

PUBLIC UTILITIES REVENUE BOND OVERSIGHT COMMITTEE CITY AND COUNTY OF SAN FRANCISCO AGENDA

**Public Utilities Commission Building
525 Golden Gate Ave., 4th Floor
San Joaquin Conference Room
San Francisco, CA 94102**

March 7, 2016 - 9:00 AM

Regular Meeting

Purpose: The purpose of the RBOC is to monitor the expenditure of revenue bond proceeds related to the repair, replacement, upgrading, and expansion of the City's water collection, power generation, water distribution, and wastewater treatment facilities.

Mission: The goal of the RBOC is to make certain public dollars are spent according to authorization and applicable laws. Its purpose is to facilitate transparency and accountability in connection with the expenditure of revenue bond proceeds. The General Public is invited and welcomed to attend RBOC meetings and to provide input.

1. Call to Order and Roll Call

Seat 1 Holly Kaufman (Holdover status)
Seat 2 Kevin Cheng, Co-Chair (Holdover status)
Seat 3 Vacant
Seat 4 Marina Pelosi (Holdover status)
Seat 5 Vacant
Seat 6 Christina Tang, Vice Chair
Seat 7 Joshua Low, Co-Chair

2. Agenda Changes

3. **Public Comment:** Members of the public may address the Revenue Bond Oversight Committee (RBOC) on matters that are within the RBOC's jurisdiction but are not on today's agenda.

4. **Follow Up: Strategic Planning Session** (*Discussion*)

5. **Updates to Mission Statement** (*Discussion*)

6. **RBOC Member Vacancies** (*Discussion*)

7. **Adoption of 2016 Calendar** (*Discussion and Action*)

8. **RBOC Strategic Planning Preparations** (*Discussion*)
9. **San Francisco Public Utilities Commission (SFPUC) Staff Report:** Sewer System Improvement Program (SSIP) Update, Re-baselining, Accuracy of Estimates and Program Comprehensiveness (*Discussion*)
10. **San Francisco Public Utilities Commission (SFPUC) Staff Report:** Water System Improvement Program (WSIP) Update, ; briefing on project cost management; lessons learned from WISP, especially any from design build experience, Calaveras Dam update (*Discussion*)
11. **San Francisco Public Utilities Commission (SFPUC) Staff Report:** Bond Sale Updates and Refunding (*Discussion*)
12. **Announcements, Comments, Questions, and Future Agenda Items**
13. **Adjournment**

Agenda Item Information

Each item on the agenda may include: 1) Department or Agency cover letter and/or report; 2) Public correspondence; 3) Other explanatory documents. For more information concerning agendas, minutes, and meeting information, such as these documents, please contact RBOC Clerk, City Hall, 1 Dr. Carlton B. Goodlett Place, Room 244, San Francisco, CA 94102 – (415) 554-5184.

Audio recordings of the meeting of the Revenue Bond Oversight Committee are available at: http://sanfrancisco.granicus.com/ViewPublisher.php?view_id=97

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Know Your Rights Under the Sunshine Ordinance

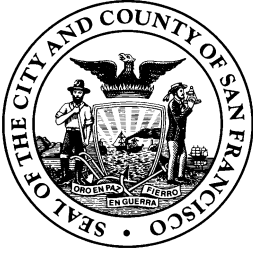
Government's duty is to serve the public, reaching its decisions in full view of the public. Commissions, boards, councils, and other agencies of the City and County exist to conduct the people's business. This ordinance assures that deliberations are conducted before the people and that City operations are open to the people's review.

For more information on your rights under the Sunshine Ordinance (San Francisco Administrative Code, Chapter 67) or to report a violation of the ordinance, contact by mail: Sunshine Ordinance Task Force, 1 Dr. Carlton B. Goodlett Place, Room 244, San Francisco, CA 94102; phone at (415) 554-7724; fax at (415) 554-7854; or by email at soff@sfgov.org.

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**PUBLIC UTILITIES
REVENUE BOND OVERSIGHT COMMITTEE
CITY AND COUNTY OF SAN FRANCISCO
MINUTES - DRAFT**

**Public Utilities Commission Building
525 Golden Gate Ave., 2nd Floor
Yosemite Conference Room
San Francisco, CA 94102**

February 8, 2016 - 9:00 AM

Regular Meeting

Purpose: The purpose of the RBOC is to monitor the expenditure of revenue bond proceeds related to the repair, replacement, upgrading, and expansion of the City's water collection, power generation, water distribution, and wastewater treatment facilities.

Mission: The goal of the RBOC is to make certain public dollars are spent according to authorization and applicable laws. Its purpose is to facilitate transparency and accountability in connection with the expenditure of revenue bond proceeds. The General Public is invited and welcomed to attend RBOC meetings and to provide input.

1. Call to Order and Roll Call

Seat 1 Holly Kaufman (Holdover status)
Seat 2 Kevin Cheng, Co-Chair (Holdover status)
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Seat 5 Vacant
Seat 6 Christina Tang, Vice Chair
Seat 7 Joshua Low, Co-Chair

Chair Kevin Cheng called the meeting to order at 9:17 a.m. On the call of the roll, Members Kaufman, Cheng, Pelosi, Tang, and Low were noted present. There was a quorum.

2. Agenda Changes

There were no agenda changes.

Public Comment: Members of the public may address the Revenue Bond Oversight Committee (RBOC) on matters that are within the RBOC's jurisdiction but are not on today's agenda.

Public Comment: *Speakers: Dari Barzel, Treasury Manager (East Bay Municipal Utility*

District); Amara Mien Kaufman; made introductions and spoke on various concerns relating to the hearing matter.

3. **Strategic Planning Session**

Member Cheng introduced strategic planning facilitator Carmen Clark, who briefly discussed her background and meeting purpose. Discussion then focused on the meeting purpose: reviewing the legislative history and mission of RBOC, discussing strategic issues/directions for the committee, and developing a preliminary work plan for CY2016.

Mark Blake, Deputy City Attorney, presented a legislative history and provided the context for establishment of the committee. Charles Perl, Deputy Chief Financial Officer, and Mike Brown (SFPUC); provided a summary of their backgrounds and responded to questions raised throughout the discussion.

Public Comment: Heard in Committee. Speaker: Carmen Clark facilitated the strategic planning session, presented and documented information concerning the matter, and responded to questions raised throughout the discussion. Dari Barzel; spoke on various concerns relating to the hearing matter.

The Committee discussed the following items that require follow up:

1. Letter to City Services Auditor regarding whistleblower cases and interface.
2. Follow up conversation on municipal finance committee
3. Follow up with appointing authorities for terms
4. Follow up with all term limits, holdover status, including history of appointees
5. Transmittal of Annual Report to Mayor, Board of Supervisors, and PUC CAC
6. Mission statement updates (March meeting)
7. Schedule for City Service Auditor and other staff presentations
8. Potential RBOC audits
9. Capital Planning Programs presentation at April 11th meeting
10. Staff report on authorization of RBOC-related legislation
11. Annual Report 2016 preparation
12. Lessons Learned on Mountain Tunnel
13. Requesting presentation material from staff ahead of meetings

The Committee recessed from 10:45 a.m. to 11:00 a.m., and again from 11:30 a.m. to 12:10 p.m., then continued discussion.

Member Pelosi was noted absent at 11:28 a.m. and again present at 12:15 p.m. for the remainder of the meeting.

4. **Adjournment**

There being no further business, the meeting adjourned at 2:49 p.m.

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SUMMARY NOTES

San Francisco Public Utilities Commission Revenue Bond Oversight Committee

2016 Strategic Planning Meeting

February 8, 2016

Attendees: Kevin Chang, Co-Chair
Joshua Low, Co-Chair
Holly Kaufman
Marina Pelosi
Christina Tang
Dari Barzel, Applicant for Committee appointment
Derek Evans, Assistant Clerk, SFBOS
Mark Blake, Deputy City Attorney
Mike Brown, SFPUC Finance staff

Discussion of Committee Mission

After a summary of the background legislation and purpose of the RBOC given by Mark Blake, the Committee members discussed and redrafted the mission statement as follows:

The purpose of the RBOC is to monitor the expenditure of revenue bond proceeds related to the repair, replacement, upgrade and expansion of the SFPUC's water, power and sewer infrastructure. The RBOC's goal is to ensure that SFPUC revenue bond proceeds are spent appropriately and according to authorization and applicable laws. The RBOC provides oversight to ensure transparency and accountability in connection with expenditure of the proceeds. The public is invited to attend RBOC meetings and provide input.

Members agreed to review the draft and plan to adopt a final revision at their next meeting.

Improvement of Committee Operations

After the discussion and redrafting above, Committee members agreed that they are clear on the mission of the Committee. They then discussed the strategic issues facing the group for the next 12-18 months. These issues and possible actions are summarized below:

- 1) The Committee needs a study of program comprehensiveness. There is a need to find out if the scope of the capital program is responsive to issues of recycling,

climate change, flooding. What other capital program components are mission critical and how does the Committee ensure that they are not omitted?

- 2) There is a need to stress test the overall budget, especially with the impact on the ability to pay off bonds due to current revenue decline.
- 3) How to best incorporate WISP lessons learned into sewer program? Should staff continue the annual peer review established for WISP or is it better to continue with independent audit? Request staff to provide the top 10 recommendations and what the results are of those that have been accepted and implemented. Need to coordinate and get recommendations from City Auditor and coordinate with their work plans.
- 4) The members agreed that a separate strategy session focused on the above 3 issues should be scheduled very soon.
- 5) Find a way to get staff time committed to implementation of the Committee's work plan
- 6) Consider bringing back subcommittees to improve ability to drill down into a topic.
- 7) Decide early if Committee wants a site visit/tour of facilities; Derek will request and coordinate.
- 8) Request staff to provide copies of the presentation materials prior to the RBOC meeting, preferably in the agenda packet.

Preliminary 2016 Calendar Items

Committee members drafted the preliminary work plan (Attachment 1).

Performance Metrics

Members discussed ways that they and the public would know that they were accomplishing the mission. Some of those discussed are listed below:

- 1) Member attendance
- 2) Member full participation/contribution of ideas, recommendations, solutions
- 3) Measure not only inputs (audits), but outputs (what difference/value added did it make that the Committee was doing its job?)
- 4) Transparency
- 5) Accountability
- 6) Level and type of monitoring activity
- 7) Efficiency

Attachment 1

Preliminary 2016 RBOC Work Plan

March

- 1) Adopt 2016 Calendar
- 2) Briefing on Project Cost Management; lessons learned from WISP, especially any from design build experience
- 3) Bond sale updates/refunding
- 4) Staff presentation for re-baseline of wastewater program; accuracy of estimates and program comprehensiveness
- 5) Calaveras Dam presentation

April

- 1) Staff report on capital planning
- 2) Staff report on WISP financial audit findings
- 3) Presentation on legal compliance with bond requirements

May

- 1) Review of stress test for WISP re-baseline
- 2) Identify studies that RBOC will initiate
- 3) Water update – staff report
- 4) Mountain Tunnel presentation

June

- 1) Wastewater - staff report
- 2) Investigations/studies placeholder
- 3) Peer review program for wastewater – what is the plan?
- 4) Workshop on RBOC scorecard – metrics for measuring committee performance
- 5) Project cost management – update from March briefing

July

- 1) Power update – staff report
- 2) Follow-up to Mountain Tunnel and Calaveras Dam project issues

August

- 1) Half day field trip/site visit – location TBD

September

- 1) Water update
- 2) Wastewater update

October

- 1) Draft Annual Report

November

- 1) Next strategic planning session

December

- 1) Adoption of final Annual Report

Note: Schedule briefings on legislation before the BOS that affects RBOC on ad hoc/
as needed basis

MISSION:

THE PURPOSE OF THE RBOC IS TO MONITOR THE EXPENDITURE OF REVENUE BOND PROCEEDS RELATED TO THE REPAIR, REPLACEMENT, UPGRADE & EXPANSION OF THE CITY'S WATER ^{SFPUC'S} COLLECTION, DISTRIBUTION & TREATMENT, AND ^{WATER, POWER + SEWER INFRASTRUCTURE} POWER GENERATION. THE RBOC'S GOAL IS TO ENSURE THAT SFPUC REVENUE BOND PROCEEDS ARE SPENT APPROPRIATELY, ^{AND} ACCORDING TO AUTHORIZATION AND APPLICABLE LAWS. THE RBOC PROVIDES OVERSIGHT TO ~~THE~~ ENSURE TRANSPARENCY & ACCOUNTABILITY IN CONNECTION WITH EXPENDITURE OF REVENUE ^{THE} BOND PROCEEDS. THE PUBLIC IS WELCOME TO ATTEND RBOC MEETINGS & PROVIDE INPUT.

Parking Lot

PUC guest

Water #16

Water

Water

- 1) Whistle blower interface
- 2) Residency requirements/waivers

Revise Mission Statement ^{SFPUC} to ensure that all revenue bond proceeds... are spent ~~efficiently~~

*

The RBOC ~~welcomes~~ and encourages public involvement & input
Agenda for next mtg to revise

Ask staff to give presentation materials on Friday prior to mtg. - make part of agenda packet

Work Plan

(Apr 1) Suggested item
Legal compliance w/ bond
presentation - ^{reg}

~~(Mar 2)~~ ~~Wastewater~~ Bond sale updates

(Mar 3) Refunding bonds

TBD-Ad hoc
4) Staff report on proposed
RBOC related legislation ~~refunding bonds~~
That is before the board

(Apr 5) Capital Planning - staff report
^{a) Finance}
~~present~~ ^{expanded}

(Apr 6) Financial Audit WSIP ^{existing}
presentation from staff - ^{audit} findings
RBOC audit if needed

^{Following up to bond in July}
Annual report ETA 12/16
OCT draft

(Mar 8) Calaveras Dam presentation
on time performance

(TBD May 9) Mountain Tunnel presentation
Are there any others that we don't know about?
Scope budget why not originally budgeted
+ what can be done now
Is this new baseline?

(Mar 10) Re-baseline for ~~WWE~~ wastewater
staff presentation ^{needs including climate change}
- Whether all projects are captured within baseline
- Accuracy of estimates

(May 11) Review of Stress test for ^{items} # 8, 9 +
10 - + others
ask staff what level of testing - RBOC decides
if further analysis needed

Mar + June 2) Project Cost Mgt. -
Progress on design build
Lessons learned from
WISA for wastewater -
including any design build

Aug 13) Half day field trips

Mar 14) Calendar - Agendas

May 15) Water update - staff report

June 16) Wastewater - staff report

July 17) Power update - staff report

Sept 18) Water updates

June-July 19) Wastewater updates
Investigations / Studies placeholder

Jun 20) Peer review program
for wastewater - what
is the plan?

June 21) RBOC scorecard -
metrics

Nov 22) Next planning session 1/17
June checkpoint

June 23) What studies are we doing?

Criteria

- 1) Attendance / Full appointment
- 2) Participation / contributions
- 3) ~~Out~~ Inputs / Outputs
- 4) Transparency
- 5) Accountability
- 6) Monitoring
- 7) Efficiency

Best Practices

Sewer System Improvement Program (SSIP) Update – Baseline Scope, Schedule, and Budget for Phase 1 Projects

March 7, 2016

Karen Kubick, PE – SSIP, Program Director

Dan Donahue, PE – SSIP, Pre-Construction Technical Advisor

Program Update

- Three years since Commission endorsement
- Significant progress in program planning and project development

**This has
resulted in:**

- Better definition of project scopes
- Refinement of costs
- Updated project schedules

Commission-Endorsed Program Goals

August 28, 2012



- Provide a Compliant, Reliable, Resilient, and Flexible System that **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**
 - New infrastructure must accommodate expected sea level rise within the service life of the asset (~~i.e. 16 inches by 2050, 25 inches by 2070, 55 inches by 2100~~) (**i.e., 6 inches by 2030, 11 inches by 2050, 36 inches by 2100**) and be consistent with the City's Guidance for Incorporating Sea Level Rise into Capital Planning.

Establishing a Baseline

**Prioritization
Process**



**Refinements
from 2012**



**Cost &
Schedule
Updates**



Prioritization & Refinement Process

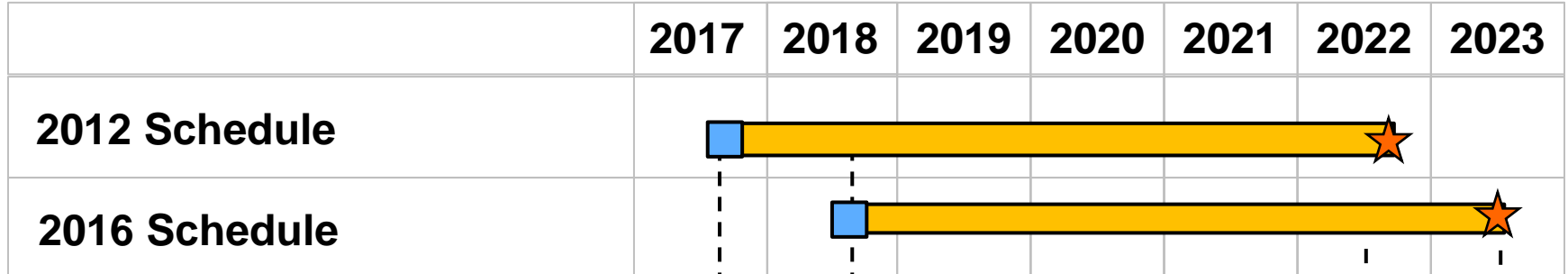
- **Prioritization of project scopes and cost**
 - Priority 1: must remain
 - Priority 2: eliminate or defer with acceptable risk
 - Priority 3: eliminate or defer without risk
- **Refinement of Projects**
 - Receiving water model results
 - Central Bayside Improvement Project tunnel resizing
- **Definition of Collection System Projects**
 - Interdepartmental
 - Flooding
- **Schedule Impacts**

Schedule Update

SEP Biosolids Digester Facilities Project

■ Site Control

■ Construction Phase



Site Control delayed by: 1 year

End of Substantial Completion delayed by: 1 year



Phase 1: 2012 Commission-Endorsed

Planning through Construction (\$M)

• New Biosolids Digester Facilities.....	1,596
• SEP Grit and Odor Control Upgrades.....	272
• North Shore and Westside Pump Station Upgrades.....	256
• Combined Sewer Discharge Structure Refurbishments.....	84
• Green Infrastructure – Early Implementation Projects.....	57
• Collection System Pump Stations/Odor Control.....	110

Planning through Preliminary Design (\$M)

• Treatment Plant Process Upgrades.....	58
• Treatment Seismic and Structural Upgrades.....	51
• Central Bayside System Improvement Project.....	70
• Citywide Green Infrastructure Projects.....	6
• Collection System Operational Improvements.....	27

Program Management (\$M)

125

2,712



Phase 1: 2016 Update

Planning through Construction (\$M)

• New Biosolids Digester Facilities.....	1,596	1,622	↑
• SEP Grit and Odor Control Upgrades.....	272	438	↑
• North Shore and Westside Pump Station Upgrades.....	256	199	↓
• Combined Sewer Discharge Structure Refurbishments....	84	27	↓
• Green Infrastructure – Early Implementation Projects.....	57	59	↑
• Collection System Pump Stations/Odor Control.....	110	104	↓

Planning through Preliminary Design (\$M)

• Treatment Plant Process Upgrades.....	58	6	↓
• Treatment Seismic and Structural Upgrades.....	51	16	↓
• Central Bayside System Improvement Project.....	70	64	↓
• Citywide Green Infrastructure Projects.....	6	24	↑
• Collection System Operational Improvements.....	27	12	↓

Program Management (\$M)

125 125

2,712 **2,696**



Phase 2: 2012 Commission-Endorsed

Design & Construction (\$M)

• Demolition of Ex. Digesters & Southside Renovation...	371
• SEP Wet Weather Primary Treatment Replacement...	250
• OSP Grit/Process Upgrades.....	70
• NPF Odor/Process Upgrades.....	195
• Seismic and Structural Upgrades.....	329
• Central Bayside System Improvement Project.....	1,224
• Citywide Green Infrastructure Projects.....	105
• Westside Pump Station Expansion.....	290
• Pump Station Upgrades.....	188
• Combined Sewer Discharge Structure Refurbishment...	121

Program Management (\$M)

152

3,295



Phase 2: 2016 Update

Design & Construction (\$M)

• Demolition of Ex. Digesters & Southside Renovation...	371	371
• SEP Wet Weather Primary Treatment Replacement...	250	283 ↑
• OSP Grit/Process Upgrades.....	70	82 ↑
• NPF Odor/Process Upgrades.....	195	197
• Seismic and Structural Upgrades.....	329	341 ↑
• Central Bayside System Improvement Project.....	1,224	782 ↓
• Citywide Green Infrastructure Projects.....	105	180 ↑
• Westside Pump Station Expansion.....	290	51 ↓
• Pump Station Upgrades.....	188	188
• Combined Sewer Discharge Structure Refurbishment...	121	138 ↑
• Sewer Improvements.....	0	131 ↑

Program Management (\$M)

152 **152**

3,295

2,896



Phase 3: 2012 Commission-Endorsed

Design & Construction (\$M)

- Oceanside & NPF Treatment Plant Refurbishments..... 195
- Treatment Seismic and Structural Upgrades..... 212
- Citywide Green Infrastructure Projects..... 168
- Pump Station Upgrades..... 188
- Combined Sewer Discharge Structure Refurbishment... 120

Program Management (\$M)

43

926



Phase 3: 2016 Update

Design & Construction (\$M)

• Oceanside & NPF Treatment Plant Refurbishments.....	195	195
• Treatment Seismic and Structural Upgrades.....	212	212
• Citywide Green Infrastructure Projects.....	168	168
• Pump Station Upgrades.....	188	188
• Combined Sewer Discharge Structure Refurbishment...	120	120

Program Management (\$M)

43	43
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926	926
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No changes in 2016 update



Commission-Endorsed Budget

August 28, 2012

Subprograms	Phase 1 (\$M)	Phase 2 (\$M)	Phase 3 (\$M)	Total Cost (\$M)
Treatment Plants	2,233	1,215	407	3,855
Biosolids Digester Facilities Project	1,596	371	-	1,967
Southeast Plant (SEP) Improvements	340	357	103	800
Oceanside Plant (OSP) Improvements	183	177	104	464
North Point Facility (NPF) Improvements	114	310	200	624
Collection System	354	1,928	476	2,758
Reliability and Operational Improvements	221	309	308	838
Stormwater Management	63	169	168	400
Central Bayside Improvement Project (CBSIP)	70	1,173	0	1,243
Westside Pump Station Expansion	0	277	0	277
Program Management	125	152	43	320
Total SSIP	2,712	3,295	926	6,933



Commission-Endorsed Budget

August 28, 2012

Subprograms	Phase 1 (\$M)	Phase 2 (\$M)	Phase 3 (\$M)	Total Cost (\$M)
Treatment Plants	2,233	1,215	407	3,855
Collection System	354	1,928	476	2,758
Program Management	125	152	43	320
Total SSIP	2,712	3,295	926	6,933



2012 and 2016 Budget Comparison

2012 Commission-Endorsed Budget	Phase 1 (\$M)	Phase 2 (\$M)	Phase 3 (\$M)	Total Cost (\$M)
Treatment Plants	2,233	1,215	407	3,855
Collection System	354	1,928	476	2,758
Program Management	125	152	43	320
Total SSIP	2,712	3,295	926	6,933

2016 Revised Baseline Budget	Phase 1 (\$M)	Phase 2 (\$M)	Phase 3 (\$M)	Total Cost (\$M)
Treatment Plants	2,280	1,299	407	3,986
Collection System	291	1,445	476	2,212
Program Management	125	152	43	320
Total SSIP	2,696	2,896	926	6,518



2016 Revised Baseline Budget

Subprograms	Phase 1 (\$M)	Phase 2 (\$M)	Phase 3 (\$M)	Total Cost (\$M)
Treatment Plants	2,280	1,299	407	3,986
Biosolids Digester Facilities Project	1,622	371	-	1,993
Southeast Plant (SEP) Improvements	438	387	103	928
Oceanside Plant (OSP) Improvements	133	214	104	451
North Point Facility (NPF) Improvements	87	327	200	614
Collection System	291	1,445	476	2,212
Reliability and Operational Improvements	131	483	308	922
Stormwater Management	96	180	168	444
Central Bayside Improvement Project (CBSIP)	64	782	-	846
Westside Pump Station Expansion	-	-	-	-
Program Management	125	152	43	320
Total SSIP	2,696	2,896	926	6,518



2016 Revised Baseline Budget

Subprograms	Phase 1 (\$M)	Phase 2 (\$M)	Phase 3 (\$M)	Total Cost (\$M)
Treatment Plants	2,280	1,299	407	3,986
Biosolids Digester Facilities Project	1,622	371	-	1,993
Southeast Plant (SEP) Improvements	438	387	103	928
Oceanside Plant (OSP) Improvements	133	214	104	451
North Point Facility (NPF) Improvements	87	327	200	614
Collection System	291	1,445	476	2,212
Reliability and Operational Improvements	131	483	308	922
Stormwater Management	96	180	168	444
Central Bayside Improvement Project (CBSIP)	64	782	-	846
Westside Pump Station Expansion	-	-	-	-
Program Management	125	152	43	320
Total SSIP	2,696	2,896	926	6,518

Biosolids Digester Facilities Project

- Biosolids Project
- Land Reuse (1800/1801 Jerrold)
- DCS Upgrades
- Digester Repairs
- Power Feed Upgrades
- Seismic Reliability
- Oxygen Generation

SEP Improvements

- Primary Sludge Handling
- Primary & Secondary Clarifier
- 521/522 & Disinfection
- New Headworks

Biosolids Digester Facilities Project

- Biosolids Project
- ~~• Land Reuse (1800/1801 Jerrold)~~
- DCS Upgrades
- Digester Repairs
- Power Feed Upgrades
- Seismic Reliability
- Oxygen Generation

Land Reuse

SEP Improvements

- Primary Sludge Handling
- Primary & Secondary Clarifier
- 521/522 & Disinfection
- New Headworks

Biosolids Digester Facilities Project

- Biosolids Project
- ~~Land Reuse (1800/1801 Jerrold)~~
- ~~DCS Upgrades~~
- ~~Digester Repairs~~
- ~~Power Feed Upgrades~~
- ~~Seismic Reliability~~
- ~~Oxygen Generation~~

Land Reuse

SEP Improvements

- Primary Sludge Handling
- Primary & Secondary Clarifier
- 521/522 & Disinfection
- New Headworks
- *DCS Upgrades*
- *Digester Repairs*
- *Power Feed Upgrades*
- *Seismic Reliability*
- *Oxygen Generation*

Biosolids Digester Facilities Project

- Biosolids Project
- ~~Land Reuse (1800/1801 Jerrold)~~
- ~~DCS Upgrades~~
- ~~Digester Repairs~~
- ~~Power Feed Upgrades~~
- ~~Seismic Reliability~~
- ~~Oxygen Generation~~

Land Reuse

SEP Improvements

- Primary Sludge Handling
- Primary & Secondary Clarifier
- 521/522 & Disinfection
- ~~New Headworks~~
- *DCS Upgrades*
- *Digester Repairs*
- *Power Feed Upgrades*
- *Seismic Reliability*
- *Oxygen Generation*

SEP New Headworks



Biosolids Digester Facilities Project

- Biosolids Project

SEP Improvements

- Primary Sludge Handling
- Primary & Secondary Clarifier
- 521/522 & Disinfection
- DCS Upgrades
- Digester Repairs
- Power Feed Upgrades
- Seismic Reliability
- Oxygen Generation

Land Reuse

SEP New Headworks



2016 Revised Baseline Structure

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	359	-	-	359
SEP Improvements	327	711	103	1,141
OSP Improvements	133	214	104	451
NPF Improvements	87	327	200	614
Collection System	291	1,445	476	2,212
Reliability and Operational Improvements	131	483	308	922
Stormwater Management	96	180	168	444
CBSIP	64	782	-	846
Westside Pump Station	-	-	-	-
Land Reuse	98	-	-	98
Program Management	125	152	43	320
Subtotal SSIP	2,696	2,896	926	6,518



2016 Revised Baseline Structure

Subprograms	Phase 1 (\$M)	Phase 2 (\$M)	Phase 3 (\$M)	Total Cost (\$M)
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CBSIP	64	782	-	846
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Land Reuse	98	-	-	98
Program Management	125	152	43	320
Subtotal SSIP	2,696	2,896	926	6,518



2016 Revised Baseline Structure

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OSP Improvements	133	214	104	451
NPF Improvements	87	327	200	614
Collection System	291	1,445	476	2,212
CBSIP	64	782	-	846
Interceptors/Tunnels/Odor Control	58	131	-	189
Pump Stations and Force Main Improvements	46	214	188	448
CSD & TS Boxes	27	138	120	285
Stormwater Management	96	180	168	444
Land Reuse	98	-	-	98
Program Management	125	152	43	320
Subtotal SSIP	2,696	2,896	926	6,518



2016 Revised Baseline Structure

Subprograms	Phase 1 (\$M)	Phase 2 (\$M)	Phase 3 (\$M)	Total Cost (\$M)
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Biosolids Digester Facilities Project	1,276	47	-	1,323
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NPF Improvements	87	327	200	614
Collection System	291	1,445	476	2,212
CBSIP	64	782	-	846
Interceptors/Tunnels/Odor Control	58	131	-	189
Pump Stations and Force Main Improvements	46	214	188	448
CSD & TS Boxes	27	138	120	285
Stormwater Management	96	180	168	444
Land Reuse	98	-	-	98
Program Management	125	152	43	320
Subtotal SSIP	2,696	2,896	926	6,518



Phase 1 Additional Projects

North Shore Force Main.....	\$30M
Interdepartmental Projects.....	\$96M
• Van Ness BRT Sewer Improvements.....	\$15M
• Better Market Street Sewer Improvements.....	\$32M
• Geary BRT Sewer Improvements.....	\$17M
• Geary BRT Sewer Improvements Phase 2.....	\$2M
• Central Subway Sewer Improvements.....	\$4M
• Mission Bay Loop Sewer Improvements.....	\$2M
• Masonic Avenue Sewer Improvements.....	\$4M
• Taraval Sewer Improvements.....	\$20M
Flood Resilience Projects.....	\$88M
• Flood Resilience Planning and Project Development	\$9M
• Wawona St/15th Ave Stormwater Detention.....	\$23M
• Cayuga Ave Stormwater Detention	\$8M
• Folsom Area Stormwater Management.....	\$36M
• 17 th /Folsom Permanent Barriers.....	\$3M
• Hydraulic Drainage Improvements.....	\$9M

\$214M

Phase 1 SSIP + Additional Projects = \$2,910M



Phase 2 Additional Projects

Interdepartmental Projects.....	\$44M
• Geary BRT Sewer Improvements Phase 2.....	\$16M
• Future Mission Street Sewer Improvements.....	\$26M
• Taraval Sewer Improvements.....	\$2M
Flood Resilience Projects.....	\$219M

\$263M

Phase 2 SSIP + Additional Projects = \$3,159M



San Francisco
Water
Power
Sewer

2016 Revised Baseline

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	359	-	-	359
SEP Improvements	327	711	103	1,141
OSP Improvements	133	214	104	451
NPF Improvements	87	327	200	614
Collection System	291	1,445	476	2,212
CBSIP	64	782	-	846
Interceptors/Tunnels/Odor Control	58	131	-	189
Pump Stations and Force Main Improvements	46	214	188	448
CSD & TS Boxes	27	138	120	285
Stormwater Management	96	180	168	444
Land Reuse	98	-	-	98
Program Management	125	152	43	320
Subtotal SSIP	2,696	2,896	926	6,518
North Shore Force Main	30	-	-	30
Interdepartmental Projects	96	44	-	140
Flood Resilience Projects	88	219	-	307
Total SSIP + Additional Projects	2,910	3,159	926	6,995



2016 SSIP Revised Baseline

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	359	-	-	359
SEP Improvements	327	711	103	1,141
OSP Improvements	133	214	104	451
NPF Improvements	87	327	200	614
Collection System	505	1,708	476	2,689
CBSIP	64	782	-	846
Interceptors/Tunnels/Odor Control	58	131	-	189
Interdepartmental Projects	96	44	-	140
Pump Stations and Force Main Improvements	76	214	188	478
CSD & TS Boxes	27	138	120	285
Stormwater Management	96	180	168	444
Flood Resilience	88	219	-	307
Land Reuse	98	-	-	98
Program Management	125	152	43	320
Total SSIP	2,910	3,159	926	6,995