

Water System Improvement Program Project Spending and Bond Issuance Update

Eric Sandler, SFPUC CFO & AGM Business Services

Board of Supervisors

Government Audit and Oversight Committee

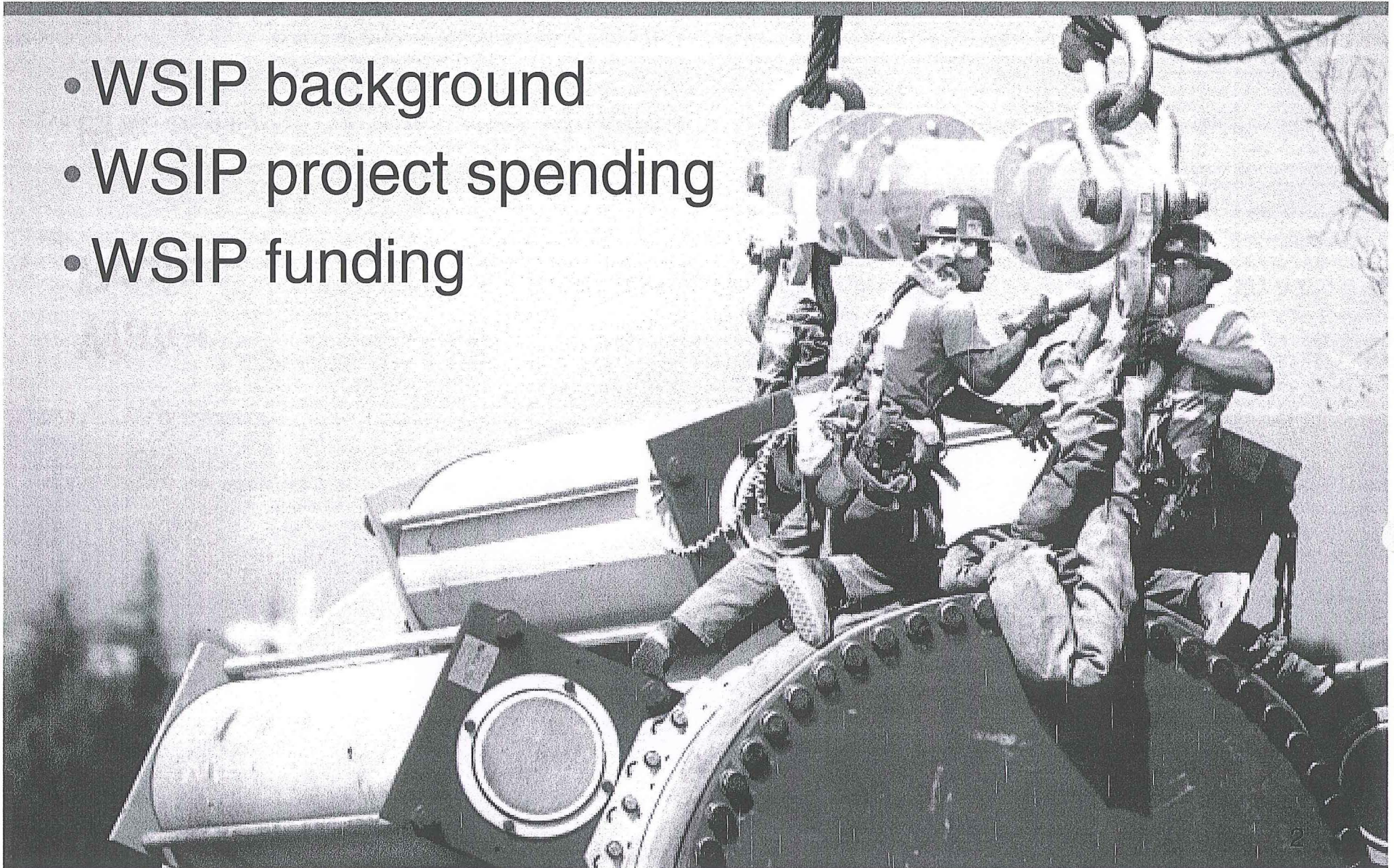
April 5, 2017



San Francisco
Water
Power
Sewer

Agenda

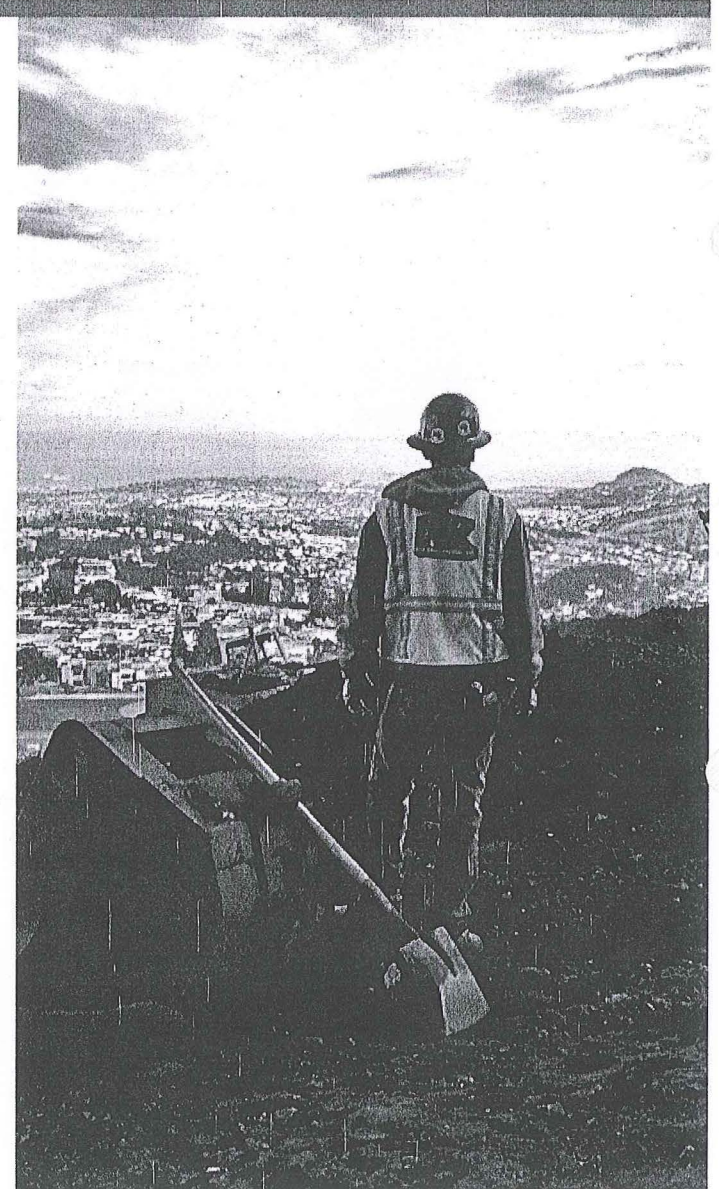
- WSIP background
- WSIP project spending
- WSIP funding



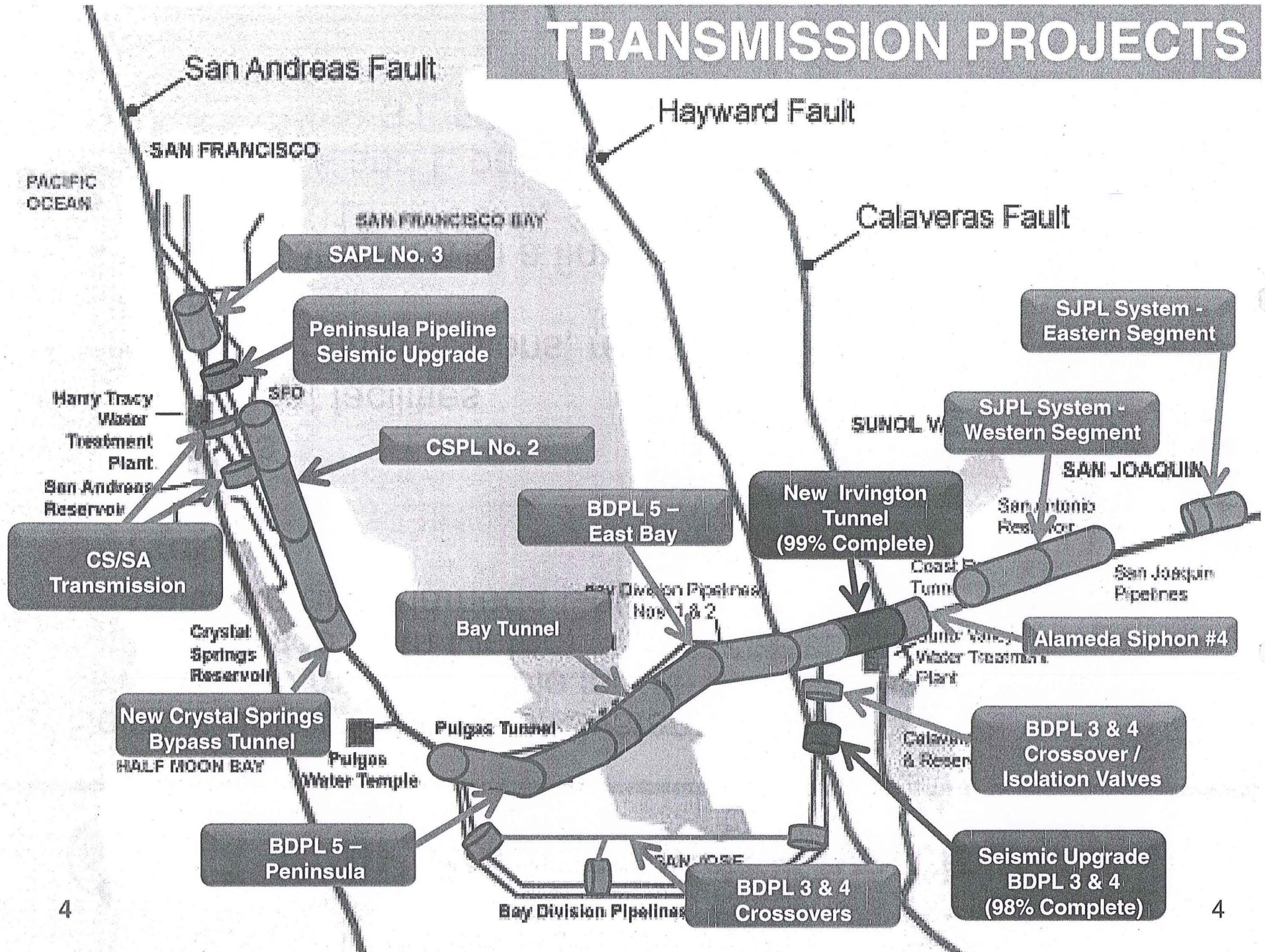


WSIP Background—Overview

- Seismic upgrade of Water System—serving 2.6 million people in San Francisco, San Mateo, Santa Clara and Alameda Counties
- 87 Projects
 - 2 dams
 - 3 tunnels
 - 3 treatment facilities
 - Pipelines, pump stations, reservoirs, tanks, etc.
- \$4.8 Billion Budget with a final completion 2019
- Propositions A and E passed in 2002
- As of December 31, 2016, program is >90% complete

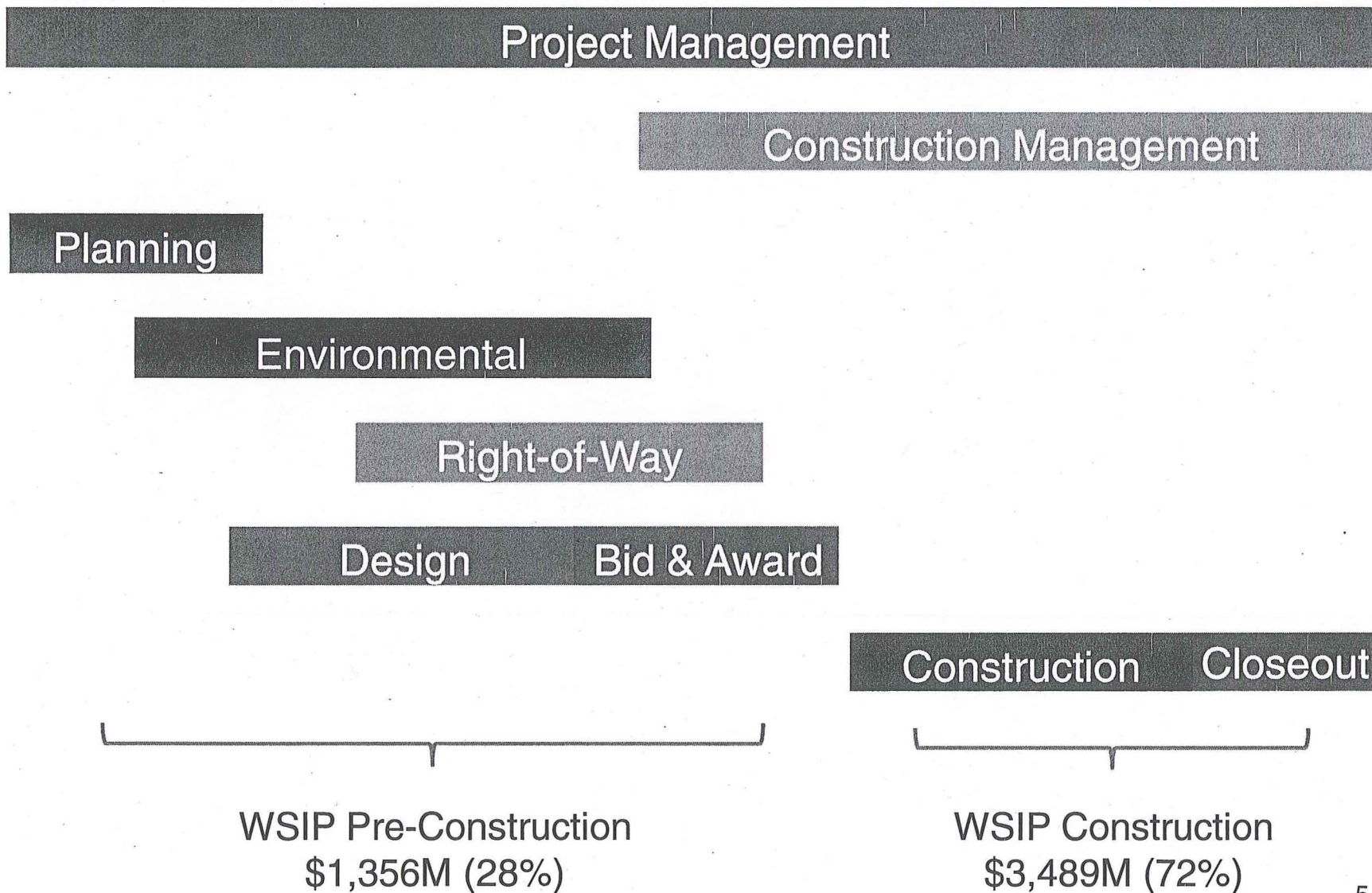


TRANSMISSION PROJECTS

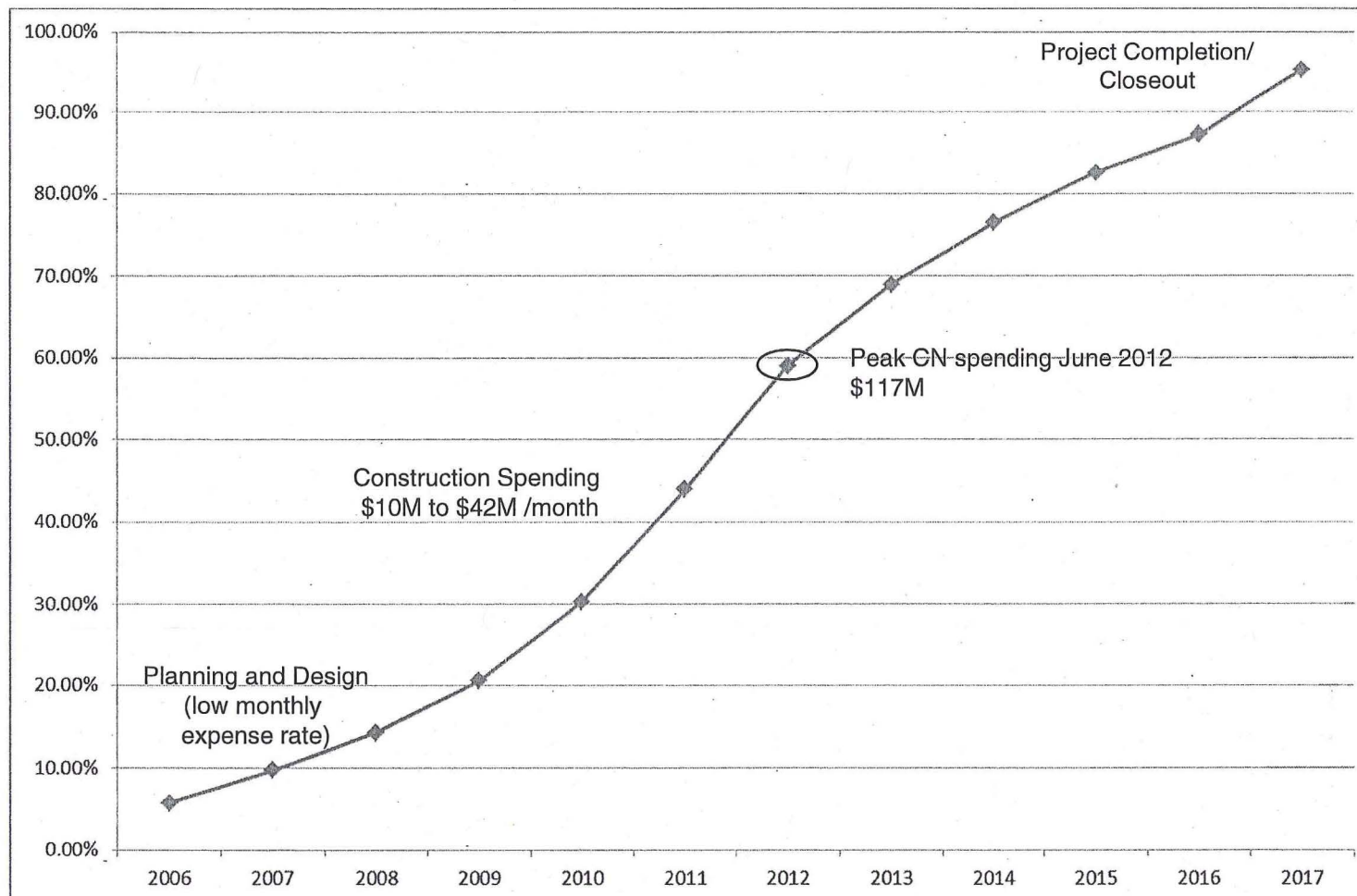




WSIP Project Spending—Delivery Phases



WSIP Project Spending—Cumulative



Note: Graph presents spending for the 2006-2017 portion of the WSIP Overall Program.

WSIP Funding Strategy

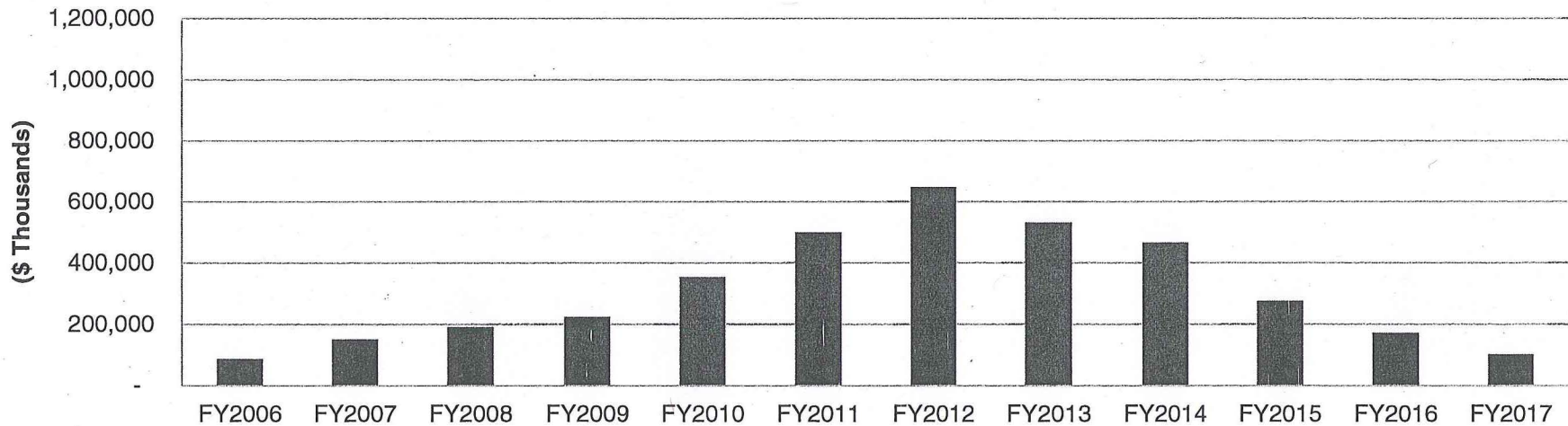
- WSIP funded through the use of short- and long-term indebtedness, including:
 - Commercial paper (CP)—provides for budget releases, contract certification, encumbrances, and project costs
 - Long-term debt for refinancing of CP and payment of project costs
- Since 2006, SFPUC has issued 11 new money revenue bond series for WSIP



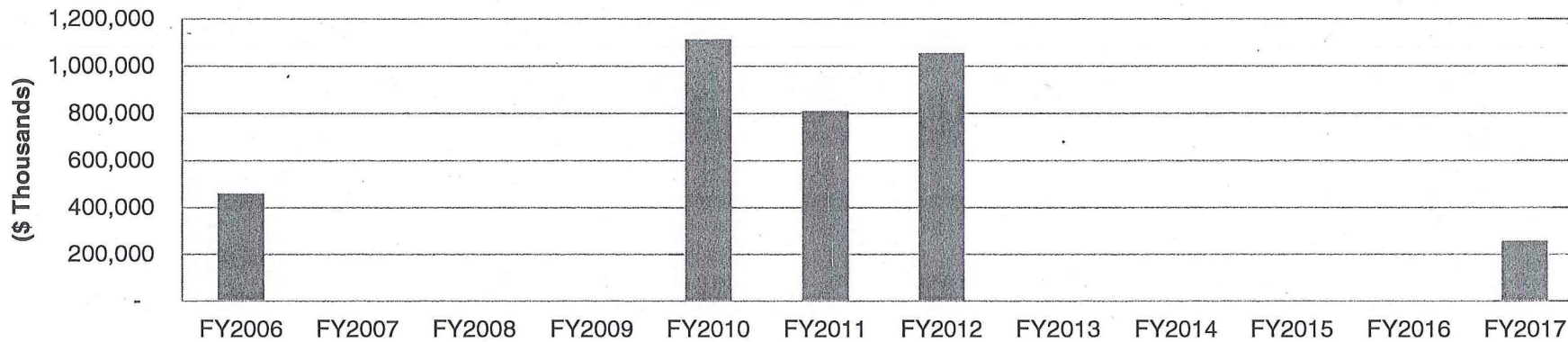
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Annual WSIP Project Spending & Funding

Annual Project Spending



Annual Bond Funding





San Francisco
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Summary

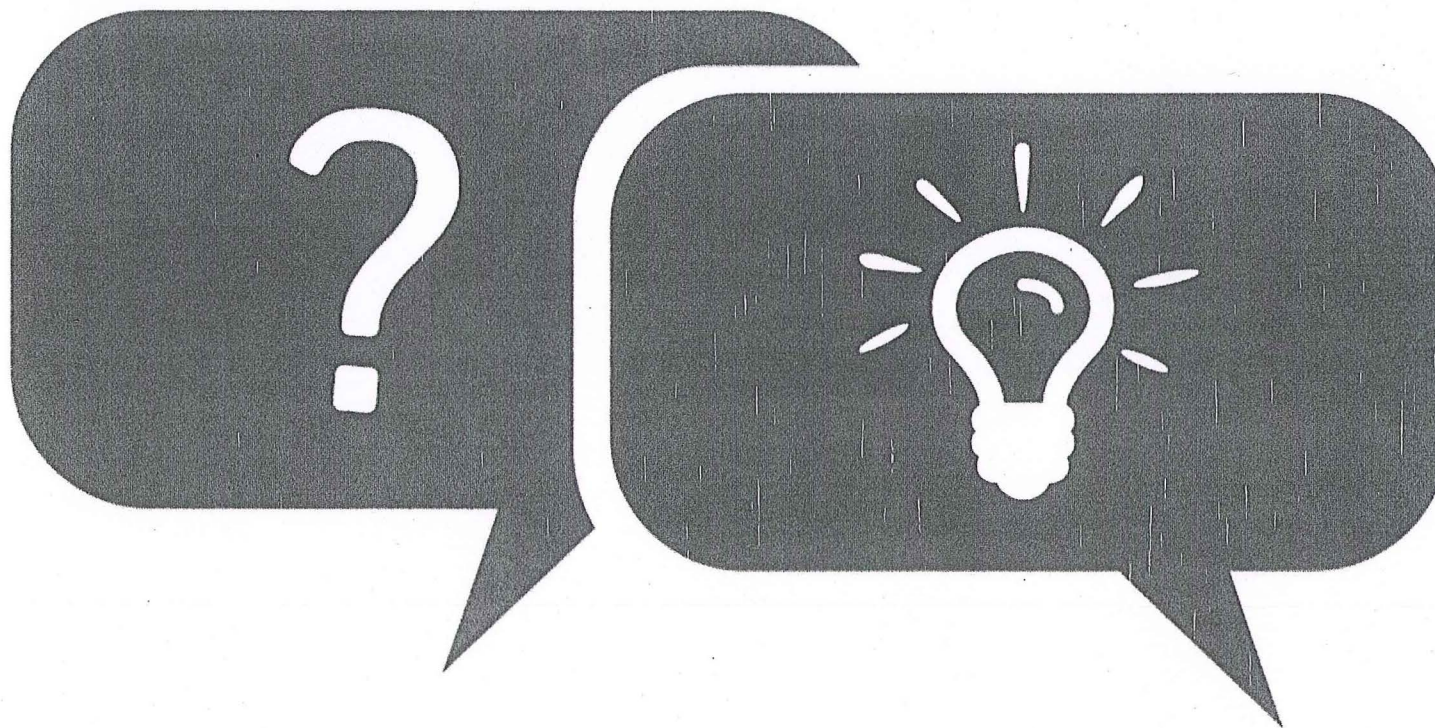
- Program delivery is a complex, multi-year effort
- Project delivery needs drive capital financing strategy

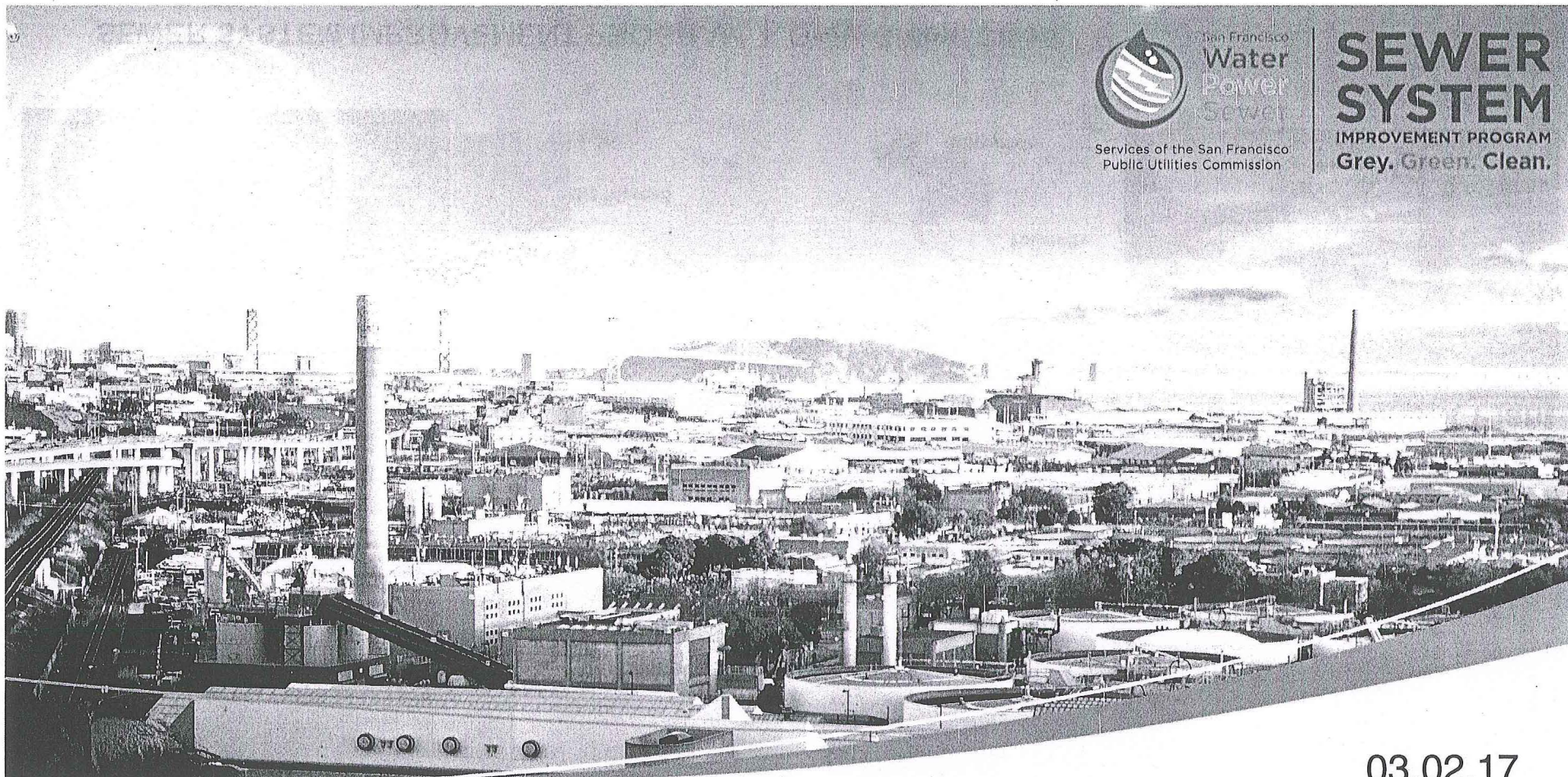




San Francisco
Water
Power
Sewer

Questions





Services of the San Francisco
Public Utilities Commission

**SEWER
SYSTEM**
IMPROVEMENT PROGRAM
Grey. Green. Clean.

03.02.17

Hearing - San Francisco Public Utilities Commission Sewer System Improvement Program

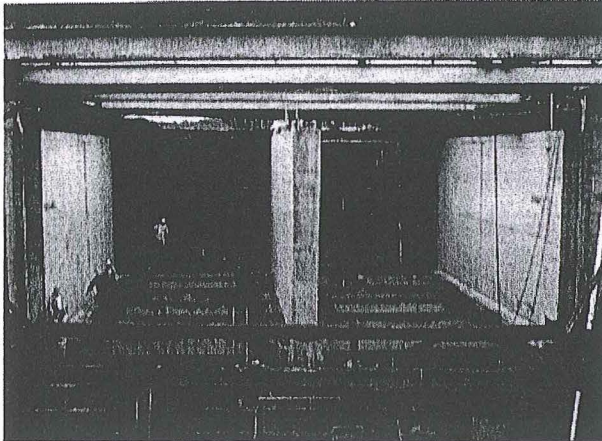
Karen Kubick, Wastewater Enterprise Capital Program Director

SF BOS: Government Audit & Oversight Committee

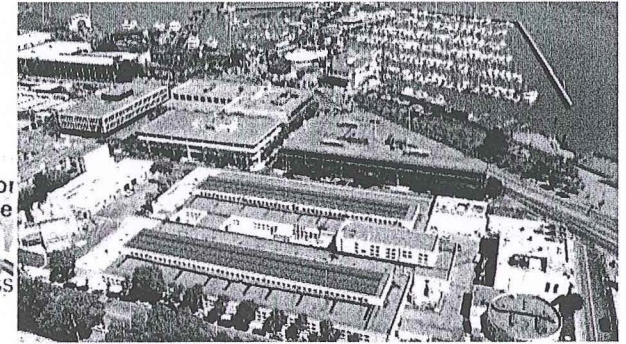
FILE 161134
SOGA 17700 3/2/2017

Our Combined Sewer System

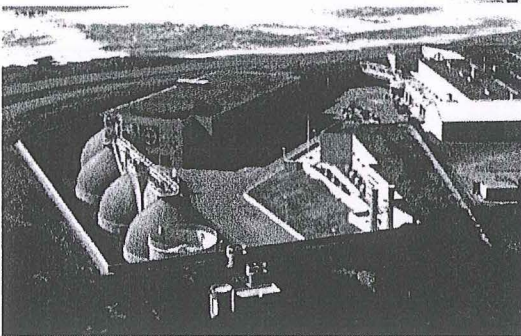
Transport/Storage Structure



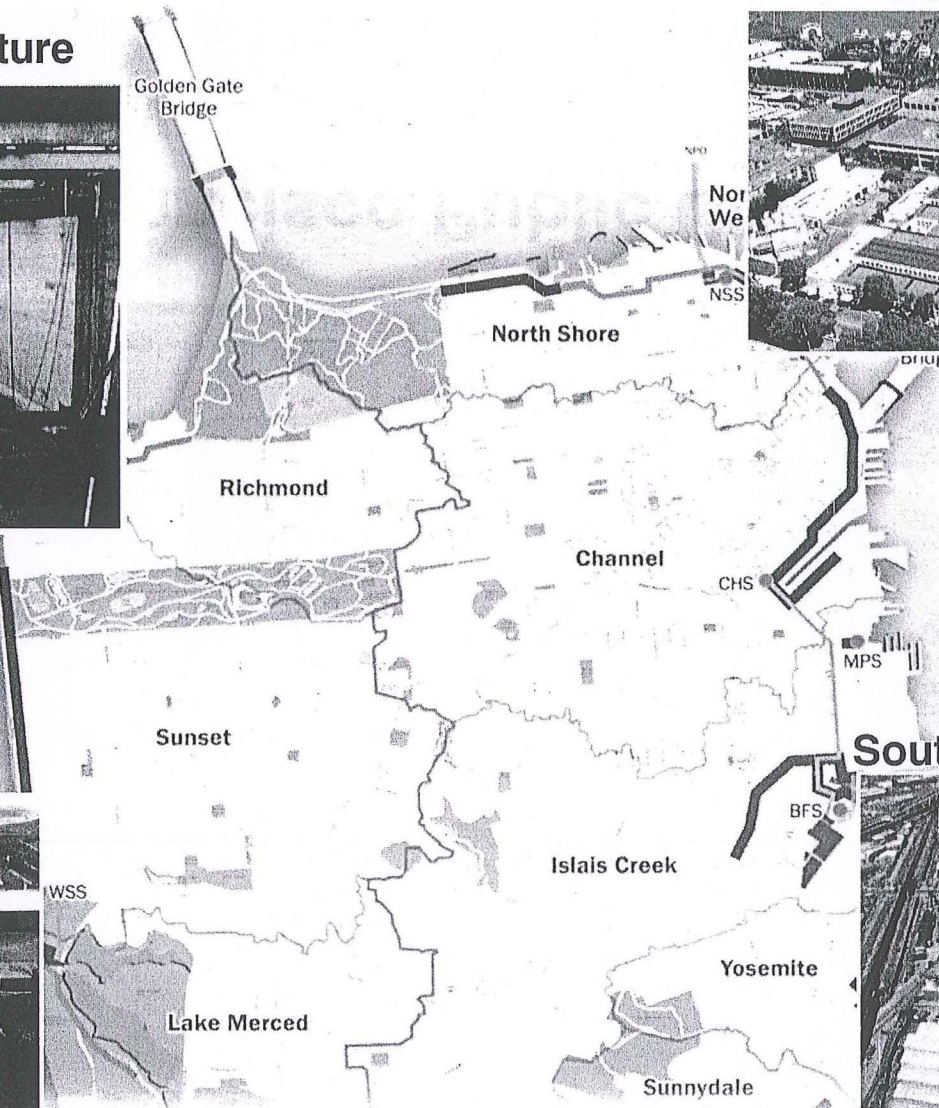
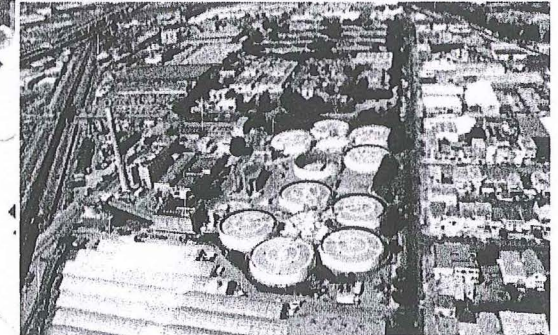
North Point Wet Weather Facility



Oceanside Treatment Plant

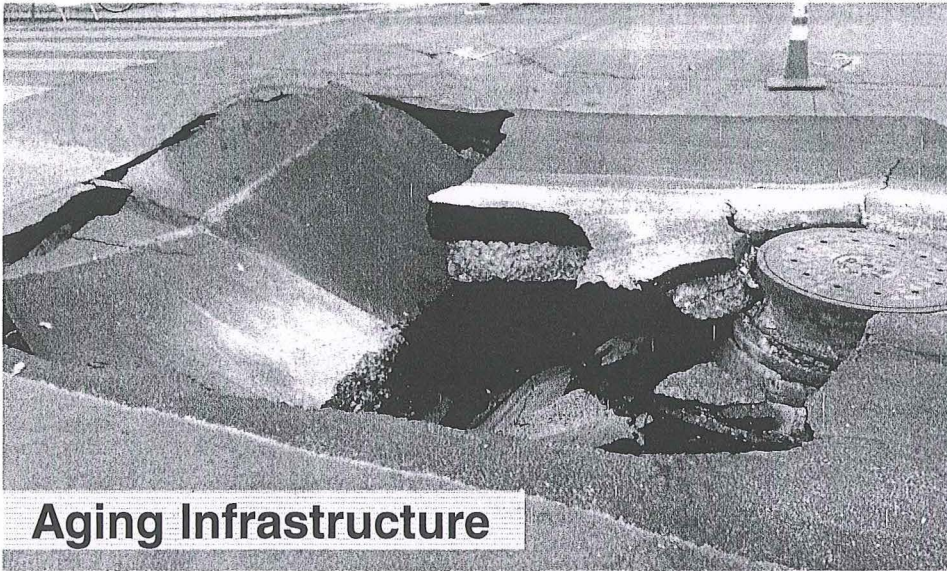


Southeast Treatment Plant



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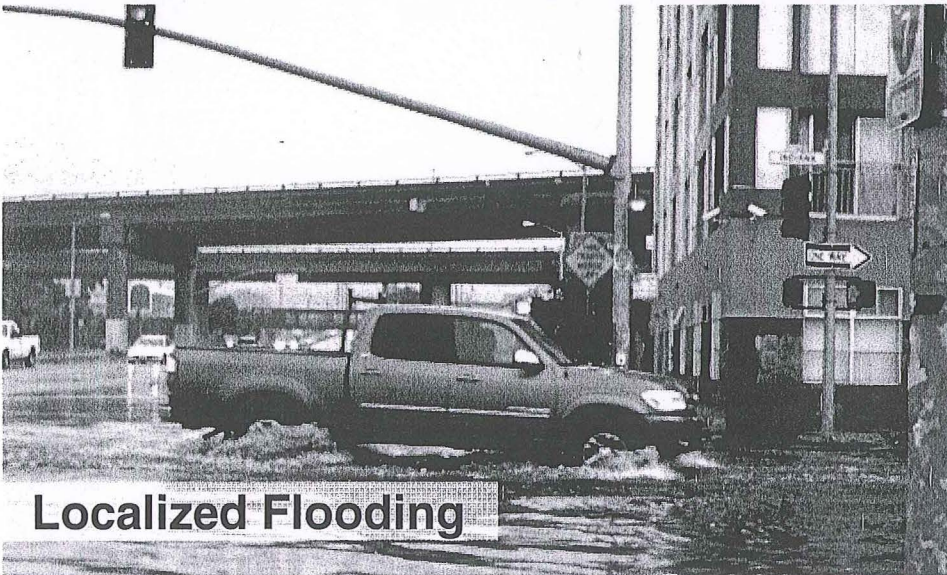
Some of Our Priority Challenges



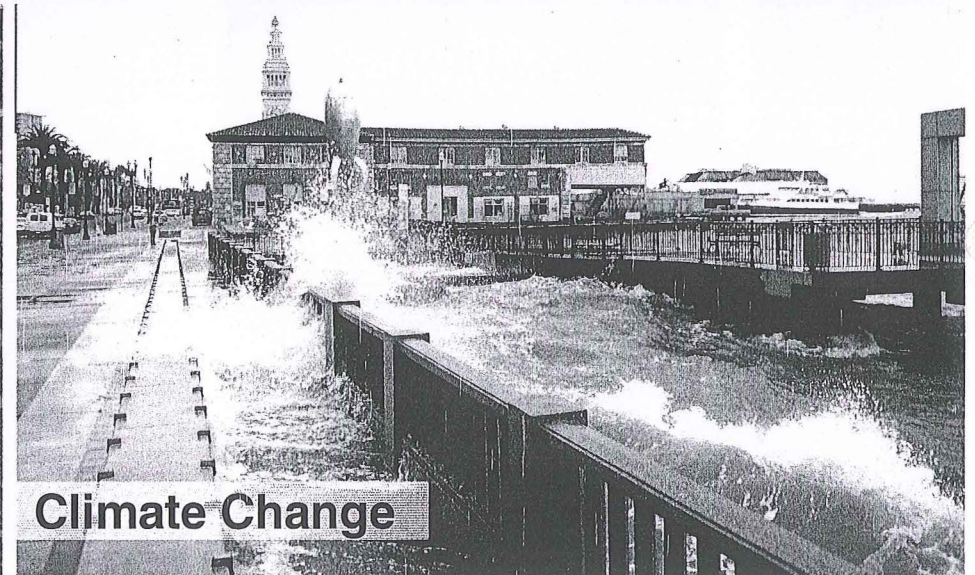
Aging Infrastructure



Seismic Safety



Localized Flooding



Climate Change

Sewer System Improvement Program (SSIP)

Grey.



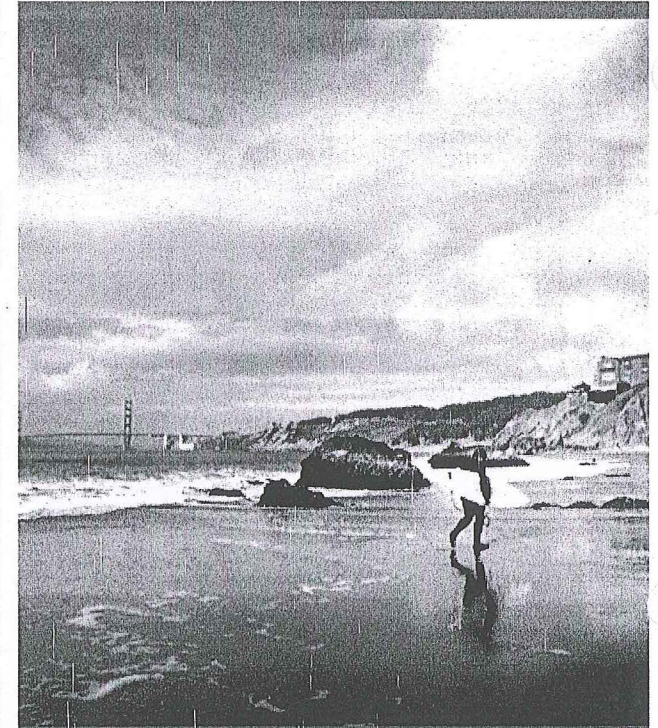
**SYSTEM AND SEISMIC
RELIABILITY &
REDUNDANCY**

Green.



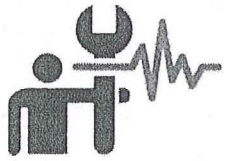
**INNOVATIVE
STORMWATER
MANAGEMENT SOLUTIONS**

Clean.

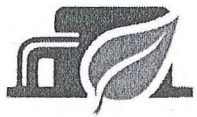


**PROTECTING PUBLIC
HEALTH
& THE ENVIRONMENT**

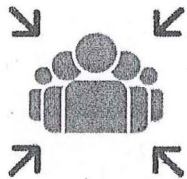
SSIP's Levels of Service Goals



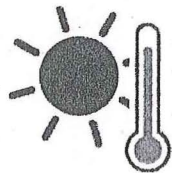
Provide a Compliant, Reliable, Resilient, & Flexible System that can Respond to Catastrophic Events



Integrate Green & Grey Infrastructure to Manage Stormwater and Minimize Flooding



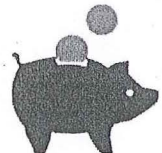
Provide Benefits to Impacted Communities



Modify the System to Adapt to Climate Change



Achieve Economic & Environmental Sustainability



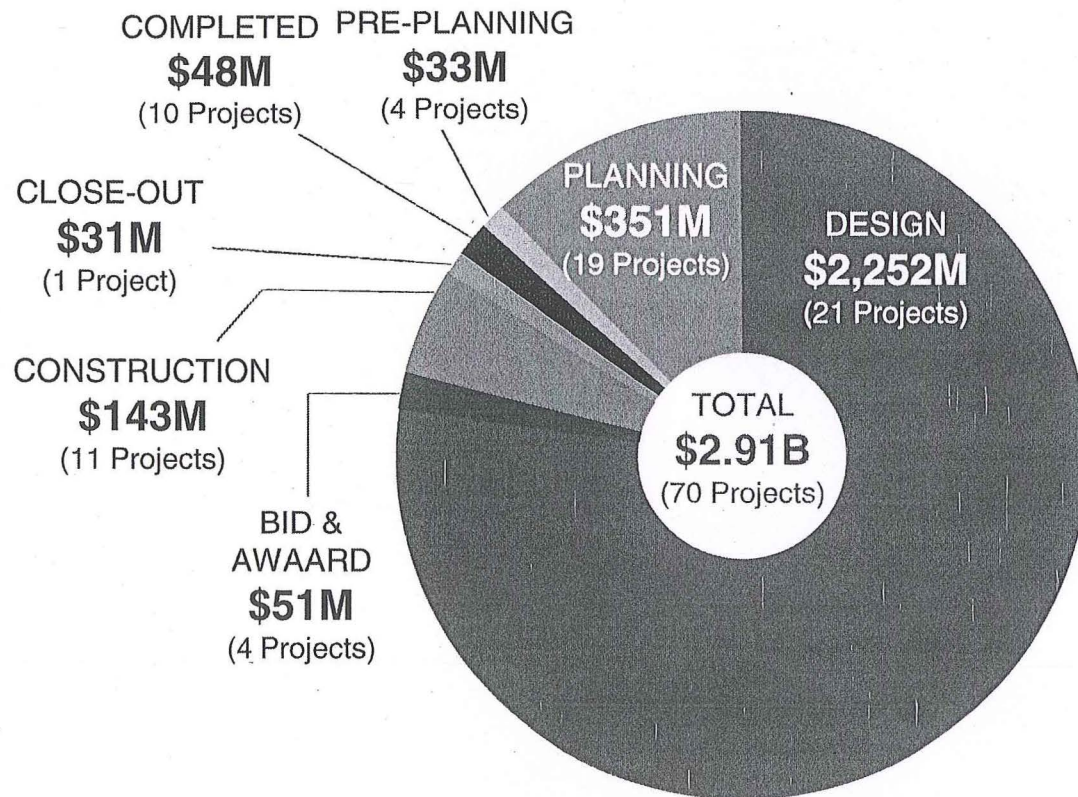
Maintain Ratepayer Affordability

SSIP Overall Budget

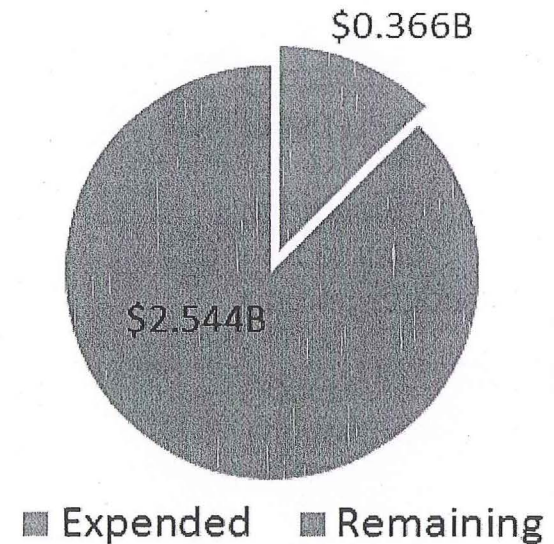
Subprograms	Phase 1 (\$M)	Phase 2 (\$M)	Phase 3 (\$M)	Total Cost (\$M)
TREATMENT PLANTS	2,182	1,299	407	3,888
Biosolids Digester Facilities Project	1,276	47	-	1,323
SEP New Headworks Facility	359	-	-	359
Southeast Treatment Plant (SEP) Improvements	327	711	103	1,141
Oceanside Treatment Plant (OSP) Improvements	133	214	104	451
North Point Wet Weather Facility (NPF) Improvements	87	327	200	614
COLLECTION SYSTEM	505	1,689	476	2,670
Central Bayside System Improvement Project	64	782	-	846
Large Sewers/Tunnels/Odor Control Upgrades	58	131	-	189
Interdepartmental Projects	96	44	-	140
Pump Stations and Force Main Improvements	76	214	188	478
Combined Sewer Discharge & Transport/Storage Boxes	27	138	120	285
Stormwater Management Projects	96	180	168	444
Flood Resilience Projects	88	200	-	288
Land Reuse	98	-	-	98
Program Management	125	152	43	320
Total SSIP	2,910	3,140	926	6,976

SSIP Phase 1 Status *(as of December 2016)*

Project Count by Phase



Expenditures (\$)

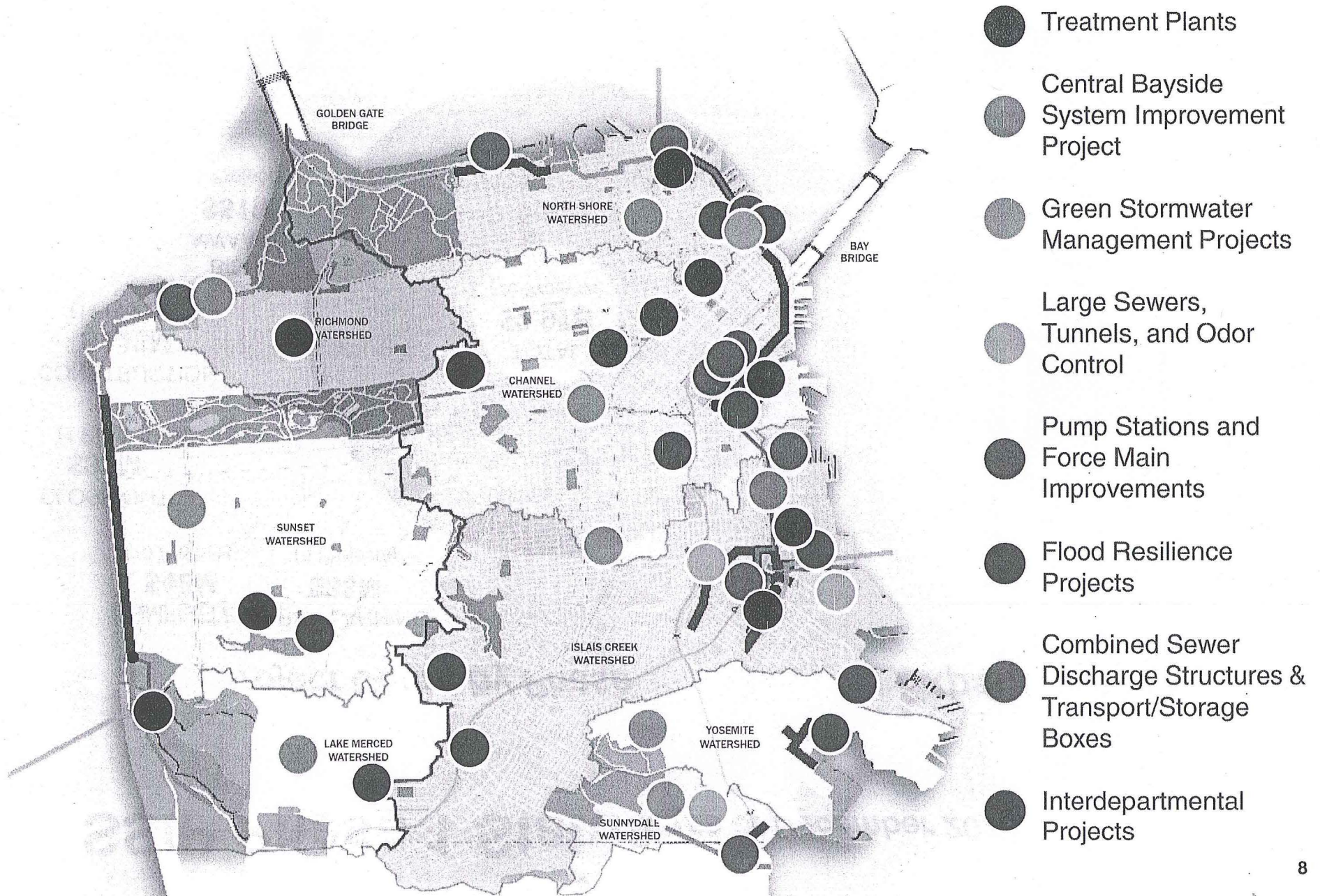


% Complete



16% of Phase 1 Projects

SSIP Phase 1 Projects | \$2.9 Billion



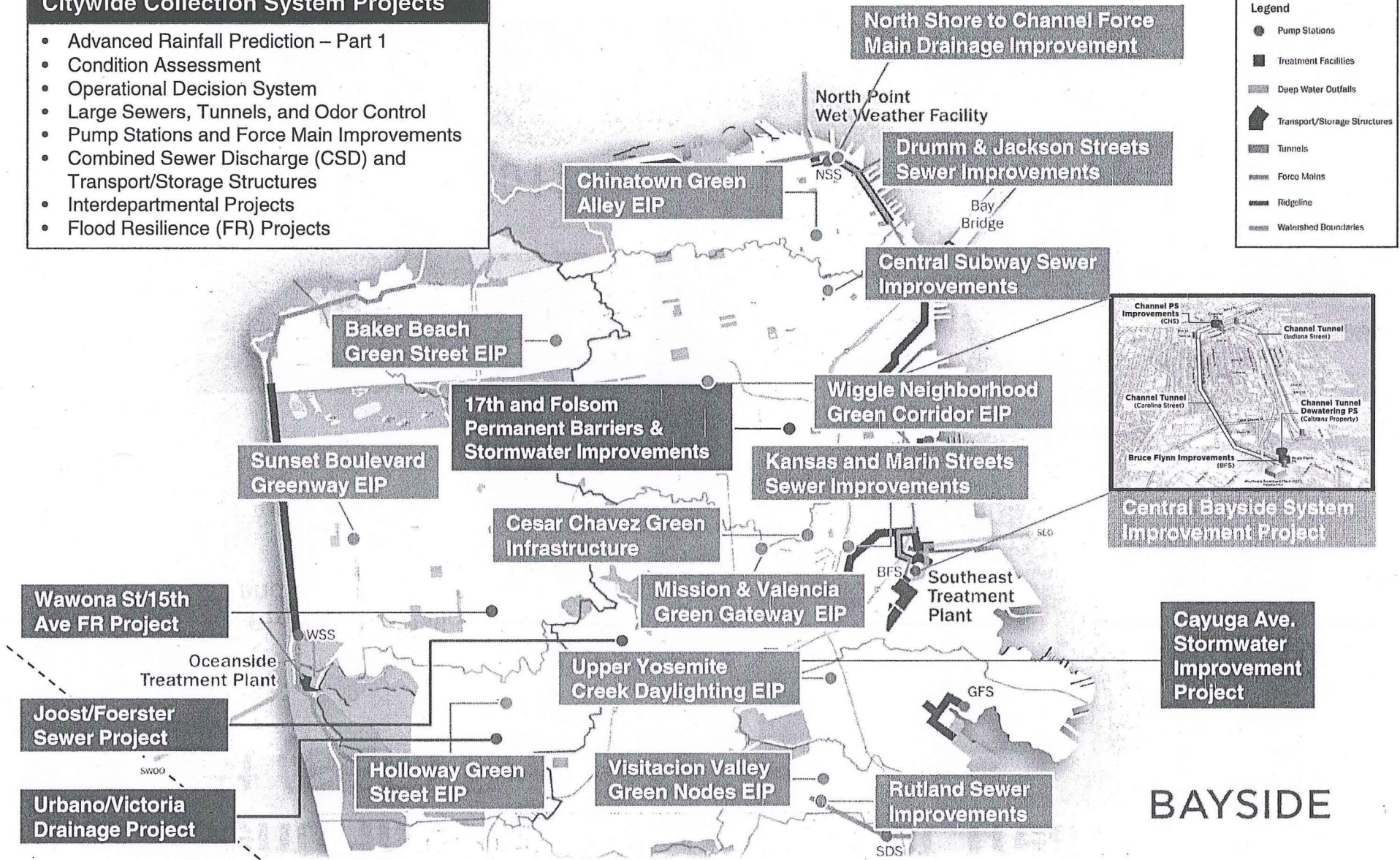
Collection System Upgrades

Citywide Collection System Projects

- Advanced Rainfall Prediction – Part 1
- Condition Assessment
- Operational Decision System
- Large Sewers, Tunnels, and Odor Control
- Pump Stations and Force Main Improvements
- Combined Sewer Discharge (CSD) and Transport/Storage Structures
- Interdepartmental Projects
- Flood Resilience (FR) Projects

Legend

- Pump Stations
- Treatment Facilities
- Deep Water Outfalls
- Transport/Storage Structures
- Tunnels
- Force Mains
- Ridgeline
- Watershed Boundaries



SEWER SYSTEM IMPROVEMENT PROGRAM | Grey. Green. Clean.

Recent History of Southeast Treatment Plant (SEP) Projects

2012

Program Validation
and authorization of
SSIP Phase 1



Sewer System Improvement Program (SSIP)



2010-2011

Southeast
Digester Task
Force Report &
Resolution
recommending
location

TO DATE

2013-2017

- Performed Condition Assessment
- Issued Design & Construction Contracts for: Headworks & Biosolids
- SSIP Baseline: Phase 1 is \$2.9B

FUTURE

2017 & 2018

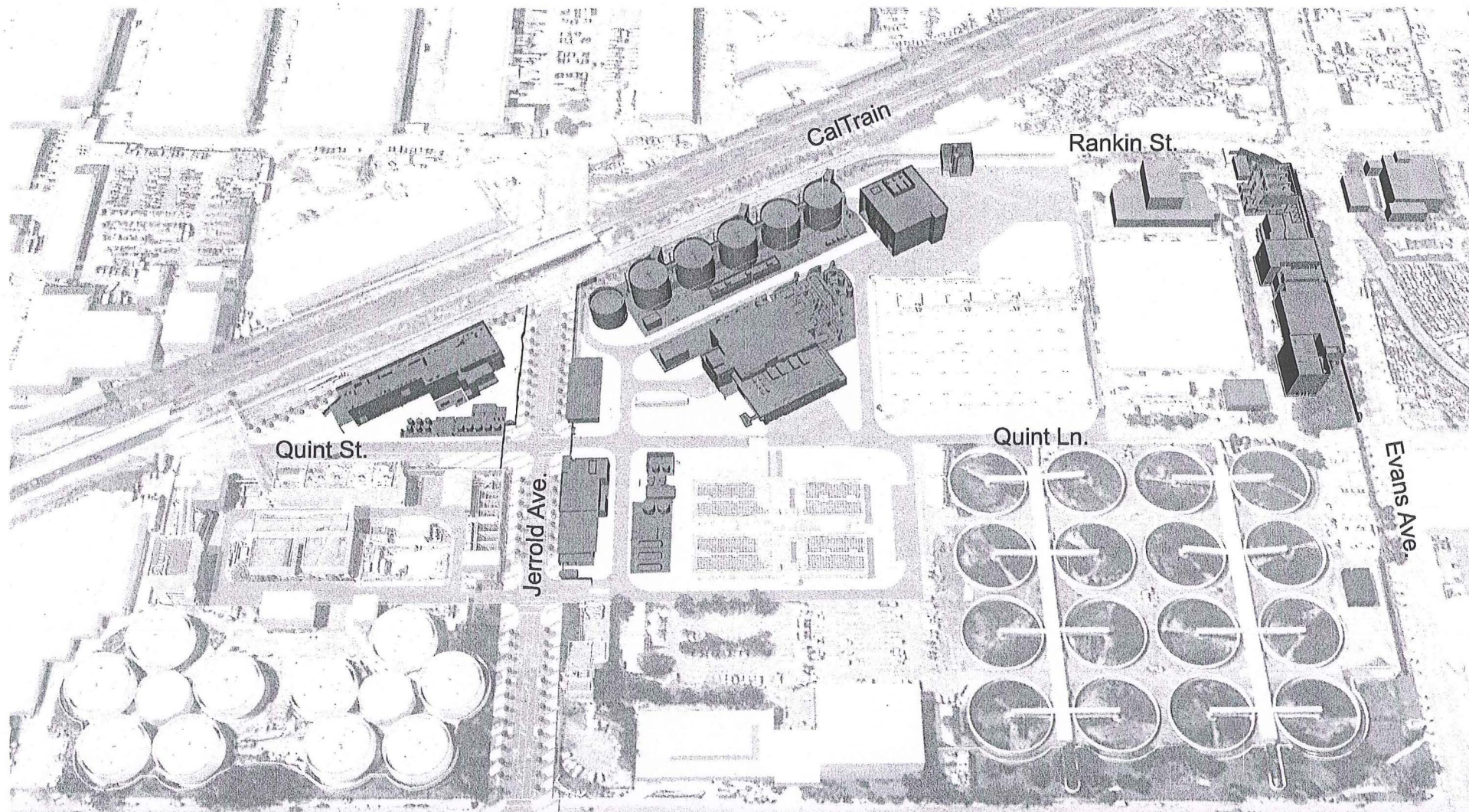
- Begin Headworks Construction
- Begin Biosolids Construction
- Continue construction of other SEP reliability upgrades

SEP Challenges



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Major SEP Projects



LEGEND

■ SEP 521/522 & Disinfection Upgrades

■ Power Feed & Primary Switchgear Upgrades

■ Headworks Facility

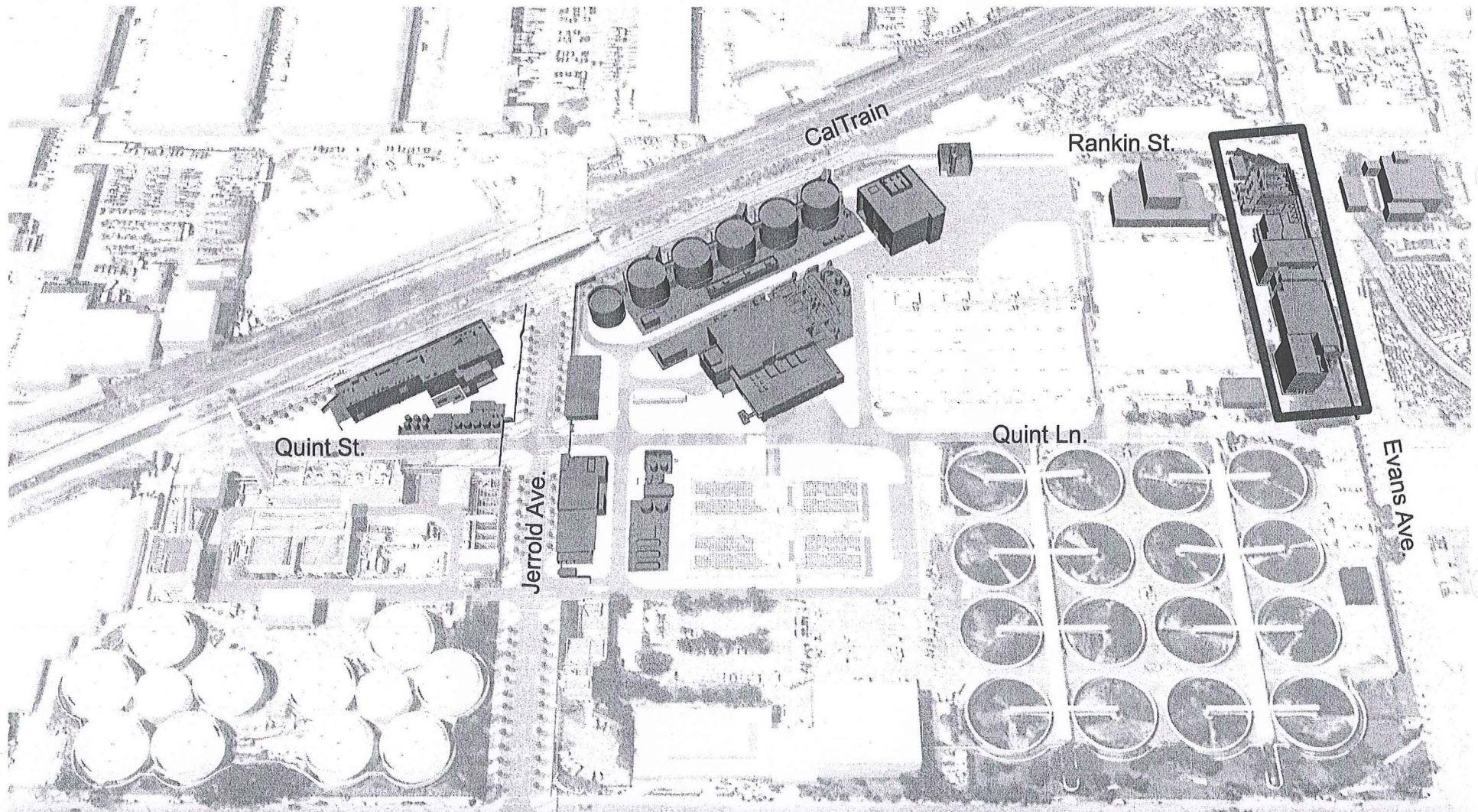
■ Biosolids Digester Facilities Project (BDFP)



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HEADWORKS FACILITY PROJECT

Headworks Facility Project Location



LEGEND

SEP 521/522 & Disinfection Upgrades

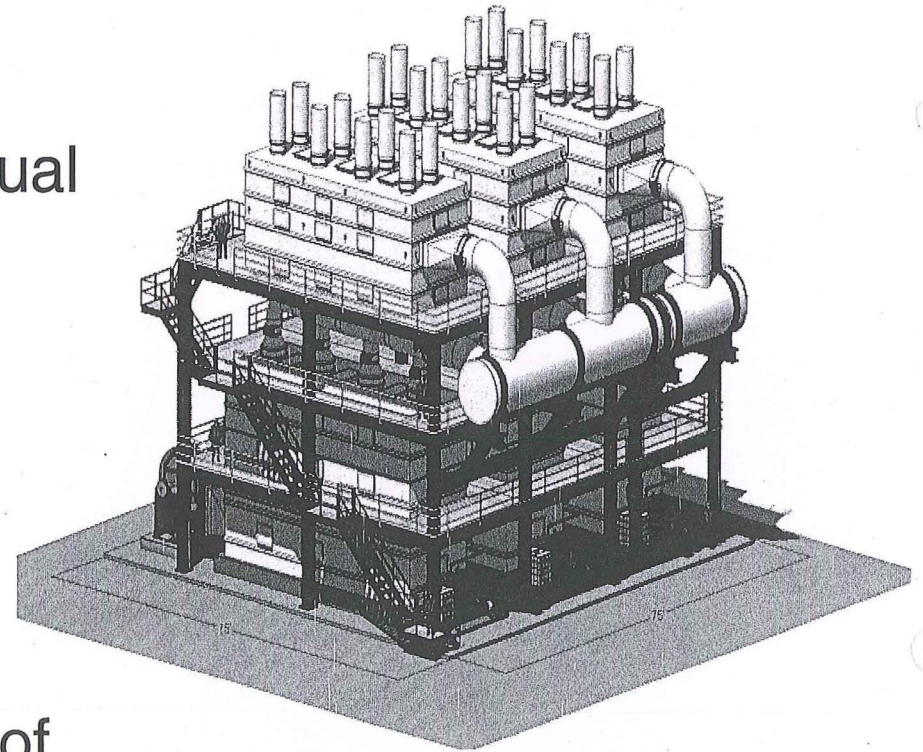
Power Feed & Primary Switchgear Upgrades

Headworks Facility

Biosolids Digester Facilities Project (BDFP)

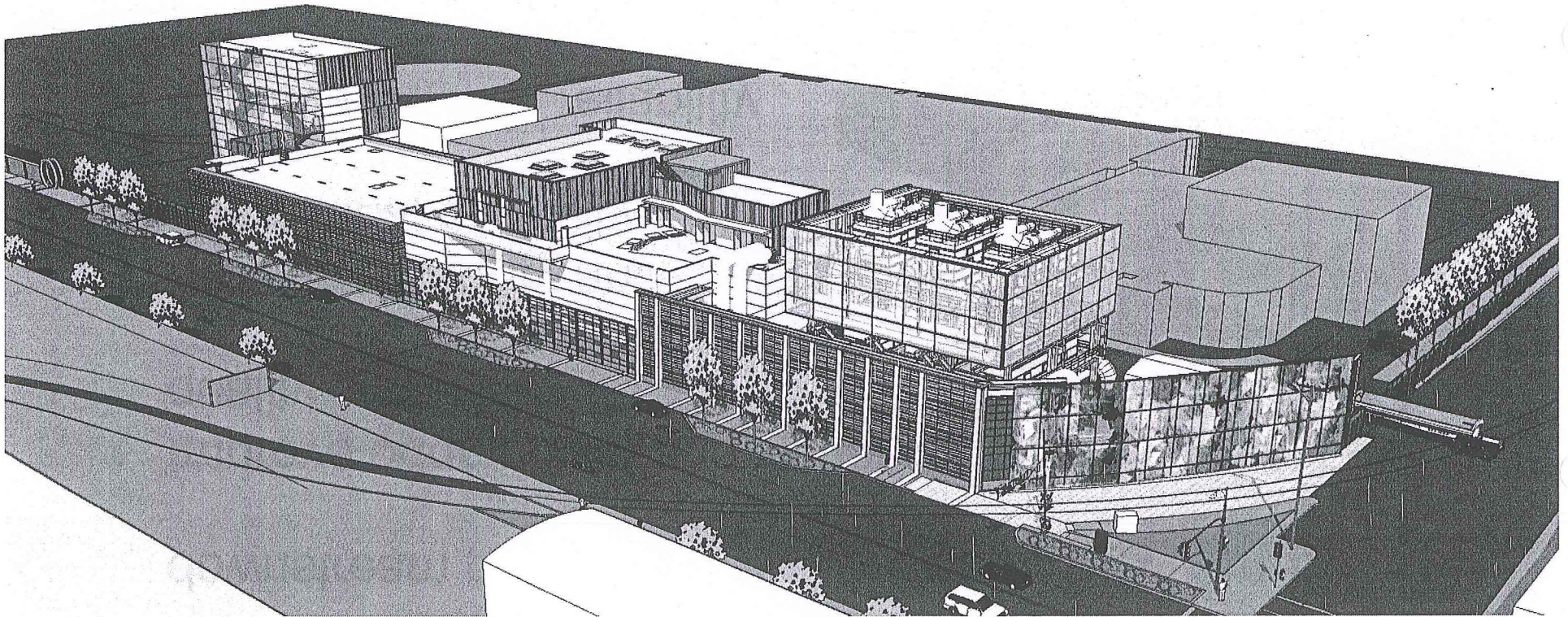
Headworks Facility Project Objectives

- Remove Grit to protect downstream processes
- Improve odor, noise, and visual quality
- Provide reliability and operational flexibility
- Improve seismic reliability
- Meet the permitted capacity of 250 million gallons per day (MGD)



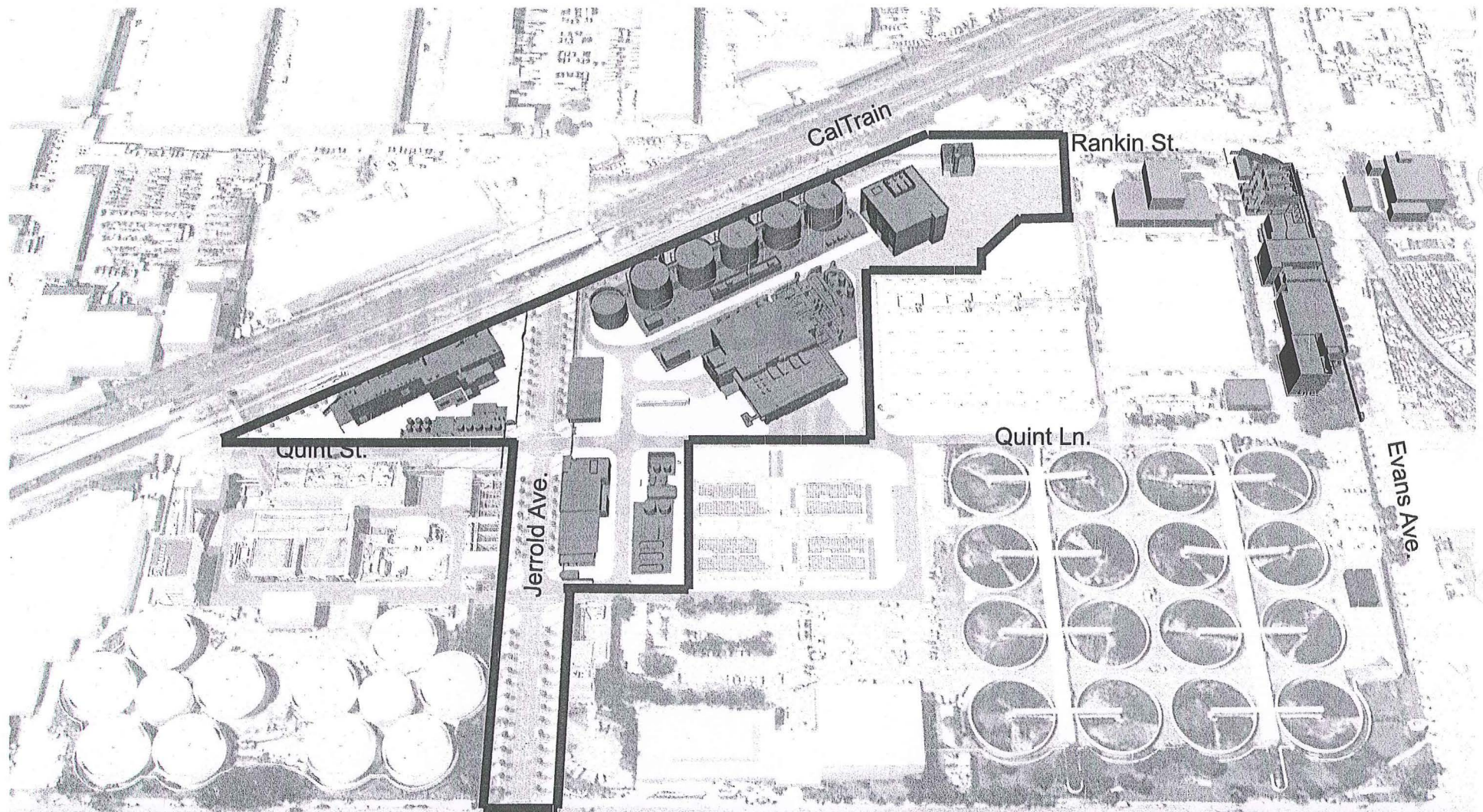
Example Odor Control Structure

Headworks Facility Conceptual Rendering



BIOSOLIDS DIGESTER FACILITIES PROJECT

Biosolids Project Location



LEGEND

SEP 521/522 & Disinfection Upgrades

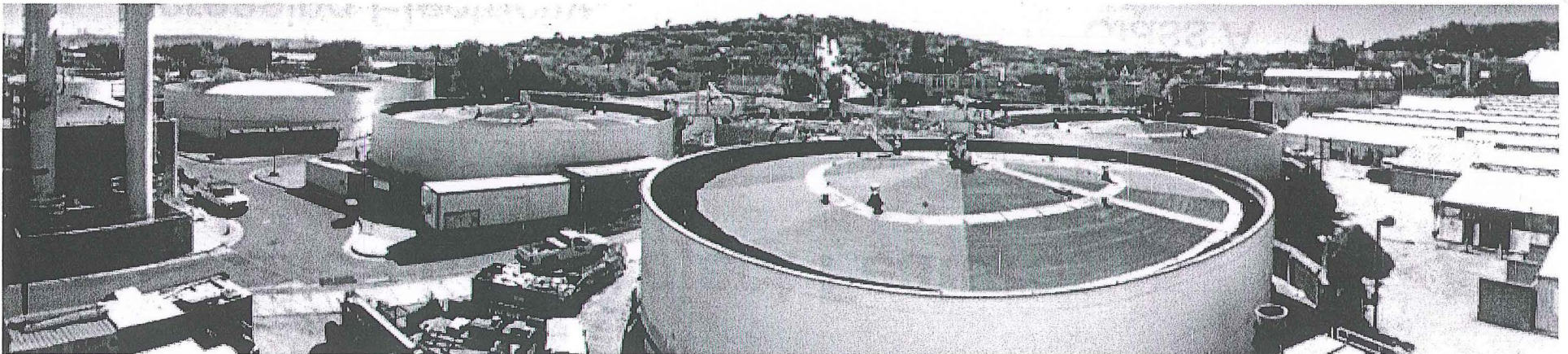
Power Feed & Primary Switchgear Upgrades

Headworks Facility

Biosolids Digester Facilities Project (BDFP)

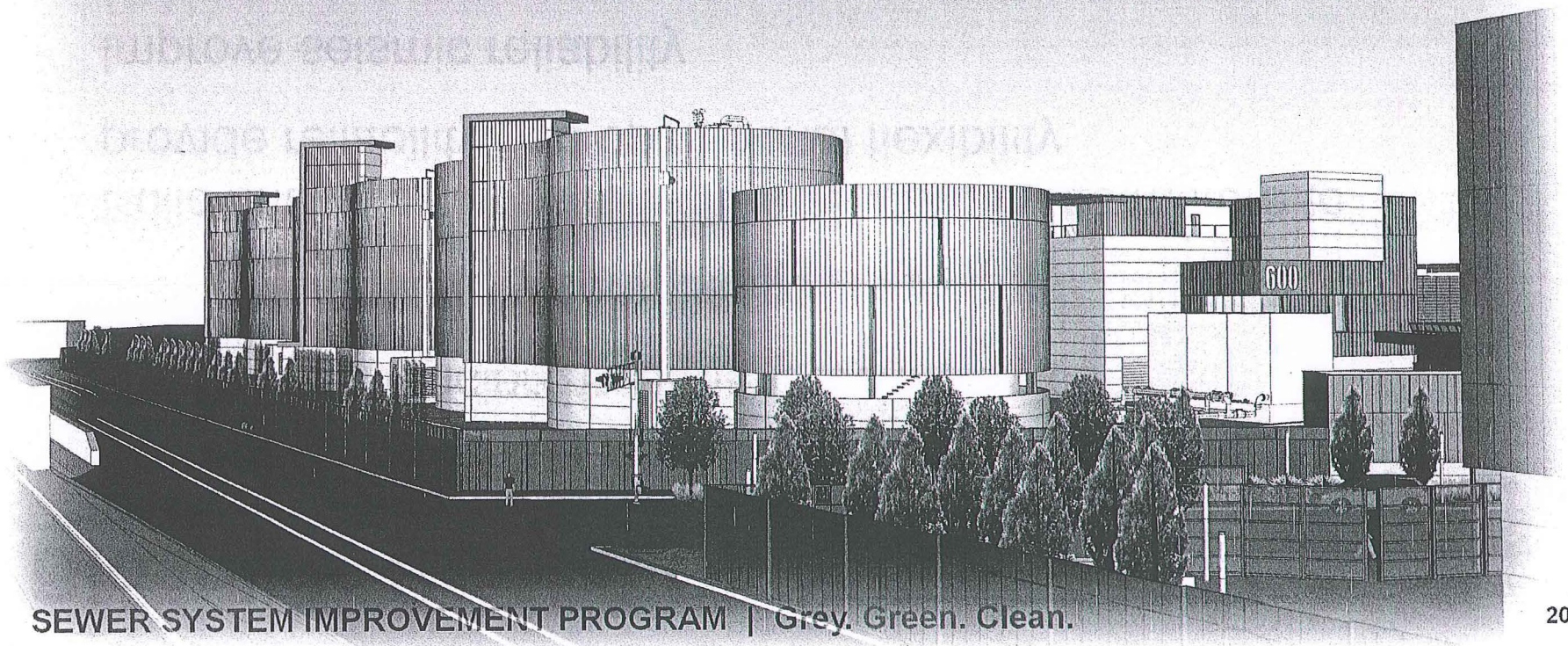
Biosolids Project Objective

- Address aging infrastructure – Construct new modern, proven, and efficient treatment technologies
- Maintain regulatory compliance
- Build critical processes with redundant infrastructure to provide reliability and operational flexibility
- Improve seismic reliability
- Beneficially use 100% of Biosolids and Biogas produced
- Improve odor, noise, and visual quality

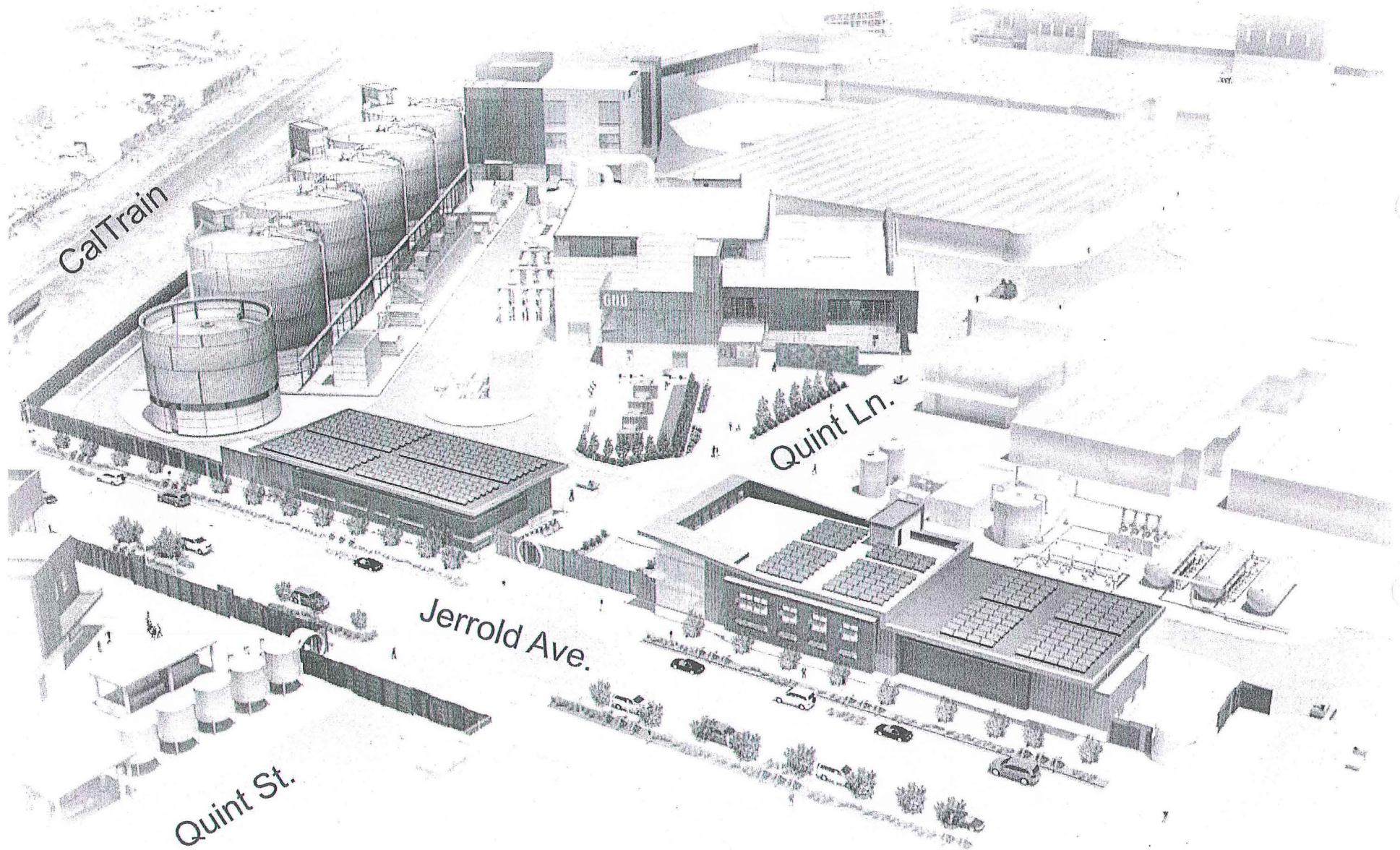


Biosolids Key Project Features

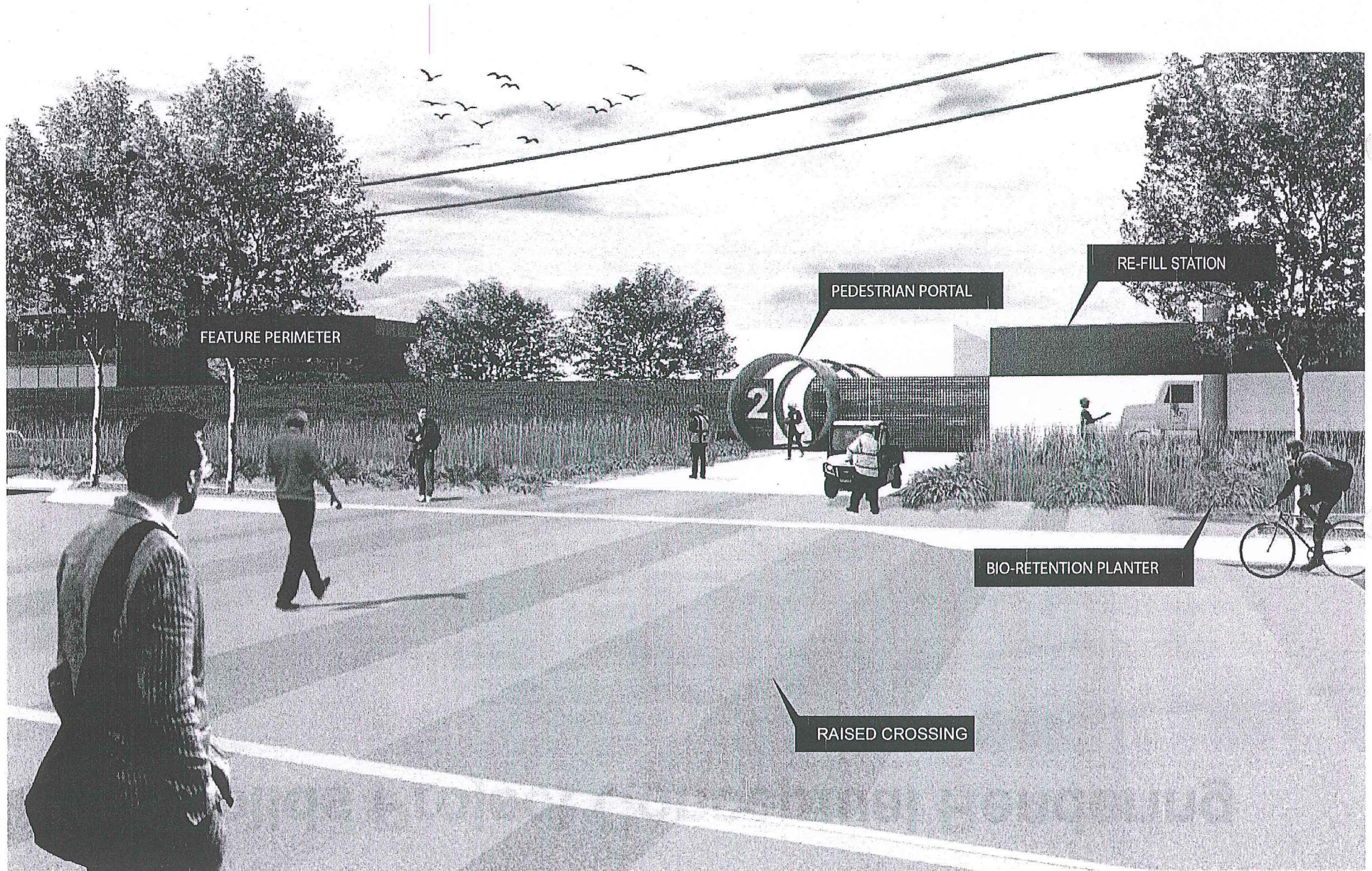
- Reducing Number of Digesters from 9 to 5
- Increasing Electricity Generation from 2 MW to 5 MW
- Improving Biosolids output quality from Class B to Class A
- Designing to limit odors within the SEP fence line



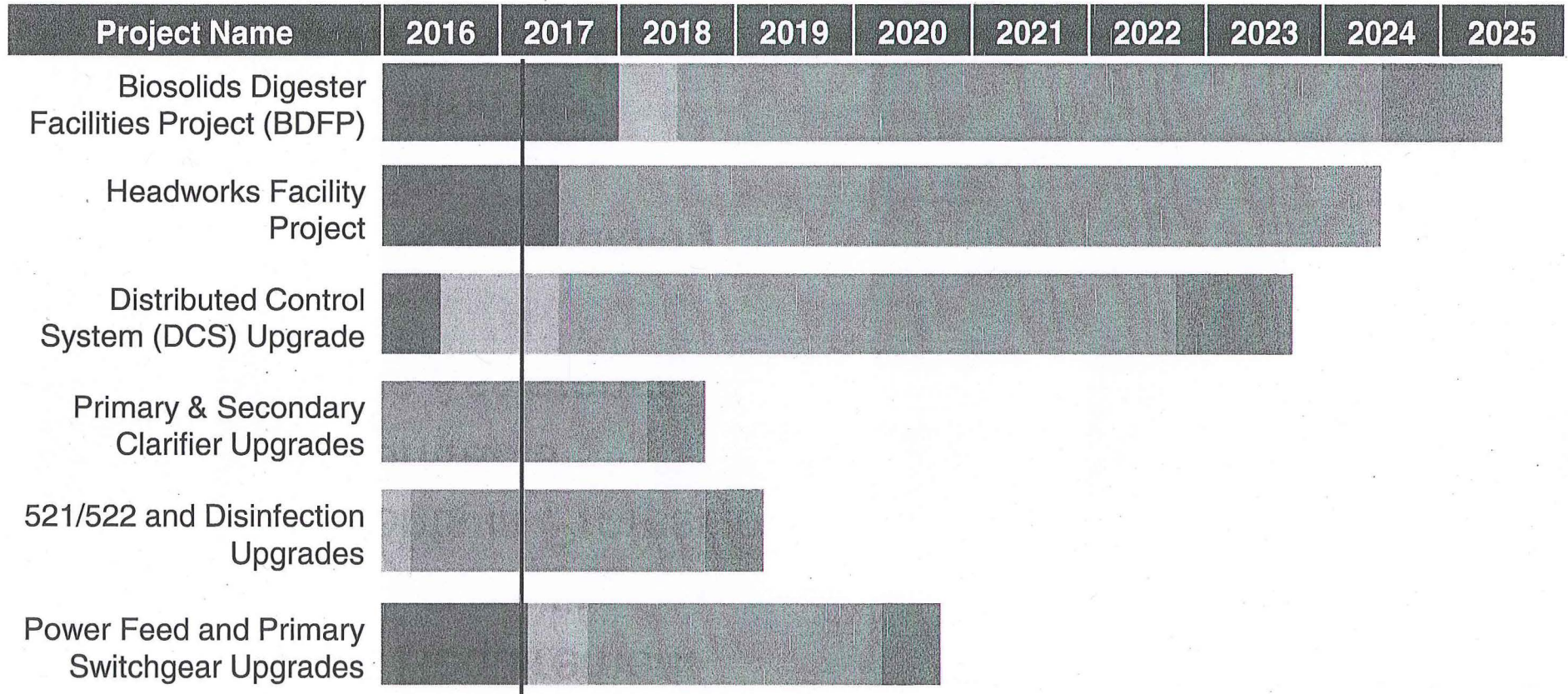
Biosolids Project Conceptual Rendering



Jerrold Ave Conceptual Rendering



SEP Phase 1 Projects Schedule

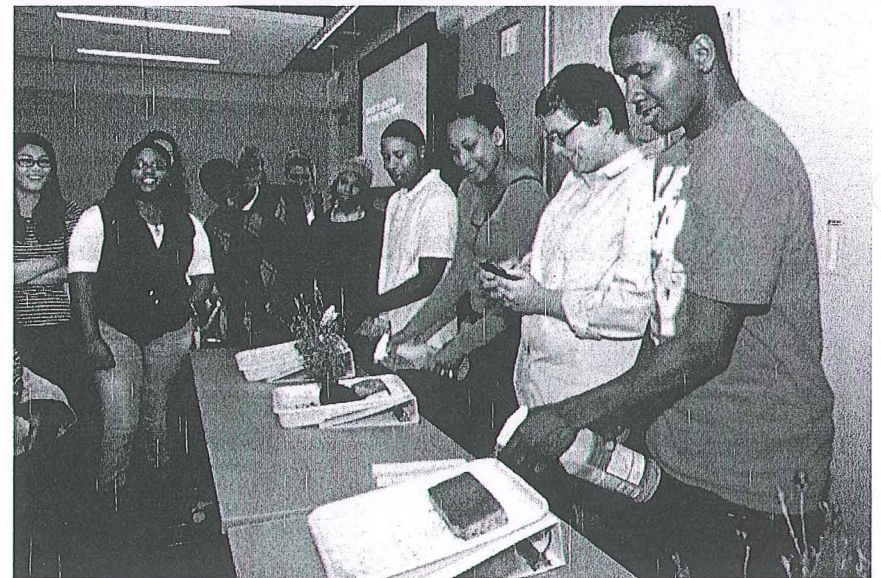


■ Planning, Environmental, & Design
■ Bid & Award
■ Construction
■ Close Out

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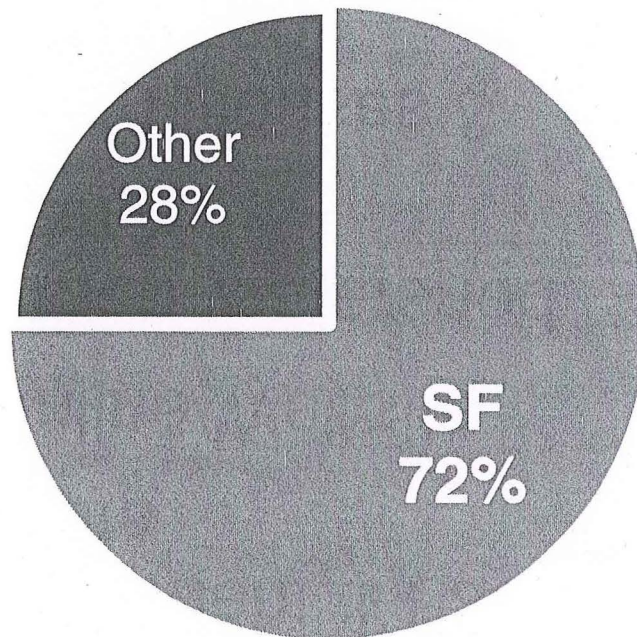
Community Benefits and Economic Inclusion

- Local Hire Requirement
- Community Benefits Requirements in Professional Service Contracts
- Contractors Assistance Center
- Youth and Adult Training Opportunities
- K-12 Education and Curriculum Development
- Workforce Development



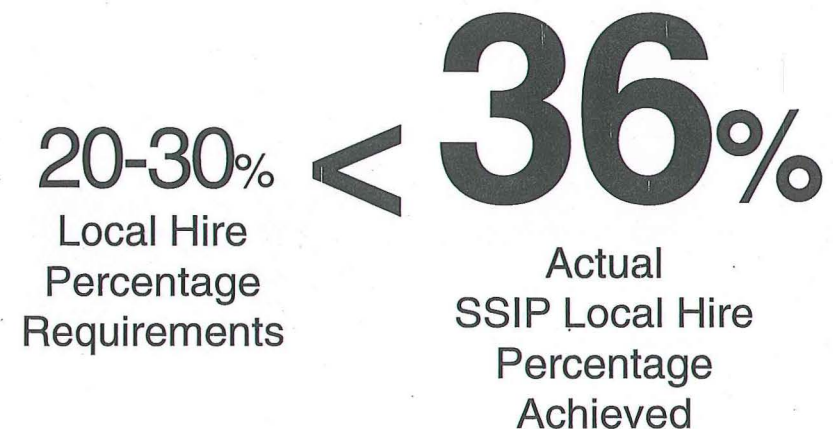
SSIP Phase 1: Jobs & Contracts

Apprenticeships (Entry-level) Provided by SSIP



SF residents have worked 72% of hours (as compared to 50% requirement) and earned a combined \$1.2M in wages & benefits

SSIP Local Hire Ordinance Achievement



San Francisco residents have earned a combined \$5.5M in wages & benefits on SSIP projects

Extensive Community Outreach

- Neighborhood Presentations
- Treatment & Facility Tours
- Online/Website
- Urban Watershed Game
- Open Houses & Workshops
- iPad Surveys
- Media & Social Media



Upcoming Board of Supervisors Items

PROJECT(S)	ITEM(S)	Introduction Date
Land Reuse - 1800 Jerrold (Central Shops relocation & construction)	<ul style="list-style-type: none"> • Approving amended MOU between SFPUC, RED, & GSA, and authorizing the beginning of the construction phase of new Central Shops • BlueLine Settlement for relocation out of Galvez Ave. • PG&E Easement (moving pole to public right of way) 	2/28/17 & 3/7/17
Headworks	Adopting CEQA findings, directing BOS to notify Controller of this action	3/14/17
Biosolids	Design Contract Modification	4/11/17
Headworks	Construction Management Services Contract	6/6/17
Multiple	Program Construction Management Services	7/25/17
Biosolids	Construction Management Services Contract	9/26/17



THANK YOU.



sfwater.org/ssip
ssip@sfwater.org
sfwater.org