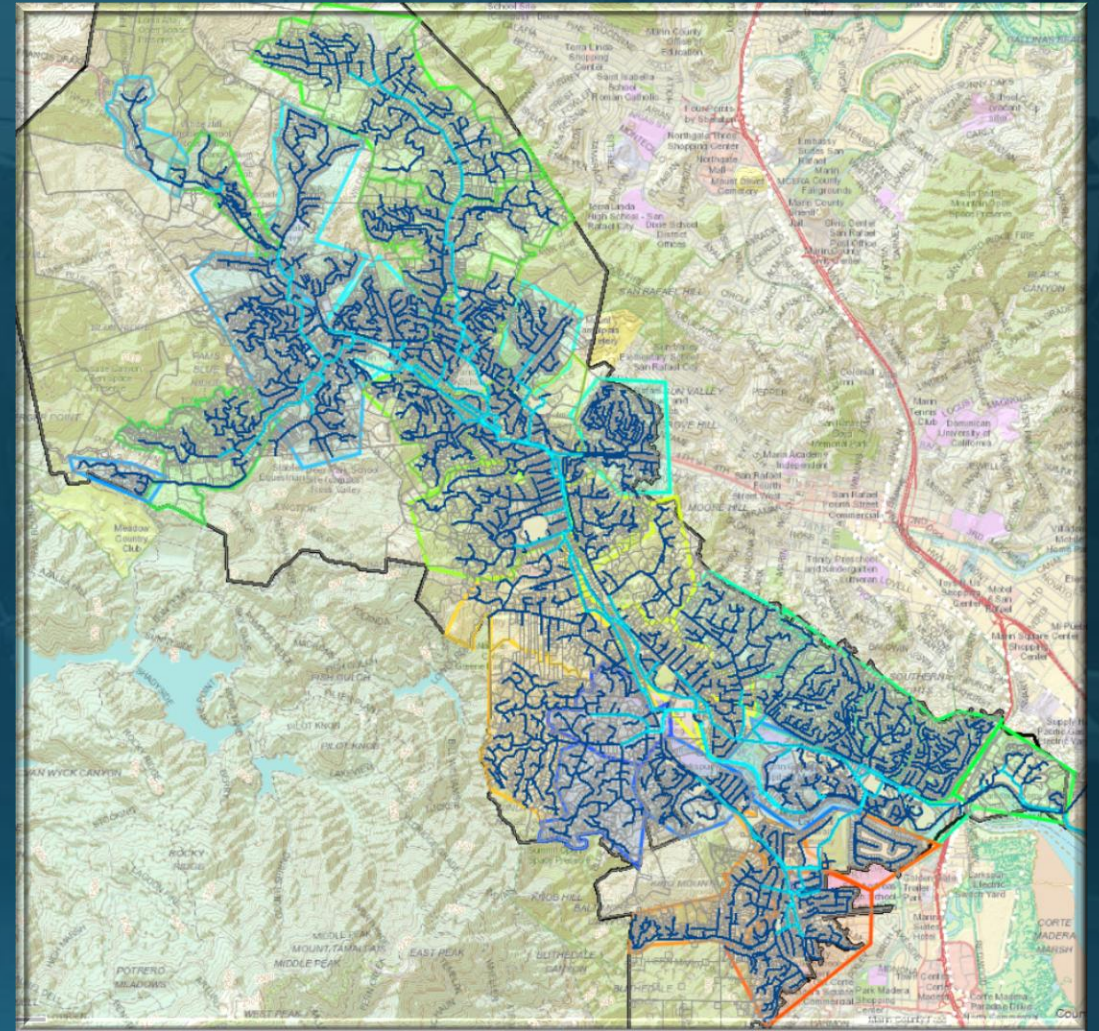


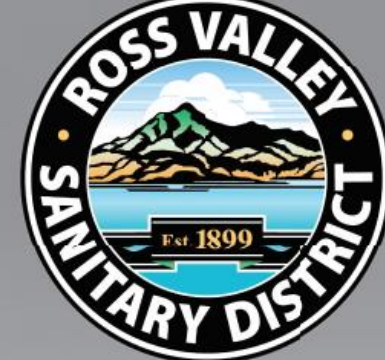
# RVSD Asset Management In the field

**Ross Valley Sanitary District**

John Vogel **Operations Supervisor**

- 194 mi Gravity Sewer
- Over 15,000 EDU's
- 200 mi Private Laterals
- 73% 6 inch Pipe or smaller
- 40% of Pipe on Easements
- 5,200+ Manholes or Rod Holes





A group of construction workers, including men and women, are gathered in a circle on a job site. They are wearing safety vests and hard hats. In the background, there are pickup trucks and residential houses. The entire image is overlaid with a semi-transparent blue filter.

WHY ARE WE HERE?





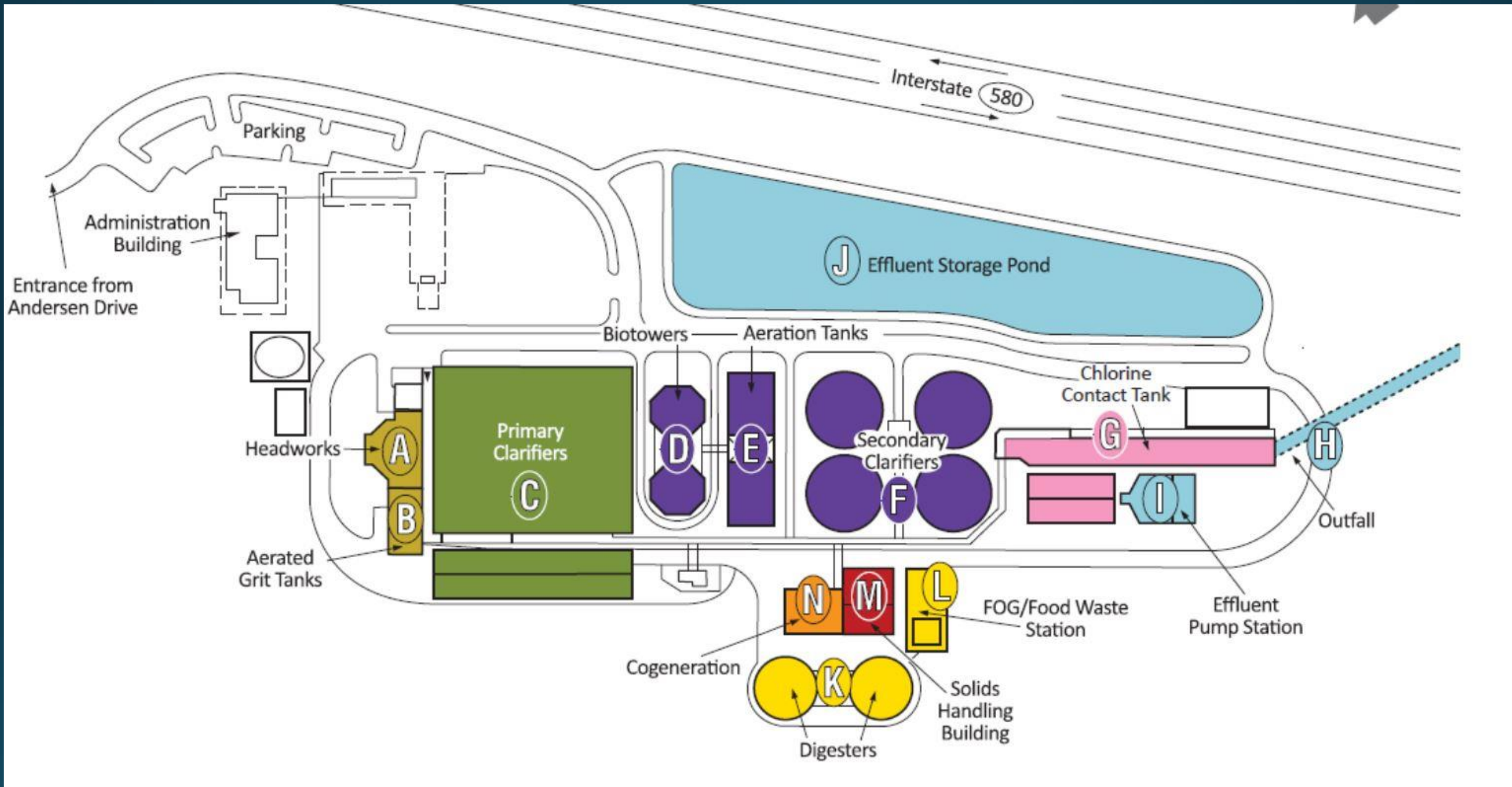










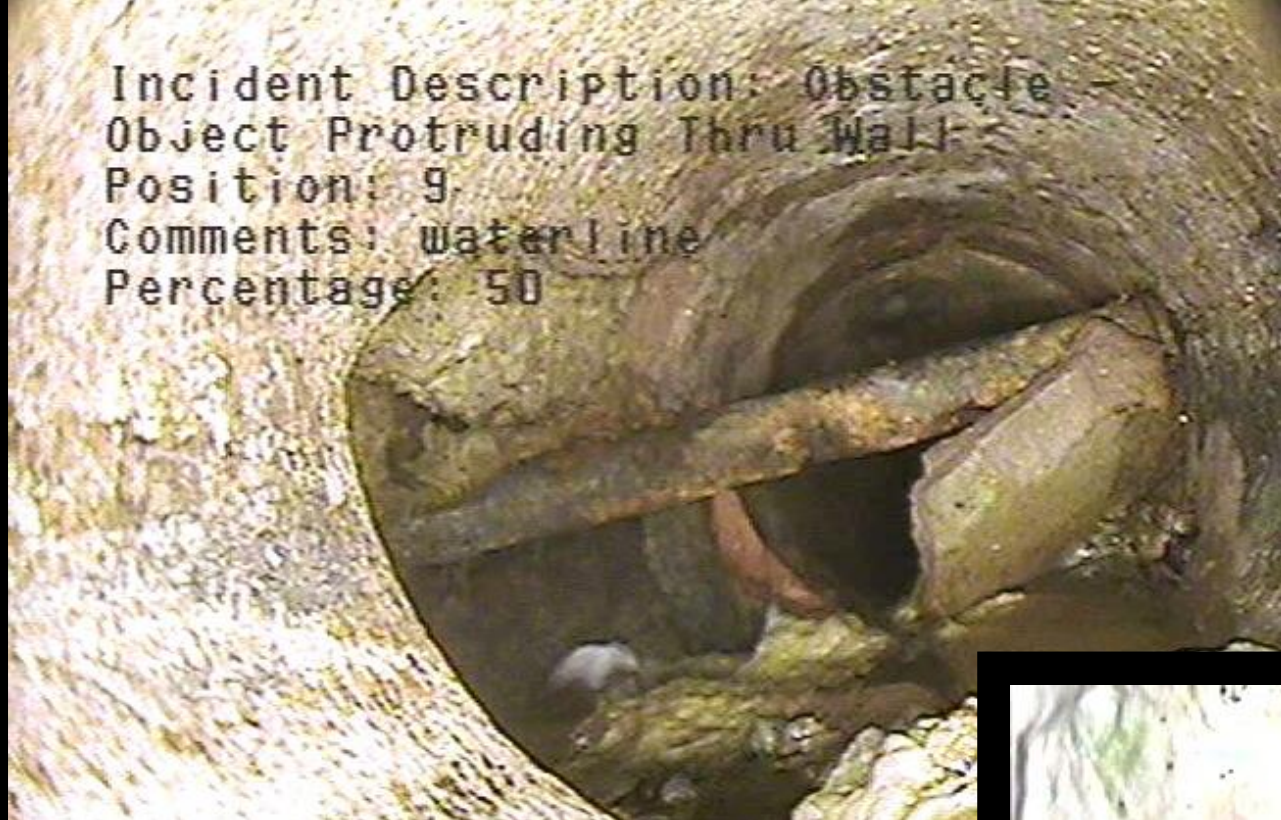








Incident Description: Obstacle -  
Object Protruding Thru Wall  
Position: 9  
Comments: waterline  
Percentage: 50

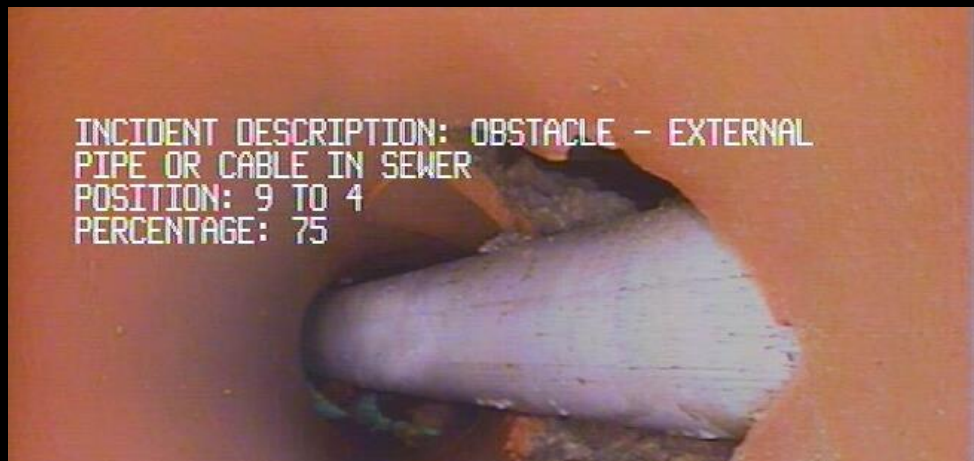


Incident Description: Obstacle -  
Pipe Material in Invert  
Position: 3 to 9  
Percentage: 50



0048:1 F 06/22/16 86:06a

INCIDENT DESCRIPTION: OBSTACLE - EXTERNAL  
PIPE OR CABLE IN SEWER  
POSITION: 9 TO 4  
PERCENTAGE: 75



000:01



Collapsed  
Feet: 0384.4

0384.4 F 11/21/11



Incident Description: Pipe  
Collapsed  
Comments: Pipe collapsed the  
rod hole  
Percentage: 100



Percentage: 100



Collapsed  
Percentage: 100

0054.6 F -07.40 04/14/19 10:39a



# What about RVSD?

Infrastructure Was  
Neglected

Run to Fail Model  
was Adopted for  
Most of Our  
Existence

Most Sewer  
Overflows in Marin  
County

Incredibly High I&I  
Levels

SSRMP Plans Were  
Made but Not  
Followed

Information not  
Digital

Minimal / Wrong  
Asset Information

# In 2011

Map Books

Stickers

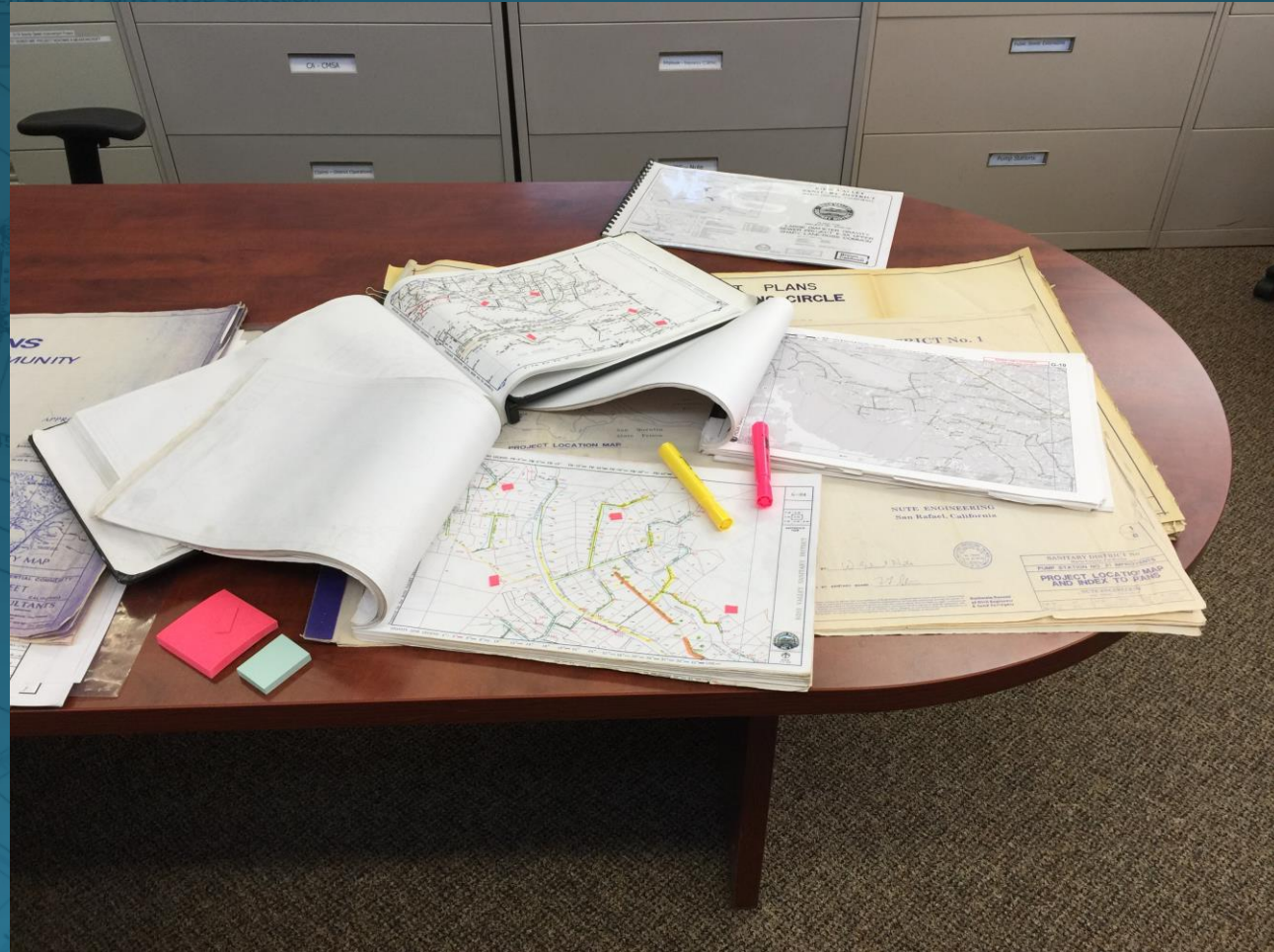
Unwillingness to share information

Search your feelings

Luke

Handwritten reports

Reactive Maintenance



# What did we do? (2012-2013)

Implemented a CMMS

Cataloged Assets

CCTV / MACP

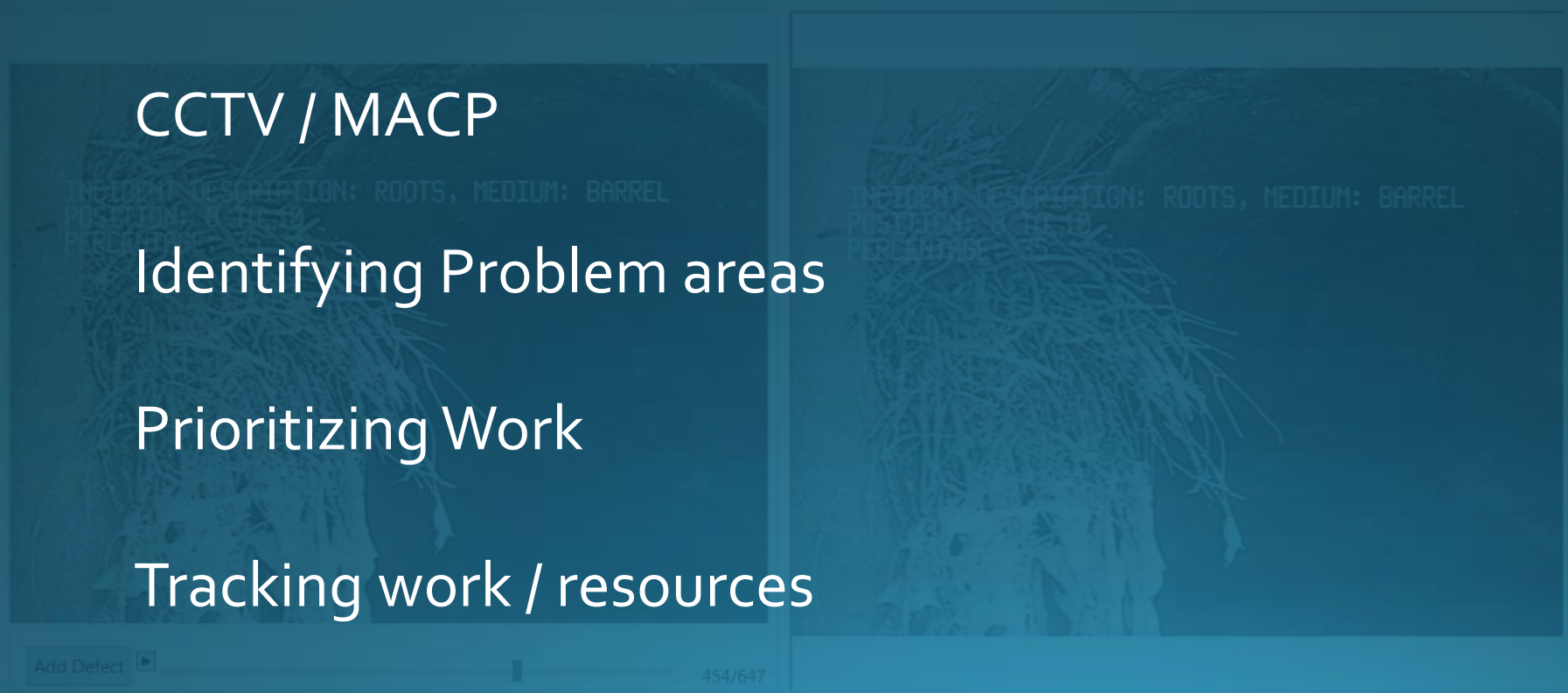
Identifying Problem areas

Prioritizing Work

Tracking work / resources

CCTV survey : 3729\_L320.030\_20131017\_1347

Definition	Details	Additional	Projects	Internal View	Scores	Schedule	Resources	Comments	User text	User num	Validation	Hyperlinks	Notes	Counter	Vide tim	
34.80	RFJ						8	4			<input checked="" type="checkbox"/>			1.00	0.00	248.0
35.90	LR										<input type="checkbox"/>			1.00	0.00	265.4
40.20	RFJ						8	4			<input checked="" type="checkbox"/>			1.00	0.00	280.8
67.40	IS						1	5			<input type="checkbox"/>			0.00	0.00	357.2
68.30											<input checked="" type="checkbox"/>			1.00	0.00	364.0
85.20	H						9				<input type="checkbox"/>			0.00	3.00	475.8
85.20	H						9				<input type="checkbox"/>			0.00	3.00	425.3
85.20	H						9				<input type="checkbox"/>			0.00	3.00	425.3
90.80	CM						3	7			<input type="checkbox"/>			0.00	3.00	516.9
90.80	RFJ						8	4			<input checked="" type="checkbox"/>			1.00	0.00	502.1
94.10	MSP										<input type="checkbox"/>	CAS		0.00	0.00	540.6
94.10	MSP										<input type="checkbox"/>			4.00	0.00	444.3



# Too Little to Late:

## California State Water Board issued RVSD a Cease and Desist Order

CIP Planning/Budget  
Asset Planning  
Defect Tracking

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

TENTATIVE CEASE AND DESIST ORDER NO. R2-2013-XXX  
REQUIRING THE

SANITARY DISTRICT NO. 1 OF MARIN COUNTY  
(ALSO KNOWN AS "ROSS VALLEY SANITARY DISTRICT")  
SANITARY SEWER COLLECTION SYSTEM  
IN MARIN COUNTY

TO CEASE AND DESIST DISCHARGING WASTE  
IN VIOLATION OF REQUIREMENTS IN

STATE WATER BOARD ORDER NO. 2006-0003-DWQ,  
STATE WATER BOARD ORDER NO. 2008-0002-EXEC,  
SECTION 301 OF THE CLEAN WATER ACT, AND  
CALIFORNIA WATER CODE SECTION 13376

**WHEREAS** the California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter Regional Water Board), finds that:

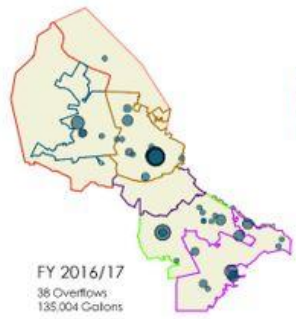
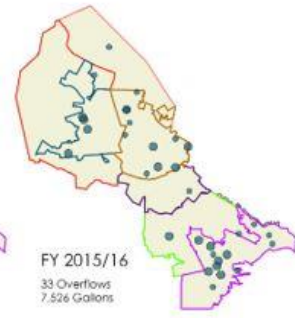
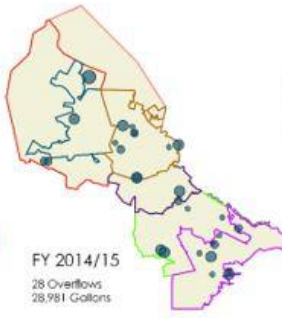
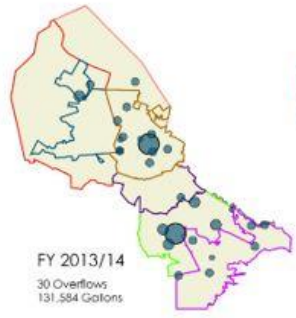
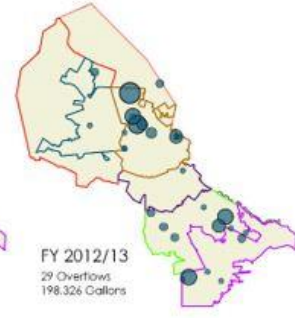
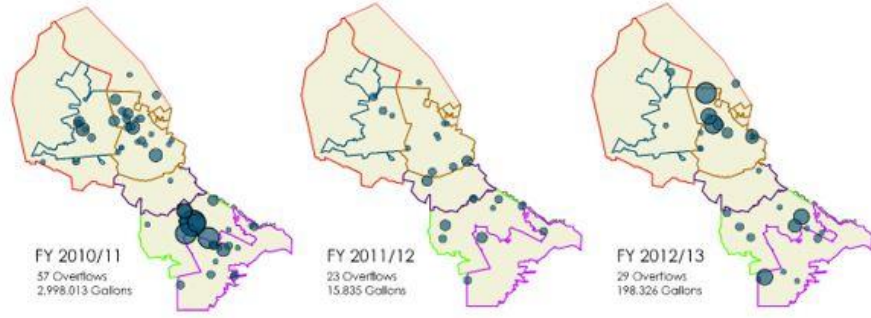
1. The Sanitary District No. 1 of Marin County (hereinafter Discharger) owns and operates a collection system subject to State Water Resources Control Board (State Water Board) Order No. 2006-0003-DWQ, *Statewide General Waste Discharge Requirements for Sanitary Sewer Systems* (Sanitary Sewer Order), and State Water Board Order No. 2008-0002-EXEC, *Adopting Amended Monitoring and Reporting Requirements for the Sanitary Sewer Order* (MRP).
2. The Discharger signed a notice of intent to comply with the Sanitary Sewer Order, and any subsequent amendments, on July 11, 2006.
3. The Discharger's collection system includes about 195 miles of gravity sewers, 9 miles of force mains, and 20 pump stations. The Discharger's collection system collects and transports approximately 5 million gallons per day (MGD) of wastewater to the Central Marin Sanitation Agency (CMSA) Treatment Plant. The Discharger's collection system serves an approximate population of 50,000.
4. On June 20, 2012, the Regional Water Board issued Administrative Civil Liability Order No. R2-2012-0055 to the Discharger assessing \$1,539,100 in liabilities for sanitary sewer overflows (SSOs) between January 1, 2008, and April 21, 2011. The total volume discharged, not recovered, and that reached waters of the United States due to these events was 2,555,535

## Where are we today? August 2019

- Approximately 70 million in CIP projects completed (30%)
- Tracking of 2978 Grade 5 and another 2541 Grade 4 Structural Defects (5519)
- Repaired 2364 defects with in-house point repair crew and another 175 repaired defects with in-house pipe replacement.
- Tracking of pipe cleaning effectiveness with the optimization of pipe-cleaning schedule
- I&I reduction
- Smoke testing, defect tracking

## Where are we today? August 2019 (cont.)

- Communication throughout all levels and departments
- Tracking and Reporting of performance metrics
- Risk Model
- Cleaning Model
- Track high frequency cleaning (grease and roots)
- Track access notes, property notes.
- Notices to homeowners
- GIS based maps
- Defendable 'Data Driven' Decisions.
- Share information and processes



# Questions?

