



Utility Ratepayers Advisory Panel Meeting

Oxnard Performing Arts & Convention Center, Ventura Room

800 Hobson Way, Oxnard, CA 93030

Wednesday, February 1, 2017

6:00 P.M.

A. WELCOME

B. OPENING CEREMONIES

C. PRESENTATIONS ON THE FUTURE NEEDS TO MAINTAIN AND UPGRADE THE CITY OF OXNARD'S WASTEWATER TREATMENT PLANT AND SEWER SYSTEM

1. SUBJECT: Condition Assessment of the Wastewater Utility as presented by Carollo Engineers
2. SUBJECT: Wastewater Utility Proposed Capital Improvements as presented by AECOM
3. SUBJECT: Respond to questions by Utility Ratepayers Advisory Panel (URAP) members at the URAP meeting on January 25, 2017
4. SUBJECT: Review updated URAP meeting schedule

D. PUBLIC COMMENTS

At this time, a person may address the Utility Ratepayers Advisory Panel (URAP) on matters related to the agenda. The facilitator may limit public comments to three minutes or to a shorter time, if deemed necessary.

E. PANEL DISCUSSION

URAP members may have further discussion on listed agenda items after public comments.

F. ADJOURNMENT

The Brown Act permits the attendance of a majority of the City Council at this meeting, provided that a majority of the Councilmembers do not discuss this business among themselves, other than as part of the meeting.

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in a meeting, you should contact Rosa Solis at 805-385-8281. Notification at least 72 hours prior to the meeting will enable the City to make reasonable accommodations to assure accessibility to the meeting.

Written materials that are distributed to the URAP after the agenda is posted but before the item is to be considered at this meeting will be made available for public inspection at the City Clerk's Office located at 300 West Third Street, Fourth Floor, Oxnard, CA 93030 during the City's normal business hours.

INFORMATION REQUESTED AT 1/25/17 URAP MEETING

February 1, 2017

CITY COUNCIL POLICIES

CITY COUNCIL OF THE CITY OF OXNARD RESOLUTION NO. 14,887

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF OXNARD APPROVING A FINANCIAL POLICY FOR CITY UTILITY ENTERPRISE FUNDS

WHEREAS, the City of Oxnard (City) provides water, wastewater, and solid waste services to residents and businesses within the community; and

WHEREAS, clean water and good sanitation are essential to public health and safety and greatly improve quality of life of residents; and

WHEREAS, each of the three utility services – Water, Wastewater and Environmental Resources (solid waste) – operate as independent financial enterprise funds separate and distinct from the City General Fund; and

WHEREAS, utility revenue can only be used for the service for which it is collected; and

WHEREAS, utility charges must not exceed the estimated cost service; and

WHEREAS, utility rates must only be charged service for which they are charged; and

5. Debt Coverage Ratio. Each utility enterprise will strive to maintain a minimum debt coverage ratio of 1.25 or such other applicable ratio as may be imposed or established from time to time, to optimize bonding capacity and interest rates. To the extent achieving this debt coverage policy requires extraordinary utility rate increases, the City will use its best efforts to meet this policy objective over time while also mitigating the consequences of extraordinary rate increases on utility customers.
6. Debt Term. Each utility shall strive to limit its use of debt funding for large value CIP's such that the term of any debt shall be limited to no longer than 75% of the anticipated useful life of the CIP facilities being funded.
7. Reserves. Each utility enterprise fund shall strive to establish and maintain total on-hand cash reserves of at least 90 days of operations and maintenance expenditures, one year of the depreciation value of capital assets, and 180 days of debt service obligation.

CITY COUNCIL POLICIES

CITY COUNCIL OF THE CITY OF OXNARD

RESOLUTION NO. 14,952

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF OXNARD ESTABLISHING FINANCIAL MANAGEMENT POLICIES

WHEREAS, the City Council wishes to establish financial management policies to be followed in the development and implementation of the City budget.

NOW, THEREFORE, the City Council of the City of Oxnard, California, do hereby enact the following:

II. CAPITAL IMPROVEMENT PROGRAM POLICIES

A. Capital Planning Period

1. Staff will budget all capital improvements in accordance with an adopted Capital Improvement Project (CIP) Plan.

2. The City's long-range capital planning period will be a minimum of five years, or longer where appropriate.

3. The Five-Year Capital Improvement Project Plan will be reviewed and approved by

V. RESERVE POLICIES

A. Adequate reserves will be maintained for all known liabilities, including payable employee leave balances, workers' compensation, and self insured retention limits.

B. The City Council will endeavor to maintain an operating reserve equal to 18 percent of the General Fund operating budget. The operating reserve shall be available to: cover cash flow requirements; meet unanticipated revenue shortfalls; take advantage of unexpected opportunities; invest in projects with a rapid payback; ensure against physical or natural disasters; and provide interest earnings.

C. The City Council will endeavor to maintain operating reserves in the Water and Wastewater Utility Enterprise Funds equal to 25 percent of the operating budgets, and reserves in the Solid Waste Enterprise Fund equal to 9 percent of the operating budget.

RATE COVENANT

Rate Covenant: From a bond investor's standpoint, available funds must be sufficient to pay all "Maintenance and Operation Expenses," other essential expenses of the system and "Debt Service."

A **rate covenant** assures that an agency (the city) **will establish and collect rates** and charges, connection fees and other revenue items in an amount sufficient to satisfy its operational needs and debt service obligations.

Typically the covenant requires that "Revenues" less "Operation and Maintenance Expenses," or "Net Revenues," in each fiscal year equal a percentage of "Debt Service" for such fiscal year (typically 110 – 125%).

CITY OF OXNARD RATE COVENANT

City of Oxnard Rate Covenant: “The City shall fix, prescribe, and collect fees, rates, and charges for the Wastewater System that will be at least sufficient to yield during each Fiscal Year, Net System Revenues equal to the sum of

One-hundred percent (100%) of the Debt Service for such Fiscal Year and the amounts, if any, then due and owing to the Bond Insurer under the Reserve Fund Surety Bond, plus

The amount by which the amount on deposit in the Wastewater Revenue Fund on the last day of the immediately preceding Fiscal Year was less than twenty-five (25%) of Maximum Annual Debt Service as of such day.

BOND COVERAGE

Bond Name	Original Amount Financed	Date Issued	Maturity	Balance	Covenants: The City shall fix, prescribe, and collect fees, rates, and charges for the Wastewater System that will be at least sufficient to yield during each Fiscal Year Net System Revenues equal to the sum of
WASTEWATER REVENUE REFUNDING, SERIES 2013	21,384,064	10/30/2013	6/1/2020	12,574,441	(a) one hundred percent (100 %) of the Debt Service for such Fiscal Year plus (b) the amount by which the amount on deposit in the Wastewater Revenue Fund on the last day of the immediately preceding Fiscal Year was less than twenty -five percent (25 %) of Maximum Annual Debt Service as of such day.
WASTEWATER REVENUE Refunding BONDS, SERIES 2014	71,985,000	11/25/2014	6/1/2034	71,985,000	(a) one hundred percent (100 %) of the Debt Service for such Fiscal Year, plus (b) the amount by which the amount on deposit in the Wastewater Revenue Fund on the last day of the immediately preceding Fiscal Year was less than twenty -five percent (25 %) of Maximum Annual Debt Service as of such day.
WASTEWATER REVENUE BONDS, SERIES 2004 B	23,975,000	11/18/2004	6/1/2034	16,750,000	(a) one hundred percent (100%) of the Debt Service for such Fiscal Year and the amounts, if any, then due and owing to the Bond Insurer under the Reserve Fund Surety Bond, plus (b) the amount by which the amount on deposit in the Wastewater Revenue Fund on the last day of the immediately preceding Fiscal Year was less than twenty-five percent (25%) of Maximum Annual Debt Service as of such day.
WASTEWATER REVENUE PROJECT BONDS, SERIES 2006	12,575,000	4/27/2006	6/1/2036	10,030,000	(a) one hundred percent (100%) of the Debt Service for such Fiscal Year and the amounts, if any, then due and owing to the Bond Insurer under the Reserve Fund Surety Bond, plus (b) the amount by which the amount on deposit in the Wastewater Revenue Fund on the last day of the immediately preceding Fiscal Year was less than twenty-five percent (25%) of Maximum Annual Debt Service as of such day.
Total	129,919,064			111,339,441	

CITY OF OXNARD RATE COVENANT ILLUSTRATION

Annual Gross System Revenues minus (–) Annual O & M Expenses equals (=) Net System Revenues

Net System Revenues must equal 100% of the Debt Service for the current fiscal year

and

Wastewater Fund cash balances must be in excess of 25% of Maximum Annual Debt Service (highest annual payment due over the debt term).

Two Tests Are Applied To Determine Compliance

CITY OF OXNARD RATE COVENANT ILLUSTRATION: TEST ONE

Calculate Net Revenues

FY15-16 Operating Revenue	\$ 30,622,683 (Operating Revenue)
+ <u>FY15-16 Interest Income</u>	+ \$ 61,596 (Interest Income)
= Gross Revenue	\$ 30,684,279 (Gross Revenue)
- <u>FY15-16 Operating Expenses</u>	- \$ 21,786,685 (O & M Expenses)
= FY 15-16 Net Revenues	\$ 8,897,594 (Net Revenues)

Meets Annual Debt Service?

100% of Debt Service for the
current Fiscal Year:

\$ 9,842,144 (FY 16-17 Debt Svc)
- \$ 8,897,594 (Net Revenues)
= \$ 944,550 (Revenue Deficit)

Does Not Meet The Test!

Wastewater Fund cash balances must be in excess of 25% of Maximum Annual Debt Service (highest annual payment due over the debt term).

FY15-16 Cash & Cash Equivalents:	\$ 6,025,427
----------------------------------	--------------

Maximum Annual Debt Service:	\$9,842,144
------------------------------	-------------

Percentage:	61%
-------------	-----

Meets the Second Test!

WASTEWATER FUND INCOME AND LOSSES

City of Oxnard, CA

Wastewater Fund Income and Losses

		FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16
Operating Revenue	+	\$ 31,528,171	\$ 30,998,260	\$ 31,335,380	\$ 32,074,140	\$ 30,622,683
Operating Expenses	-	<u>\$ 26,421,461</u>	<u>\$ 27,225,802</u>	<u>\$ 27,827,241</u>	<u>\$ 32,050,025</u>	<u>\$ 30,082,790</u>
Operating Income	=	\$ 5,106,710	\$ 3,772,458	\$ 3,508,139	\$ 24,115	\$ 539,893
Investment Interest	+	\$ 152,138	\$ 47,455	\$ 160,831	\$ 94,894	\$ 61,596
Interest Expense (Debt)	-	<u>\$ 2,513,322</u>	<u>\$ 6,950,929</u>	<u>\$ 7,015,995</u>	<u>\$ 5,840,523</u>	<u>\$ 4,731,254</u>
Income (Loss)	=	\$ 2,745,526	\$ (3,131,016)	\$ (3,347,025)	\$ (5,721,514)	\$ (4,129,765)

Source: City of Oxnard - Comprehensive Annual Financial Reports

WASTEWATER FUND OPERATING EXPENSES

Wastewater Fund Operating Expenses

Operating Expenses:	FY 12-13	FY 13-14	\$ Difference	%	FY 14-15	\$ Difference	%	FY 15-16	\$ Difference	%
Salaries and Wages	\$ 6,193,837	\$ 6,656,578	\$ 462,741	7.5%	\$ 6,828,226	\$ 171,648	2.6%	\$ 6,083,700	\$ (744,526)	-10.9%
Contractual Services	\$ 1,036,397	\$ 1,555,648	\$ 519,251	50.1%	\$ 2,622,328	\$ 1,066,680	68.6%	\$ 2,734,865	\$ 112,537	4.3%
Operating Supplies	\$ 1,807,367	\$ 1,670,068	\$ (137,299)	-7.6%	\$ 1,723,368	\$ 53,300	3.2%	\$ 1,802,190	\$ 78,822	4.6%
Utilities	\$ 5,940,405	\$ 5,366,152	\$ (574,253)	-9.7%	\$ 7,050,169	\$ 1,684,017	31.4%	\$ 5,069,057	\$ (1,981,112)	-28.1%
Depreciation & Amortization	\$ 8,462,344	\$ 8,420,952	\$ (41,392)	-0.5%	\$ 8,502,020	\$ 81,068	1.0%	\$ 8,296,045	\$ (205,975)	-2.4%
General & Administrative	\$ 3,464,702	\$ 3,665,923	\$ 201,221	5.8%	\$ 3,147,402	\$ (518,521)	-14.1%	\$ 4,322,935	\$ 1,175,533	37.3%
Repairs & Maintenance	\$ 320,750	\$ 491,920	\$ 171,170	53.4%	\$ 2,176,512	\$ 1,684,592	342.5%	\$ 1,773,998	\$ (402,514)	-18.5%
Claims Expenses	\$ -	\$ -	\$ -	0.0%	\$ -	\$ -	0.0%	\$ -	\$ -	0.0%
Total Operating Expenses	\$ 27,225,802	\$ 27,827,241	\$ 601,439	2.2%	\$ 32,050,025	\$ 4,222,784	15.2%	\$ 30,082,790	\$ (1,967,235)	-6.1%
Interest Expense	\$ 6,950,929	\$ 7,015,995	\$ 65,066	0.9%	\$ 5,840,523	\$ (1,175,472)	-16.8%	\$ 4,731,254	\$ (1,109,269)	-19.0%

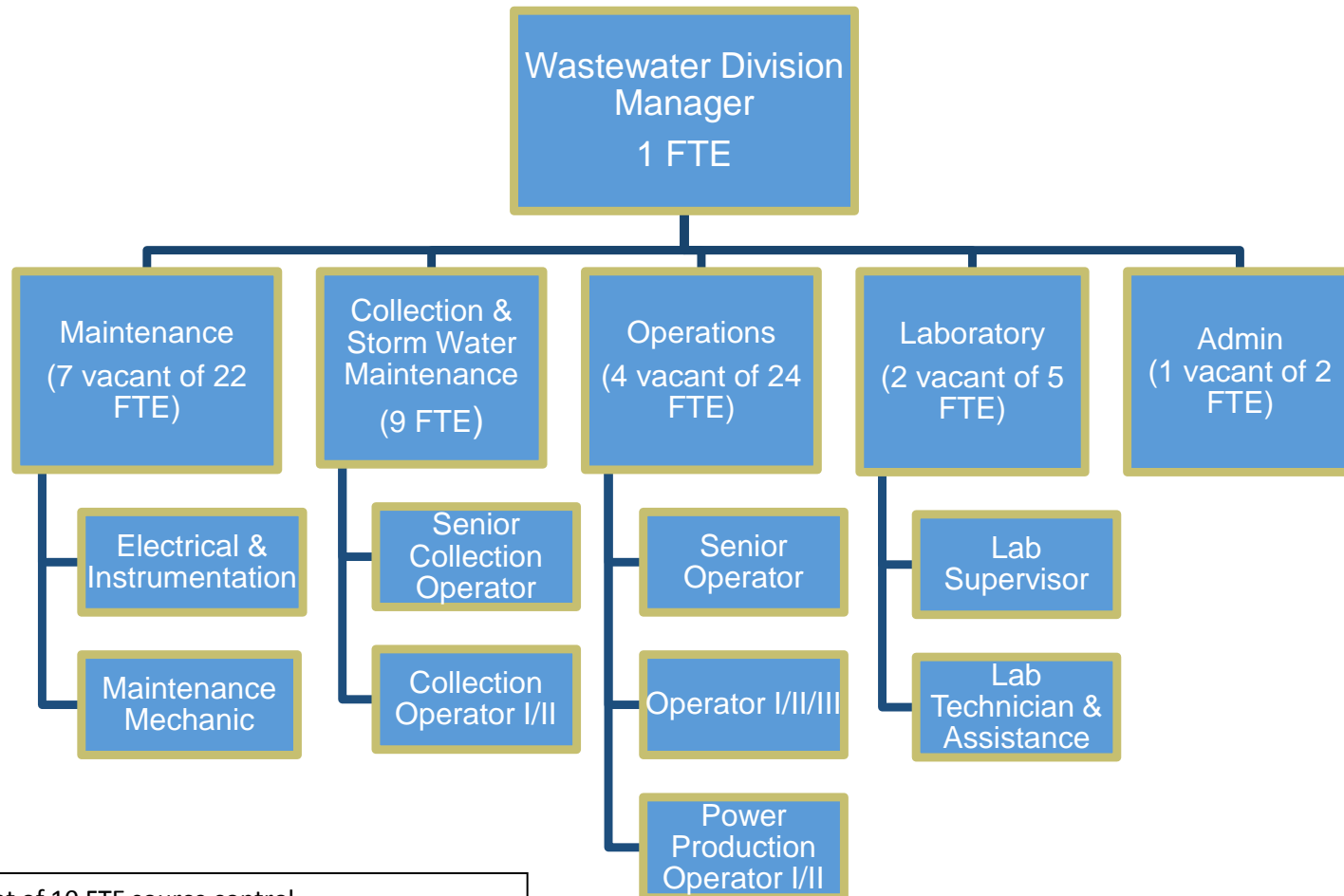
Source: City of Oxnard
Comprehensive Annual
Financial Reports

WASTEWATER RESERVES

Reserves	Category (Restricted or Unrestricted)	FY13-14	FY 14-15	FY15-16
Wastewater Funds		7,458,868.00	8,598,028.00	6,016,659.00 *
Operating Funds	Unrestricted	5,213,522.83	6,019,999.99	3,051,336.48
Connection Fee	Restricted	929,387.73	973,537.70	1,018,136.07
Security and Contamination	Restricted	1,315,957.44	1,604,490.31	1,947,186.45
	Cash and cash equivalent total	7,458,868.00	8,598,028.00	6,016,659.00 *
*Does not include cash with fiscal agent (\$8,768)				

Source: City of Oxnard - Comprehensive
Annual Financial Reports

WASTEWATER ORG CHART



5 vacant of 10 FTE source control
2.57 vacant of 8.47 FTE Engineering and Admin
Total 21.57 vacant of 81.47 Total WW funded positions

WASTEWATER VACANCIES

Wastewater vacancies over past 4 years, as of February of each year.

FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17
10.7	14.6	20.5	22.8	21.57

INCREASING EFFICIENCIES

1. Review agency and procurement agreements
 - Negotiated new bio-solids hauling and disposal agreement; saved \$350,000/year
2. Review operational procedures in order to gain efficiencies in staffing costs.
 - Updated operations and maintenance (O&M) manuals.
 - An O&M manual was prepared for the Headworks facilities at the OWTP.
 - Conduct laboratory audit and update laboratory procedures.
 - Updated safety procedures for fall protection.
 - Developed Environmental Management System (EMS) database to streamline all permitting application and renewal processes.

INCREASING EFFICIENCIES

3. Review of treatment processes to reduce costs.
 - Upgrade existing primary treatment to chemically enhanced primary treatment (CEPT) by polymer addition. The polymer solution will act as a coagulant.
 - Upgrade existing Supervisory Control and Data Acquisition (SCADA) system. The existing SCADA system was installed in 1988 by Square D SY/Max. The Square D SY/Max control system ended in mid-1990s and the last hardware components became obsolete in 2002

MONTHLY WASTEWATER TREATMENT VOLUMES

Month	Monthly Average Flow (million gallons per day)	Month	Monthly Average Flow (million gallons per day)	Month	Monthly Average Flow (million gallons per day)
Jul 2013	20.7	Aug 2015	18.2	Sep 2017*	18.6
Aug 2013	19.9	Sep 2015	18.7	Oct 2017*	18.2
Sep 2013	19.8	Oct 2015	18.0	Nov 2017*	18.3
Oct 2013	20.3	Nov 2015	17.7	Dec 2017*	18.0
Nov 2013	19.8	Dec 2015	18.3	Jan 2018*	18.4
Dec 2013	18.5	Jan 2016	18.4	Feb 2018*	18.1
Jan 2014	18.8	Feb 2016	18.1	Mar 2018*	18.3
Feb 2014	19.3	Mar 2016	18.3	Apr 2018*	18.4
Mar 2014	19.4	Apr 2016	18.4	May 2018*	19.0
Apr 2014	19.3	May 2016	19.0	Jun 2018*	19.9
May 2014	19.1	Jun 2016	19.9		
Jun 2014	19.8	Jul 2016	18.9		
Jul 2014	19.7	Aug 2016	18.9		
Aug 2014	19.2	Sep 2016	18.6		
Sep 2014	18.7	Oct 2016	18.2		
Oct 2014	18.0	Nov 2016	18.3		
Nov 2014	17.7	Dec 2016	18.0		
Dec 2014	18.8	Jan 2017	19.0		
Jan 2015	19.0	Feb 2017 *	18.1		
Feb 2015	18.6	Mar 2017*	18.3		
Mar 2015	18.8	Apr 2017*	18.4		
Apr 2015	18.8	May 2017*	19.0		
May 2015	18.2	Jun 2017*	19.9		
Jun 2015	18.8	Jul 2017*	18.9		
Jul 2015	18.1	Aug 2017*	18.9		

Note: Red indicates flow projections

CAPITAL IMPROVEMENT PROJECTS

- Panel requested information regarding CIP's.
- CIP booklets are available and were handed out at the facility tour.
- See booklet for more information.



City of Oxnard Wastewater Division Wastewater Treatment Plant Capital Improvement Projects



City of Oxnard Wastewater Division Wastewater Collection System Capital Improvement Projects





UTILITY RATEPAYERS ADVISORY PANEL (URAP)

Condition Assessment of the Wastewater Utility

City of Oxnard, CA

February 1, 2017

6:00 - 9:00 PM

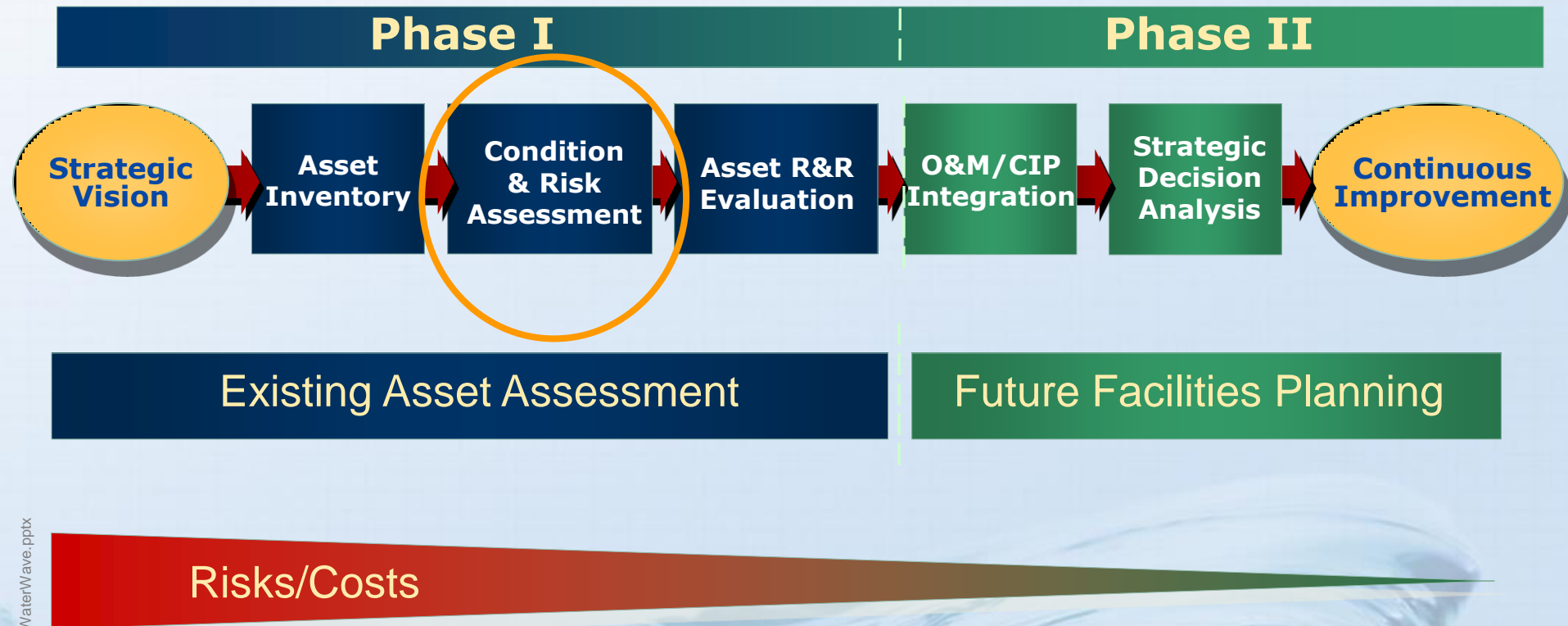


Outline of Presentation

- **Asset Management Overview**
- **Wastewater Facilities Condition Assessment**
 - OWTP
 - Lift Stations
 - Buried Piping
- **Seismic Evaluation**
- **Cathodic Protection System Evaluation**

Overview

The Seven Steps of Asset Management



Asset Risk Determined by Vulnerability and Criticality



x



=



Vulnerability

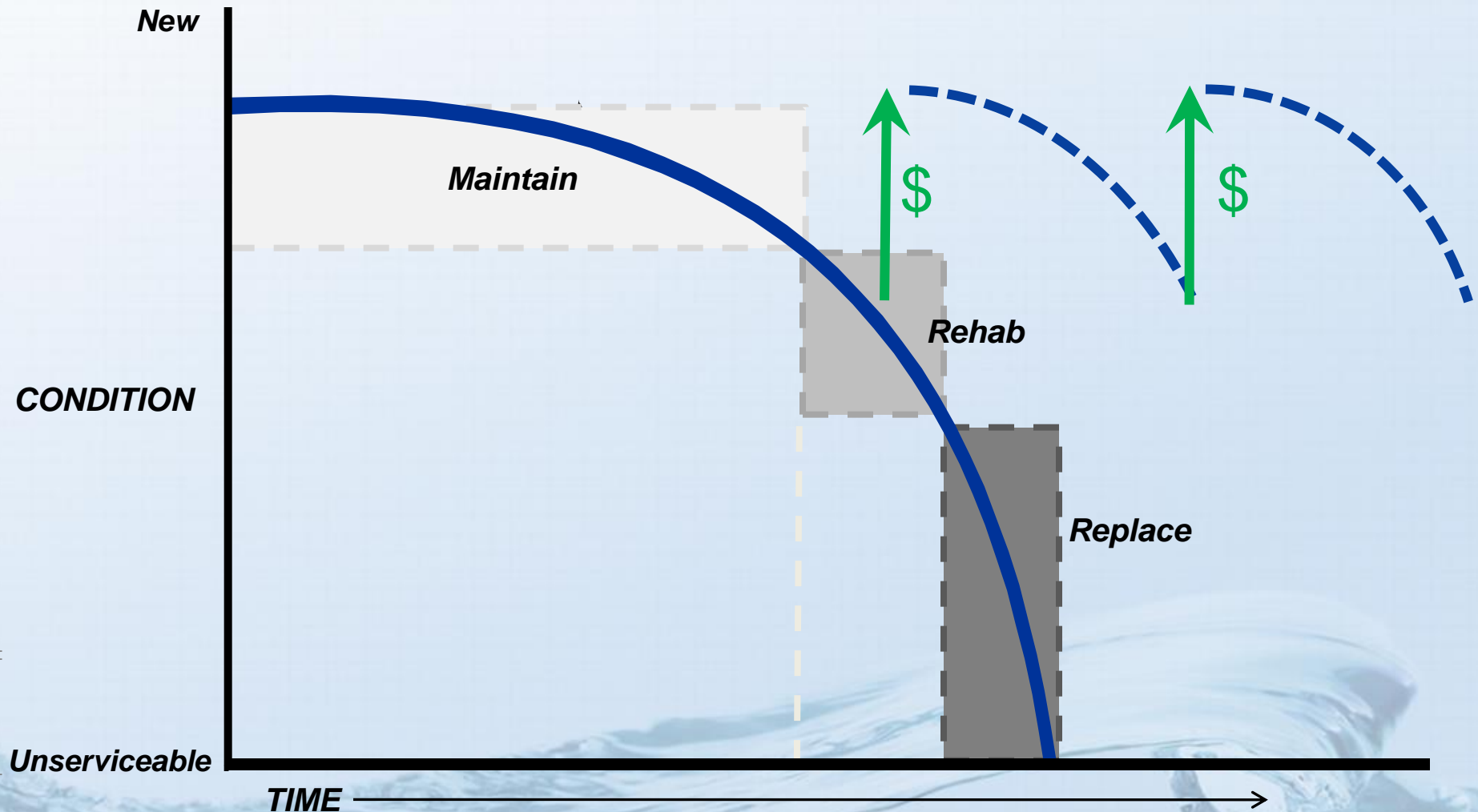
x

Criticality

=

Risk

Asset Life-Cycle With Rehabilitation

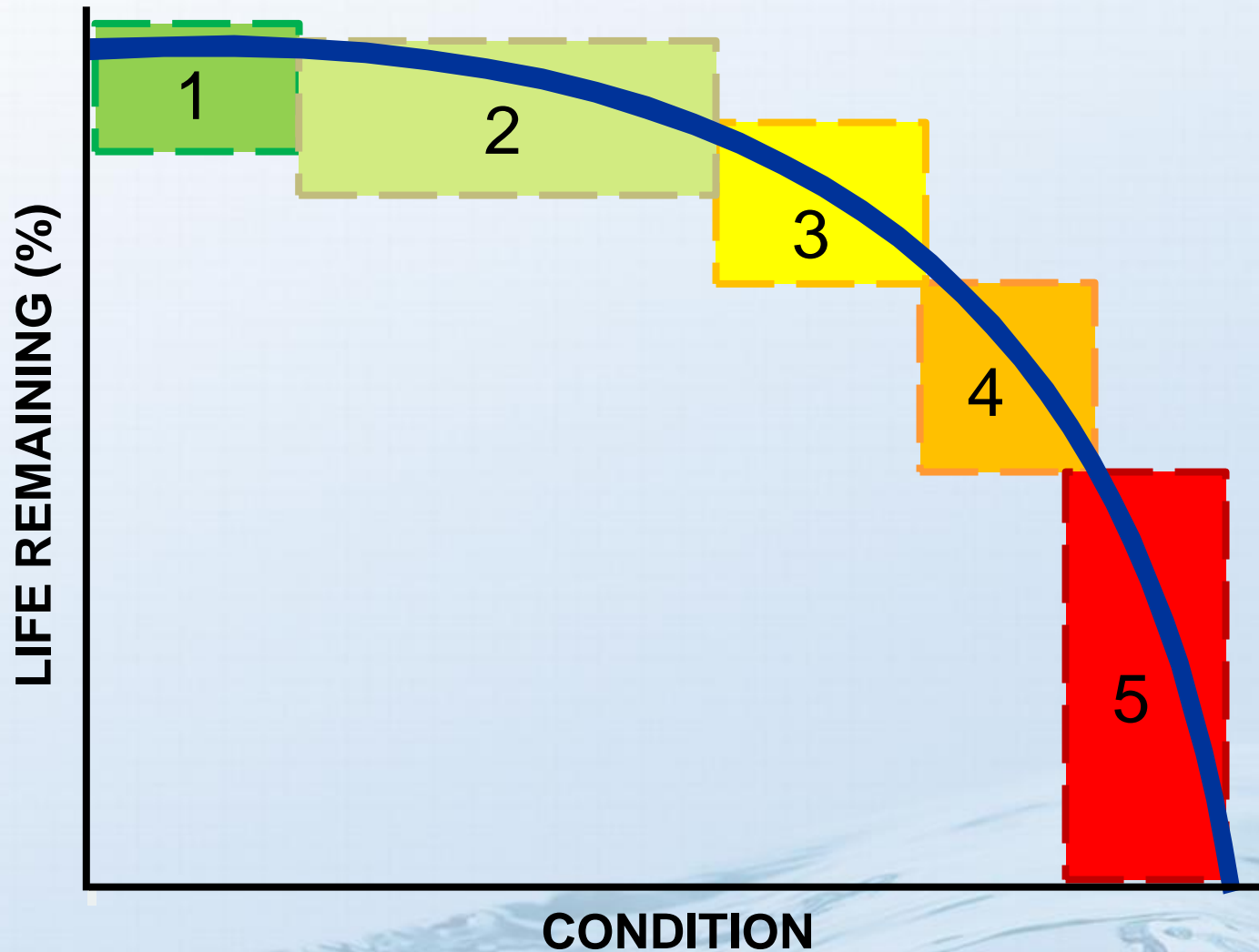


Condition Ratings

Condition Ranking	Description
1	Very Good (0% renewal required)
2	Good (1-10% renewal required)
3	Fair (11-20% renewal required)
4	Poor (21-50% renewal required)
5	Very Poor (>50% renewal required)

Adapted from the International Infrastructure Management Manual (IIMM)

Condition and Asset Decay Curve



Asset Risk Determined by Vulnerability and Criticality



x



=



Vulnerability x

Criticality

=

Risk

Criticality Matrix

Criticality Category	Weight	Negligible = 1	Low = 4	Moderate = 7	Severe = 10
Public and Employee Health and Safety	30%	No injuries or adverse health effects	Minor injury with no lost-time or medical attention	Lost-time injury or medical attention	Multiple persons' lost-time injury or medical attention
Financial Impact	20%	Absorbed within current budget and under GM signature authority < \$25,000	Requires Council approval \$25,000 to \$150,000	Requires Council approval \$150,000 to \$250,000	Requires Council approval > \$250,000
Environment or Regulatory Compliance	30%	Overall compliance with permits	Sustained odor issue Loss of expected efficiency	Bypass or overflow event Solids not meeting 503 regulations Hazardous material spill	Single permit violation
Customer Service (Ability to Respond)	20%	Function restored within 8 hours	Function restored in 8 to 24 hours	Function restored in more than 24 hours but less than 3 days	Function restored in more than 3 days

Asset Risk Determined by Vulnerability and Criticality

High risk assets will be:




- Replaced sooner,
- Monitored more closely, and/or
- Designated for spare parts, backup

Vulnerability x **Criticality** = **Risk**



Risk is a Basis for Prioritization of R&R

		CRITICALITY			
		1	2	3	4
VULNERABILITY	A	1A	2A	3A	4A
	B	1B	2B	3B	4B
	C	1C	2C	3C	4C
	D	1D	2D	3D	4D

 Maintenance
 Priority
 Critical

Wastewater Condition Assessment

The background of the slide features a close-up, high-speed photograph of water splashing, creating a dynamic and textured blue surface. A large, solid blue rectangle is centered on the slide, containing the text "OWTP" in white.

OWTP

Condition Assessment

Completed Tasks – Wastewater

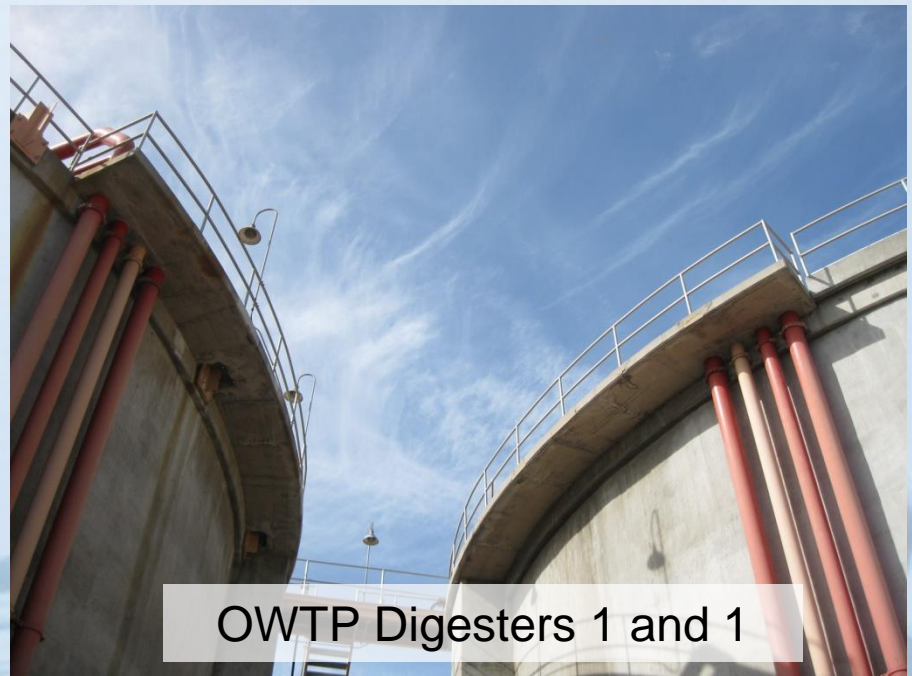
- Visual condition assessment for mechanical assets and structural/seismic
 - OWTP – June 25/26, 2014
 - Lift Stations – June 26 and July 18, 2014



OWTP Headworks – Recently rehabilitated

OWTP Condition Assessment

- Structural Assets
 - Many structures were found to be in fair to good condition
 - Some will require significant improvements
 - Primary Sedimentation Tanks
 - Biotowers
 - Digesters



OWTP Digesters 1 and 1

OWTP Structural Assets

- Primary Sedimentation Tanks
 - All primary sedimentation tanks are in poor condition and are nearing the end of useful life



Primary Sedimentation Tank 1 – Walkway needs to be replaced

OWTP Structural Assets

- Biotowers
 - Biotower 1 was found to be structurally inadequate (Penfield and Smith, 2014)
 - Biotower 2 visually shows similar issues as Biotower 1 but to a lesser extent

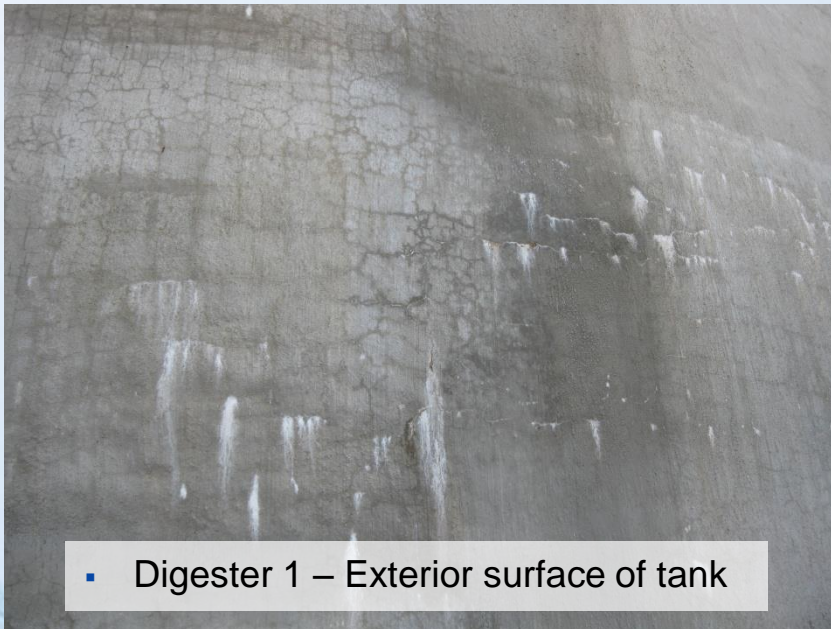


- Biotower 1 – View from the southeast, seepage and staining is evident

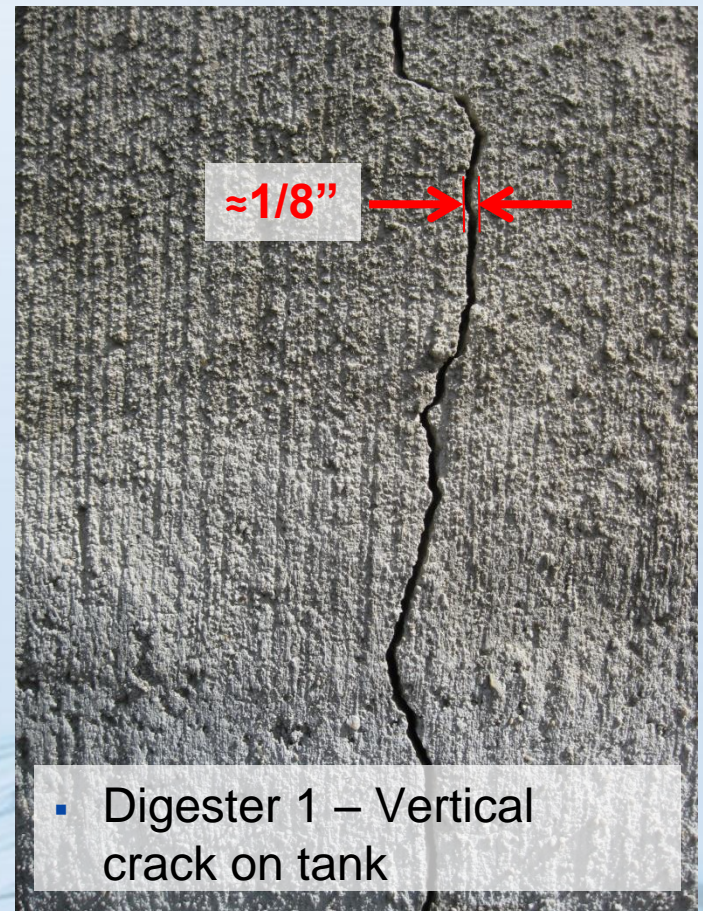
OWTP Structural Assets

Digester 1

- Digesters 1, 2, and 3 are in poor condition
 - Digester 1 has a vertical crack along its entire height
 - Digester 2 needs roof replaced



▪ Digester 1 – Exterior surface of tank



▪ Digester 1 – Vertical crack on tank

OWTP Structural Assets

Digester 2



- Digester 2 – Roof is scheduled to be replaced

OWTP Structural Assets

Digester 2



- Digester 2 – Water accumulated on interior roof, sump pump installed

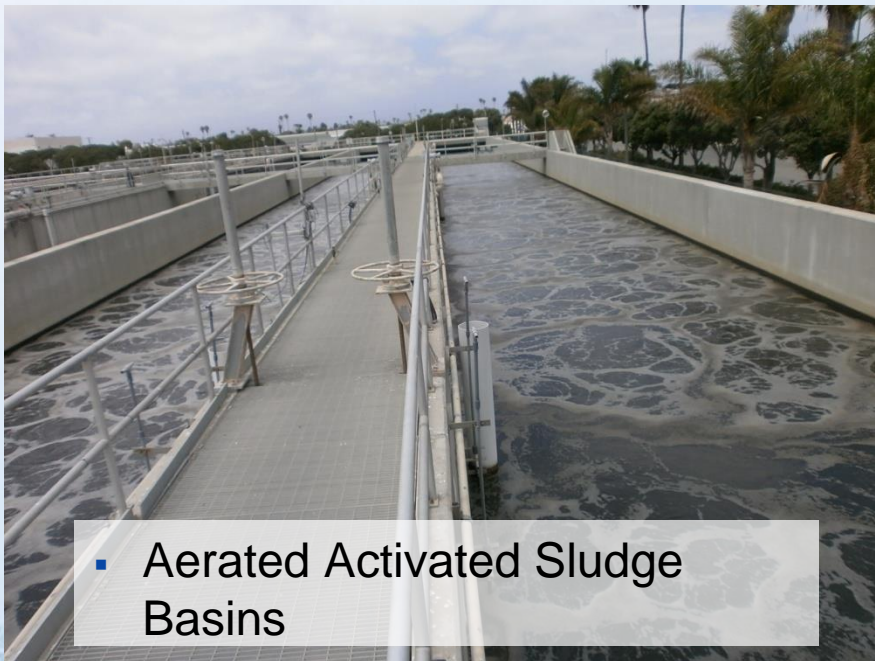
OWTP Condition Assessment

- Mechanical Assets
 - In general, mechanical assets at the OWTP are in fair condition with some exceptions
 - Process areas requiring the greatest attention include
 - Activated Sludge
 - Biotowers
 - Digesters
 - Dewatering (Belt Filter Presses)

OWTP Mechanical Assets

Aerated Activated Sludge

- Diffusers and piping in poor condition
 - Pipes are very brittle
 - Cracks are visible in some places



■ Aerated Activated Sludge Basins

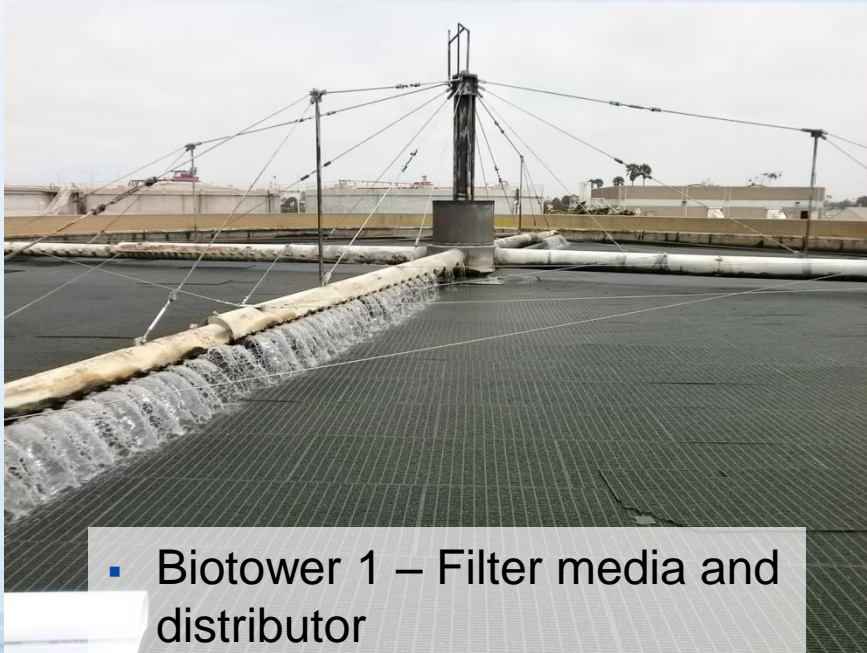


■ Pipes are old and brittle

OWTP Mechanical Assets

Biotowers

- Assets in poor condition:
 - Filter media
 - Distributors and drivers
 - Ventilation blowers



- Biotower 1 – Filter media and distributor



- Biotower 2 – Filter media and distributor

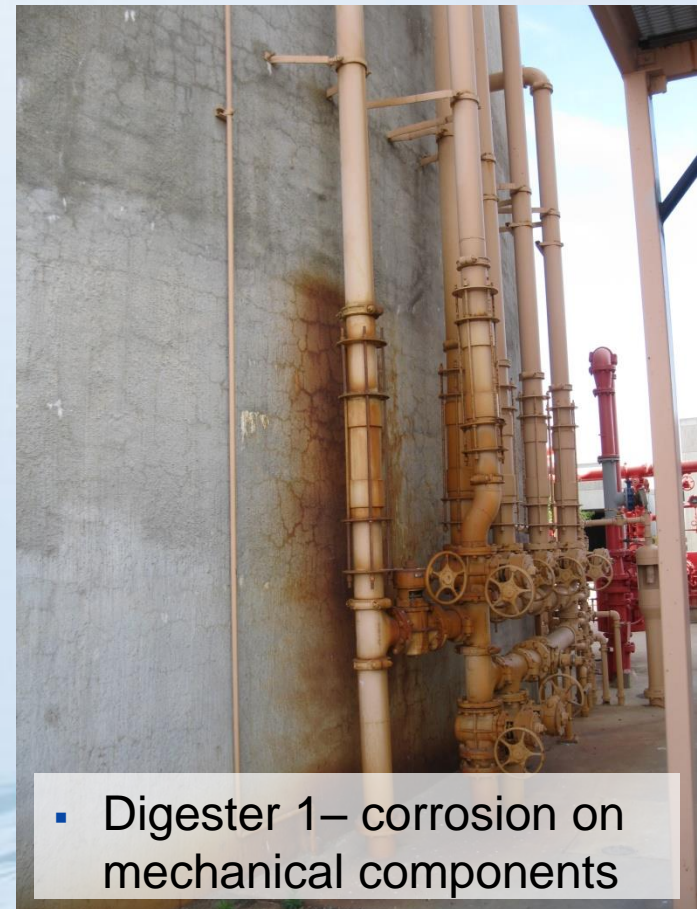
OWTP Mechanical Assets

Digesters

- Assets in poor condition:
 - Heat exchangers
 - Blowers (5 of 7 total)
 - Mixing equipment and draft tubes



- Digesters 2 and 3 – heat exchangers

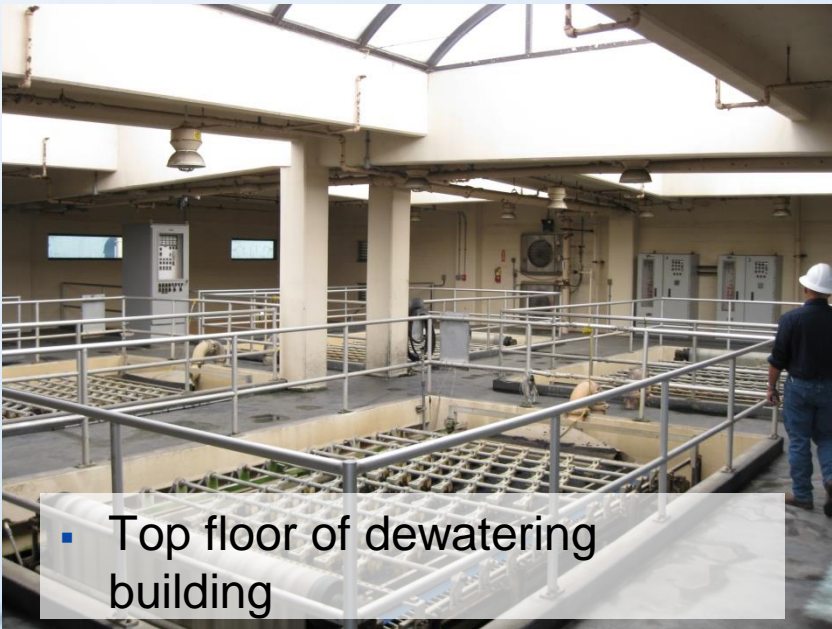


- Digester 1– corrosion on mechanical components

OWTP Mechanical Assets

Belt Filter Presses

- Each of the four belt presses is in poor condition
 - Significant corrosion
 - Drive noise and vibration

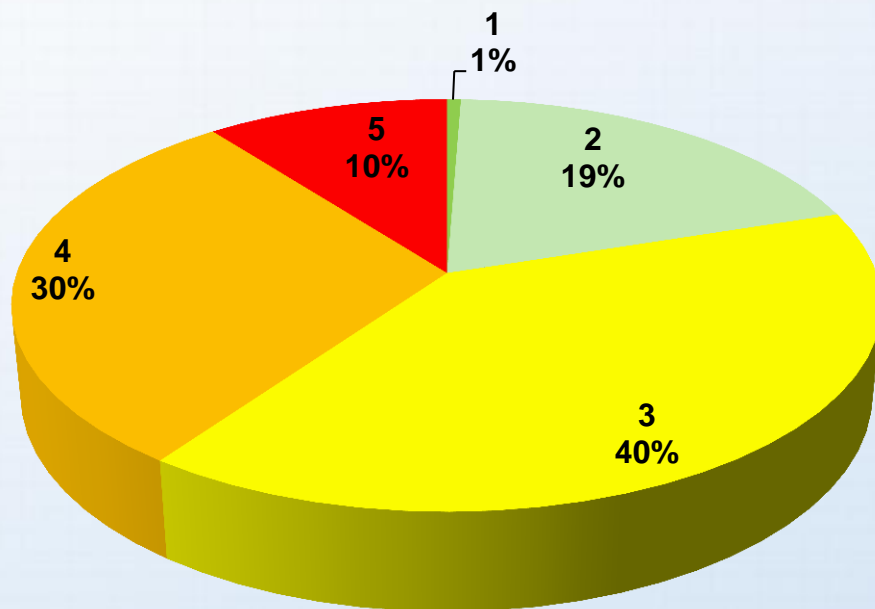


- Top floor of dewatering building



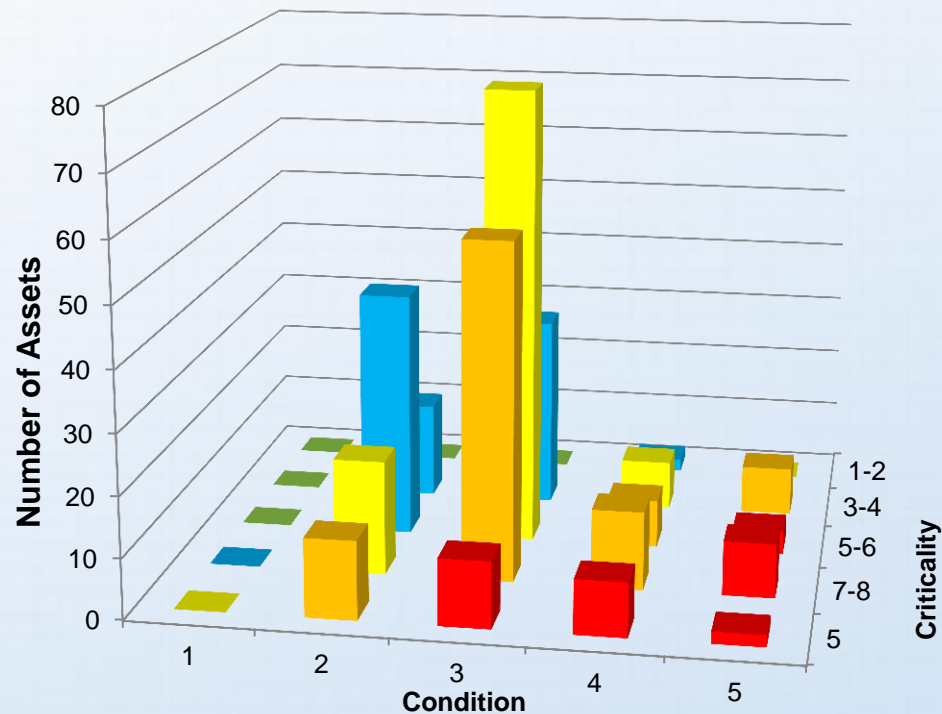
- Significant corrosion on mechanical components

Condition Score Summary - OWTP



Condition Ranking	Description
1	Very Good (0% renewal required)
2	Good (1-10% renewal required)
3	Fair (11-20% renewal required)
4	Poor (21-50% renewal required)
5	Very Poor (>50% renewal required)

Risk Summary - OWTP



Number of Assets within Each Category

Condition	Criticality				
	1-2	3-4	5-6	7-8	9-10
1	0	0	0	2	0
2	0	16	32	8	8
3	0	41	76	8	4
4	0	19	56	13	9
5	0	13	11	9	2

Summary Number of Assets

	Quantity	%
Very low risk	0	0%
Low risk	91	28%
Moderate risk	103	31%
High risk	98	30%
Very high risk	35	11%

WW Lift Stations

Lift Station Condition Assessments

- 15 lift stations assessed
- Overall condition of the lift stations varies
- 9 stations have been identified as needing significant repairs
 - Mechanical, structural, and electrical issues
- 6 stations have been recently installed or fully rehabilitated
 - Mechanical and structural assets at these stations are generally in good or excellent condition

Lift Station Condition Assessments



- Lift Station 23 Wet Well – severe condition concerns



- Lift Station 27 MCC – Corrosion is visible on the interior of the MCC cabinets

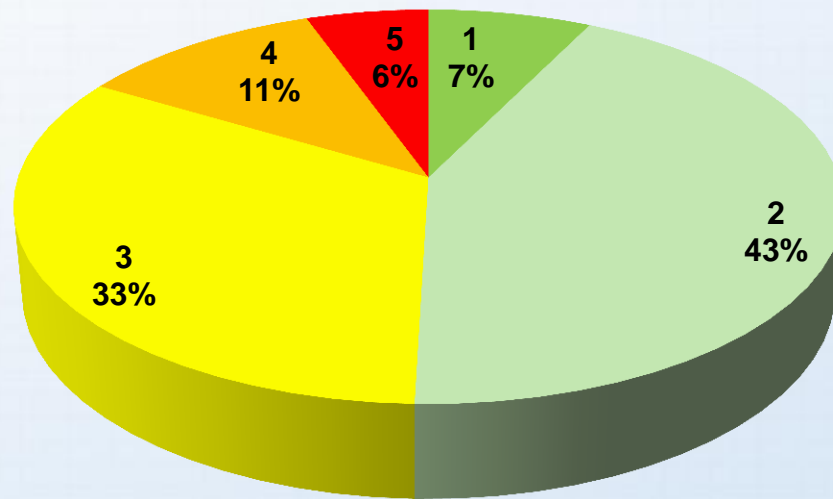


- Lift Station 28 Wet Well – Station is newly constructed and in excellent condition



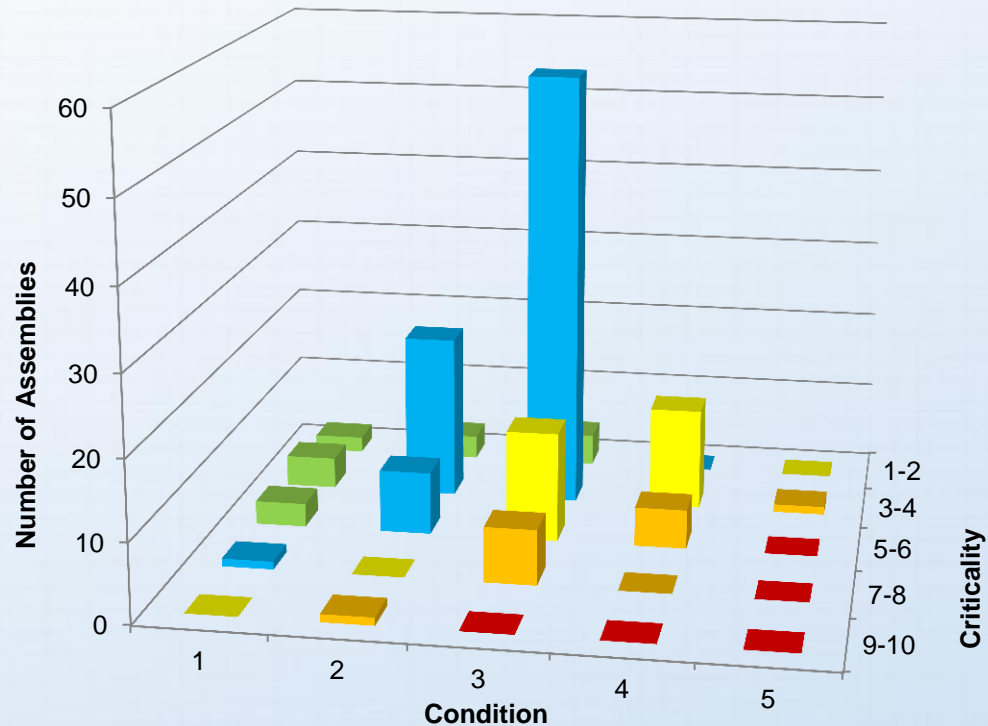
- Lift Station 29 Valves – Recently rehabbed and in good condition

Condition Score Summary – Lift Stations



Condition Ranking	Description
1	Very Good (0% renewal required)
2	Good (1-10% renewal required)
3	Fair (11-20% renewal required)
4	Poor (21-50% renewal required)
5	Very Poor (>50% renewal required)

Risk Summary – Lift Stations



Number of Assemblies within Each Category

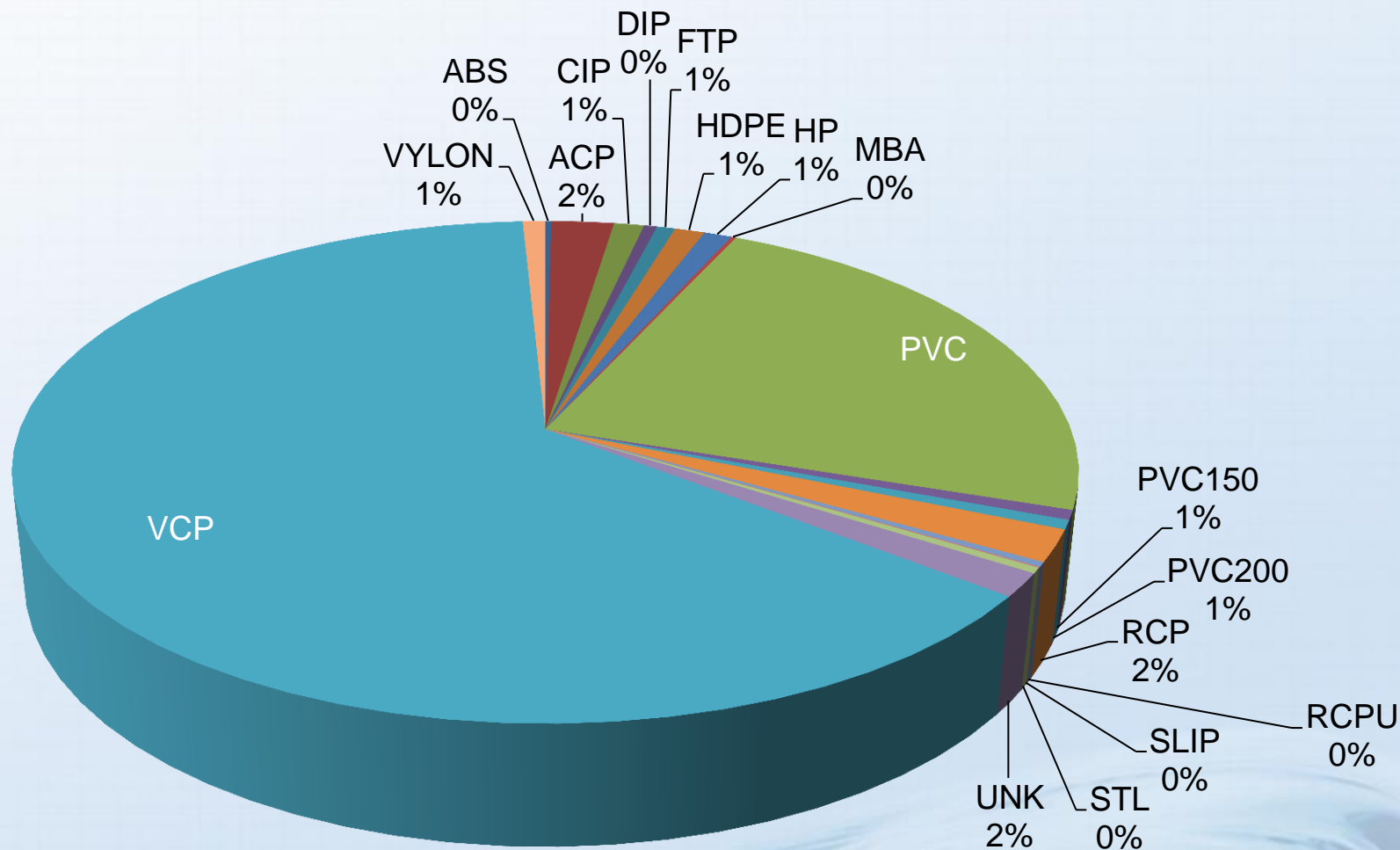
Condition	Criticality				
	1-2	3-4	5-6	7-8	9-10
1	1	2	2	1	0
2	4	13	16	5	0
3	2	10	10	1	0
4	0	3	5	0	0
5	0	2	2	0	0

Summary Number of Assemblies

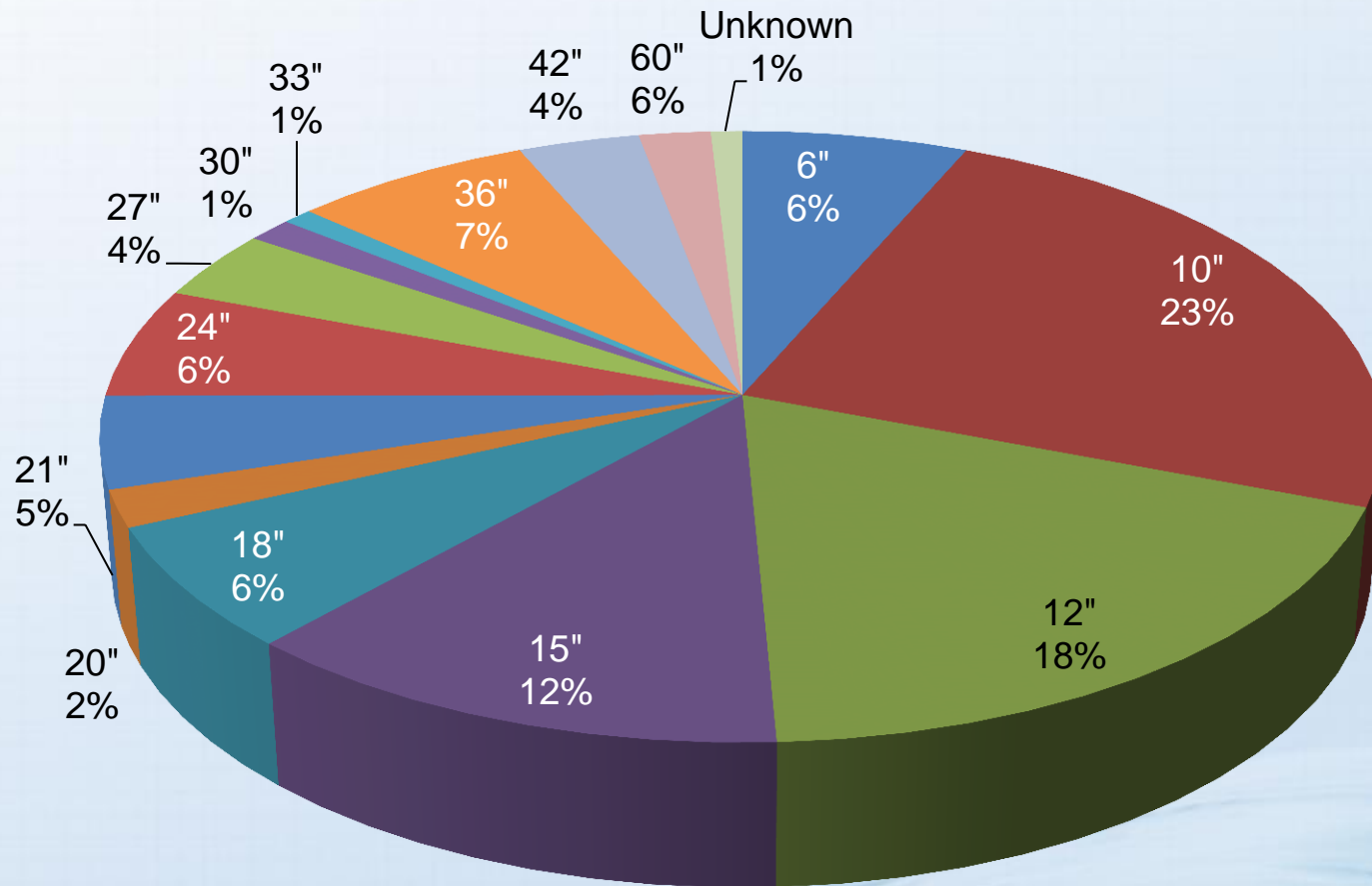
	Quantity	%
Very low risk	11	14%
Low risk	40	51%
Moderate risk	18	23%
High risk	8	10%
Very high risk	2	3%

Wastewater Below Ground Assets

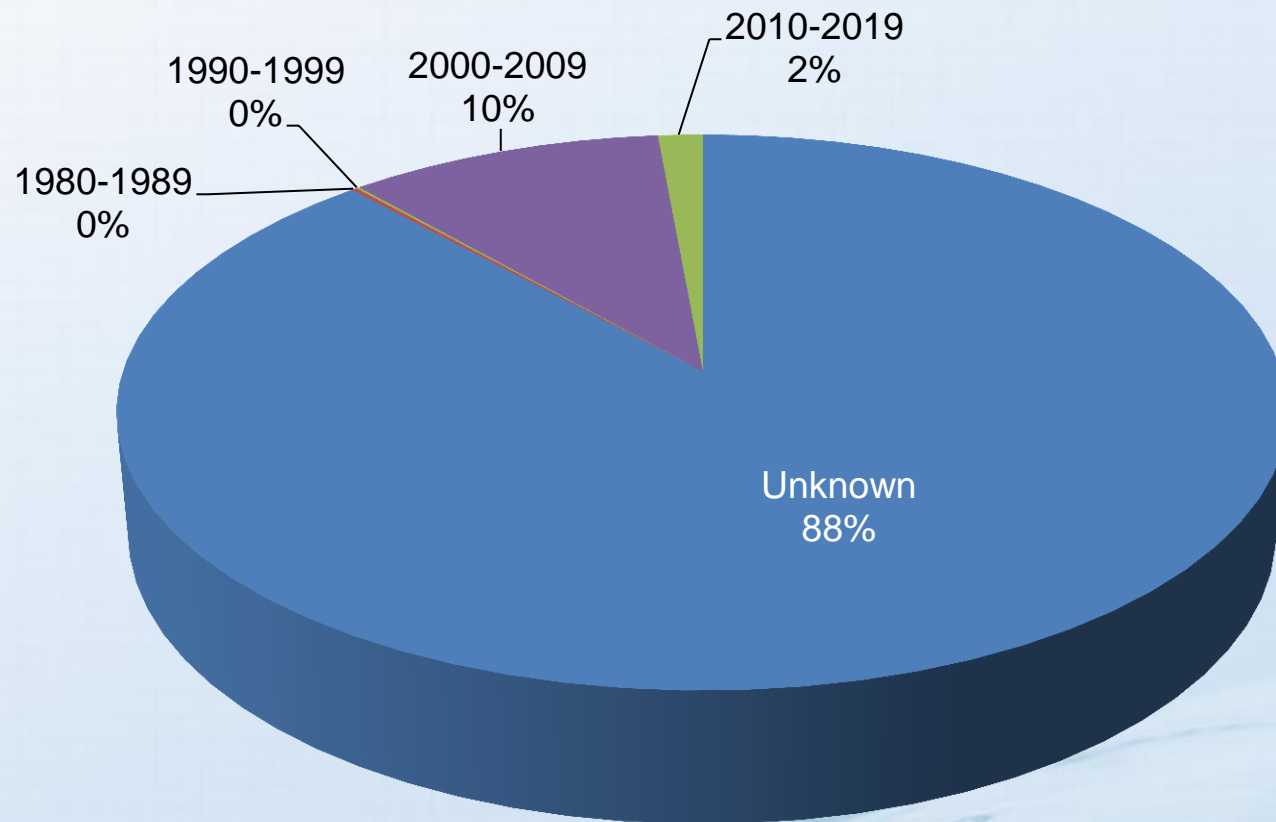
Collection System By Material



Collection System By Diameter



Collection System By Decade Installed

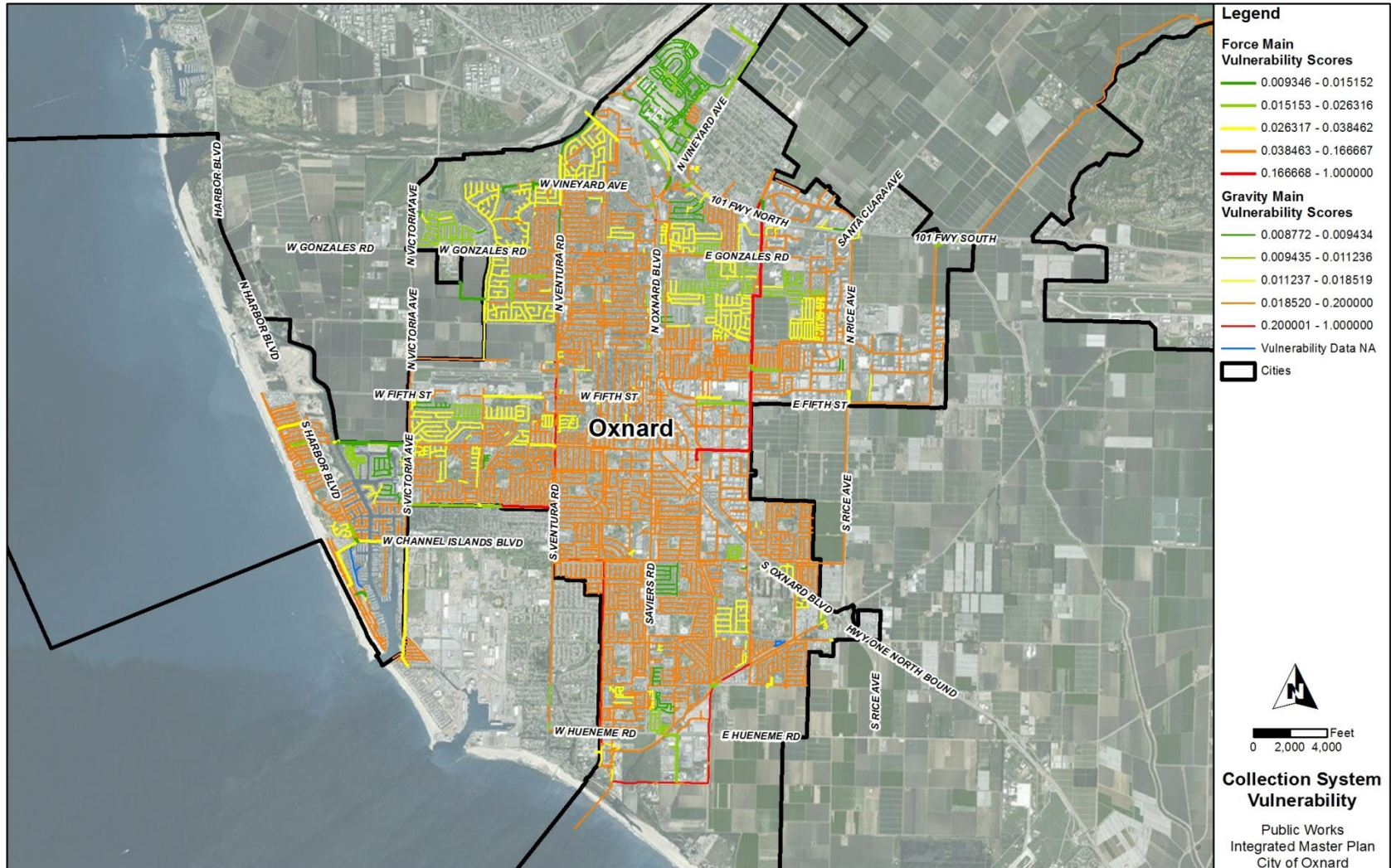


Collection System Vulnerability

- Age based calculation
- Industry averages used for life expectancy
- Bell shaped failure distribution curve

Material	Average Life (years)
Unlined Cast Iron	70
Lined Cast Iron (original)	115
Lined Ductile Iron (original)	100
Steel	70
Asbestos Cement	65
Concrete	95
AWWA C900 PVC	75
PVC	85
Vitrified Clay Pipe	100
Polyethylene	50
Manholes	70

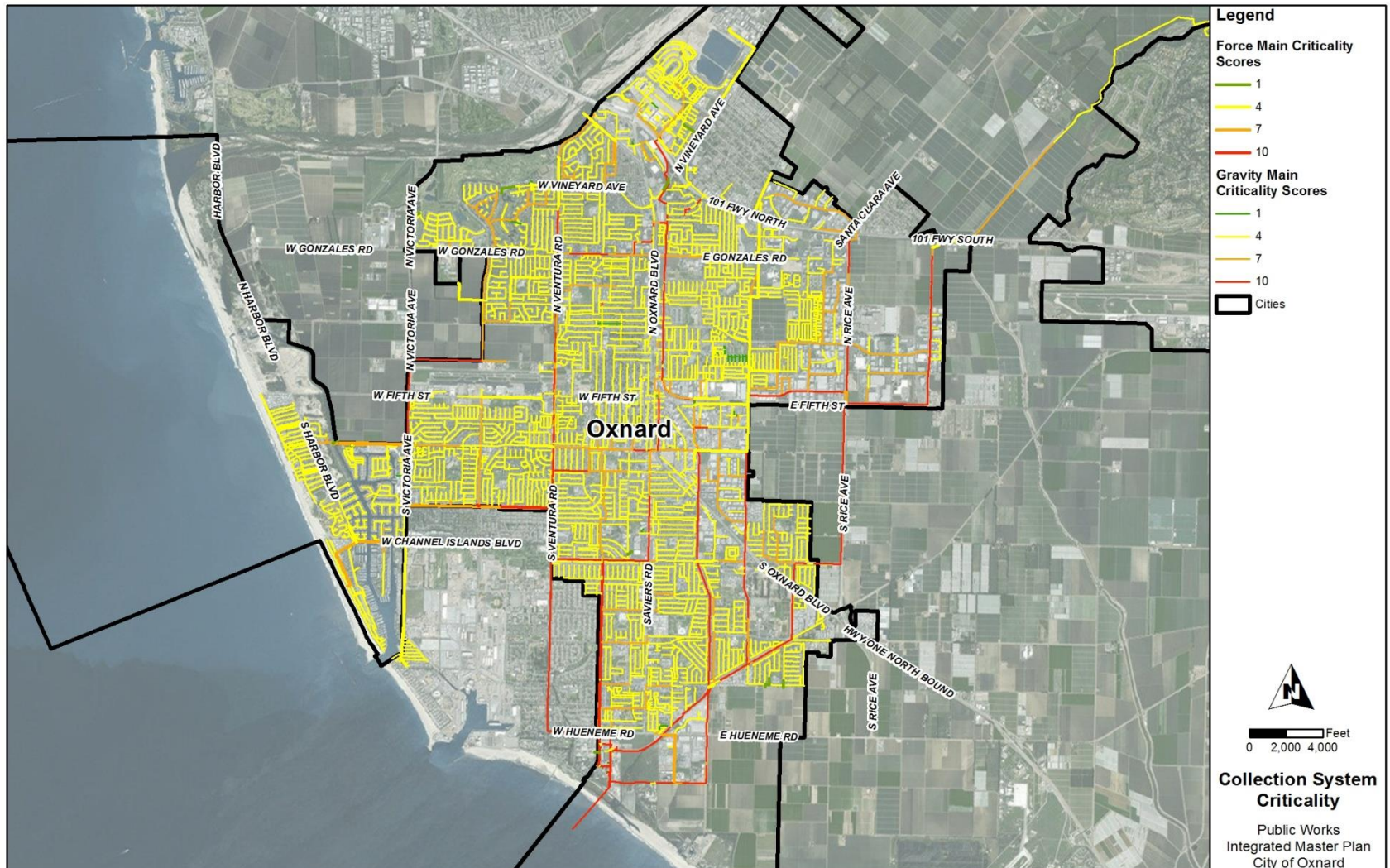
Collection System Vulnerability



Collection System Criticality Scoring Matrix

Criticality Category	Weight	Negligible = 1	Low = 4	Moderate = 7	Severe = 10
Protect Public and Employee Health and Safety	30%	Pipes serving < 100 EDUs	Pipes serving 100-500 EDUs	Pipes serving 500-1,000 EDUs	Pipes serving > 1,000 EDUs or within 500 feet of critical facility
Protect the Environment or Regulatory Compliance	30%	No pipes	Pipes not within protected habitat or 250 feet of waterway	Uphill from waterway within 250 feet	Pipes in protected natural habitat
Provide Excellent Customer Service (Ability to Respond)	20%	Pipes within 2 miles of maintenance headquarters	Pipes greater than 2 miles of maintenance headquarters	Pipes defined as hard to access	Pipes > 12' deep or > 12" diameter
Be Cost Efficient (Financial Impact)	20%	6" pipes	8" pipes	10" pipes	12" pipes and larger

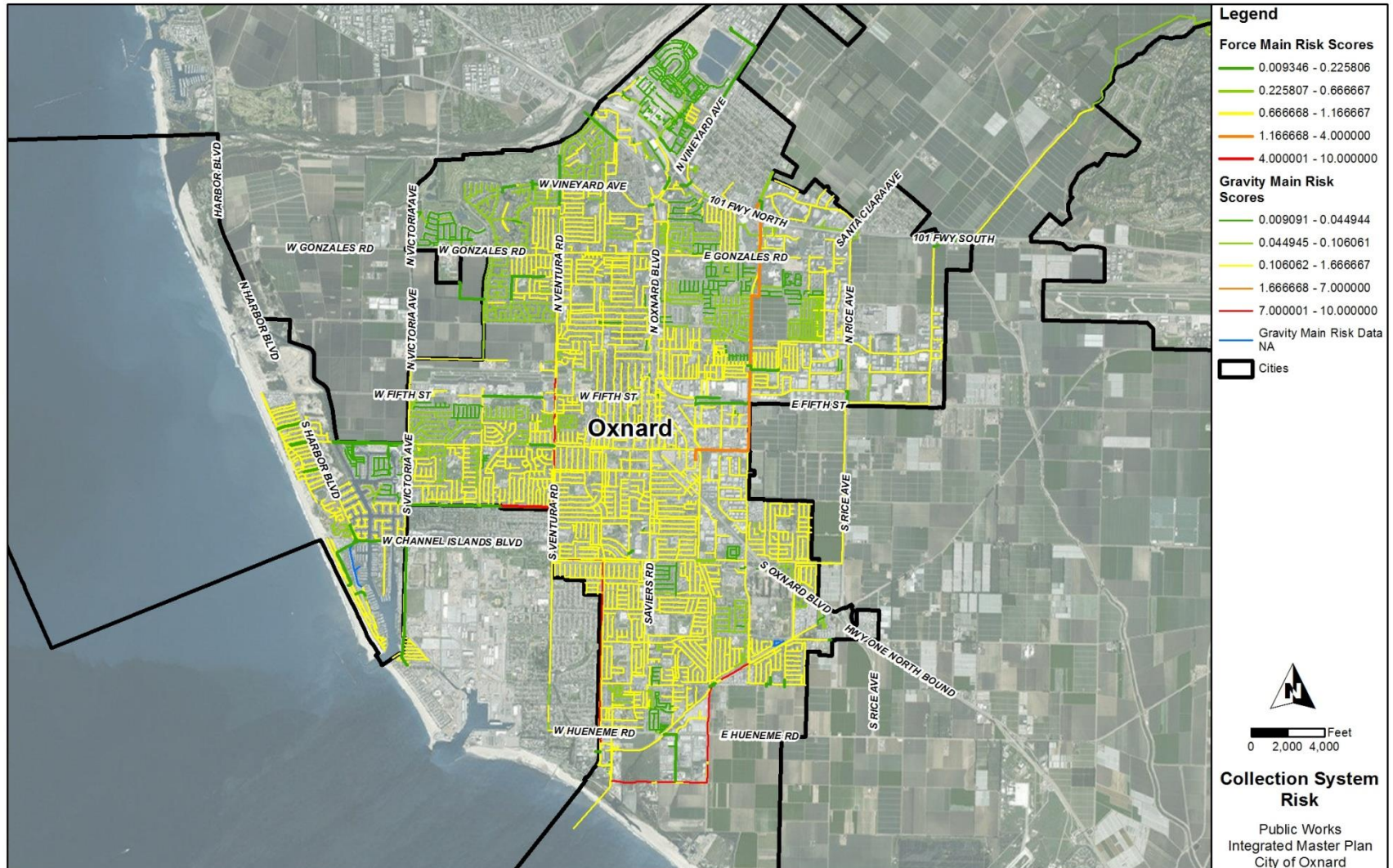
Collection System Criticality



Collection System Criticality

Public Works
Integrated Master Plan
City of Oxnard

Collection System Risk



Seismic Evaluation

Purpose of the Structural Assessment

- Establish the anticipated level of performance of each structure during a seismic event
- Recommend retrofit strategies to meet established performance objectives when deficiencies are identified
- Evaluate the structural condition to assess the total level of effort required to increase the remaining useful life

Project team assessed 18 buildings and 8 water-retaining structures

Overall Approach to Seismic Evaluation For Wastewater

- Objective 1 – Code Compliance (Immediate Occupancy and Public Safety)
 - Buildings (Tier 1 Screening Phase & Tier 2 Evaluation Phase)
 - Water retaining structures (Preliminary seismic analysis)
- Objective 2 – Functionality and Ability to Sustain Mission Critical Performance

Tier 1 & 2 are for Above Ground Buildings Only

- Tier 1 – “checklist” of routine calculations and visual assessments
- Tier 1-
 - Passed = No Action (0)
 - Failed = Retrofit (4) or Replace (8)
 - Undetermined = Tier 2 (6*)
 - * 1 building is recommended for replacement due to condition assessment, therefore replace = 9 total
- Tier 2 – customized evaluation of the buildings. Completed for 5 buildings – all recommended for structural and/or non-structural retrofits

Seismic Findings of the 8 Water-Retaining Structures

- Six recommended for structural retrofits
- One recommended for replacement
- One recommended for pre-stressing evaluation
- All recommended for further concrete condition assessment
- Concrete testing was conducted in March 2015. In general concrete was assessed to be fair, and concrete coating and/or concrete repair was recommended for all water-retaining structures.
- When combined w/ seismic, condition, and plant process considerations, a total of four water-retaining structures recommended for replacement

Seismic/Condition Assessment Results: Replace 10 Structures

Summary of Assessment Structure	Recommendation
Primary Sedimentation / DAF Building	Replace
Main Electrical / Main Switchgear Building	Replace
Digester Control Building	Replace
Operations Center/Plant Control Center Building	Replace
Effluent Pumping Station	Replace
Generator/Co-Generation Building	Replace
Storage-Vacuum Filter Building	Replace
Storage-Butler Building	Replace
16 kW Switchgear/Effluent Electrical Building	Replace (per condition assessment)
Gravity Thickeners	Replace (per condition assessment)

Seismic Assessment – Retrofits Recommended for 9 Structures

Summary of Assessment Structure	Recommendation
Headworks Facility	Non-Structural Components
Grit Screenings Building	Non-Structural Components
North Area Electrical Building	Non-Structural Components
Blower Building	Non-Structural Components
Solids Processing Building	Non-Structural Components
Chemical Handling Facilities	Structural & Non-Structural Components
Maintenance Building	Structural & Non-Structural Components
Collection System Maintenance Building	Structural & Non-Structural Components
Administration Building	Non-Structural Components

Summary of Concrete Testing and Assessment

Summary of Assessment Structure	Recommendation
Activated Sludge Tanks/Aeration Basin	Structural retrofit & repair/seal cracks
Secondary Sedimentation Basin	Structural retrofit & repair/seal cracks
Flow Equalization Basin	Structural retrofit & repair damaged concrete, apply corrosion inhibitor to concrete surfaces
Primary Clarifier Tanks	Structural retrofit & repair damaged concrete, coat interior tank surfaces
Digester Nos. 1, 2 and 3	Evaluate pre-stressed reinforcement & perform concrete testing
DAF Tanks	Structural retrofit & perform concrete testing
Chlorine Contact Tank	Structural retrofit & remove/replace coating in next 10 yrs

Cathodic Protection

Why is Cathodic Protection Needed?



Definition of Corrosion

“Corrosion is the deterioration of a material, usually a metal, that results from a reaction with its environment.”

National Association of Corrosion Engineers (NACE) – Standard Practice 0169-2007
Control of External Corrosion on Underground or Submerged Metallic Piping Systems



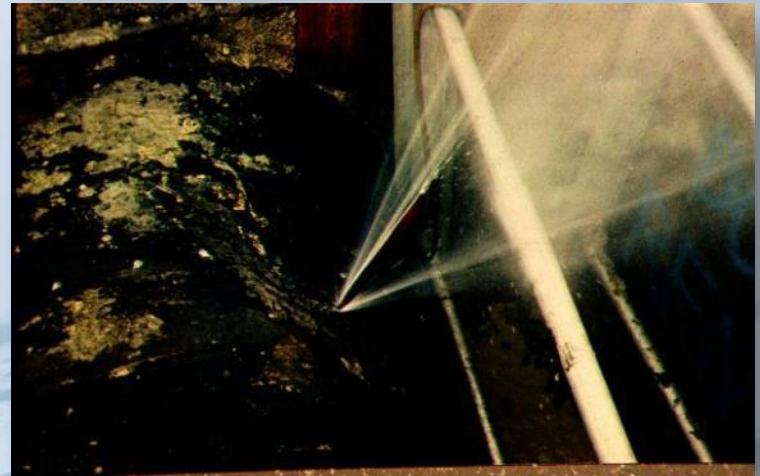
Factors that affect the Ability of Soil to Conduct an Electric Current

1. Chemical content of the soil
2. Amount of water present in the soil
3. Duration of wetness of the soil annually
4. Type of soil



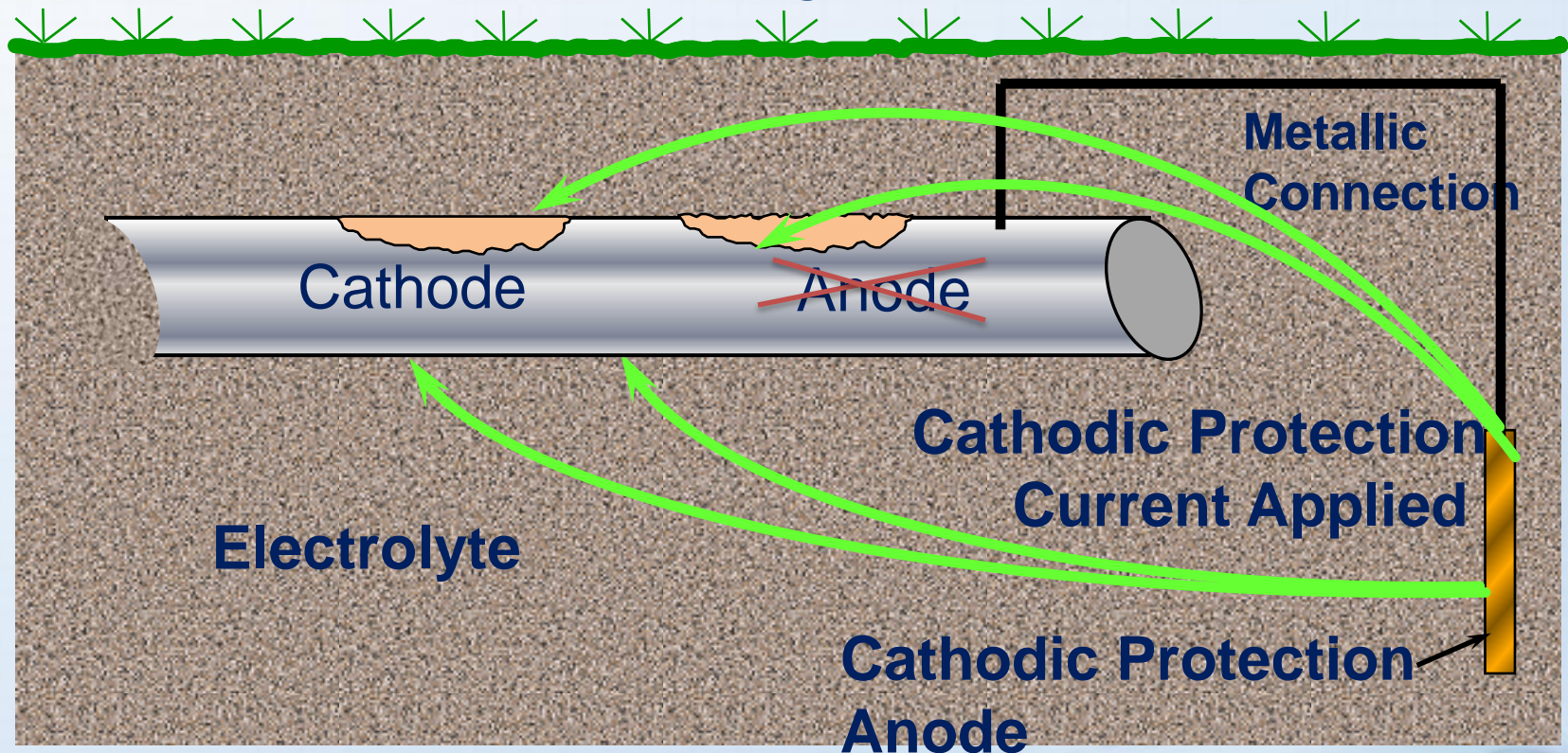
Example of Stray Current Induced Corrosion

- The failure of this 60" diameter water transmission pipeline was caused in part by stray current corrosion from a crossing gas pipeline.



Cathodic Protection

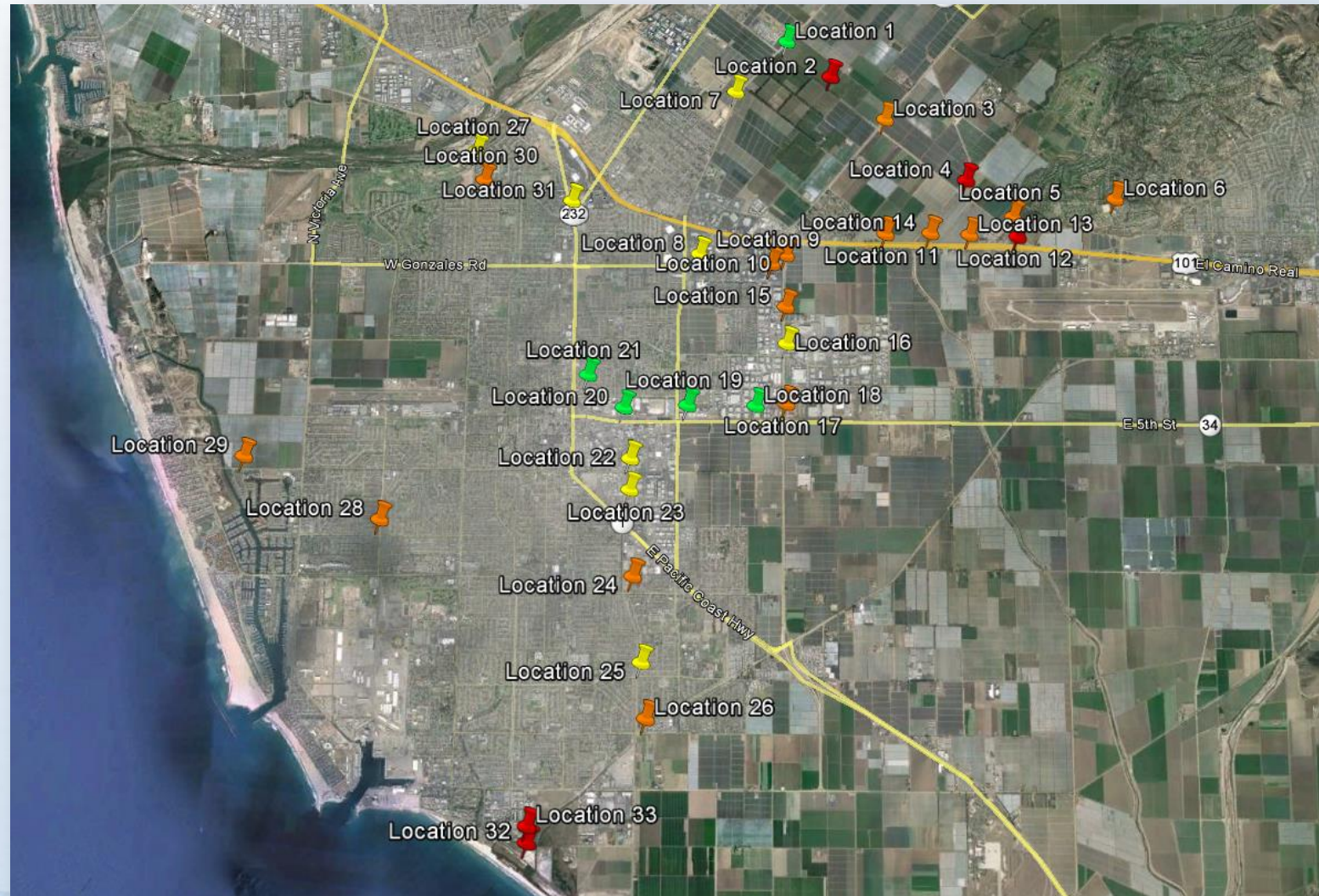
- Cathodic protection turns the entire structure into a current collector eliminating the anodic areas.

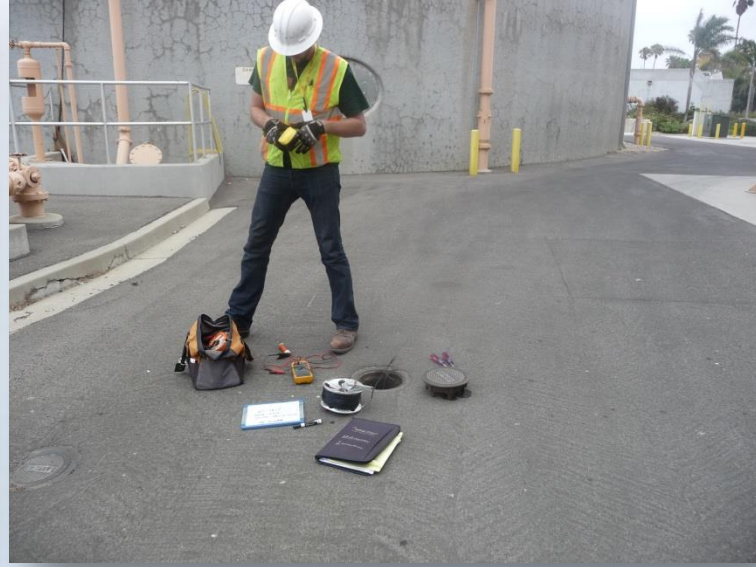


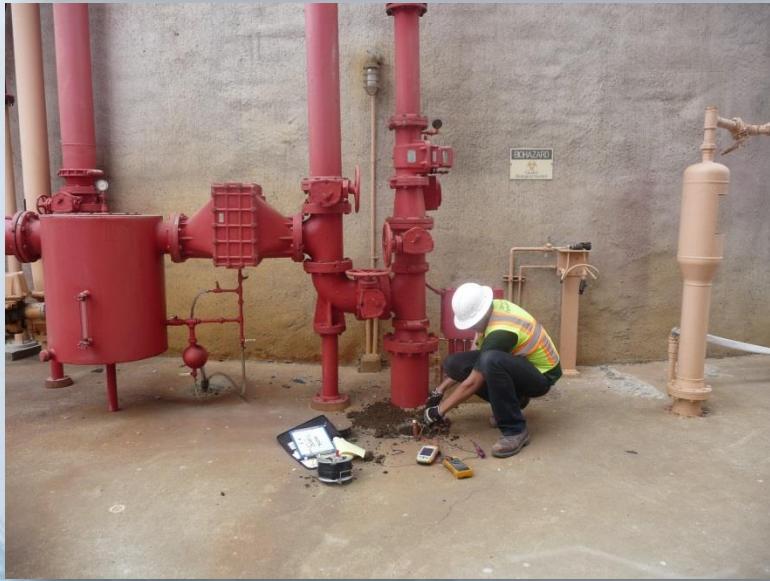
Oxnard Soil Resistivity Results

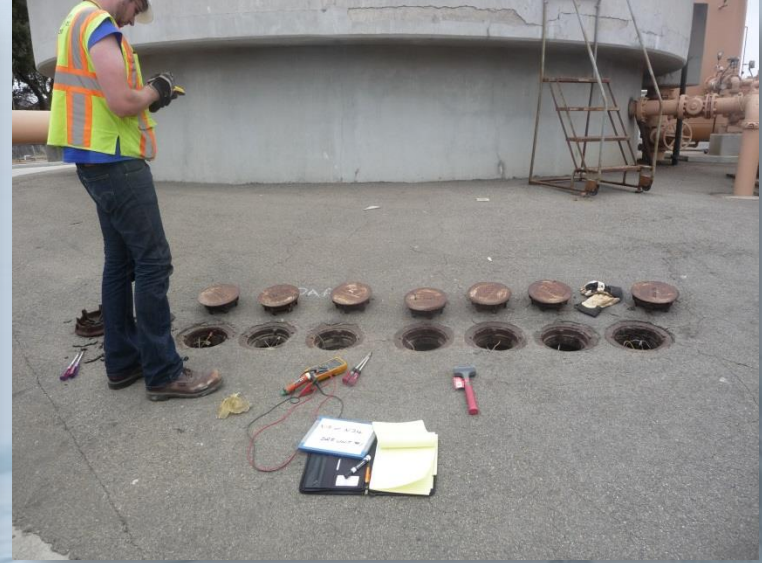
Client:		Carollo Engineers														
Project:		Oxnard Condition Assessment														
Location:		Oxnard, CA														
Date:		6/18/2014														
Subject:		In-Situ Soil Resistivity Data														
		<div>Severely Corrosive</div> <div>Corrosive</div> <div>Moderately Corrosive</div>										<div>Mildly Corrosive</div> <div>Progressively Less Corrosive</div>				
*Test #	Location Description	Resistance Data From AEMC Meter					Soil Resistivities (ohm-cm)					Barnes Layer Analysis (ohm-cm)				
		2.5	5	7.5	10	15	2.5	5	7.5	10	15	0-2.5'	2.5-5'	5-7.5'	7.5-10"	10-15'
1	Central & Rose	36.20	12.50	10.10	6.31	6.80	17331	11969	14506	12084	19533	17331	9141	25184	8050	NA
2	1701 Central	9.70	2.08	0.59	0.40	0.35	4644	1992	847	766	1005	4644	1268	394	595	2681
3	Central & Santa Clara	2.15	1.04	0.63	0.54	0.54	1029	996	905	1034	1551	1029	964	765	1810	NA
4	Central & Beardsley	3.11	1.30	0.25	0.23	0.33	1489	1245	359	440	948	1489	1069	148	1376	NA
5	Central & Del Norte	7.71	2.06	0.92	0.57	0.44	3691	1972	1321	1092	1264	3691	1346	796	717	1847
6	Springville Reservoir	2.16	1.04	0.68	0.66	0.60	1034	996	977	1264	1724	1034	960	940	10743	6320
7	Blending Station # 4	13.90	7.21	4.45	3.50	3.20	6655	6904	6391	6703	9192	6655	7172	5565	7849	35747
8	Rose & Gonzales	6.30	3.57	2.18	1.80	1.54	3016	3418	3131	3447	4424	3016	3944	2681	4944	10208
9	Blending Station # 3	3.07	1.21	1.26	1.09	1.13	1470	1159	1810	2087	3246	1470	956	NA	3868	NA
10	Rice & Gonzales	4.45	3.21	1.77	1.42	1.23	2130	3074	2542	2719	3533	2130	5515	1889	3438	8802
11	Camino & Del Norte	5.87	1.53	0.63	0.41	0.46	2810	1465	905	785	1321	2810	991	513	562	NA
12	Ventura & Central	2.50	1.26	0.43	0.37	0.27	1197	1206	618	709	776	1197	1216	313	1269	957
13	4110 Ventura	4.50	1.47	2.51	0.98	0.59	2154	1408	3605	1877	1695	2154	1045	NA	770	1420
14	Ventura near Lift Station 20 (?)	2.45	1.07	0.56	0.42	0.36	1173	1025	804	804	1034	1173	909	562	804	2413
15	Rice & Latigo	3.41	2.21	1.41	1.10	1.22	1633	2116	2025	2107	3504	1633	3007	1865	2395	NA
16	Rice & Camino Del Sol	6.40	2.47	1.69	1.35	1.28	3064	2365	2427	2585	3677	3064	1926	2562	3213	23637
17	Rice & 5th	5.95	3.61	1.34	0.81	0.86	2849	3457	1925	1551	2470	2849	4395	1020	980	NA
18	5th West of Rice	6.16	5.50	4.34	3.94	4.13	2949	5266	6233	7545	11863	2949	24576	9852	20466	NA
19	5th & Rose	36.00	16.70	9.92	8.35	8.77	17235	15990	14248	15990	25192	17235	14913	11698	25258	NA
20	5th & Richmond	92.80	33.60	12.00	8.66	4.20	44428	32172	17235	16584	12065	44428	25216	8937	14896	7809
21	Blending Station # 1	17.00	10.40	6.43	5.76	3.50	8139	9958	9235	11030	10054	8139	12825	8064	26465	8541
22	Blending Station # 2	6.18	4.33	2.53	1.79	1.88	2959	4146	3634	3428	5400	2959	6925	2914	2930	NA
23	Yarnell Pl	15.00	7.70	4.47	3.43	2.37	7181	7373	6420	6568	6808	7181	7575	5102	7058	7343
24	Channel Islands & Albany	4.05	1.59	0.80	0.59	0.47	1939	1522	1149	1130	1350	1939	1253	771	1076	2213
25	Bard & RR Crossing	5.23	2.94	1.89	1.52	0.85	2504	2815	2715	2911	2442	2504	3215	2534	3717	1846
26	Blending Station # 5	3.23	1.39	0.76	0.46	0.34	1546	1331	1092	881	977	1546	1168	803	558	1248
27	Blending Station # 7 (Proposed)	7.15	4.88	3.51	2.58	2.85	3423	4673	5041	4941	8187	3423	7359	5986	4662	NA
28	Lift Station # 29	6.61	3.10	1.19	0.67	0.51	3165	2968	1709	1283	1465	3165	2795	925	734	2045
29	Lift Station # 7	1.72	0.95	0.59	0.46	0.42	823	910	847	881	1206	823	1016	745	999	4625
30	Lift Station # 23	3.41	1.30	0.66	0.56	0.45	1633	1245	948	1072	1293	1633	1006	642	1769	2194
31	Lift Station # 24	8.48	4.50	3.02	2.55	2.80	4060	4309	4337	4883	8043	4060	4590	4396	7844	NA
32	Lift Station (End of Perkins)	2.59	0.49	0.19	0.55	0.62	1240	469	273	1053	1781	1240	289	149	NA	NA
33	Treatment Plant Entrance	1.35	0.52	0.24	0.19	0.17	646	498	345	364	488	646	405	213	437	1546

Soil Corrosivity Distribution











What a test station **SHOULD** look like...



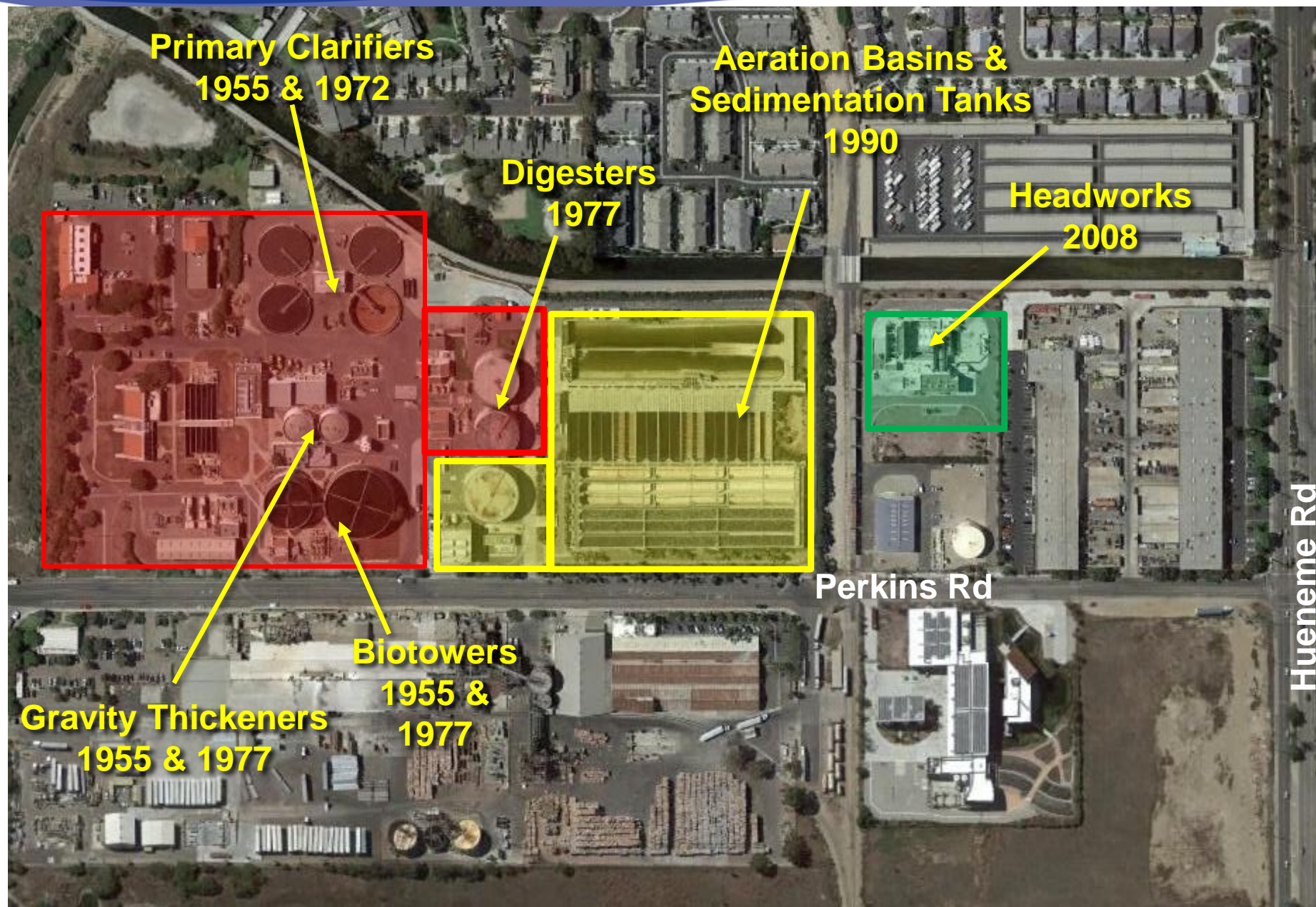
Wastewater Treatment Plant – Cathodic Protection Summary

- 220 Test stations
- 26 Meet NACE Standards for cathodic protection
- 194 Do NOT meet NACE Standards for cathodic protection

Wastewater Utility Proposed Capital Improvements

February 1, 2017

Wastewater Treatment Plant Age



OWTP IMPROVEMENTS - VISION

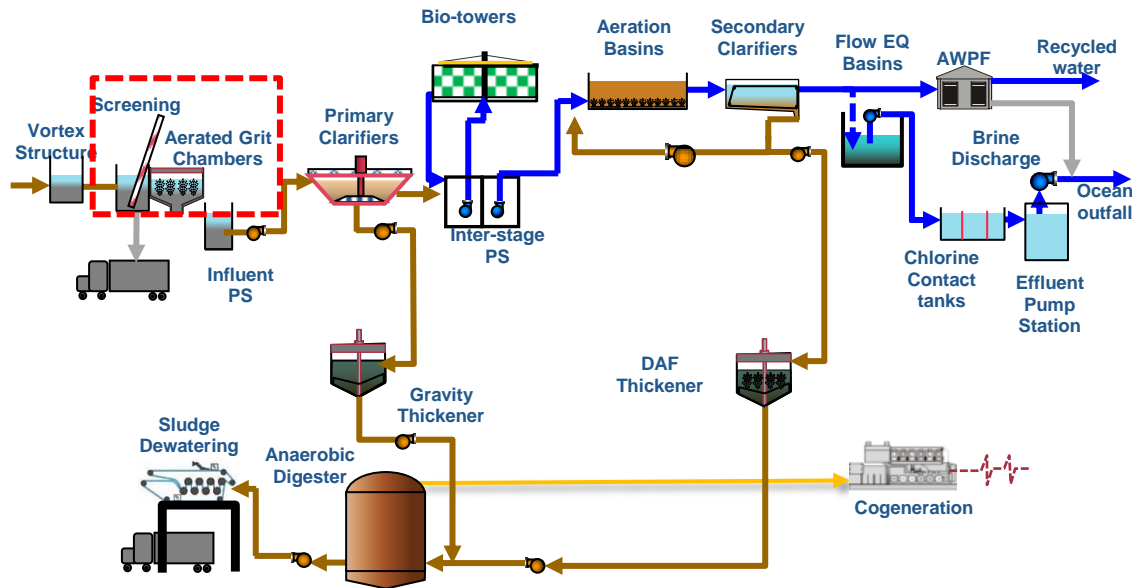
40% of the Oxnard Wastewater Treatment Plant is considered in Poor or Very Poor condition, with 31% at Moderate risk, and as much as 41% at High, or Very High risk of experiencing failures (ref: 2014 and 2015 Condition Assessment studies). The City of Oxnard will endeavor to reduce the High Risk and Very High Risk areas to Moderate Risk within 10 years:

- **Repairs** (1-2 Year Emergency Priorities)
 - Projects immediately required to address urgent safety hazards and operational reliability requirements
- **Reliability Improvements** (3-5 Year Priority Capital Improvements)
 - Urgent capital projects to maintain minimum required operational reliability and redundancy of process operations
- **Renewal** (6-10 Year Priority Renewal Improvements)
 - Capital projects required to address priority renewal of facilities at high risk of failure due to age and condition.

Oxnard Wastewater Treatment Plant

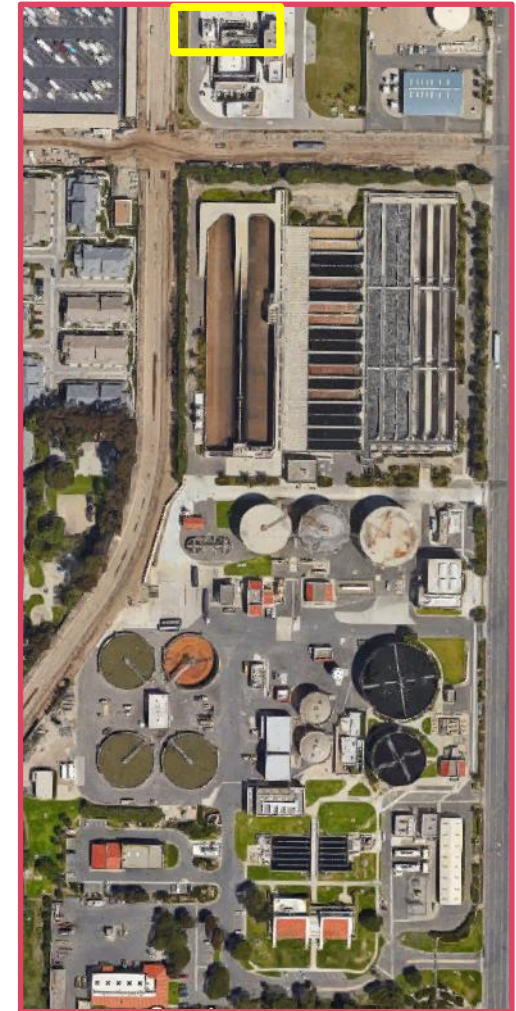


PRELIMINARY TREATMENT (HEADWORKS)



Emergency Priorities (\$310,000)

- Odor Control: New dampers, fan, and duct repairs at odor control system; Repair basin concrete and replace fiberglass covers (partial)



PRELIMINARY TREATMENT (HEADWORKS)

Reliability Improvements (\$7,659,100)

- Grit Removal Tanks: Repair basin concrete and replace fiberglass covers (remainder)
- Odor Control: New odor control system; enclose screens; install screen wall along north and west of property

		CRITICALITY			
		1	2	3	4
VULNERABILITY	A	1A	2A	3A	4A
	B	2B	3B	4B	
	C	1C	2C	3C	4C
	D	1D	2D	3D	4D

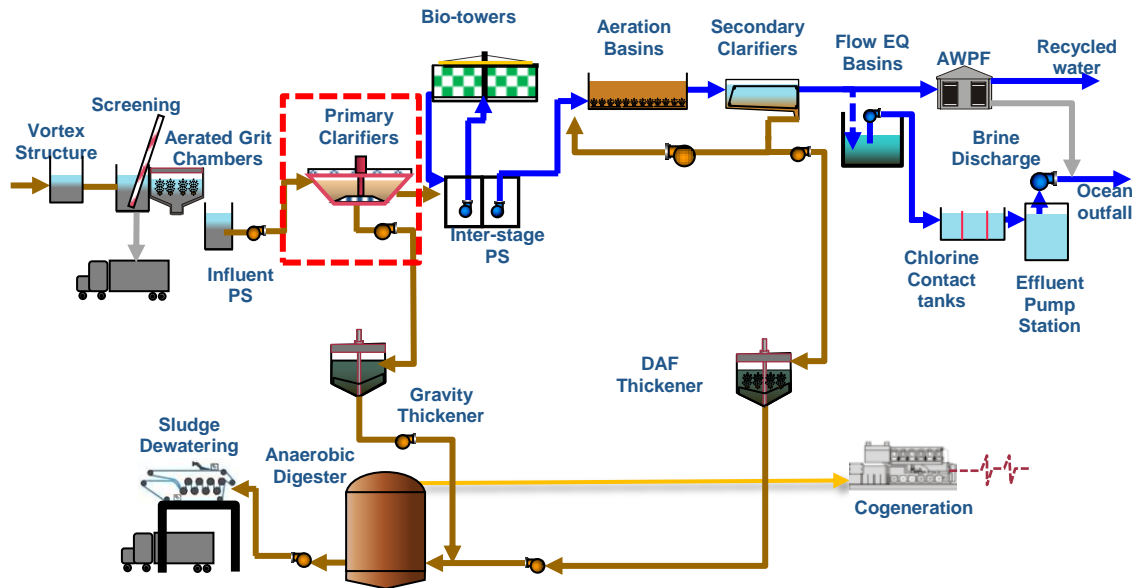
■ Maintenance
■ Priority
■ Critical

Renewal Improvements (\$2,400,000)

- New non-hazardous waste receiving station with metering and screening systems



PRIMARY TREATMENT



Emergency Priorities (\$655,000)

- Primary Clarifiers: Install new effluent launders. New clarifier #4 walkway. Install polymer addition system to improvement primary treatment efficiency.



PRIMARY TREATMENT

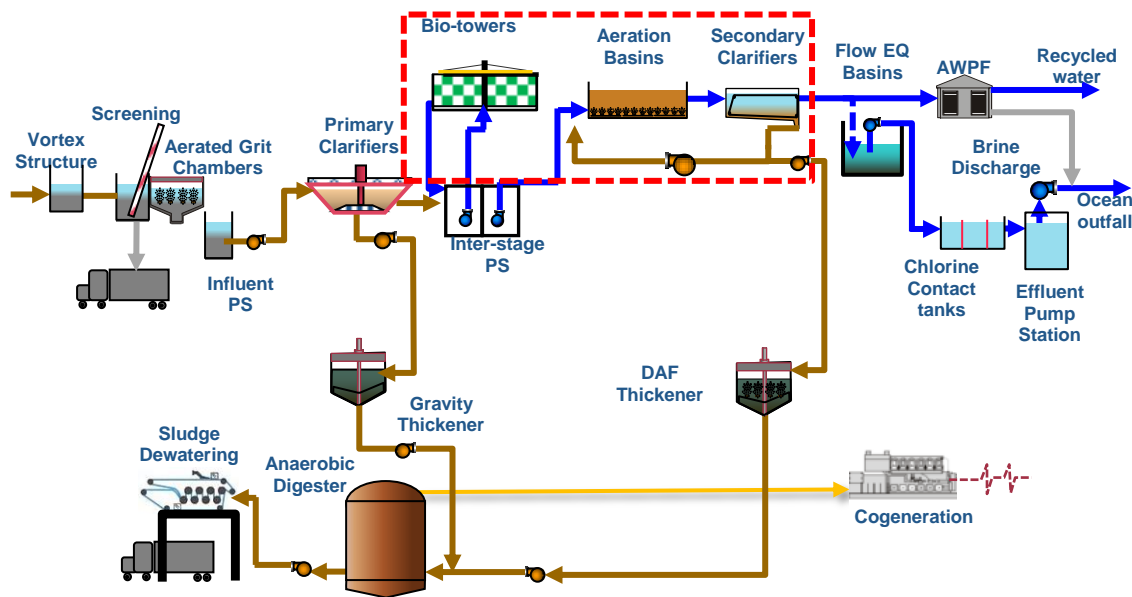
Renewal Improvements (\$7,800,000)

- Primary Clarifiers and Pumping Station: Remove equipment, concrete, piping and electrical systems in old headworks and primary tanks area. Reroute piping and electrical systems

		CRITICALITY			
		1	2	3	4
VULNERABILITY	A	●	2A	3A	4A
	B	1B	2B	3B	4B
	C	1C	2C	3C	4C
	D	1D	2D	3D	4D
		<div><div></div> Maintenance</div> <div><div></div> Priority</div> <div><div></div> Critical</div>			



SECONDARY TREATMENT



- **Emergency Priorities** (\$780,000)

- Bio-towers: Install wire wrap or mesh around tanks to prevent block wall from falling.
- Aeration Basins: Install new air flow meters, air control valves, and dissolved oxygen meters.



SECONDARY TREATMENT

Renewal Improvements (\$130,650,000)

- Bio-towers: Demolish structures; reroute piping and electrical; restore grade
- Aeration Basins: Replace basin process piping (air, RAS); partition structures; replace gates and air controls; add internal recycle system
- Flow Equalization: Repurpose some AST tankage to provide flow EQ (remove diffusers, add EQ pumps)
- Primary Clarifiers: Repurpose secondary; install new mechanisms, pumps, gates and scum system
- New Process Tanks: Demolish some secondary tanks/equipment; new structure, piping, equipment, electrical for modern treatment technology

		CRITICALITY			
		1	2	3	4
VULNERABILITY	A	1A	2A	3A	4A
	B	1B	2B	3B	4B
	C	1C	2C	3C	4C
	D	1D	2D	3D	4D

■ Maintenance
■ Priority
■ Critical



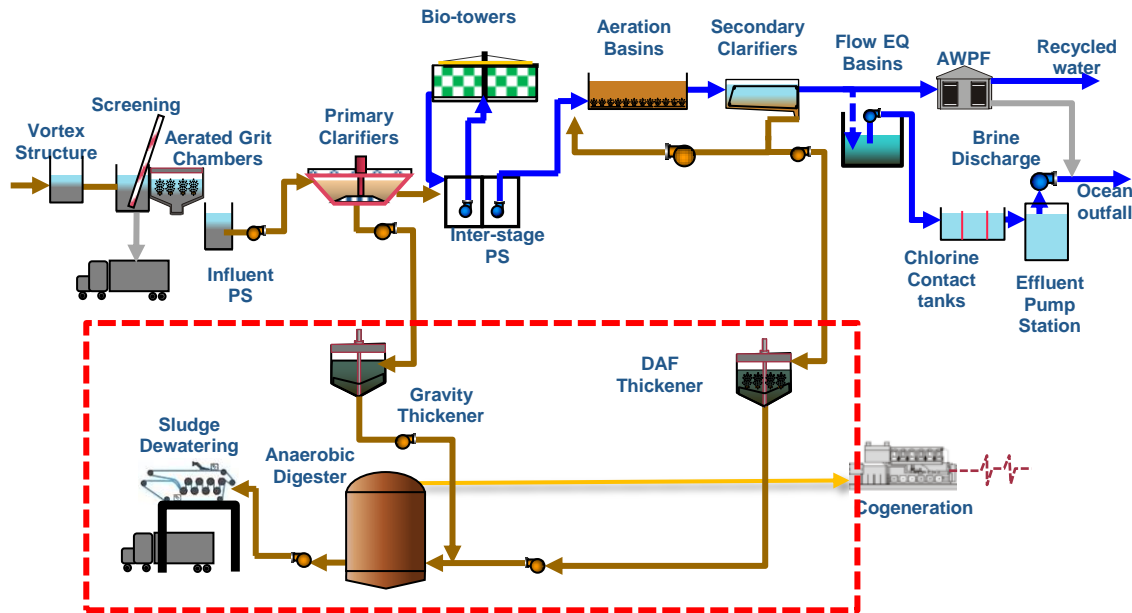
SECONDARY TREATMENT

Renewal Improvements

- New Process Building: New chemical systems, electrical room, SCADA system, effluent pumps
- Fine Screening: Install fine screening for new process (structure, equipment, piping, etc)
- Convert Remaining Secondary Clarifiers : Install new mechanisms, pumps, gates and scum system
- Disinfection: New Disinfection system, effluent wetwell and pumps
- Re-route Influent Force Main: Connect to main header and re-route to new process



BIOSOLIDS TREATMENT



Emergency Priorities (\$1,180,000)

- Dewatering Building: Building rehabilitation and belt filter press replacement, conveyor repairs



BIOSOLIDS TREATMENT

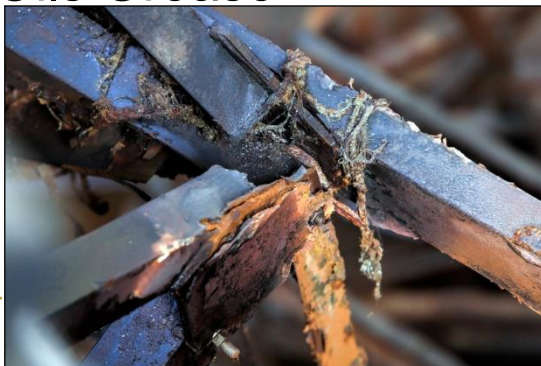
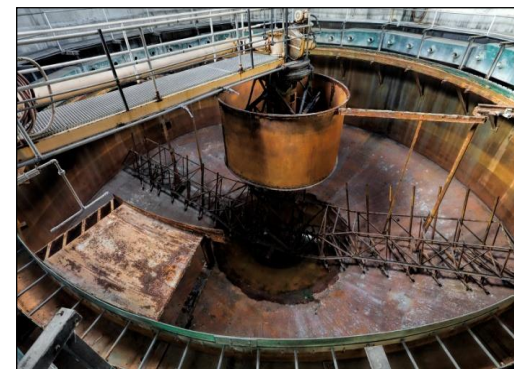
Reliability Improvements (\$5,130,000)

- Digesters: Digester 2 cover and cleaning of digesters 1 and 3
- Belt Filter Press replacement

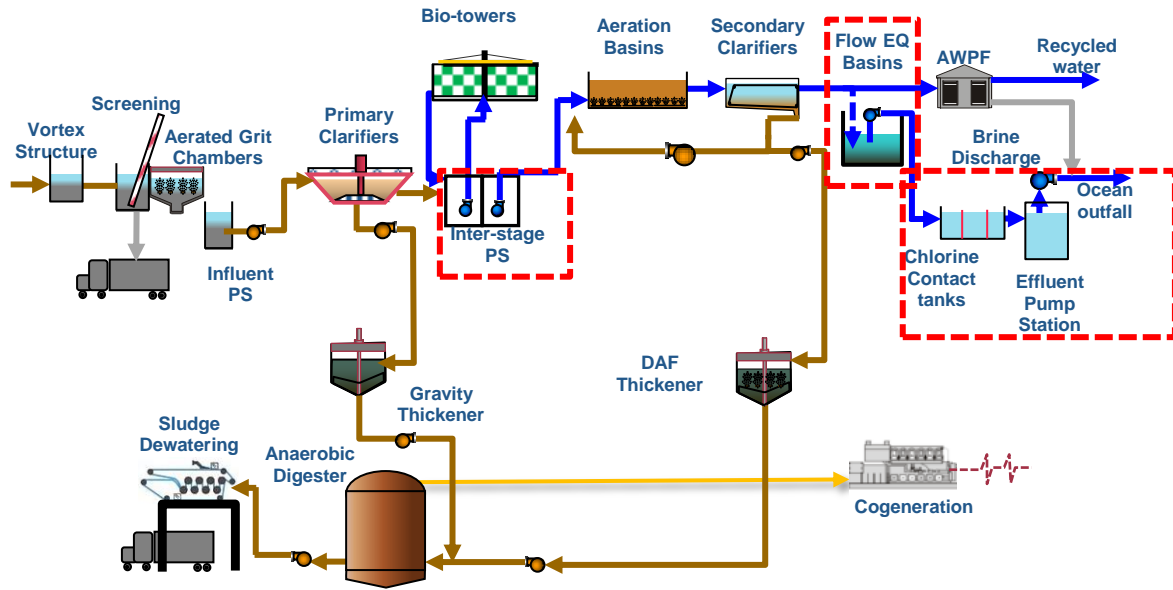
Renewal Improvements (\$36,140,000)

- Gravity Thickening and DAFTs: Replace Thickening Facilities with new building and equipment
- Digesters: Replacement of Mixing Systems in Digesters 1 and 3; Modifications to Heat Exchangers
- FOG Receiving: Fats Oils Grease receiving station

		CRITICALITY			
		1	2	3	4
VULNERABILITY	A	1A	2A	3A	4A
	B	1B	2B	3B	4B
	C	1C	2C	3C	4C
	D	1D	2D	3D	4D
		<div><div></div> Maintenance</div> <div><div></div> Priority</div> <div><div></div> Critical</div>			



PUMPING, EQUALIZATION AND DISCHARGE



PUMPING, EQUALIZATION AND DISCHARGE

Reliability Improvements (\$11,087,199)

- Interstage Pump Station: Replace pumps and VFDs; seismic retrofits
- EQ Basin pumping: transfer pumping system to AWPf
- Effluent Pump Station Rehabilitation: Seismic retrofits; replace outlet valve, electrical upgrade

		CRITICALITY			
		1	2	3	4
VULNERABILITY	A	1A	2A	3A	4A
	B	1B	2B	3B	4B
	C	1C	2C	3C	4C
	D	1D	2D	3D	4D

■ Maintenance
■ Priority
■ Critical



ELECTRICAL AND PROCESS CONTROL

Emergency Priorities (\$2,085,000)

- Main Electrical Building: Arc flash upgrades (disconnects/breakers); Rehab flooded electrical manholes
- Cogeneration Building: Rebuild two cogeneration units
- Plant Control System: new CMMS system to modernize maintenance management to minimum current efficiency standards
- Plant SCADA: Temporary conversion of existing network to ethernet to prevent loss of communications



ELECTRICAL AND PROCESS CONTROL

Reliability Improvements (\$18,438,699)

- Install new emergency standby generator
- Install new MCC panels
- New Main Electrical Building
- New SCADA program software and programming

Renewal Improvements (\$27,100,000)

- New North Electrical Building
- Plantwide: New Motor Control Centers
- Plantwide: Install cables, duct banks, and wiring
- Plantwide: Upgrade SCADA systems and PLCs with current technology; program all processes for new Plant Control System

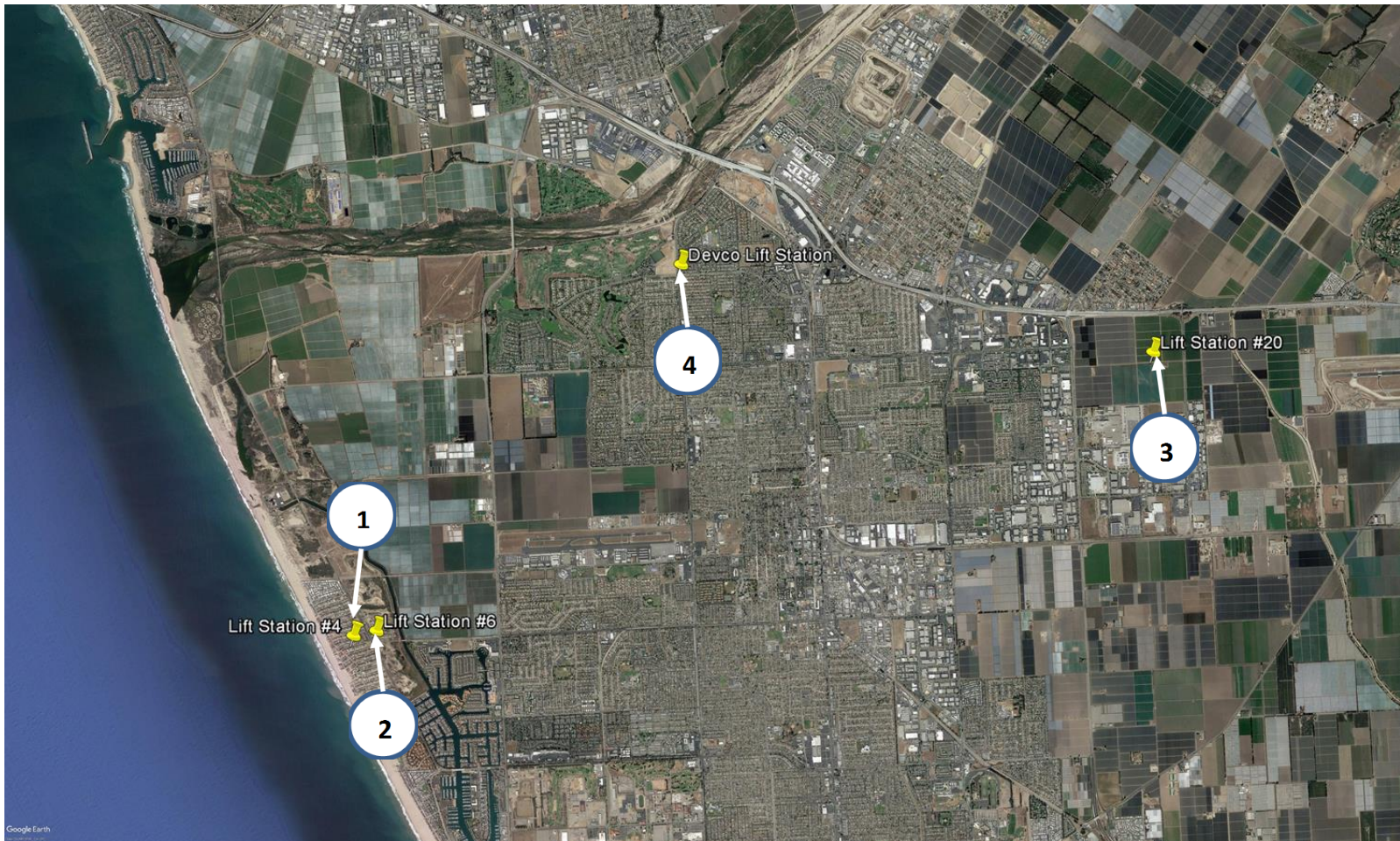
		CRITICALITY			
		1	2	3	4
VULNERABILITY	A	1A	2A	3A	4A
	B	1B	2B	3B	4B
	C	1C	2C	3C	4C
	D	1D	2D	3D	4D

■ Maintenance
■ Priority
■ Critical



Collection System

Lift Station Projects Locations



- ① - Lift Station No. 4 ③ - Lift Station No. 20
② - Lift Station No. 6 ④ - Devco Lift Station

Lift Station Rehabilitation & Replacement

Lift Station No. 4

REHABILITATE
CIP (Yrs 3-5) - \$500K

Extensive corrosion, aging station, poor condition
Replace electrical and instrumentation panels,
replace valve vault door, repair concrete

Lift Station No. 6

REHABILITATE
CIP (Yrs 3-5) - \$500K

Extensive corrosion, aging station, poor condition
Replace pumps, new electrical panel and new
standby generator

Lift Station No. 20

REHABILITATE
CIP (Yrs 3-5) - \$300K

Extensive corrosion
New electrical panel and concrete pad repair

Devco Lift Station

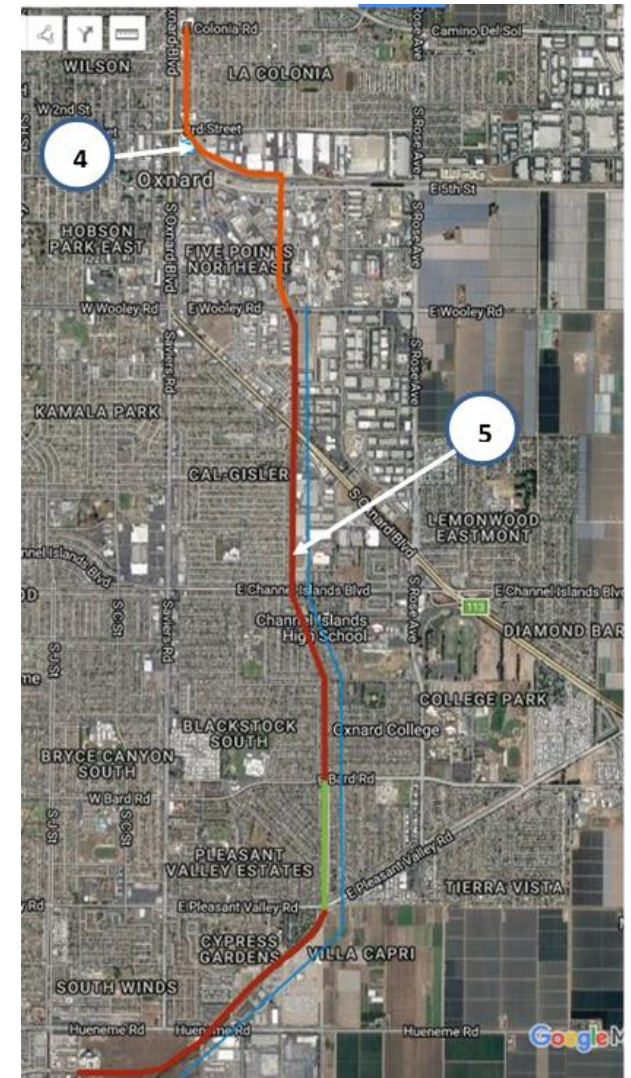
CIP (Yrs 3-5) - \$500K

Replaces LS #23 (undersized and very poor
condition)
Allows for added flow from Village (Wagon Wheel),
Devco, other development

Manhole Rehabilitation Locations



- ① - Redwood Trunk
- ② - Harbor & Mandalay Bay
- ③ - Pleasant Valley
- ④ - Central Trunk – Ph. I
- ⑤ - Central Trunk – Ph. II



Manhole Rehabilitation



Rehabilitate 138 Manholes
Emergency (Yrs 1-2) - \$1.41M
CIP (Yrs 3-5) - \$1.32M

Extensive Concrete Corrosion &
Groundwater Infiltration

Redwood Trunk

38 manholes along Redwood Street and J Street from
Redwood Street to Hueneme Road

**Harbor &
Mandalay Bay**

12 manholes in Mandalay Bay off of Harbor Boulevard

Pleasant Valley

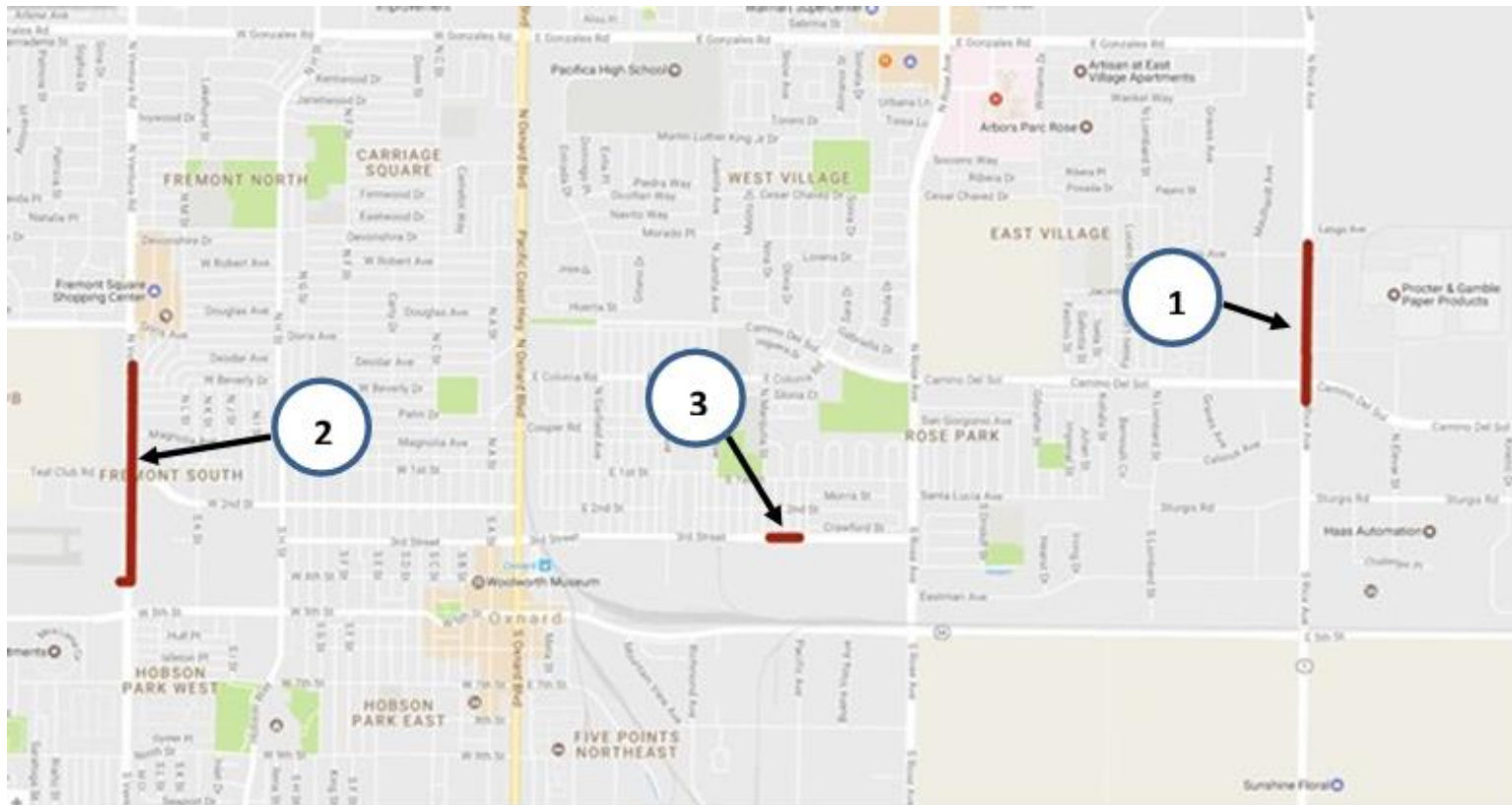
14 manholes on Pleasant Valley Road from Beaumont
Avenue to Terrace Avenue

Central Trunk

Phase I: 47 manholes along the Ormond Lagoon Waterway
between Wooley Road and Perkins Road

Phase II: 27 manholes along Ormond Lagoon Waterway
between Wooley Road and Colonia Road

Capacity Deficient Projects Locations



① - Rice Ave. Sewer Main

② - Ventura Road Sewer Main

③ - Third Street & Navarro Street Sewer Main

Capacity Deficient Sewer Main Upgrades

Sewer mains are under capacity to handle high flows

CIP (Yrs 3-5) - \$3.42M

Rice Ave. Sewer Main

Upgrade 1,900 linear feet of 18-inch pipe to 24-inch on Rice Avenue from Latigo Avenue to Camino del Sol

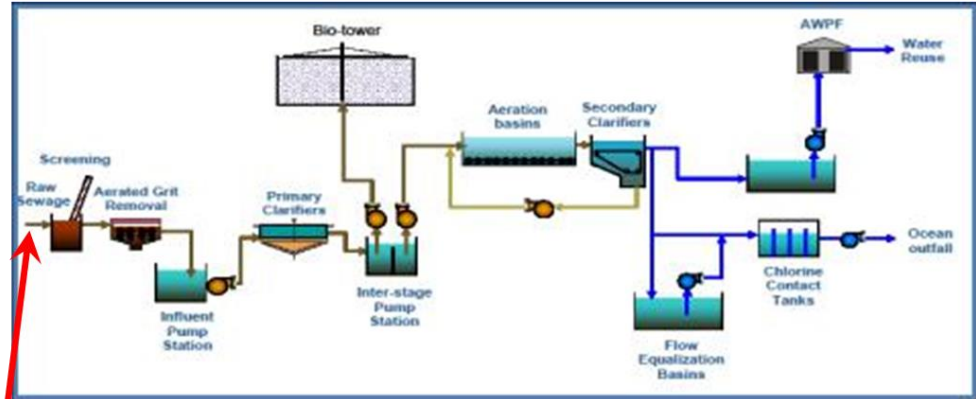
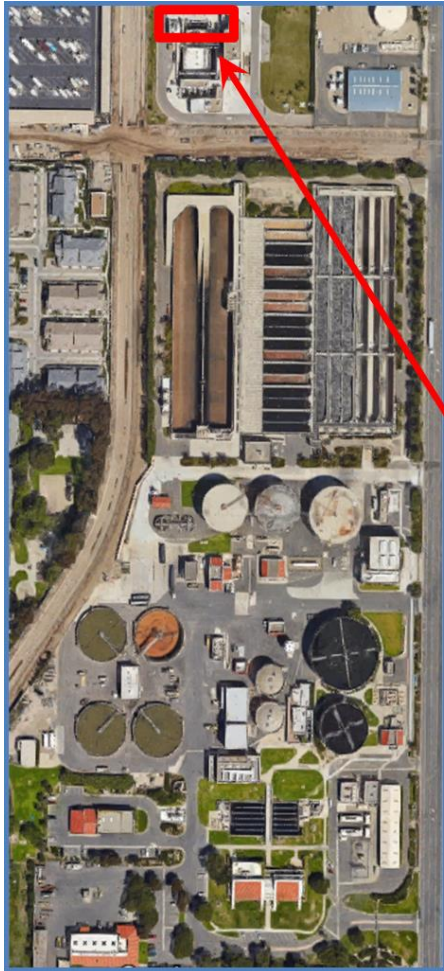
Ventura Road Sewer Main

Upgrade 2,420 linear feet of 10-inch pipe to 15-inch on Ventura Road from Doris Avenue to Little Farms Road

Third Street & Navarro Street Sewer Main

Upgrade 629 linear feet of 8-inch pipe to 12-inch on Third Street and Navarro Street

Headworks Meter Vault Project Location



Headworks Meter Vault/Vortex Structure Location

Severe corrosion of concrete inside vault
Emergency (Yrs 1-2) - \$280K

Oxnard Wastewater Treatment Plant

Miscellaneous Sewer Repair Projects



There are 244 pipe repairs identified in the collection system that are assigned a Poor Condition Grade (4)



There are 63 pipes repairs identified in the collection system that are rated a Grade (5) condition, which contain severe defects

Miscellaneous Sewer Repair Projects

CIP (Yrs 3-5) - \$200K/yr

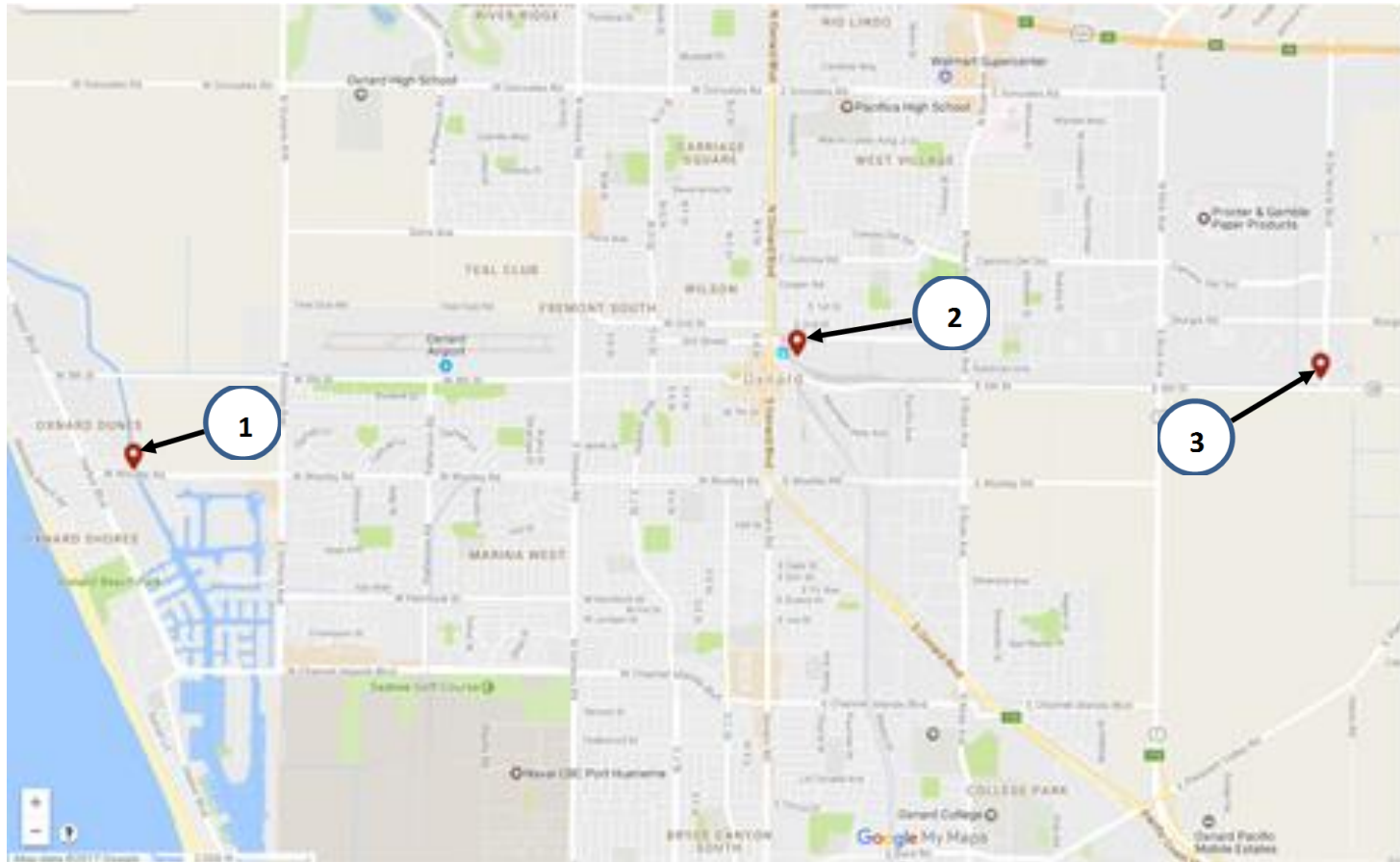
CIP (Yrs 6-10) - \$700K/yr

Project Scope:

① - Annual Pipe Repair: Spot repairs of various wastewater collection system mains

② - Concrete Sewer Main Replacement:
Replacement of approximately 15,000 linear feet of concrete sewer pipe with PVC pipe

Magnesium Hydroxide Addition Projects Locations



- ① - Lift Station No. 6
- ② - Water Yard
- ③ - Solid Waste Transfer Station

Magnesium Hydroxide Addition Project

Odors impacting neighborhoods and businesses

Severe corrosion impacting sewers, manholes and lift stations

CIP (Yrs 3-5) - \$4.4M

Permanent magnesium hydroxide storage/addition facilities are proposed to be constructed at the following locations:

- ① - Lift Station No. 6 to service the Redwood Trunk Sewer**
- ② - The City's Water Yard to service the Central Trunk Sewer**
- ③ - The City's Solid Waste Transfer Station to service the Eastern Trunk Sewer**

Questions

URAP Panel Questions from 1/25/17 URAP Meeting

The following are questions or requested items from the URAP panelists at the 1/25/17 URAP meeting; this list does not include the additional list of questions from Mr. Aaron Starr, which are listed separately:

1. 12 months (actual costs)
2. Prior year comparisons
3. Vacancies in Public Works
4. Actual Costs incurred
5. Revised full-year numbers, not just through November
6. Detailed expenditures
7. 3 years of comparison (FY 13-14, 14-15, 15-16, 16-17 projection)
8. Models for internal services
9. Does City's debt coverage policy exceed requirements?
10. Past reserves totals for City
11. Pass throughs/Escalators
12. Inflation/Overview of Ordinance
13. Pass through factors
14. Discussion of volume/usage
15. Rate Models – February 8th
16. Layperson's explanation of debt coverage policy
17. How are the funds being spent?
18. How are we increasing efficiencies?
 - a. Meter readers
19. How can URAP provide input?

Provide financial statements for the wastewater funds for fiscal years ending 6/30/14, 6/30/15 and 6/30/16.

Provide a listing and breakdown of all WW reserve categories, not just operating reserves, for the fiscal years ending 6/30/14, 6/30/15 and 6/30/16. Describe their restrictions and limitations.

Need access to draft rate model Excel workbook so that we can do live on-the-fly changes in the assumptions.

Historical operating and maintenance costs for the past 3 fiscal years (years ending 6/30/14; 6/30/15; 6/30/16), broken down to GL account level. Current ytd and projected amounts for fye 6/30/17 and 6/30/18, broken down to GL account level. Compare to average of past 3 fiscal years. We will want to analyze the reasons for variances from the average.

Historical infrastructure transfer amounts to general fund for years ending 6/30/14; 6/30/15; 6/30/16. Current ytd and Projected amounts for fye 6/30/17 and 6/30/18. Compare to average of past 3 fiscal years.

Historical amounts transferred to general fund for indirect overhead allocations (dept breakdown) for years ending 6/30/14; 6/30/15; 6/30/16. Current ytd and projected amounts for years ending 6/30/17 and 6/30/18. Compare to average of past 3 fiscal years. We will want to analyze the reasons for variances from the average and how the methodology has changed.

CIP listing w/ cost for each project and year of predicted expenditure.

Provide a list of pass-thru expenditure types. These ought to be limited to non-discretionary costs by third parties.

Sensitivity analysis for certain inputs. For example, a 10% increase in electricity costs results in an X% increase in operating costs; or a 10% increase in chemical costs results in a Y% increase in operating costs.

What are the monthly wastewater treatment volumes since July 2013? What are the assumed monthly forecasted volumes through June 2018?

For the most recent year ending 6/30/16, what would be the fixed costs, assuming zero wastewater operations?

For the most recent year ending 6/30/16, what would the total expenditures have likely been, assuming that the entire year's volume equaled only twelve times the lowest month's volume?

What are the bond coverage requirements? How are rates impacted by the debt coverage policy, rather than the debt coverage ratio required by the city council's policy?

Are there other city council policies related to WW rates that impact costs?

Provide the current Draft Cost of Service report at the next meeting, noting the areas that will likely change. It is completely unreasonable for us to first see a report 1 day before the 3rd meeting.

Provide draft language for city council resolution/ordinance.