EAST BAY MUNICIPAL UTILITY DISTRICT

Los Vaqueros Reservoir Expansion

Planning Committee

August 11, 2020

Agenda

- Background
- Benefits to EBMUD
- Project Challenges
- Near-Term Drivers
- Optimistic Near-Term Schedule

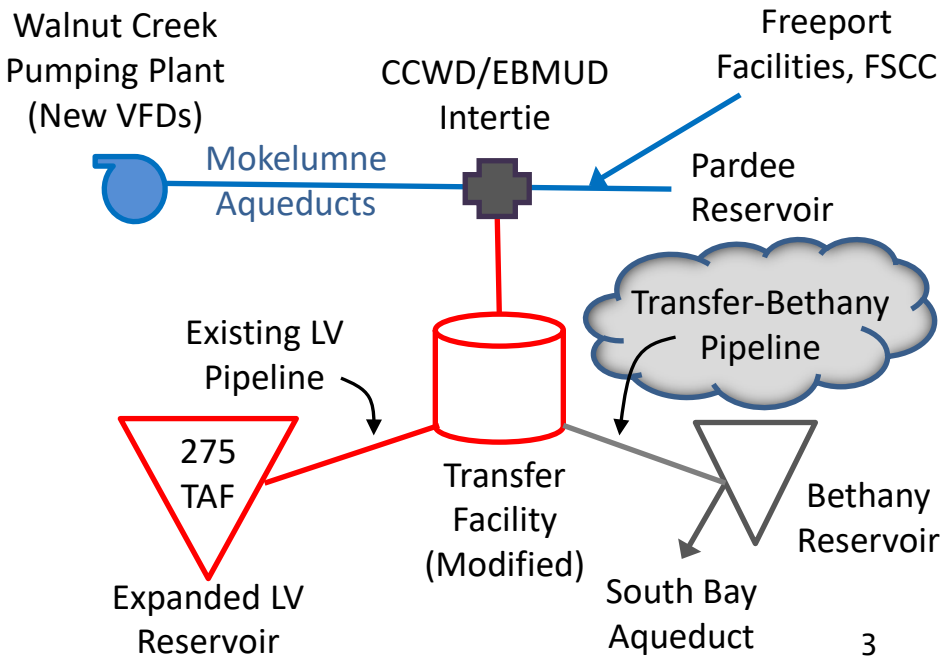
Background

Los Vaqueros: 160 TAF to 275 TAF

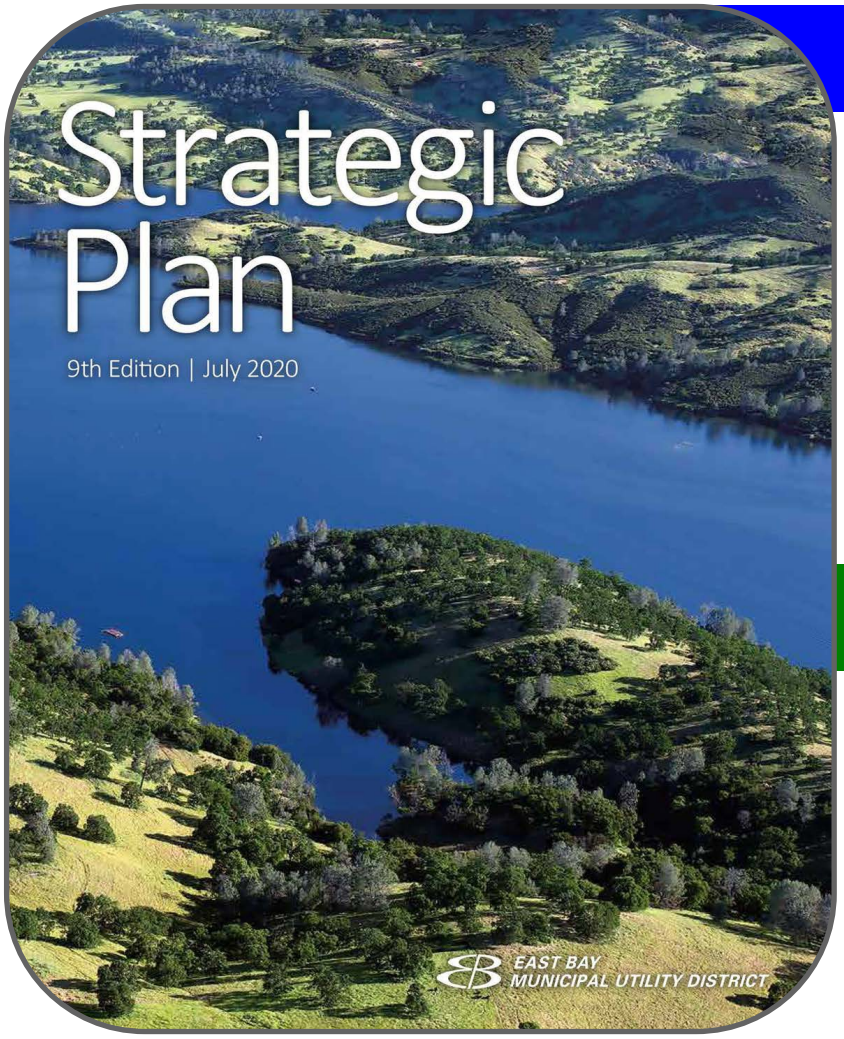
Item	Capital, $M *(2020 $)*
Project	$942
CWC Grant	($459)
Local Share	**$483**

EBMUD ~$70M for 30 TAF of storage

Potential Partner	
1	Contra Costa WD *(w/ Brentwood)*
2	SF PUC
3	EBMUD
4	BAWSCA
5	ACWD
6	San Luis DMWA
7	Valley Water
8	Zone 7
9	Grasslands



Benefits to EBMUD



Ensure a reliable high quality water supply for the future

Improves Reliability during Droughts or Emergencies

Increases resilience to Climate Change

Surpass environmental standards & protect public trust values

Provides environmental water to the Mokelumne via gainsharing

Supports wildlife refuges in the Central Valley

Project Challenges

Water Supply

- Secure Source of Supply

Costs

- Ensure Allocation is Equitable & Fair

Wheeling

- Protect EBMUD Customers
- Secure Project Guarantees

Governance & Coordination

- Joint-Powers Authority
- Multi-Party Agreement
- CCWD Support during LVE Outage

Near-Term Drivers

California WATER COMMISSION

Local Share by
December 2022

CCWD asked EBMUD for Backstop

JPA Formation
(December 2020)

Ability to sign before all details are known

- *Keep General*
- *Lots of Off-Ramps*

Service Agreements
(December 2021)

Where most of details will be negotiated

Multi-Party Agreement

- *$354,129*
- *expires 12/31/2020*

- Need to extend agreement
- Cost to EBMUD ~ $900K

Near-Term Drivers
JPA Formation Issues

Director	• Elected vs. Staff vs. Any Appointment
Voting	• Super vs. Simple Majority • District Veto Rights
Off-Ramps	• 9 currently being negotiated
Assurances	• Reliable delivery to members • Wheeling timing/capacity from District

Near-Term Drivers
JPA Formation Issues (cont.)

Director	• Elected vs. Staff vs. Any Appointment
Voting	• Super vs. Simple Majority • District Veto Rights
Off-Ramps	• 9 currently being negotiated
Assurances	• Reliable delivery to members • Wheeling timing/capacity from District

Near-Term Drivers
JPA Formation Issues (cont.)

	Off-Ramps being Negotiated	Mechanism
1	Interim Funding Agreement	Choose not to sign
2	Service Agreements	Choose not to sign
3	Grant Funding	Revoked
4	Engineer's Estimate	Deemed too high by LAP
5	Construction Bids	> 20% of Engineer's Estimate
6	Additional LAP Contributions	One or more LAPs choose not to provide
7	LAP Withdrawals	More than 2 members withdraw from project
8	Unacceptable Permit Conditions	Deemed to restrictive by LAP
9	Litigation	LAP chooses not to be a party to litigation

Requires JPA Approval after Revenue Bonds Issued

Near-Term Drivers
Backstop MOU with CCWD

CCWD will not have benefits associated with Los Vaqueros:

- Water Quality
- Drought
- Emergencies

CCWD has asked EBMUD to help during construction

Issues:

- CCWD's Board wants to reach an understanding before they sign JPA (December 2020)
- CCWD supply need & timing unclear
- Mitigation required to protect EBMUD customers unclear

MOU to Study How EBMUD can help

Definitions
MOU: Memorandum of Understanding

Optimistic Near-Term Schedule

Definitions
MPA: Multi-Party Agreement
MOU: Memorandum of Understanding
JPA: Join-Powers Authority

EAST BAY MUNICIPAL UTILITY DISTRICT

Questions?

EAST BAY MUNICIPAL UTILITY DISTRICT

East Bayshore Recycled Water Project

Water Quality Improvements & Residential Fill Station Pilots

Planning Committee
August 11, 2020

Agenda

- Overview of East Bayshore Project
- Project Challenges
- 2018 Water Quality Evaluation
- Water Quality Improvements Pilot Study
- Residential Fill Station Pilot

Overview of East Bayshore

- Multi-phase project located at the Main Wastewater Treatment Plant
- Treats secondary effluent to Title 22 tertiary recycled water standards
- Intended uses: landscape irrigation, commercial, industrial applications

Project Challenges

- Water quality limits usage mainly to landscape irrigation
- Customer connections have been slowed as a result

Preservation Park

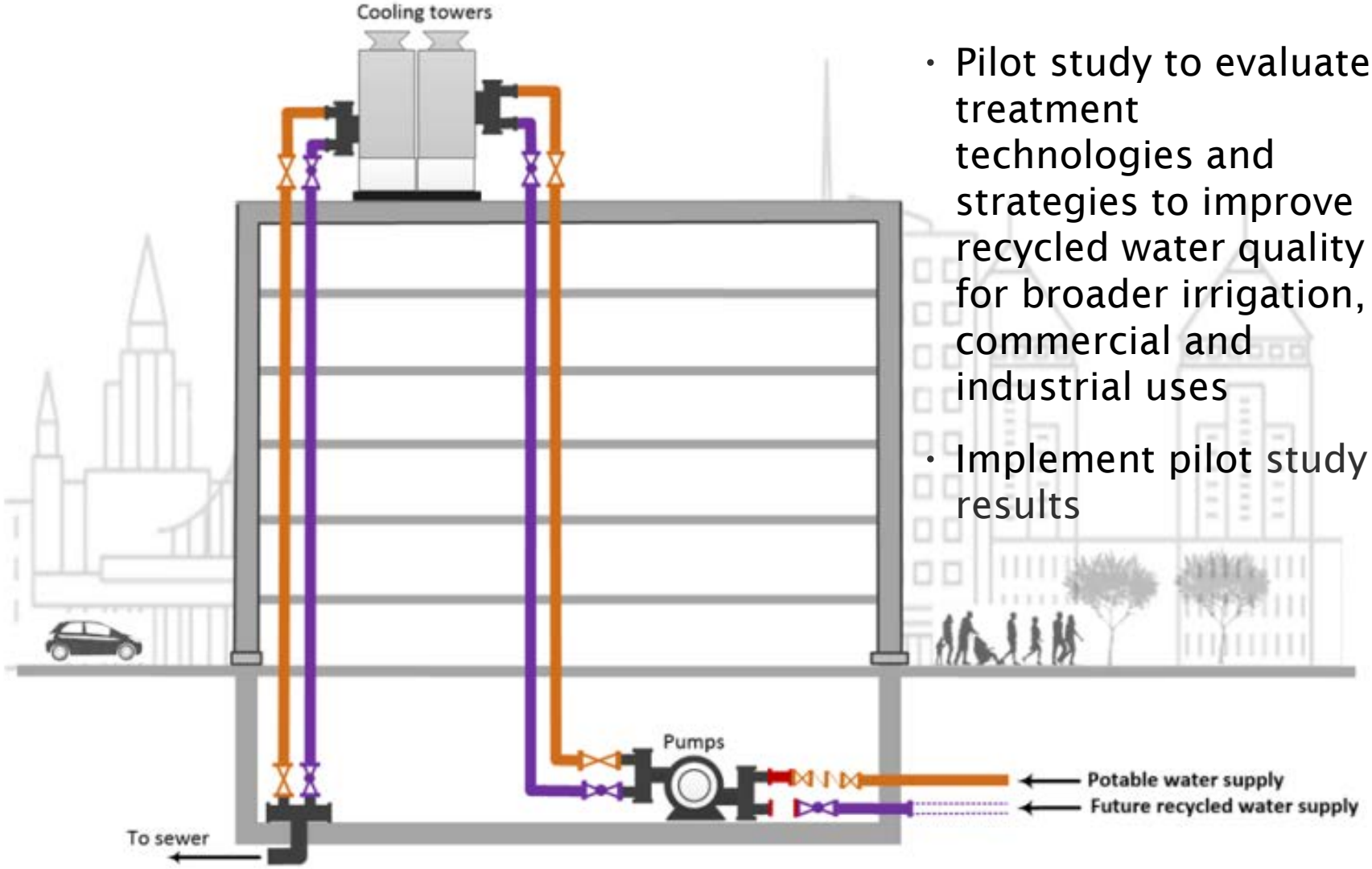
Mandela Parkway

2018 Water Quality Evaluation

- **Goals of the 2018 Evaluation**
  - Identify future recycled water uses and demands within the East Bayshore service area
  - Identify improvements to address recycled water quality for current and future uses
  - Develop a plan to increase deliveries

- **Evaluation Findings**
  - Improve recycled water quality (reduce salt level) for broader landscape application
  - Improve recycled water quality to add other uses such as building cooling towers

2018 Water Quality Evaluation Recommendations



- Pilot study to evaluate treatment technologies and strategies to improve recycled water quality for broader irrigation, commercial and industrial uses
- Implement pilot study results

WQ Improvements Pilot Study

Objectives

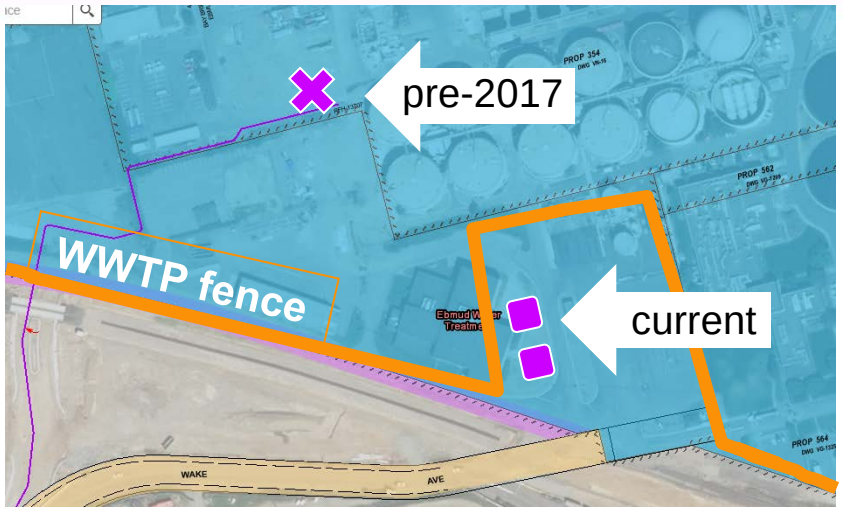
- Develop RO/IX design & O&M criteria for full-scale implementation
- Identify and assess alternative supplies for treatment to produce reliable, high quality recycled water
- Assess on-site technologies for recycled water use in cooling towers

Schedule

- September 8 - Contract for Board consideration
- September 2020 – December 2021

Residential Fill Station Pilot

- Goal: Evaluate future drought response efforts
- Staff-only pilot
- Residential uses: landscaping and gardening
- Fill stations at MWWTP outside fence
- Online training and appointment scheduling
- On-site staff attendant



Residential Fill Station Pilot

- Health and safety requirements: Symptom checks, social distancing, face coverings, hand sanitizer stands, gloves for attendants
- Inter-agency use: Agreement with neighboring water agencies for use of residential fill station recycled water outside of EBMUD service area

Residential Fill Station Pilot

Summary

- Pilot operates from July 16 - September 30
- Open Tuesdays 10:00am – 1:00pm and Thursdays 3:00pm - 6:00pm
- Anticipated usage is 10,000 gallons total for pilot program

Next Steps

- Develop a report on usage and recommendations for full scale implementation during future droughts
- Update at the next Long-Term Water Supply Board Workshop

Questions/Comments

EAST BAY MUNICIPAL UTILITY DISTRICT

Lead Service Lateral Inventory and Replacement Plan Update

Planning Committee

August 11, 2020

Introduction

- EBMUD has been removing lead services from the system for decades
- Significant effort in 1990s - 2000s, removed >2,000 lead service laterals (lines)
- All lead components are removed whenever encountered
- Corrosion control program and sampling results demonstrate low lead concentrations at customer taps

Regulatory Requirements

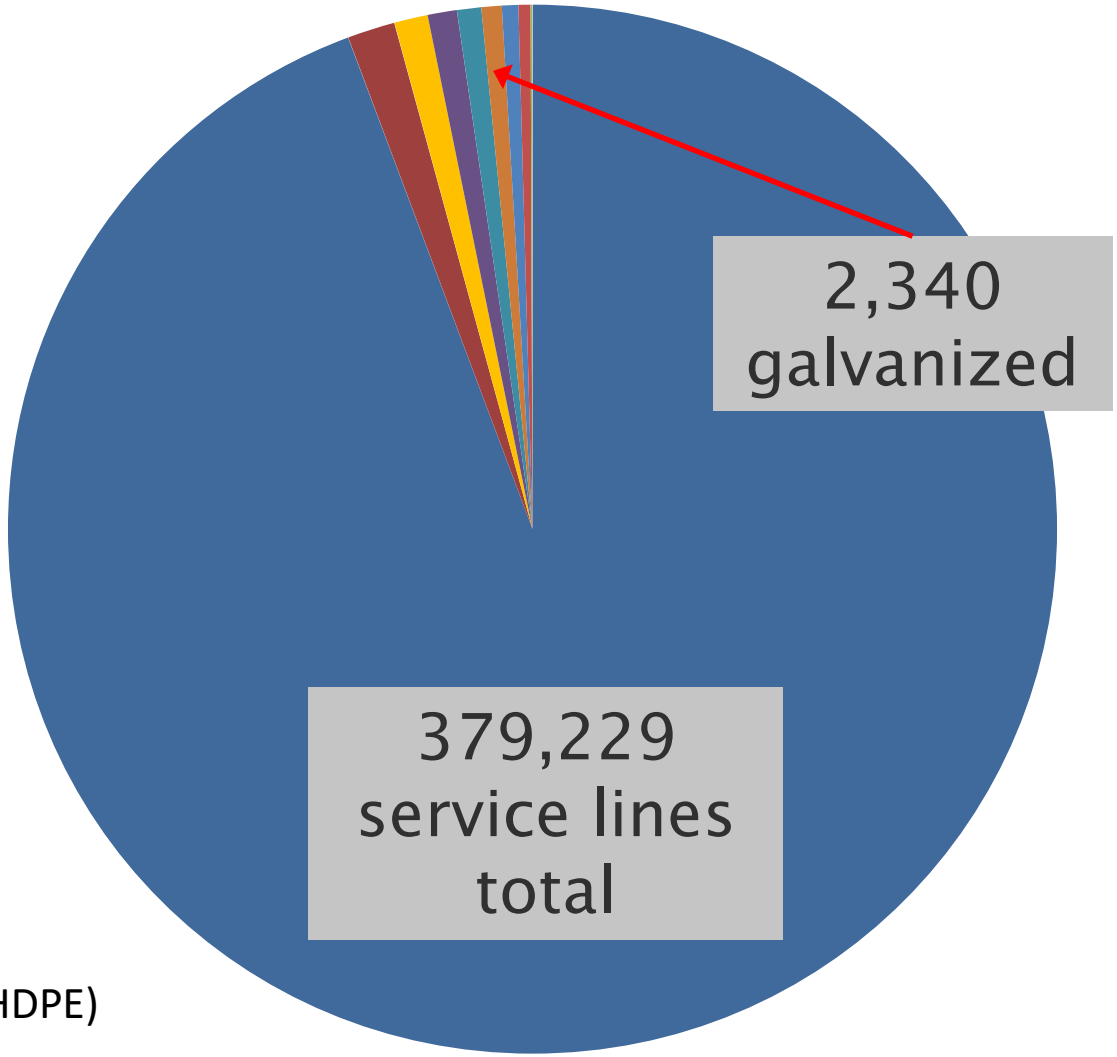
- State law (2016) requires water systems to develop an inventory of service line materials
- First inventory was due in 2018
- Updated inventory and replacement plan was submitted in July 2020

State vs. Federal Rules

- Federal definition of Lead Service Line (LSL) excludes non-lead material that has lead fittings or connectors
- State of California Lead User Service Lines (LUSL) includes non-lead material that has lead fittings or connectors

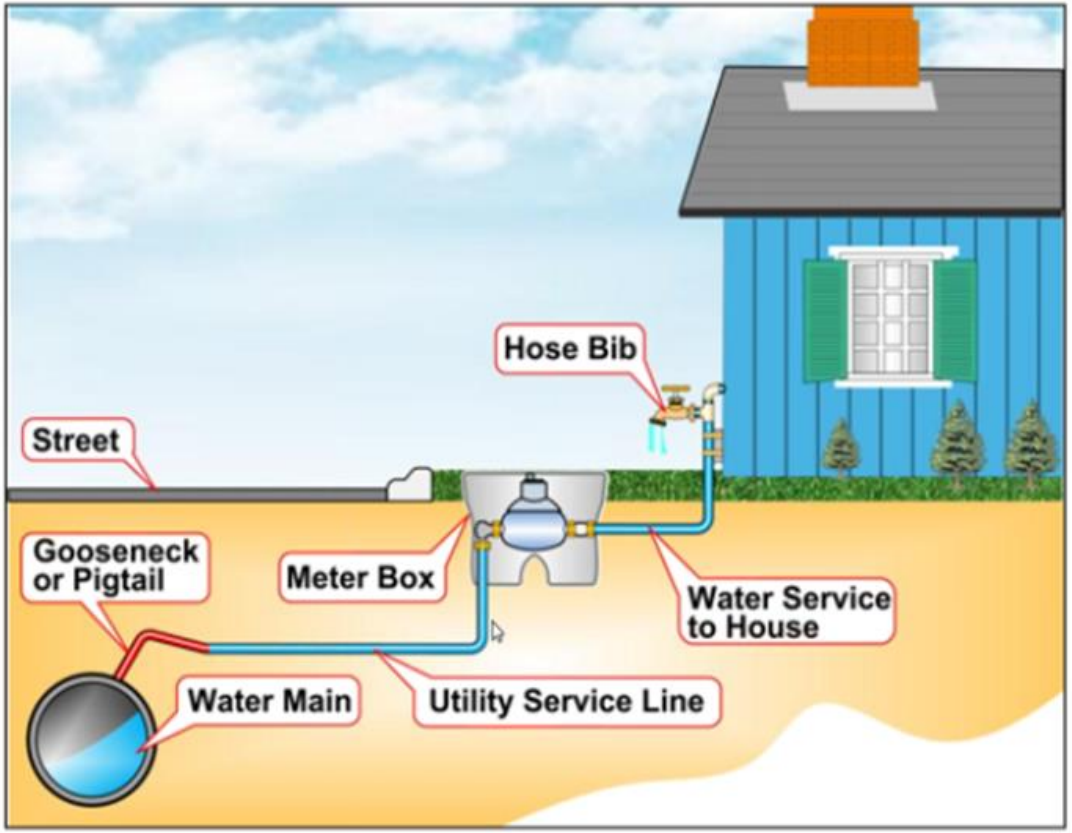
Photo courtesy of Bismark, ND Public Works

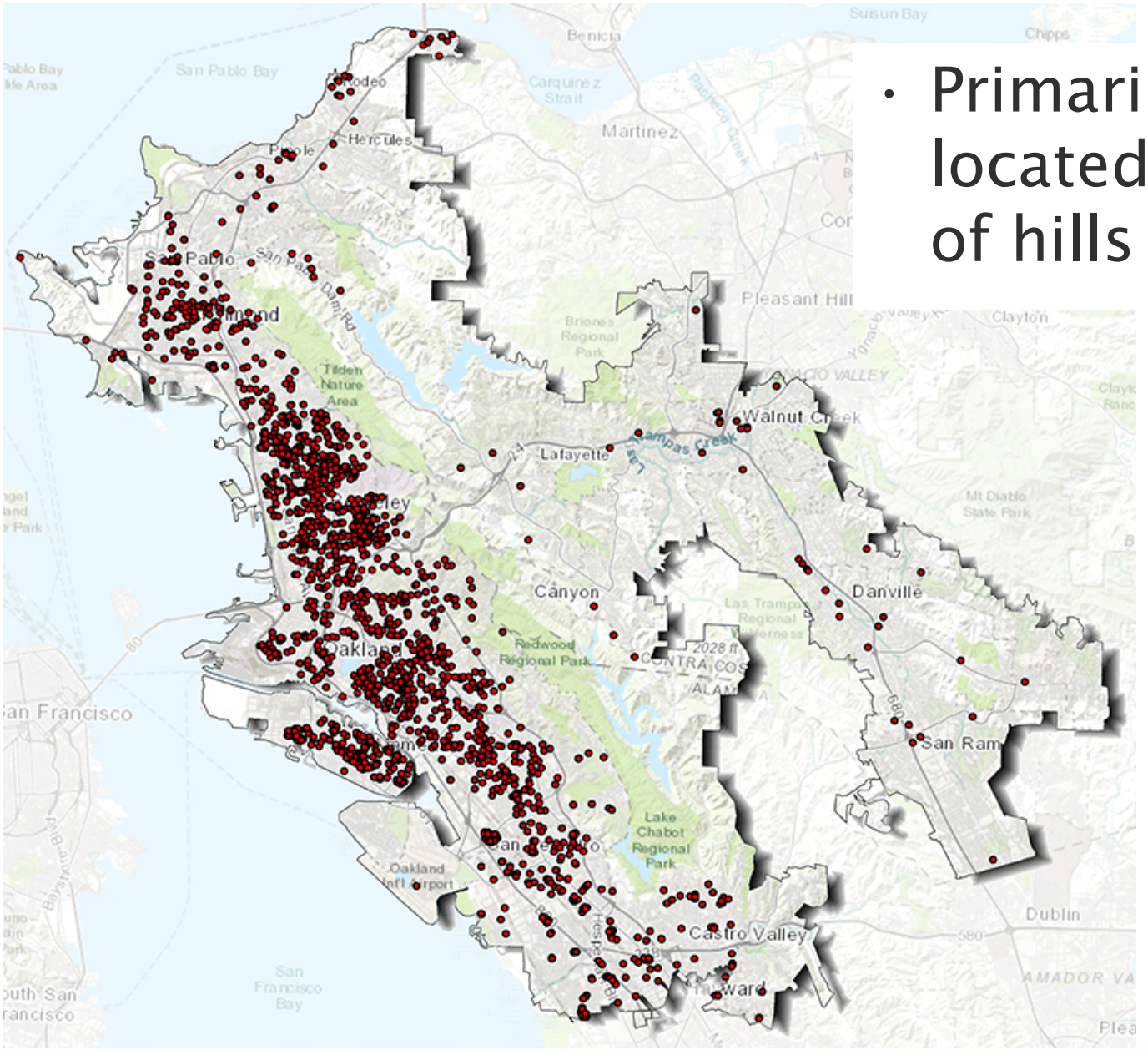
- Copper
- Polyvinyl chloride (PVC)
- Polybutylene (PB)
- Steel
- Cast iron (ductile pipe)
- Galvanized steel
- Chlorinated PVC (CPVC)
- Polyethylene (PE)
- Unknown material
- Transite/asbestos cement
- FPV
- Wrought Iron
- High density polyethylene (HDPE)



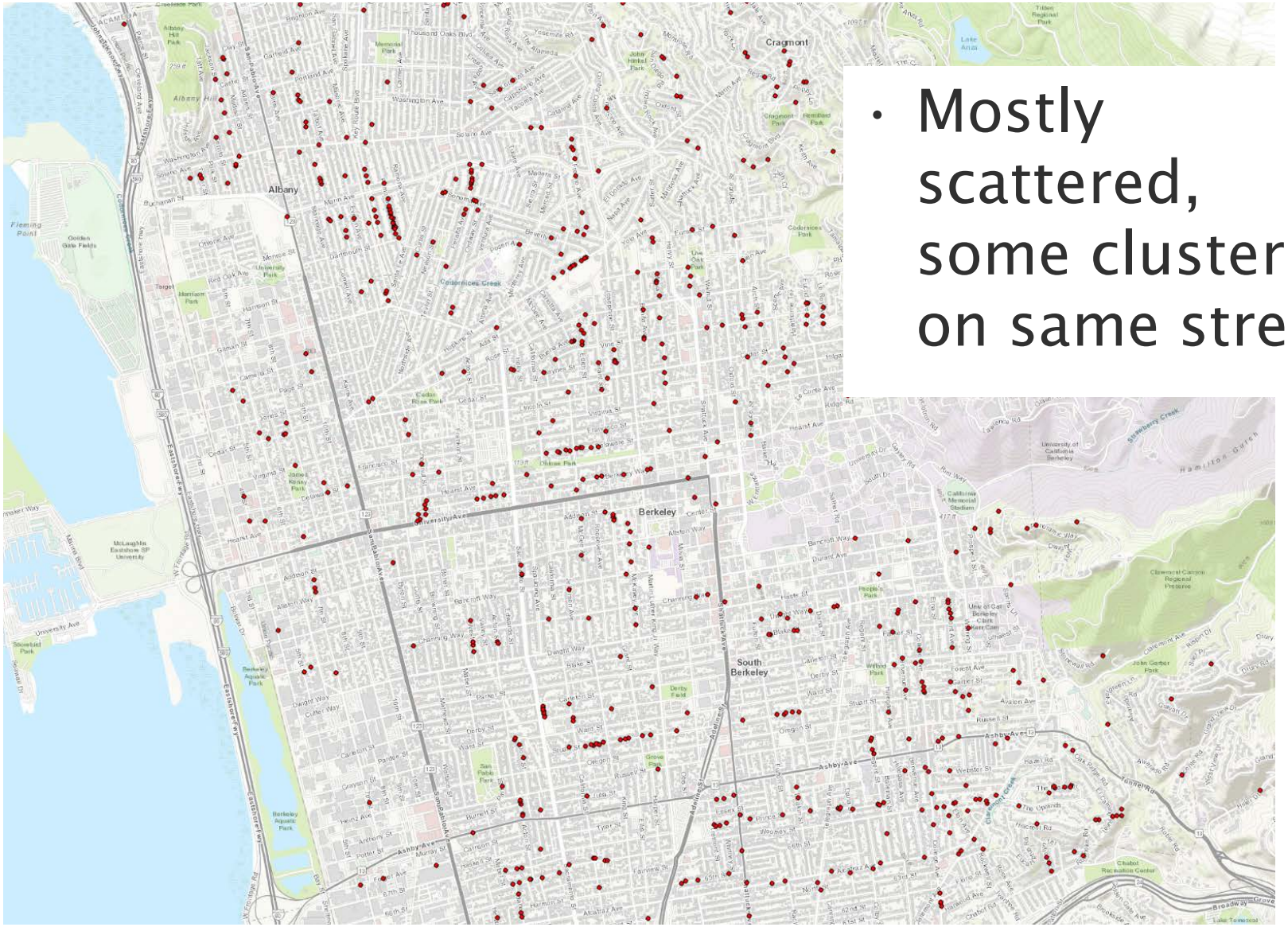
Galvanized Steel Service Lines

- Most were installed pre-1955
- District assumed all galvanized service lines were connected with lead goosenecks
- No way to know unless line is excavated





- Primarily located west of hills

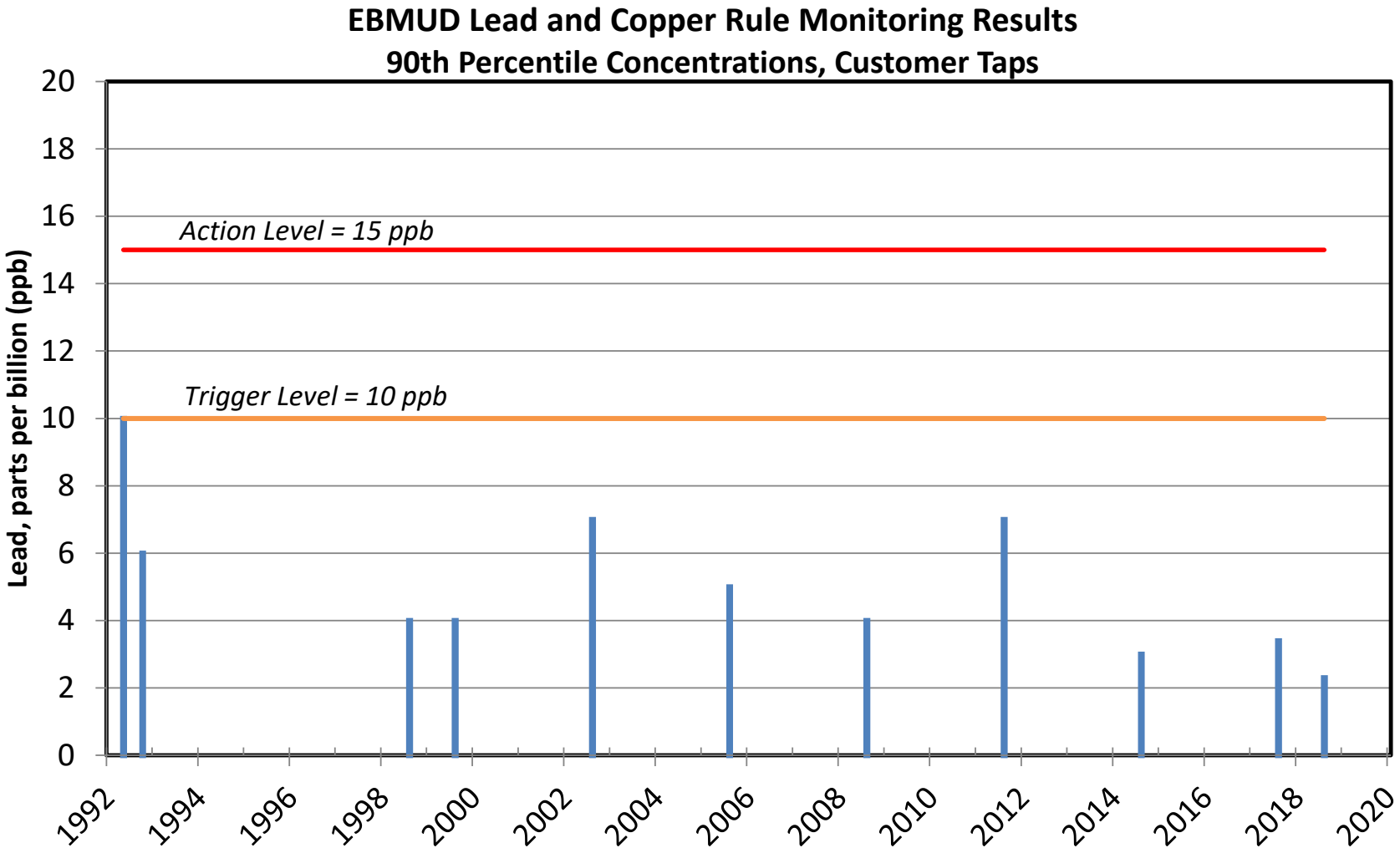


- Mostly scattered, some clustered on same street

Replacement Plan

- Replace galvanized service lines (and lead goosenecks) during regular work
  - Expected to take 20 years
- State recommends that plans extending beyond 10 years be supported by data demonstrating this is acceptable
  - Corrosion control program
  - School sampling results
  - Customer tap sample results
  - Special, focused studies

Lead and Copper Rule



Additional Tap Sample Results

- Customer voucher program
  - More than 750 customers have participated
  - 90th percentile less than 1 ppb
- School sampling program
  - Over 600 schools, multiple samples per school
  - 95th percentile less than 5 ppb
- Median customer tap samples from full lead lateral (prior to replacement) is 1.3 ppb

Lead Removal During Regular Work

- Pipeline Replacement
  - Target: 20 miles per year
  - Substandard services renewed as part of pipeline work
  - Replaced mains often have galvanized steel services
- Repairs
  - Service laterals often replaced when responding to leaks/breaks on services or mains

Priority Replacement of Galvanized Steel Services

- No further work is needed in schools
  - All sampling complete, lead concentrations are very low
  - No galvanized services remain
- All records reviewed for child care centers
  - Only 4 galvanized services
  - Will replace within six months
- Residential services
  - Will contact each and offer free testing via voucher, could involve non-profit organization to assist residents with testing process
  - Will prioritize service lateral replacement based on elevated lead level (if any) and presence of young children

Next Steps

- Prioritize and initiate galvanized steel service replacement
  - Continue to work with State on agreeable replacement schedule
  - Tentative plan is to replace 125/year, take up to 20 years
- Confirm services with “unknown” materials (172) and replace as needed
- Track progress; adjust as needed
- Develop customer education materials

Questions

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EAST BAY MUNICIPAL UTILITY DISTRICT

Main Wastewater Treatment Plant Odor Control Program Update

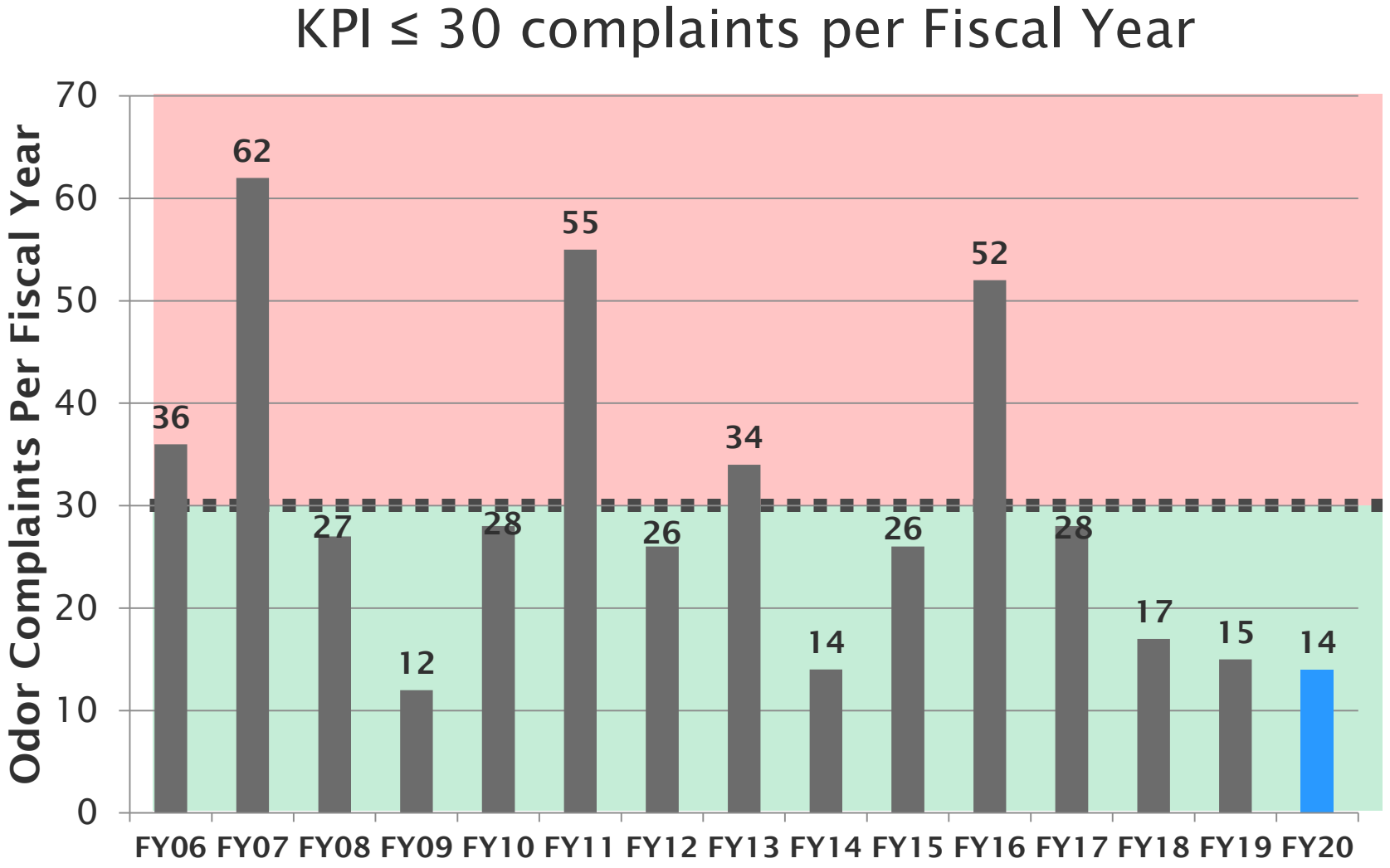
Planning Committee

August 11, 2020

Agenda

1. FY20 Odor Complaints
2. FY20 Odor Management Activities
3. Summary and Next Steps

Achieved Key Performance Indicator (KPI) in FY20

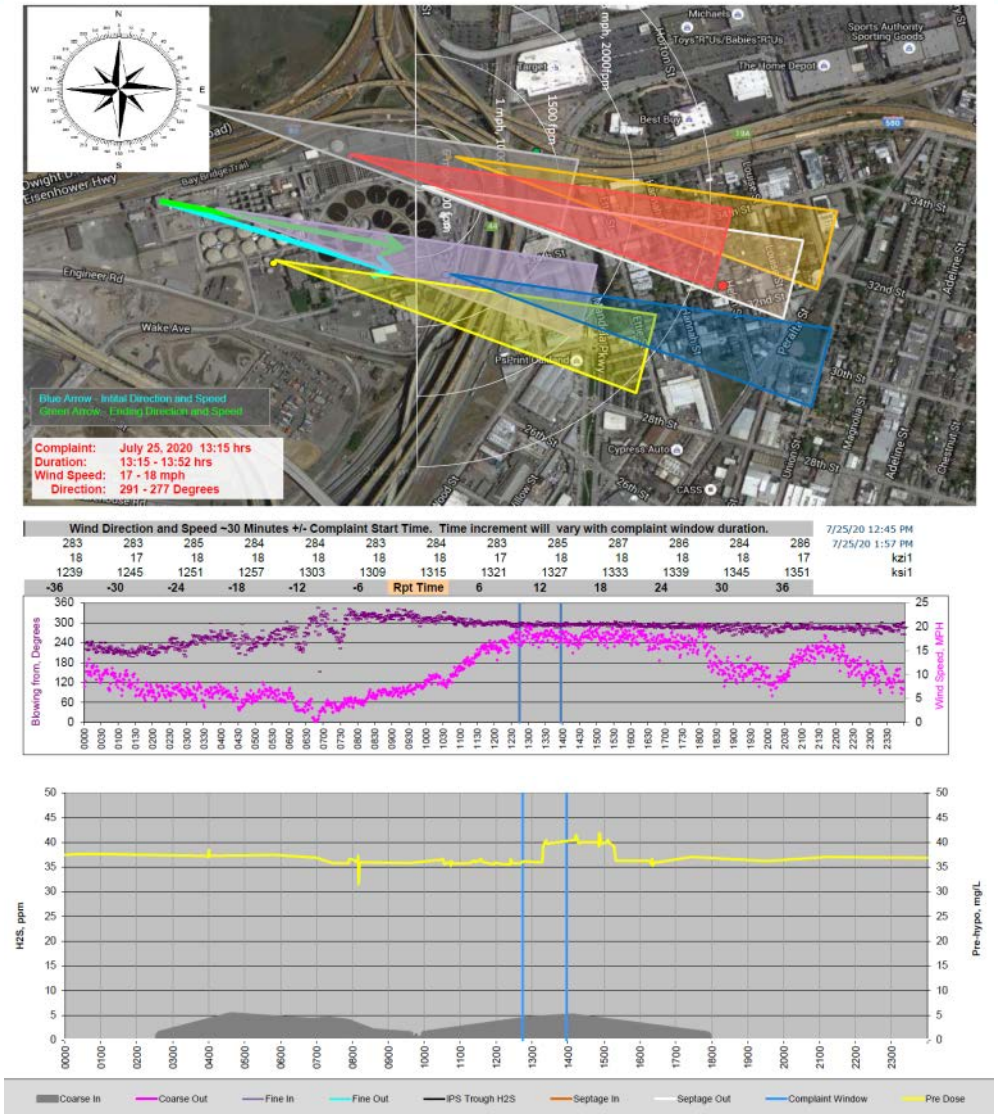


Map of FY20 Odor Complaints

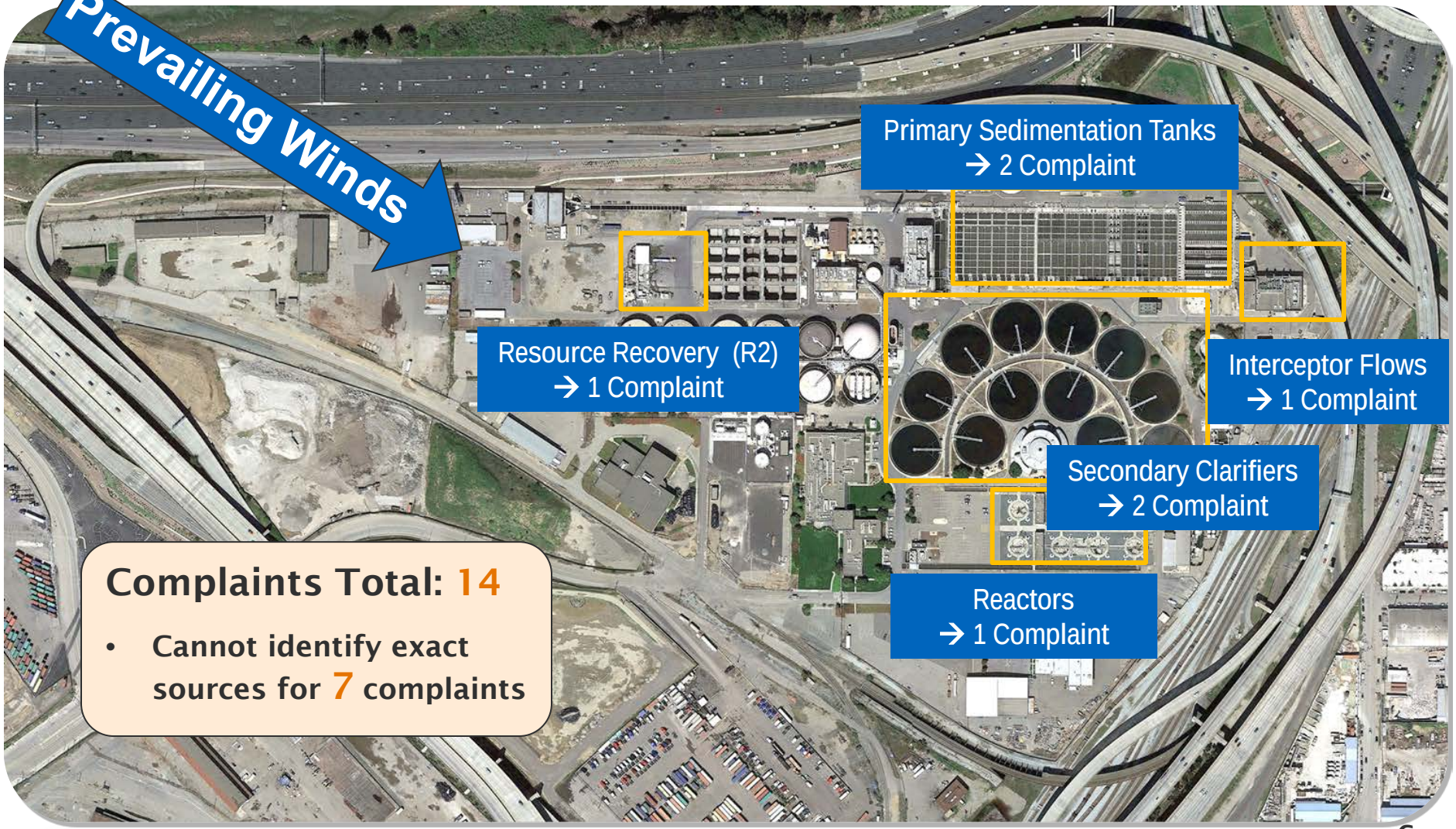
Fourteen Total Complaints

Investigate Odor Complaints

1. Receive complaint
2. Perform field investigation
3. Identify potential cause and take proper corrective actions
4. Prepare incident summary report
5. Prevent incident from recurring



FY20 Odor Complaints – Location of Probable Sources



Complaints Total: 14

- Cannot identify exact sources for 7 complaints

FY20-FY24 Capital Improvements

Existing Odor Control Units for R2 receiving area are undersized

Fats, Oil, & Grease/ High Strength Liquid Receiving

- Biofilter
- Activated carbon

Blend Tanks

- Biofilter
- Iron sponge
- Activated carbon

New information learned in handling R2 wastes

New Odor Control Unit will expand capacity to handle foul air associated with R2 handling

- Biotrickling filter
- Iron sponge
- Activated carbon

Long-Term Odor Control Planning

The Integrated Main Wastewater Treatment Plant (MWWTP) Master Plan is evaluating…

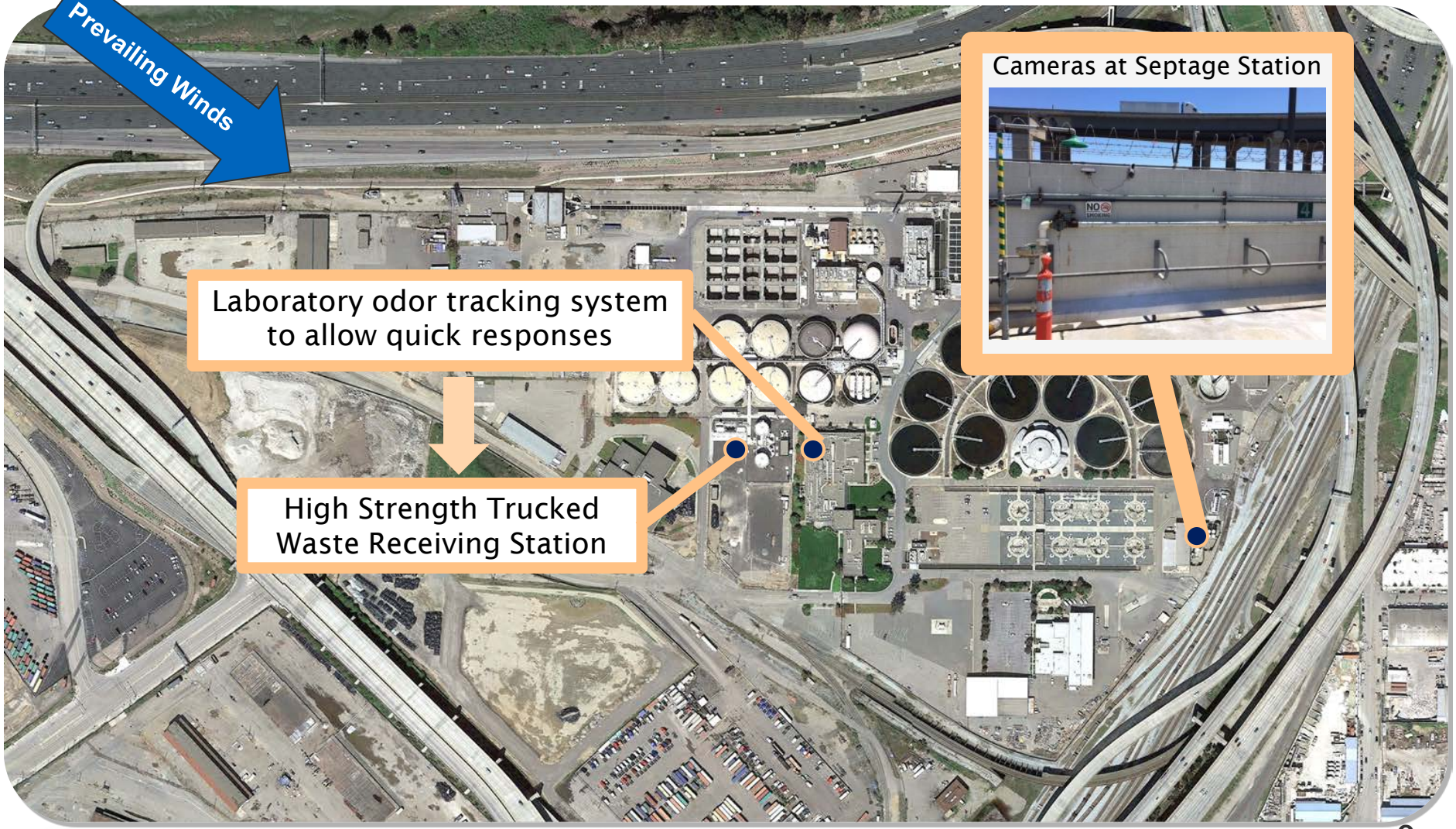
…and incorporating odor control in the roadmap

Upcoming Master Plan Board Presentations

MWWTP Virtual Tour
October 2020

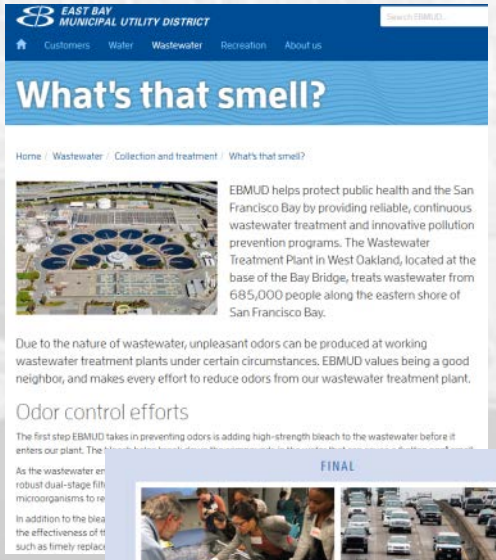
Infrastructure Workshop
November 2020

FY20 Operations and Maintenance Improvements



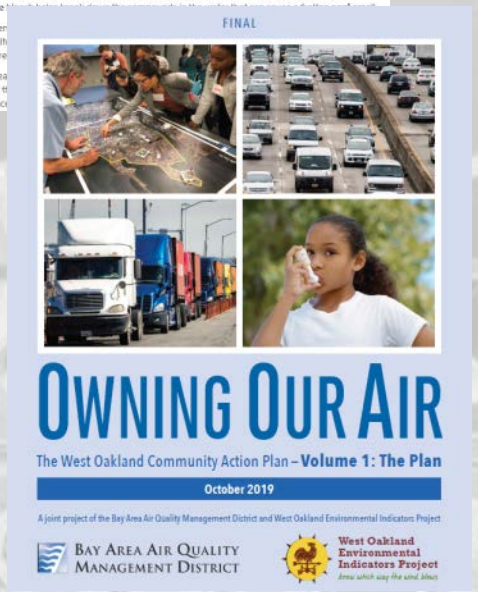
FY20 Community Engagement

1 **Updated District Odor Control Web Page**



2 **Participating in Assembly Bill 617 West Oakland Community Action Plan**

- Steering Committee meetings
- Monthly subcommittee meetings focusing on specific areas relevant to the District (Port and Freight, Land Use)



https://www.baaqmd.gov/community-health/community-health-protection-program/west-oakland-community-action-plan

Summary and Next Steps

CHALLENGES

- Close neighbors
- Wind direction blowing from the Bay to communities
- Nature of wastewater
- Odors from resource recovery trucked wastes
- Operations and maintenance and construction needs

GOAL

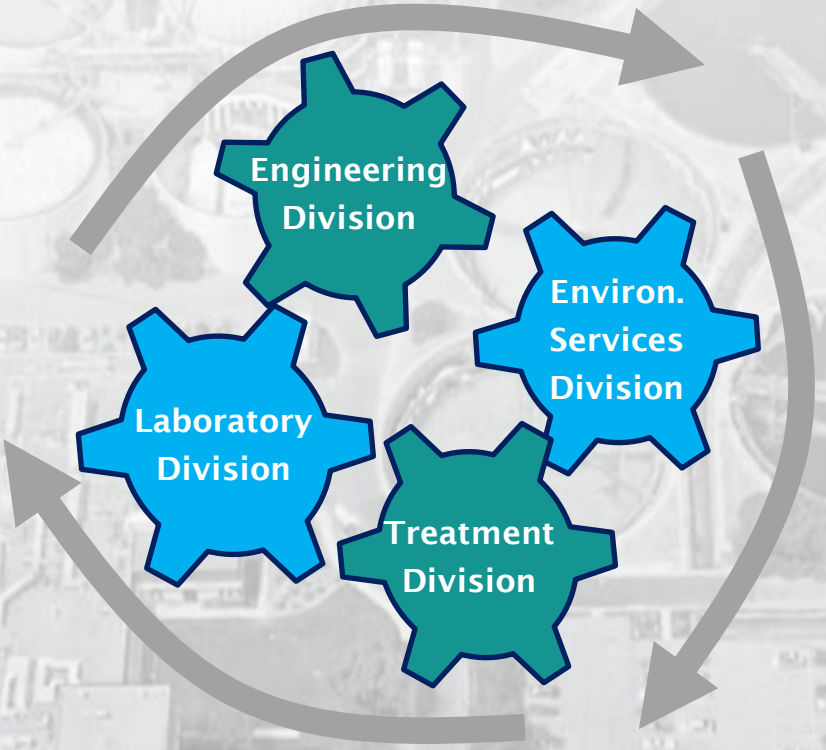
Minimize odors and meet KPI of ≤ 30 complaints per year

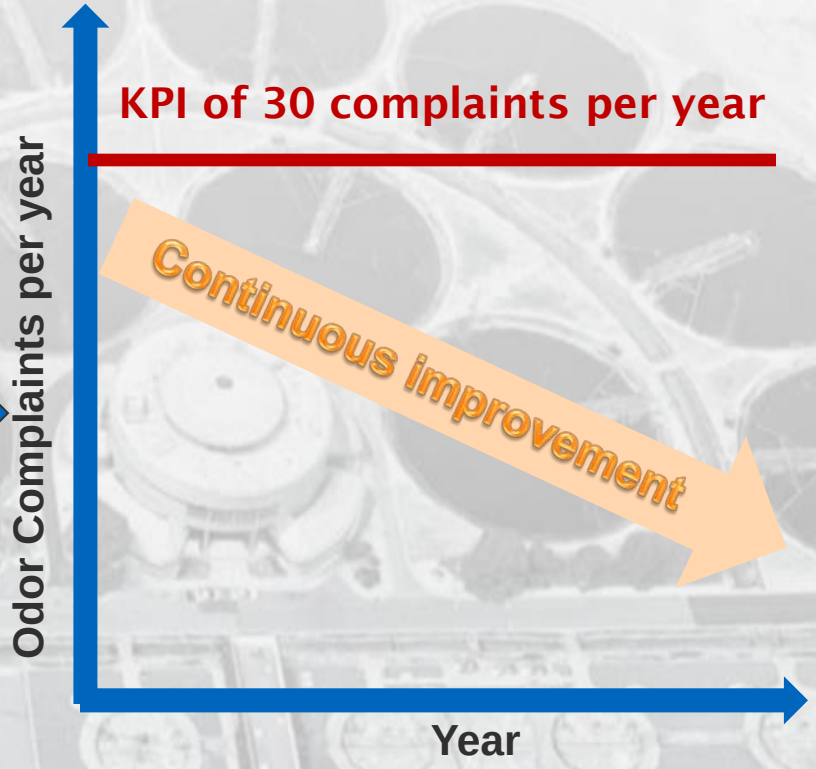
PLAN

1. Reduce potential odors through ongoing capital investments
2. Continue improving plant operation and maintenance practices
3. Continue engaging with West Oakland neighbors

Odor Management Program Team

The entire Wastewater Department staff will continue working proactively to minimize odor and meet KPI of ≤ 30 complaints per year






Thank You!

EAST BAY MUNICIPAL UTILITY DISTRICT

IT Security Update

Planning Committee
August 11, 2020

Agenda

- Cyber Crime Trends
- Security Awareness
- IT Vulnerability Assessment
- Significant IT Projects
- ICS Cybersecurity

Cyber Crime Trends

- Email remains the primary attack vector
- Ransomware attacks continue

Security Awareness

- Phishing email awareness tests sent to all District employees six times in FY20
- Employees who fail the tests are assigned additional awareness training
- An increasing number of employees are identifying and reporting the phishing emails

IT Vulnerability Assessment

- District's Internal Auditor contracted with a third-party to conduct a vulnerability assessment of the District's business systems
- Some findings have already been addressed and an overall plan to address the full report to be developed

FY20 Significant IT Projects Completed

- Microsoft Teams implementation
- Enhanced Multi-factor authentication
- Windows 10 rollout complete
- Endpoint Protection Software installed on all laptops and desktops
- District Firewall platform upgraded
- Centralized Log Analysis Tool implemented
- Core Network Switches Replaced

Significant IT Projects for FY21

- Implement Office 365 including DLP features
- Complete LIMS project
- Complete first phase of FIS/MMIS replacement project
- Upgrade Oracle Database and system platform
- Complete Plan to address Internal Auditor's Assessment Report
- Implement an ICS Cybersecurity Vulnerability Assessment update

ICS Cybersecurity

- Provided an ICS risk and resilience assessment for the District's America's Water Infrastructure Act of 2018 (AWIA) report
- Completed the ICS cybersecurity practices document
- In October 2019, staff presented the District's ICS cybersecurity program to the Contra Costa County Civil Grand Jury

Questions

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