	2016-31		
Planning, Design and Engineering	\$0							\$0	0%
Construction Costs	\$0							\$0	0%
Construction Management	\$0							\$0	0%
Furnishings & Equipment	\$0							\$0	0%
Contingency or Other - Specify	\$0							\$0	0%
Long Range Estimate	\$0						\$50,000	\$50,000	100%
<b>Total Project Cost</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$50,000</b>	<b>\$50,000</b>	<b>100%</b>

Cost Comments.

### Capital Improvement Project Description

Project Name	<b>East 7th Street Sewerline Replacement</b>				Reference Number	<b>WWO32</b>
Project Manager/Dept	Knox/PW&CDD				Category	B
Project Origination Date					Council Priority	
Design Start		Construction Start			Completion Date	
Prior Council/Commission Approval and Date						

#### Project Description

Two phase project. Replace 6" SS main from M/H 003 located at 616 East K Street to include M/H 005 and 006 to East 7th L/S. Next replace 6" main located at East 7th Street and Valero pipeline (alley S/O L Street) to include M/H 118, 508, 408, 308 and 208 to East 7th Street L/S.

#### Funding Sources

Category	Prior	1	2	3	4	5	6-20	Total	%
		2011-12	2012-13	2013-14	2014-15	2015-16	2016-31		
City of Benicia General Fund	\$0							\$0	0%
City of Benicia Special Funds-Specify <sup>1</sup>	\$0					\$237,000	\$150,000	\$387,000	100%
Other-Specify	\$0							\$0	0%
Undetermined	\$0							\$0	0%
<b>Total Funding</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$237,000</b>	<b>\$150,000</b>	<b>\$387,000</b>	<b>100%</b>

Funding Comments.  
<sup>1</sup> Wastewater Operations Fund

#### Cost Estimate

Category	Prior	1	2	3	4	5	6-20	Total	%
		2011-12	2012-13	2013-14	2014-15	2015-16	2016-31		
Planning, Design and Engineering	\$0							\$0	0%
Construction Costs	\$0							\$0	0%
Construction Management	\$0							\$0	0%
Furnishings & Equipment	\$0							\$0	0%
Contingency or Other - Specify	\$0							\$0	0%
Long Range Estimate	\$0					\$237,000	\$150,000	\$387,000	100%
<b>Total Project Cost</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$237,000</b>	<b>\$150,000</b>	<b>\$387,000</b>	<b>100%</b>

Cost Comments.

### Capital Improvement Project Description

Project Name	<b>Simple School Area Sewer Main Relocation</b>				Reference Number	<b>WWO36</b>
Project Manager/Dept	Knox/PW&CDD				Category	B
Project Origination Date					Council Priority	
Design Start		Construction Start			Completion Date	
Prior Council/Commission Approval and Date						

#### Project Description

Relocate existing 10" sewer main traversing the Simple School grounds into East 3rd and East S Streets to address SSO incidents and flow constrictions. Includes WW037.

Smartcover and routine maintenance has created confidence in maintenance activities. **Remove from FY 11-13 CIP list (evaluate again in future CIP process.)**

#### Funding Sources

Category	Prior	1	2	3	4	5	6-20	Total	%
		2011-12	2012-13	2013-14	2014-15	2015-16	2016-31		
City of Benicia General Fund	\$0							\$0	0%
City of Benicia Special Funds-Specify <sup>1</sup>	\$0						\$646,000	\$646,000	100%
Other-Specify	\$0							\$0	0%
Undetermined	\$0							\$0	0%
<b>Total Funding</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$646,000</b>	<b>\$646,000</b>	<b>100%</b>

Funding Comments.

<sup>1</sup> Wastewater Operations Fund

#### Cost Estimate

Category	Prior	1	2	3	4	5	6-20	Total	%
		2011-12	2012-13	2013-14	2014-15	2015-16	2016-31		
Planning, Design and Engineering	\$0							\$0	0%
Construction Costs	\$0							\$0	0%
Construction Management	\$0							\$0	0%
Furnishings & Equipment	\$0							\$0	0%
Contingency or Other - Specify	\$0							\$0	0%
Long Range Estimate	\$0						\$646,000	\$646,000	100%
<b>Total Project Cost</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$646,000</b>	<b>\$646,000</b>	<b>100%</b>

Cost Comments.

### Capital Improvement Project Description

Project Name	<b>West Manor Neighborhood Sewer Main Replacement</b>				Reference Number	<b>WWO39</b>
Project Manager/Dept	Knox/PW&CDD				Category	B
Project Origination Date					Council Priority	
Design Start		Construction Start			Completion Date	
Prior Council/Commission Approval and Date						

#### Project Description

Replace sewer main and laterals to reduce inflow and infiltration and provide improved collection system. Very few calls to neighborhood for sewer issues. Smoke testing recommended in future to investigate any I&I possibilities. **Remove from CIP consideration at this time.**

#### Funding Sources

Category	Prior	1	2	3	4	5	6-20	Total	%
		2011-12	2012-13	2013-14	2014-15	2015-16	2016-31		
City of Benicia General Fund	\$0							\$0	0%
City of Benicia Special Funds-Specify <sup>1</sup>	\$0						\$400,000	\$400,000	100%
Other-Specify	\$0							\$0	0%
Undetermined	\$0							\$0	0%
<b>Total Funding</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$400,000</b>	<b>\$400,000</b>	<b>100%</b>

Funding Comments.

<sup>1</sup> Wastewater Operations Fund

#### Cost Estimate

Category	Prior	1	2	3	4	5	6-20	Total	%
		2011-12	2012-13	2013-14	2014-15	2015-16	2016-31		
Planning, Design and Engineering	\$0							\$0	0%
Construction Costs	\$0							\$0	0%
Construction Management	\$0							\$0	0%
Furnishings & Equipment	\$0							\$0	0%
Contingency or Other - Specify	\$0							\$0	0%
Long Range Estimate	\$0						\$400,000	\$400,000	100%
<b>Total Project Cost</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$400,000</b>	<b>\$400,000</b>	<b>100%</b>

Cost Comments.

### Capital Improvement Project Description

Project Name	<b>Wet Weather Program Re-Evaluation</b>				Reference Number	<b>WWO41</b>
Project Manager/Dept	Knox/PW&CDD				Category	A
Project Origination Date					Council Priority	
Design Start		Construction Start			Completion Date	
Prior Council/Commission Approval and Date						

#### Project Description

This effort will evaluate the effectiveness of the initial improvements installed as part of the I/I project and refine the timing and nature of the next improvements to be implemented based upon the updated information. This approach of continually optimizing the program as each project is completed and placed in service will include flow sampling and monitoring and additional modeling and video inspection on a 5-year schedule.

#### Funding Sources

		1	2	3	4	5	6-20	Total	%
Category	Prior	2011-12	2012-13	2013-14	2014-15	2015-16	2016-31		
City of Benicia General Fund	\$0							\$0	0%
City of Benicia Special Funds-Specify <sup>1</sup>	\$0						\$450,000	\$450,000	100%
Other-Specify	\$0							\$0	0%
Undetermined	\$0							\$0	0%
<b>Total Funding</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$450,000</b>	<b>\$450,000</b>	<b>100%</b>

Funding Comments.  
<sup>1</sup> Wastewater Operations Fund

#### Cost Estimate

		1	2	3	4	5	6-20	Total	%
Category	Prior	2011-12	2012-13	2013-14	2014-15	2015-16	2016-31		
Planning, Design and Engineering	\$0							\$0	0%
Construction Costs	\$0							\$0	0%
Construction Management	\$0							\$0	0%
Furnishings & Equipment	\$0							\$0	0%
Contingency or Other - Specify	\$0							\$0	0%
Long Range Estimate	\$0						\$450,000	\$450,000	100%
<b>Total Project Cost</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$450,000</b>	<b>\$450,000</b>	<b>100%</b>

Cost Comments.

### Capital Improvement Project Description

Project Name	<b>Bayshore Road Gravity Main Rehabilitation</b>				Reference Number	<b>WWO52</b>
Project Manager/Dept	Knox/PW&CDD				Category	B
Project Origination Date					Council Priority	
Design Start		Construction Start			Completion Date	
Prior Council/Commission Approval and Date						

#### Project Description

Replace/refurbish sanitary sewer main including manhole structures starting at 921 Bayshore Road to IM building due to sewer gas corrosion of pipeline materials.

#### Funding Sources

Category	Prior	Fiscal Year						Total	%
		1	2	3	4	5	6-20		
		2011-12	2012-13	2013-14	2014-15	2015-16	2016-31		
City of Benicia General Fund	\$0							\$0	0%
City of Benicia Special Funds-Specify <sup>1</sup>	\$0			\$800,000	\$664,000			\$1,464,000	100%
Other-Specify	\$0							\$0	0%
Undetermined	\$0							\$0	0%
<b>Total Funding</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$800,000</b>	<b>\$664,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,464,000</b>	<b>100%</b>

Funding Comments.

<sup>1</sup> Wastewater Operations Fund (50%) and Wastewater Connection Fund (50%)

#### Cost Estimate

Category	Prior	Fiscal Year						Total	%
		1	2	3	4	5	6-20		
		2011-12	2012-13	2013-14	2014-15	2015-16	2016-31		
Planning, Design and Engineering	\$0							\$0	0%
Construction Costs	\$0							\$0	0%
Construction Management	\$0							\$0	0%
Furnishings & Equipment	\$0							\$0	0%
Contingency or Other - Specify	\$0							\$0	0%
Long Range Estimate	\$0			\$800,000	\$664,000			\$1,464,000	100%
<b>Total Project Cost</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$800,000</b>	<b>\$664,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,464,000</b>	<b>100%</b>

Cost Comments.

### Capital Improvement Project Description

Project Name	<b>Bayshore Force Main Replacement</b>				Reference Number	<b>WWO61</b>
Project Manager/Dept	Knox/PW&CDD				Category	B
Project Origination Date					Council Priority	
Design Start	Construction Start			Completion Date		
Prior Council/Commission Approval and Date						

#### Project Description

Removal and replacement of up to 310 linear feet of 8" AC sanitary sewer main with 8" PVC C-900 sewer inside a 16" steel casing and associated appurtenances such as plug valves and air release valves.

#### Funding Sources

		1	2	3	4	5	6-20	Total	%
Category	Prior	2011-12	2012-13	2013-14	2014-15	2015-16	2016-31		
City of Benicia General Fund	\$0							\$0	0%
City of Benicia Special Funds-Specify <sup>1</sup>	\$0	\$252,430						\$252,430	100%
Other-Specify	\$0							\$0	0%
Undetermined	\$0							\$0	0%
<b>Total Funding</b>	<b>\$0</b>	<b>\$252,430</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$252,430</b>	<b>100%</b>

Funding Comments.

<sup>1</sup> Total cost of project is \$252,430. Major Wastewater Capital will fund \$150,000 and Water Connection will fund \$102,430.

#### Cost Estimate

		1	2	3	4	5	6-20	Total	%
Category	Prior	2011-12	2012-13	2013-14	2014-15	2015-16	2016-31		
Planning, Design and Engineering	\$0							\$0	0%
Construction Costs	\$0	\$211,300						\$211,300	84%
Construction Management	\$0	\$20,000						\$20,000	8%
Furnishings & Equipment	\$0							\$0	0%
Contingency or Other - Specify	\$0	\$21,130						\$21,130	8%
Long Range Estimate	\$0							\$0	0%
<b>Total Project Cost</b>	<b>\$0</b>	<b>\$252,430</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$252,430</b>	<b>100%</b>

Cost Comments.

### Capital Improvement Project Description

Project Name	<b>West Fork Sewerline Replacement</b>				Reference Number	<b>WWO62</b>			
Project Manager/Dept	Knox/PW&CDD				Category	B			
Project Origination Date					Council Priority				
Design Start		Construction Start			Completion Date				
Prior Council/Commission Approval and Date									

#### Project Description

Replace existing 8-inch pipe with 18-inch pipe from West Channel Road to Park Road.

#### Funding Sources

		1	2	3	4	5	6-20	Total	%
Category	Prior	2011-12	2012-13	2013-14	2014-15	2015-16	2016-31		
City of Benicia General Fund	\$0							\$0	0%
City of Benicia Special Funds-Specify <sup>1</sup>	\$0						\$911,600	\$911,600	100%
Other-Specify	\$0							\$0	0%
Undetermined	\$0							\$0	0%
<b>Total Funding</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$911,600</b>	<b>\$911,600</b>	<b>100%</b>

Funding Comments.

<sup>1</sup> Total cost of project is \$2,279,000. Wastewater System Replacement will fund 40% (\$911,600) and Wastewater Connection will fund 60% (\$1,367,400).

#### Cost Estimate

		1	2	3	4	5	6-20	Total	%
Category	Prior	2011-12	2012-13	2013-14	2014-15	2015-16	2016-31		
Planning, Design and Engineering	\$0							\$0	0%
Construction Costs	\$0							\$0	0%
Construction Management	\$0							\$0	0%
Furnishings & Equipment	\$0							\$0	0%
Contingency or Other - Specify	\$0							\$0	0%
Long Range Estimate	\$0						\$911,600	\$911,600	100%
<b>Total Project Cost</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$911,600</b>	<b>\$911,600</b>	<b>100%</b>

Cost Comments.

### Capital Improvement Project Description

Project Name	<b>East Channel Road Sewerline Replacement</b>				Reference Number	<b>WWO63</b>
Project Manager/Dept	Knox/PW&CDD				Category	B
Project Origination Date					Council Priority	
Design Start	Construction Start				Completion Date	
Prior Council/Commission Approval and Date						

#### Project Description

Replacement existing 12-inch pipe with 15-inch pipe from East 2nd Street to extension of Industrial Court; and 18-inch pipe from that point to Industrial Way. As discussed in Section 6.4.2, prior to implementing, conduct field survey to confirm invert data and hydraulic analysis results.

#### Funding Sources

		1	2	3	4	5	6-20	Total	%
Category	Prior	2011-12	2012-13	2013-14	2014-15	2015-16	2016-31		
City of Benicia General Fund	\$0							\$0	0%
City of Benicia Special Funds-Specify <sup>1</sup>	\$0						\$2,493,000	\$2,493,000	100%
Other-Specify	\$0							\$0	0%
Undetermined	\$0							\$0	0%
<b>Total Funding</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$2,493,000</b>	<b>\$2,493,000</b>	<b>100%</b>
Funding Comments.									
<sup>1</sup> Wastewater System Replacement Fund									

#### Cost Estimate

		1	2	3	4	5	6-20	Total	%
Category	Prior	2011-12	2012-13	2013-14	2014-15	2015-16	2016-31		
Planning, Design and Engineering	\$0							\$0	0%
Construction Costs	\$0							\$0	0%
Construction Management	\$0							\$0	0%
Furnishings & Equipment	\$0							\$0	0%
Contingency or Other - Specify	\$0							\$0	0%
Long Range Estimate	\$0						\$2,493,000	\$2,493,000	100%
<b>Total Project Cost</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$2,493,000</b>	<b>\$2,493,000</b>	<b>100%</b>
Cost Comments.									

### Capital Improvement Project Description

Project Name	<b>I-780 Crossing at West 7th Street Sewerline Replacement</b>				Reference Number	<b>WWO64</b>
Project Manager/Dept	Knox/PW&CDD				Category	B
Project Origination Date					Council Priority	
Design Start		Construction Start			Completion Date	
Prior Council/Commission Approval and Date						

#### Project Description

Replace/parallel existing 12-inch pipe at the I-780 Crossing at West 7th Street. (Another option is bolt down manhole cover if no adverse impacts to nearby services. CIP assumes replacement.)

#### Funding Sources

		1	2	3	4	5	6-20	Total	%
Category	Prior	2011-12	2012-13	2013-14	2014-15	2015-16	2016-31		
City of Benicia General Fund	\$0							\$0	0%
City of Benicia Special Funds-Specify <sup>1</sup>	\$0						\$152,000	\$152,000	100%
Other-Specify	\$0							\$0	0%
Undetermined	\$0							\$0	0%
<b>Total Funding</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$152,000</b>	<b>\$152,000</b>	<b>100%</b>
Funding Comments.									
<sup>1</sup> Wastewater System Replacement Fund									

#### Cost Estimate

		1	2	3	4	5	6-20	Total	%
Category	Prior	2011-12	2012-13	2013-14	2014-15	2015-16	2016-31		
Planning, Design and Engineering	\$0							\$0	0%
Construction Costs	\$0							\$0	0%
Construction Management	\$0							\$0	0%
Furnishings & Equipment	\$0							\$0	0%
Contingency or Other - Specify	\$0							\$0	0%
Long Range Estimate	\$0						\$152,000	\$152,000	100%
<b>Total Project Cost</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$152,000</b>	<b>\$152,000</b>	<b>100%</b>
Cost Comments.									

### Capital Improvement Project Description

Project Name	<b>West 7th Street Sewerline Replacement</b>				Reference Number	<b>WWO65</b>			
Project Manager/Dept	Knox/PW&CDD				Category	B			
Project Origination Date					Council Priority				
Design Start		Construction Start			Completion Date				
Prior Council/Commission Approval and Date									

#### Project Description

Replace existing 8- and 10-inch pipes with 12-inch pipe from south of Cheryl Drive to K Street at the existing diversion structure at the Relief Interceptor.

#### Funding Sources

Category	Prior	1 2 3 4 5 6-20						Total	%
		2011-12	2012-13	2013-14	2014-15	2015-16	2016-31		
City of Benicia General Fund	\$0							\$0	0%
City of Benicia Special Funds-Specify <sup>1</sup>	\$0						\$646,000	\$646,000	100%
Other-Specify	\$0							\$0	0%
Undetermined	\$0							\$0	0%
<b>Total Funding</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$646,000</b>	<b>\$646,000</b>	<b>100%</b>

Funding Comments.

<sup>1</sup> Wastewater System Replacement Fund

#### Cost Estimate

Category	Prior	1 2 3 4 5 6-20						Total	%
		2011-12	2012-13	2013-14	2014-15	2015-16	2016-31		
Planning, Design and Engineering	\$0							\$0	0%
Construction Costs	\$0							\$0	0%
Construction Management	\$0							\$0	0%
Furnishings & Equipment	\$0							\$0	0%
Contingency or Other - Specify	\$0							\$0	0%
Long Range Estimate	\$0						\$646,000	\$646,000	100%
<b>Total Project Cost</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$646,000</b>	<b>\$646,000</b>	<b>100%</b>

Cost Comments.

### Capital Improvement Project Description

Project Name	<b>I-780 at Rose Drive Sewerline Replacement</b>				Reference Number	<b>WWO66</b>
Project Manager/Dept	Knox/PW&CDD				Category	B
Project Origination Date					Council Priority	
Design Start		Construction Start			Completion Date	
Prior Council/Commission Approval and Date						

#### Project Description

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#### Funding Sources

		1	2	3	4	5	6-20	Total	%
Category	Prior	2011-12	2012-13	2013-14	2014-15	2015-16	2016-31		
City of Benicia General Fund	\$0							\$0	0%
City of Benicia Special Funds-Specify <sup>1</sup>	\$0						\$4,399,000	\$4,399,000	100%
Other-Specify	\$0							\$0	0%
Undetermined	\$0							\$0	0%
<b>Total Funding</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$4,399,000</b>	<b>\$4,399,000</b>	<b>100%</b>

Funding Comments.

<sup>1</sup> Wastewater System Replacement Fund

#### Cost Estimate

		1	2	3	4	5	6-20	Total	%
Category	Prior	2011-12	2012-13	2013-14	2014-15	2015-16	2016-31		
Planning, Design and Engineering	\$0							\$0	0%
Construction Costs	\$0							\$0	0%
Construction Management	\$0							\$0	0%
Furnishings & Equipment	\$0							\$0	0%
Contingency or Other - Specify	\$0							\$0	0%
Long Range Estimate	\$0						\$4,399,000	\$4,399,000	100%
<b>Total Project Cost</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$4,399,000</b>	<b>\$4,399,000</b>	<b>100%</b>

Cost Comments.

### Capital Improvement Project Description

Project Name	<b>Park Industrial Lift Station Replacement</b>				Reference Number	<b>WWO67</b>			
Project Manager/Dept	Knox/PW&CDD				Category	B			
Project Origination Date					Council Priority				
Design Start		Construction Start			Completion Date				
Prior Council/Commission Approval and Date									

#### Project Description

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#### Funding Sources

		1	2	3	4	5	6-20	Total	%
Category	Prior	2011-12	2012-13	2013-14	2014-15	2015-16	2016-31		
City of Benicia General Fund	\$0							\$0	0%
City of Benicia Special Funds-Specify <sup>1</sup>	\$0						\$581,000	\$581,000	100%
Other-Specify	\$0							\$0	0%
Undetermined	\$0							\$0	0%
<b>Total Funding</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$581,000</b>	<b>\$581,000</b>	<b>100%</b>

Funding Comments.

<sup>1</sup> Total cost of project is \$830,000. Wastewater System Replacement will fund 70% (\$581,000) and Wastewater Connection will fund 30% (\$249,000).

#### Cost Estimate

		1	2	3	4	5	6-20	Total	%
Category	Prior	2011-12	2012-13	2013-14	2014-15	2015-16	2016-31		
Planning, Design and Engineering	\$0							\$0	0%
Construction Costs	\$0							\$0	0%
Construction Management	\$0							\$0	0%
Furnishings & Equipment	\$0							\$0	0%
Contingency or Other - Specify	\$0							\$0	0%
Long Range Estimate	\$0						\$581,000	\$581,000	100%
<b>Total Project Cost</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$581,000</b>	<b>\$581,000</b>	<b>100%</b>

Cost Comments.



Public Works & Community  
Development Department  
**MEMORANDUM**

**Date:** October 9, 2009 (revised August 4, 2014)  
**To:** File  
**From:** Nathaniel Rankin, Public Works Maintenance Superintendent  
**Subject:** City of Benicia Operation and Maintenance Procedures

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**INFRASTRUCTURE CONTINUOUS IMPROVEMENT  
(REHABILITATION and REPLACEMENT)**

**OVERVIEW:** Surveying and inspection of sewer maintenance programs and activities that identify condition of sewer mains and laterals.

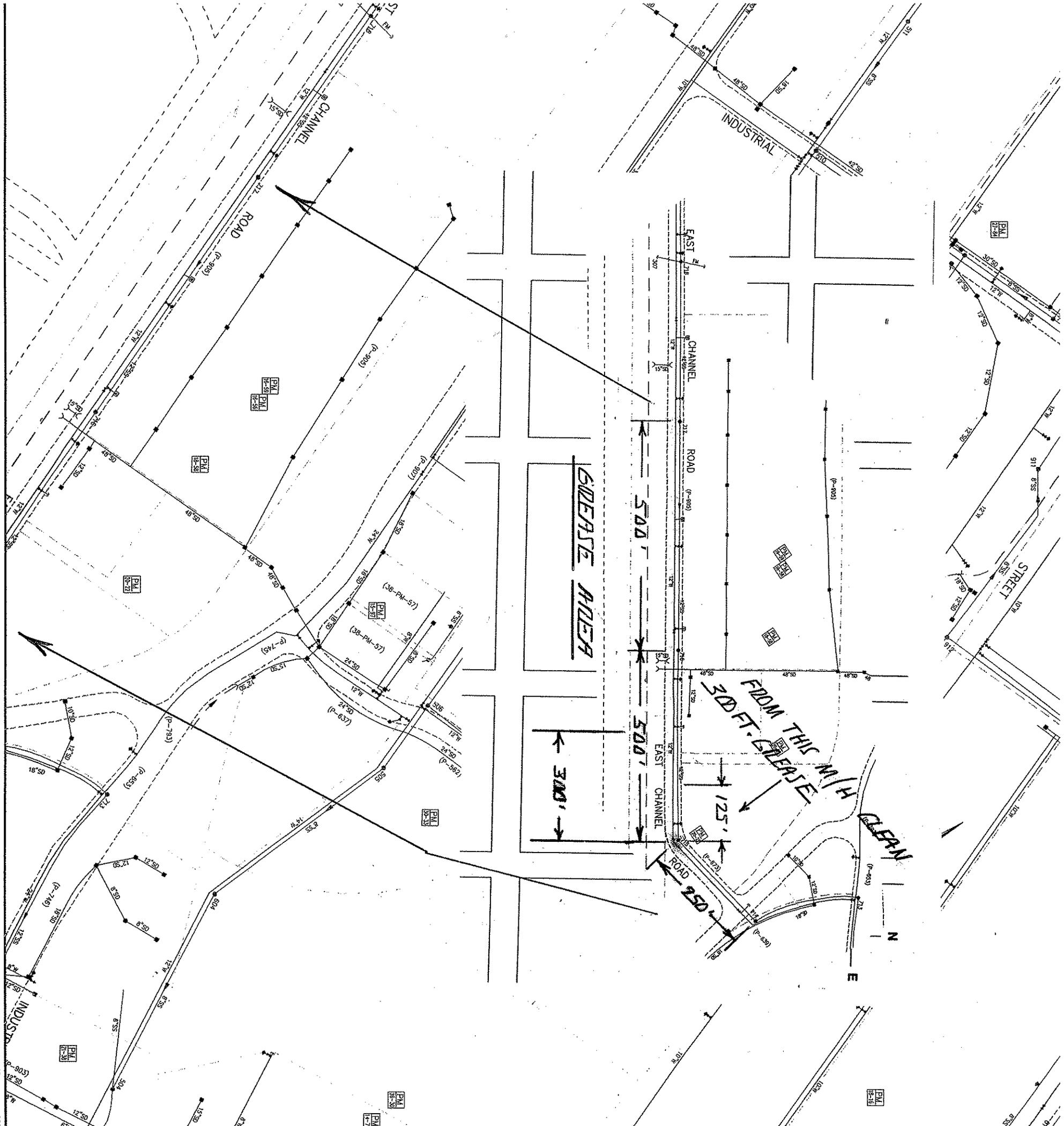
**ACTIVITY:** Respond to sewer system complaints; provide assistance to City and Project Engineering for sewer C.I.P.s, notify public of sewer programs (SSMP is on City's website), and coordinate with contractors for necessary work.

Use CCTV and other technologies for: 1) Pinpointing the location of sewer line blockages. 2) Find areas that need to be cleaned to prevent backups. 3) Identify pipes that need to be replaced or repaired. 4) Inspect new pipe to make sure it is installed properly and according to specification. 5) Find illegal or improper sewer connections. (See attachments.)

**PRIORITIZATION:** Defective gravity sewer lines located within 200 feet off surface waters (river, creek, strait, bay), not including storm drainage channels, will be given higher priority for repair and replacement than other sewer lines in the City with comparable defects and risk located more than 200 feet from surface waters.

CONT G-7

SCALE IN FEET



# Operations and Maintenance Training



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

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**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-paced 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 & Community  
Development Department  
**MEMORANDUM**

**Date:** November 17, 2011  
**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:

- Vac-Con Diesel Unit
- Hydroflusher
- Power Rodder
- ¾ Ton Utility Truck
- Dump Truck
- Handrod
- Backhoe
- CCTV

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

**Pumps**

Mfg	Model	# Complete Pumps
Flyght	3085	2
Flyght	3102	1
Flyght	3127	0
Flyght	3151	1
Flyght	3201	1

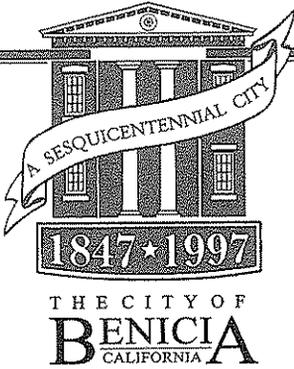
**Electrical**

Item	Quantity
50 amp breaker	1
40 amp breaker	1
25 amp breaker	1
15 amp breaker	2
24VDC Power Supply	3
30 amp Breaker	2

**Control and Communications**

Item	Quantity
HMI - EZ Touch	3
UPS - Sola	2
VFD - Power Flex	1
PLC CPU Module	3
ADTRANS Unit	2

# 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

Help

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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