



San Francisco Water Power Sewer

Services of the San Francisco Public Utilities Commission

525 Golden Gate Avenue, 4th Floor
San Francisco, CA 94102

November 21, 2023

Angela Calvillo
Clerk of the Board
1 Dr. Carlton B. Goodlett Place
City Hall, Room 244
San Francisco, CA 94102-4689

Dear Ms. Calvillo,

Please see the enclosed Certificates as required under 2002 Proposition E related to the following authorizing legislation:

- Wastewater Enterprise: File No. 230666 and Board of Supervisors Ordinance No. 181-23

Should you have any questions, please do not hesitate to contact me.

Sincerely,

Nikolai J. Sklaroff
Capital Finance Director
San Francisco Public Utilities Commission
Office: (415) 551-2973

London N. Breed
Mayor

Tim Paulson
President

Anthony Rivera
Vice President

Newsha K. Ajami
Commissioner

Sophie Maxwell
Commissioner

Kate H. Stacy
Commissioner

Dennis J. Herrera
General Manager

OUR MISSION: To provide our customers with high-quality, efficient and reliable water, power and sewer services in a manner that values environmental and community interests and sustains the resources entrusted to our care.





Certificate of City and County of San Francisco Planning Department Regarding Proposed Sale of Wastewater Revenue Bonds, Including Notes, Commercial Paper, and Other Forms of Indebtedness, with a combined not to exceed issuance amount of \$1,047,288,286 for Capital Projects budgeted in Fiscal Year 2023-24

I, Lisa M. Gibson, Environmental Review Officer of the Planning Department of the City and County of San Francisco (the Planning Department), hereby certify as follows:

1. As the Environmental Review Officer (ERO) of the Planning Department, I am authorized to certify as to the compliance of the San Francisco Public Utilities Commission (SFPUC) with applicable requirements of the California Environmental Quality Act (CEQA).
2. After consultation with the SFPUC, I understand that the SFPUC proposes to sell Wastewater Revenue Bonds and Other Forms of Indebtedness (the "Revenue Indebtedness") to finance certain improvements to the Wastewater Enterprise of the City and County of San Francisco (the "City"). The improvements proposed for financing include those projects described in the following document, attached to this Certificate as Exhibit A and may represent a subset of the total available authorization.
3. I understand that Section 8B.124 of the City Charter grants authority to the City's Board of Supervisors to approve the issuance of Revenue Indebtedness, including revenue bonds, notes, and commercial paper, by ordinance upon two-thirds vote of its members and under certain conditions. The ordinance related to the debt issuance, is attached hereto as Exhibit B (the Ordinance).
4. I understand that one of the conditions to the Board of Supervisor's authorization of such Revenue Indebtedness is the delivery of a certificate of the Planning Department regarding the projects or additional projects to be financed under the authorization provided in Exhibit B, the Ordinances.
5. The San Francisco Planning Commission certifies Environmental Impact Reports as they are completed pursuant to CEQA. In addition, the Planning Department approves Initial Study/Mitigated Negative Declarations, and the ERO approves Categorical Exemptions.
6. Based on a preliminary review of the additional Projects and discussions with the SFPUC regarding the requirements for undertaking such additional Projects, I certify that the Projects under the jurisdiction of the SFPUC to be funded with proceeds of the Revenue Indebtedness, as described in the Ordinance, (a) are not considered to be projects under CEQA, (b) are projects under CEQA and a CEQA determination has already been issued, or (c) are projects under CEQA and will undergo CEQA review prior to approval. Pursuant to the provisions of Chapter 31 of the San Francisco Administrative Code, any additional Project to be financed will comply with applicable requirements of CEQA prior to any draw on the Revenue Indebtedness proceeds to finance the acquisition or construction of such facilities.

In witness whereof, the undersigned has executed this certification as of this 15th day of August, 2023.

Lisa M. Gibson
Environmental Review Officer

EXHIBIT A

WASTEWATER ENTERPRISE REVENUE BONDS AND OTHER FORMS OF INDEBTEDNESS
 FY 2023-2024 CAPITAL IMPROVEMENT PROJECTS

Program	Project Number and Name	CEQA Compliance ^{1,2}
Sewer System Improvement Program (SSIP)	CWWSIPRPL01: SSIP Phase 1 Program Management	The individual projects are projects under CEQA and will undergo CEQA review prior to approval.
SSIP	CWWSIPDP01: Biosolids/Digester Project	Biosolids Digester Facilities Project Final Environmental Impact Report certified 3/8/18 (Case No. 2015-000644ENV).
SSIP	CWWSIPSE02: Southeast Plant (SEP) New Headworks (Grit) Replacement	Mitigated Negative Declaration adopted 12/19/16 (Case No. 2015-006224ENV). Addendum issued 3/7/19.
SSIP	CWWSIPSE07: SEP Facility-wide Distributed Control System (DCS) Control Upgrades	Not a project under CEQA Guidelines section 15378.
SSIP	CWWSIPSE10: SEP Power Feed and Primary Switchgear Upgrades	Categorical Exemption issued 2/22/18 (Case No. 2017-015855ENV).
SSIP	CWWSIPTPNP02: North Shore Wet Weather Pump Station Improvement and Disinfect	Categorical Exemption issued 10/13/17 (Case No. 2017-010521ENV).
SSIP	CWWSIPTPOP02: Westside Pump Station Reliability Improvements	Categorical Exemption issued 4/20/17 (Case No. 2016-014160ENV). No Substantial Modification issued 2/25/20 (Case No. 2016-014160ENV-modified 1).

¹ Projects that are not funded by Proposition E or Proposition A bonds are not included in this table.

² Projects that are funded by Proposition E or Proposition A bonds but do not have a FY23-24 appropriation are not included in this table.

EXHIBIT A

WASTEWATER ENTERPRISE REVENUE BONDS AND OTHER FORMS OF INDEBTEDNESS
 FY 2023-2024 CAPITAL IMPROVEMENT PROJECTS

Program	Project Number and Name	CEQA Compliance ^{1,2}
SSIP	CWWSIPCSSR05: Better Market Street Sewer Improvements	Better Market Street Project Final Environmental Impact Report certified 10/10/19 (Case No. 2014.0012E). Statutory Exemption issued 8/23/22 (Case No. 2022-008230ENV).
SSIP	CWWSIPFCDB06: Yosemite Green Infrastructure	Categorical Exemption issued 8/15/17 (Case No. 2015-004546ENV).
SSIP	CWWSIPFCGI01: Watershed Stormwater Management (Planning Only)	Not a project under CEQA Guidelines section 15378.
SSIP	10037353: SEP 550 Booster Pump Station (PS) Condition Inspection & Interim	Environmental review will begin when project scope is defined.
SSIP	10038373: SEP, Booster PS, & Bruce Flynn Pump Station (BFS) Security Enhancements	Environmental review will begin when project scope is defined.
SSIP	10037330: Primary Treatment (SEP 040/041) Health & Safety (H&S) Improvements	Categorical Exemption issued 7/12/2023 (Case No. 2022-011482).
SSIP	SEP-6N: Secondary Clarifiers (SEP 230) Rehabilitation	Environmental review will begin when project scope is defined.
SSIP	SEP-7N: New Trades and Maintenance Buildings	Categorical Exemption issued 5/10/2023 (Case No. 2023-003097ENV) for geotechnical work to inform design. Environmental review for the project will begin when project scope is defined.

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WASTEWATER ENTERPRISE REVENUE BONDS AND OTHER FORMS OF INDEBTEDNESS
 FY 2023-2024 CAPITAL IMPROVEMENT PROJECTS

Program	Project Number and Name	CEQA Compliance ^{1,2}
SSIP	SEP-8: SEP Condition Improvement Projects - Part 1	Environmental review will begin when project scope is defined.
SSIP	SEP-10A: Aeration Tanks (SEP 200) Rehab-Condition Assessment and Plan	Environmental review will begin when project scope is defined.
SSIP	10037331: Maintenance Building (SEP 940) Interim Improvement	Environmental review will begin when project scope is defined.
SSIP	NPF-1: Sedimentation North Point Facility (NPF) 040/041 Tanks Condition Improvement	Environmental review will begin when project scope is defined.
SSIP	10037904: NPF & NSS Security Enhancements	Environmental review will begin when project scope is defined.
SSIP	10038353: NPF DCS Upgrades (Construction)	Environmental review will begin when project scope is defined.
SSIP	OSP-1A: Westside FM Reliability Project - Planning	Environmental review will begin when project scope is defined
SSIP	OSP-2: Solids Thickening (OSP 011) Process Upgrade	Not a project under CEQA Guidelines section 15378.
SSIP	OSP-3: OSP Plant-wide Ventilation (HVAC) Upgrades	Not a project under CEQA Guidelines section 15378.
SSIP	OSP-5: OSP Odor Control Upgrades	Not a project under CEQA Guidelines section 15378.

EXHIBIT A

WASTEWATER ENTERPRISE REVENUE BONDS AND OTHER FORMS OF INDEBTEDNESS
 FY 2023-2024 CAPITAL IMPROVEMENT PROJECTS

Program	Project Number and Name	CEQA Compliance ^{1,2}
SSIP	10037777: OSP & WSPS Security Enhancements	Environmental review will begin when project scope is defined.
SSIP	OSP-12A: Grit Removal (OSP 011) Upgrades - Planning	Environmental review will begin when project scope is defined.
SSIP	10034718: Large Diameter Sewer Initial Projects	<p>This includes multiple projects:</p> <ul style="list-style-type: none"> • WW-723R Channel Force Main Intertie - Categorical Exemption issued 5/9/2022 (Case No. 2021-006317ENV). • WW-712 New Montgomery, Mission, Jessie, & Minna Streets Brick Sewer Rehabilitation - Statutory Exemption issued 8/6/20 (Case Number 2020-006988ENV). • WW-724 Panhandle and Inner Sunset Sewer Improvements - Categorical Exemption issued 7/13/22 (Case No. 2021-006343ENV). • WW-731 Tenderloin and Nob Hill Sewer Project - Statutory Exemption issued 3/23/21 (Case No. 2021-002879ENV). • WW-731 Chinatown and North Beach Large Sewer - Statutory Exemption issued 3/8/22 (Case No. 2022-002008ENV). • WW-736 Castro and Mission Districts Sewer Improvements - Statutory Exemption issued 6/29/22 (Case No. 2022-005580ENV). • WW-738 East SOMA Sewer Improvements - Statutory Exemption issued 2/1/2023 (Case No. 2023-000862ENV). • South Van Ness Ave Sewer Project – Statutory Exemption issued 6/22/21 (Case No. 2021-003411ENV). • WW-754 West SOMA Sewer Improvements - Environmental review will begin when project scope is defined. • WW-753 Hayes Valley Sewer Improvements - Environmental review will begin when project scope is defined.

EXHIBIT A

WASTEWATER ENTERPRISE REVENUE BONDS AND OTHER FORMS OF INDEBTEDNESS
 FY 2023-2024 CAPITAL IMPROVEMENT PROJECTS

Program	Project Number and Name	CEQA Compliance ^{1,2}
SSIP	LDS-6: Geary BRT Sewer Improvements - Phase 2 Construction	Environmental review is underway (Case No. 2023-005315ENV).
SSIP	10037245: Brannan (019) CSD Gate & Baffle Rehab	Environmental review will begin when project scope is defined.
SSIP	10037244: Baker (009) Baffle Improvements	Not a project under CEQA Guidelines section 15378.
SSIP	10038468: System-wide Monitoring Equipment Assessment	Environmental review will begin when project scope is defined.
SSIP	10038547: CSD Structure Rehab & Upgrades - Part 1	Environmental review will begin when project scope is defined.
SSIP	CSD-5: Islais Creek (031A) CSD Rehab & Backflow Prevention	Environmental review will begin when project scope is defined.
SSIP	10037251: Seacliff No. 1 PS & FM Upgrade	Categorical Exemption issued 6/13/23 (Case No. 2023-001723ENV).
SSIP	10037246: Seacliff No. 2 PS & FM Upgrade	Environmental review is underway (Case No. 2023-003960).
SSIP	10037303: Sunnydale PS Safety Improvements	Environmental review will begin when project scope is defined.
SSIP	10038469: Pump Station Security Upgrades (Cesar Chavez, GFS)	Environmental review will begin when project scope is defined.

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WASTEWATER ENTERPRISE REVENUE BONDS AND OTHER FORMS OF INDEBTEDNESS
 FY 2023-2024 CAPITAL IMPROVEMENT PROJECTS

Program	Project Number and Name	CEQA Compliance ^{1,2}
SSIP	PS-5: Geary Underpass PS Safe Access Enhancements	Environmental review will begin when project scope is defined.
SSIP	PS-8: PS & FM Seismic Evaluation	Environmental review will begin when project scope is defined.
SSIP	PS-17: CHFM Inspection and Rehabilitation - Southern Port	Environmental review will begin when project scope is defined.
SSIP	10037194: Balboa High School Regional Runoff Reduction Project	Environmental review will begin when project scope is defined.
SSIP	GI-17: Buchanan Street Mall	Statutory Exemption issued 01/17/23 (Case No. 2023-000229ENV).
SSIP	10034553: GI For Stormwater Management (Grant)	No disbursement of funds will be made except for feasibility or planning tasks prior to completion of any environmental review necessary for the project(s).
SSIP	FR-1: Folsom Area Stormwater Imp. Project Phase 2	Categorical Exemption issued 9/23/21 (Case No. 2021-002217ENV).
SSIP	FR01: Flood Resiliency Planning	Environmental review will begin when project scope is defined.
SSIP	FR02: Floodwater Management Grant Assistance Program (Grant)	No disbursement of funds will be made except for feasibility or planning tasks prior to completion of any environmental review necessary for the project(s).
Capital	CWP11001: Treasure Island New WWTP and RWF	Treasure Island and Yerba Buena Island Redevelopment Plan Final Environmental Impact Report certified 4/21/11 (Case No 2007.0903E). Note to File issued 4/18/19 (Case No. 2007.0903E) for current wastewater treatment plant design (Case No 2007.0903E).

1 [San Francisco Public Utilities Commission Wastewater Revenue Bond Issuance - Various
2 Capital Wastewater Projects Benefitting the Wastewater Enterprise - Not to Exceed
3 \$1,047,288,286]

4 **Ordinance authorizing the issuance and sale of tax-exempt or taxable Wastewater**
5 **Revenue Bonds and other forms of indebtedness (as described below) by the San**
6 **Francisco Public Utilities Commission (“Commission”) in an aggregate principal**
7 **amount not to exceed \$1,047,288,286 to finance the costs of various capital wastewater**
8 **projects benefitting the Wastewater Enterprise pursuant to amendments to the Charter**
9 **of the City and County of San Francisco enacted by the voters on November 5, 2002, as**
10 **Proposition E; authorizing the issuance of Wastewater Revenue Refunding Bonds and**
11 **the retirement of outstanding Wastewater Enterprise Commercial Paper; declaring the**
12 **Official Intent of the Commission to reimburse itself with one or more issues of tax-**
13 **exempt bonds or other forms of indebtedness; and ratifying previous actions taken in**
14 **connection therewith, as defined herein.**

15 NOTE: **Unchanged Code text and uncodified text** are in plain Arial font.
16 **Additions to Codes** are in *single-underline italics Times New Roman font*.
17 **Deletions to Codes** are in ~~*italics Times New Roman font*~~.
18 **Board amendment additions** are in Arial font.
19 **Board amendment deletions** are in ~~Arial font~~.
20 **Asterisks (* * * *)** indicate the omission of unchanged Code
21 subsections or parts of tables.

22 Be it ordained by the People of the City and County of San Francisco:

23 Section 1. Findings. The Board of Supervisors (“Board”) of the City hereby finds
24 and declares as follows:

25 A. On November 5, 2002, the voters of the City and County of San Francisco
26 (“City”) approved Proposition E (“Proposition E”), which among other things, authorized the

1 San Francisco Public Utilities Commission ("Commission") to issue revenue bonds, including
2 notes, commercial paper or other forms of indebtedness (which forms of indebtedness may
3 include without limitation for purposes of Proposition E, loans and other forms of indebtedness
4 provided by governmental agencies and/or commercial or investment banks), when
5 authorized by ordinance approved by a two-thirds vote of the Board of Supervisors, for the
6 purpose of reconstructing, replacing, expanding, repairing or improving water facilities or
7 clean water facilities or combinations of water and clean water facilities under the jurisdiction
8 of the Commission; and

9 B. The Commission adopted the Indenture dated as of January 1, 2003, as further
10 amended and supplemented from time to time ("Indenture"), between the Commission and U.
11 S. Bank National Association and in connection therewith, has from time to time issued
12 revenue bonds to finance projects benefitting the Wastewater Enterprise; and

13 C. By Resolution 23-0038 adopted by the Commission on February 14, 2023
14 ("Commission Resolution") the Commission has determined to issue Wastewater Revenue
15 Bonds ("Wastewater Revenue Bonds") and other forms of indebtedness (including without
16 limitation SRF Loans or WIFIA Loans , as described below), as well as interim funding
17 vehicles such as commercial paper, revolving credit notes, bond anticipation notes or other
18 forms of notes, which interim funding vehicles will be issued in advance of being paid off by
19 either Wastewater Revenue Bonds or other forms of indebtedness (including, without
20 limitation and for illustrative purposes only, SRF Loans or WIFIA Loans), to finance the costs
21 of various capital wastewater projects benefitting the Wastewater Enterprise ("Capital
22 Improvement Projects", such projects being more fully described in the Commission
23 Resolution), pursuant to Proposition E, and has formally requested this Board to authorize the
24 issuance and sale of Wastewater Revenue Bonds for such purposes, such Commission
25 Resolution being on file with the Clerk of the Board in File No. 230666; and

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2 D. Pursuant to Section 43.5 of the San Francisco Administrative Code (“Article V”),
3 enacted by Ordinance No. 203-98 adopted by the Board on June 8, 1998, and signed by the
4 Mayor of the City on June 19, 1998, as amended by Ordinance No. 270-06, adopted on
5 October 24, 2006 by the Board and signed by the Mayor on October 31, 2006, the Board
6 established a procedure pursuant to which the Commission may issue short-term
7 indebtedness, including the issuance of commercial paper in anticipation of the issuance of
8 revenue bonds; and

9 E. The Commission has authorized pursuant to Resolution No. 17-0086, approved
10 by the Commission on April 25, 2017, and the Board has approved pursuant to Resolution No.
11 193-17, adopted by the Board on May 23, 2017, and signed by the Mayor on May 26, 2017, a
12 resolution to increase the Wastewater CP Program to an aggregate principal amount not to
13 exceed \$750 million of commercial paper notes outstanding at any one time, and the
14 Commission has caused from time to time wastewater commercial paper to be issued; and

15 F. In order to finance the costs of the Capital Improvement Projects, the Board now
16 desires to authorize pursuant to Proposition E the issuance and sale of Wastewater Revenue
17 Bonds and other forms of indebtedness for such purposes, including without limitation State
18 Revolving Fund Loans and/or grants from the State Water Resources Control Board (“SRF
19 Loans”) or U.S. Environmental Protection Agency Water Infrastructure Finance and Innovation
20 Act loans (“WIFIA Loans”) and such other indebtedness as may be advantageous to the
21 Commission; and

22 G. The Commission has paid, beginning no earlier than 60 days prior to the
23 adoption of this Ordinance and will pay, on and after the date hereof, certain expenditures
24 (“Expenditures”) in connection with the acquisition, construction and/or equipping of the
25 Capital Improvement Projects; and

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2 H. This Board is concurrently considering with this Ordinance, related supplemental
3 appropriation ordinances for the fiscal year ending 2023, including the proceeds of such
4 Wastewater Revenue Bonds and other forms of indebtedness (including, without limitation
5 and for illustrative purposes only) SRF Loans, WIFIA Loans, commercial paper, revolving
6 credit notes and bond anticipation notes); and

7 I. In order to finance and refinance the costs of any Wastewater Enterprise
8 facilities or improvements financed with bonds issued pursuant Proposition E, the Board now
9 desires to authorize the issuance and sale of Wastewater Revenue Refunding Bonds.

10 Section 2. Authorization to Issue Wastewater Revenue Bonds and other forms of
11 indebtedness. The Board hereby authorizes the issuance and sale of Wastewater Revenue
12 Bonds in one or more series from time to time by the Commission pursuant to Proposition E
13 and in accordance with the Commission Resolution and the execution and delivery of SRF
14 Loan or WIFIA Loan agreements or the issuance of commercial paper, revolving credit notes,
15 or bond anticipation notes, in an aggregate principal amount not to exceed \$1,047,288,286
16 (inclusive of financing costs) bearing a maximum rate or rates of interest of not to exceed
17 twelve percent (12%) per annum to finance a portion of the costs of the design, acquisition
18 and construction of the Capital Improvement Projects. Without limiting the foregoing, the
19 Commission shall be authorized to incur SRF Loans from the State Water Resources Control
20 Board or WIFIA Loans from the U.S. Environmental Protection Agency at such time, in such
21 amounts, and upon such other terms and conditions as the Commission may deem
22 advantageous. The Commission is hereby further authorized to determine the timing, amount
23 and manner of sale (i.e., competitive or negotiated) of each series of Wastewater Revenue
24 Bonds, commercial paper, revolving credit notes, or bond anticipation notes pursuant to this
25 authorization; provided however, the Commission's authorization to issue Wastewater

1 Revenue Bonds or incur other forms of indebtedness (including SRF Loans, WIFIA Loans,
2 bond anticipation notes, commercial paper or revolving credit notes) is subject to approval by
3 the Commission of the form of substantially final offering document related to such obligations
4 (if any) and the approval of any related agreements, financing documents and the filing with
5 its Board and the Clerk of the Board any certifications required by Proposition E prior to the
6 issuance of any bonds or the incurrence of any indebtedness herein authorized. The
7 Commission shall also file, within 30 days of any bond sale authorized hereby, with the Clerk
8 of the Board of Supervisors a report showing the results of the sale of Wastewater Revenue
9 Bonds, SRF Loans or other form of indebtedness including (i) principal amount sold and
10 method of sale, (ii) true interest cost, (iii) final maturity, (iv) the facilities constructed and/or
11 improved, and (v) a statement about the remaining bonding authorization under this
12 Ordinance ("Bond Report"); provided however that failure to file the Bond Report shall not
13 affect the validity of any bonds authorized hereunder.

14 Section 3. Authorization to Issue Wastewater Revenue Refunding Bonds;
15 Commercial Paper Retirement. Notwithstanding Section 2 immediately above , the Board
16 further authorizes and approves the issuance by the Commission of Wastewater Revenue
17 Refunding Bonds ("Refunding Bonds") without limitation as to principal amount, in one or
18 more series on one or more dates, at a maximum interest rate or rates of interest not to
19 exceed twelve percent (12%) per annum, provided that each such Refunding Bond issue is
20 permitted under the applicable policies and procedures of the City and authorized by Section
21 9.109 of the Charter (including related ordinances and resolutions of the Board). The
22 Refunding Bonds may be issued as taxable or tax-exempt obligations, or any combination
23 thereof. Refunding Bonds authorized hereunder shall be subject to the further following
24 conditions, that: (i) three percent (3%) net present value debt service savings or greater is
25 achieved to ensure ratepayer savings (exclusive of any issuance to refund commercial paper,

1 revolving credit notes, or bond anticipation notes); (ii) that the maturity of the refunded bonds
2 is not extended; (iii) this authorization is subject to a 5-year term through June 30, 2028, at
3 which time this Board may consider an extension; (iv) principal payments and term may be
4 adjusted, where permitted under federal and state tax law, only if and when the underlying
5 capital asset funded through said refunded bonds has a useful life not in excess of any limit
6 permitted under federal and state tax law than the refunded term; and (v) the Commission
7 shall within 30 days of any executed refunding transaction provide a refunding savings report
8 ("Bond Refunding Savings Report") prepared by its municipal advisors (that reflects at least a
9 three percent (3%) net present value debt service savings) to the Board, together with a copy
10 of the final Official Statement (if any) with respect to such series of Refunding Bonds, provided
11 that the failure to deliver such Bond Refunding Savings Report shall in no way affect the
12 validity of any Refunding Bonds. Notwithstanding the foregoing, the Commission is
13 authorized to issue Refunding Bonds that do not meet all of the foregoing conditions provided
14 that the Commission makes a finding, by resolution, that significant non-economic factors
15 exist that justify the waiver of the three percent (3%) net present value debt service savings
16 test and other conditions set forth above. Such non-economic factors may include, by way of
17 illustration and not limitation, eliminating onerous covenants and obsolete provisions
18 contained in the Commission's indenture or other security documents, or restructuring a
19 series of bonds in response to then-current market conditions. In furtherance of the purpose
20 of managing the Commission outstanding indebtedness, the General Manager is hereby
21 authorized and directed, in consultation the City Attorney, from Available Wastewater
22 Enterprise Revenues to retire outstanding Wastewater Enterprise Commercial Paper at such
23 times and in such amounts advantageous to the Commission.

24 Section 4. Declaration of Official Intent. The Board, on behalf of the Commission,
25 hereby declares the official intent of the Commission to reimburse the Commission with

1 proceeds of the Wastewater Revenue Bonds or other forms of indebtedness (including SRF
2 Loans or other federal loans, commercial paper, revolving credit notes, or bond anticipation
3 notes) for the Expenditures with respect to the Capital Improvement Projects made on and
4 after a date that is no more than 60 days prior to the adoption of this Ordinance. The
5 Commission reasonably expects on the date hereof that it will reimburse the Expenditures
6 with proceeds of the Wastewater Revenue Bonds or other forms of indebtedness (including,
7 without limitation and for illustrative purposes only, SRF Loans, commercial paper, revolving
8 credit notes or bond anticipation notes). Each said Expenditure was and will be either (A) of a
9 type properly chargeable to a capital account under general federal income tax principles
10 (determined in each case as of the date of the Expenditure), (B) a cost of issuance with
11 respect to such obligations, (C) a nonrecurring item that is not customarily payable from
12 current revenues, or (D) a grant to pay a party that is not related to or an agent of the issuer
13 so long as such grant does not impose any obligation or condition (directly or indirectly) to
14 repay any amount to or for the benefit of the Commission. The Commission will make a
15 reimbursement allocation, which is a written allocation by the Issuer that evidences the
16 Commission's use of proceeds of the Wastewater Revenue Bonds or other forms of
17 indebtedness to reimburse an Expenditure, no later than 18 months after the later of the date
18 on which the Expenditure is paid or the component of the Capital Improvement Projects is
19 placed in service or abandoned, but in no event more than three years after the date on which
20 the Expenditure is paid. The Commission recognizes that exceptions are available for certain
21 "preliminary expenditures," costs of issuance, certain de minimis amounts, expenditures by
22 "small issuers" (based on the year of issuance and not the year of expenditure) and
23 expenditures for construction projects of at least 5 years.

24 Section 5. General Authority. The Controller, Treasurer, the City Attorney and other
25 officers of the City, including the Director of the Office of Public Finance, and their duly

1 authorized deputies and agents are hereby authorized and directed, jointly and severally, to
2 take such actions and to execute and deliver such certificates, agreements, requests or other
3 documents, as they may deem necessary or desirable to facilitate the issuance, sale and
4 delivery of the Wastewater Revenue Bonds, SRF Loans, WIFIA Loans, bond anticipation
5 notes, commercial paper or Refunding Bonds, to obtain bond insurance or other credit or
6 liquidity enhancements with respect to any such obligations, and otherwise to carry out the
7 provisions of this Ordinance. The Commission is hereby directed to provide the final form to
8 the Clerk of the Board of any disclosure document (if any) prepared in connection with the
9 execution of any Wastewater Revenue Bonds, SRF Loans, WIFIA Loans, bond anticipation
10 notes, commercial paper or Refunding Bonds, and the final executed Installment Sale
11 Agreement or other document reflecting the incurrence of an SRF Loan or a WIFIA Loan,
12 within 30 days of the closing of such transactions; provided however that failure to provide
13 such document shall not affect the validity of the obligations authorized hereunder. The
14 Commission is further directed as a part of the two-year budget review to provide to this Board
15 of Supervisors a written report about Wastewater Revenue Bonds authorized hereunder,
16 detailing the total amount authorized, the total amount sold, the remaining authorized but
17 unissued amount, and the bond authorization no longer necessary due to changes in projects
18 and project financing.

19 Section 6. Ratification of Prior Actions. All actions authorized and directed by this
20 Ordinance in connection with the issuance of the Wastewater Revenue Bonds or other forms
21 of indebtedness (including, without limitation and for illustrative purposes only, SRF Loans,
22 WIFIA Loans, bond anticipation notes or commercial paper), Refunding Bonds, and heretofore
23 taken are hereby ratified, approved and confirmed by this Board.

24 Section 7. File Documents. All documents referred to as on file with the Clerk of the
25 Board are in File Nos. 230666.

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Section 8. Effective Date. Pursuant to Charter Section 8B.124, the remainder of this Ordinance shall take effect thirty (30) days after its adoption.

APPROVED AS TO FORM:
DAVID CHIU, City Attorney

By: /s/ Mark D. Blake
Mark D. Blake
Deputy City Attorney
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City and County of San Francisco

Tails Ordinance

City Hall
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102-4689

File Number: 230666

Date Passed: July 25, 2023

Ordinance authorizing the issuance and sale of tax-exempt or taxable Wastewater Revenue Bonds and other forms of indebtedness (as described below) by the San Francisco Public Utilities Commission ("Commission") in an aggregate principal amount not to exceed \$1,047,288,286 to finance the costs of various capital wastewater projects benefitting the Wastewater Enterprise pursuant to amendments to the Charter of the City and County of San Francisco enacted by the voters on November 5, 2002, as Proposition E; authorizing the issuance of Wastewater Revenue Refunding Bonds and the retirement of outstanding Wastewater Enterprise Commercial Paper; declaring the Official Intent of the Commission to reimburse itself with one or more issues of tax-exempt bonds or other forms of indebtedness; and ratifying previous actions taken in connection therewith, as defined herein.

June 14, 2023 Budget and Appropriations Committee - RECOMMENDED

July 11, 2023 Board of Supervisors - CONTINUED ON FIRST READING

Ayes: 10 - Chan, Dorsey, Engardio, Mandelman, Melgar, Peskin, Preston, Safai, Stefani and Walton
Excused: 1 - Ronen

July 18, 2023 Board of Supervisors - PASSED ON FIRST READING


Ayes: 10 - Chan, Dorsey, Engardio, Mandelman, Melgar, Peskin, Ronen, Safai, Stefani and Walton
Noes: 1 - Preston

July 25, 2023 Board of Supervisors - FINALLY PASSED


Ayes: 10 - Chan, Dorsey, Engardio, Mandelman, Melgar, Peskin, Ronen, Safai, Stefani and Walton
Noes: 1 - Preston

File No. 230666

I hereby certify that the foregoing Ordinance was FINALLY PASSED on 7/25/2023 by the Board of Supervisors of the City and County of San Francisco.



Angela Calvillo
Clerk of the Board



London N. Breed
Mayor

7/28/23

Date Approved

**Certificate of the Consulting Engineers
in connection with Section 8B.124 of the Charter of the City and County of San Francisco and
the Indenture of the San Francisco Public Utilities Commission (SFPUC)
authorizing the Sale of Wastewater Revenue Bonds and / or Other Forms of Indebtedness, including
Commercial Paper and State and Federal Loans**

This Certificate has been prepared by AECOM Technical Services, Inc., (AECOM), an independent consulting firm, at the request of the San Francisco Public Utilities Commission (SFPUC) in connection with the issuance by the SFPUC of its Wastewater Revenue Bonds and/or other forms of Indebtedness, including Commercial Paper and State and Federal loans.

Proposition E requires certification by an independent consulting engineer that, among other things, “(i) the Projects to be financed with proceeds of bonds under Proposition E, including the prioritization, scheduling and cost estimates thereof, meet generally accepted utility standards.”

Section A below includes projects in the Sewer System Improvement Program (SSIP) and other portions of the Wastewater Enterprise’s capital program, and certifies that (i) the anticipated projects to be financed by the proposed Revenue Bonds and/or Commercial Paper Notes (the “Notes”), or State and Federal loans including the prioritization, cost estimates and scheduling, meet generally accepted utility standards.

The findings and conclusions in this Certificate are based on AECOM’s review of the following Documents, references and data provided by the SFPUC:

- Wastewater Enterprise Capital Improvement Program Quarterly Report – (Q3, FY2022-23), dated June 13, 2023
- Wastewater Enterprise Capital Improvement Program Quarterly Report – (Q4, FY2022-23), dated September 18, 2023
- Wastewater Enterprise 2024-2033 10-Year Capital Improvement Plan and Project Datasheets, January 30, 2023
- Certificate of City and County of San Francisco Planning Department Regarding Proposed Sale of Wastewater Revenue Bonds, Including Notes, Commercial Paper, and Other Forms of Indebtedness, with a combined not to exceed issuance amount of \$1,047,288,286 for Capital Projects budgeted in Fiscal Year 2023-24, San Francisco Planning Department, August 15, 2023
- Wastewater Enterprise Revenue Bonds and Other Forms of Indebtedness – FY 2023-2024 Capital Improvement Projects (Exhibit A, as included with the Environmental Planning Certification dated August 15, 2023)
- Other documents produced by SFPUC to support certification
- Discussions with SFPUC staff

1. Based upon its review of the Documents, and in reliance on the information presented in the Documents, references and data, and in reliance upon conversations and representations of SFPUC staff, the undersigned certifies that the Projects, including prioritization, cost estimates, and scheduling, meet generally accepted utility standards.

2. The Documents contain information about the current status of the Projects, estimated completion dates and cost of completion of some of the Projects.

While developing the Certificate, AECOM reviewed the Documents and consulted with SFPUC staff. This Certification is based on the information provided by the SFPUC. The conclusions and observations contained herein constitute only the opinions of AECOM. The various background documents, statements, and other information supplied by the SFPUC, its employees, and other consultants have been relied upon as being accurate in the performance of these analyses; however, no assurances are given nor warranties implied by AECOM as to the accuracy of such information. AECOM makes no certification and gives no assurances except as explicitly set forth in this document.

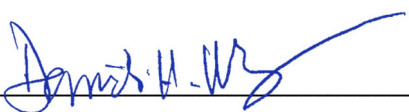
SECTION A: CERTIFICATION OF SSIP AND OTHER PORTIONS OF THE WASTEWATER CIP

AECOM’s review of the Documents for Section A included a “programmatic approach” such that AECOM certifies that the revenue bonds and/or commercial paper proceeds or state or federal loans are intended to be used by the SFPUC to fund the capital projects included in the Wastewater Enterprise’s SSIP and other portions of the Wastewater Enterprise’s capital program. Projects may be moved on or off the CIP list, modified, delayed or accelerated as necessary due to scheduling, budgeting, or other constraints.

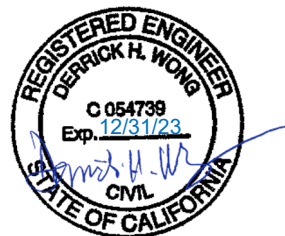
Based upon our review of the Documents provided by the SFPUC, and in reliance upon conversations and representations of SFPUC staff, AECOM certifies that the projects, as listed in Schedule I, to be financed by the revenue bonds and/or commercial paper program, as identified in the Wastewater Enterprise’s SSIP and other portions of the Wastewater Enterprise’s capital program including the prioritization, cost estimates and scheduling, meet generally accepted utility standards.

Dated this 23rd day of October, 2023

AECOM Technical Services, Inc.

By:  _____

Derrick Wong, P. E.
Civil Engineer



Attachment A

Exhibit A Wastewater Enterprise Revenue Bonds and Other Forms of Indebtedness – FY 2023-2024
Capital Improvement Projects, August 15, 2023

SCHEDULE I

See Exhibit A

EXHIBIT A

WASTEWATER ENTERPRISE REVENUE BONDS AND OTHER FORMS OF INDEBTEDNESS
FY 2023-2024 CAPITAL IMPROVEMENT PROJECTS

Program	Project Number and Name	CEQA Compliance ^{1,2}
Sewer System Improvement Program (SSIP)	CWWSIPRPL01: SSIP Phase 1 Program Management	The individual projects are projects under CEQA and will undergo CEQA review prior to approval.
SSIP	CWWSIPDP01: Biosolids/Digester Project	Biosolids Digester Facilities Project Final Environmental Impact Report certified 3/8/18 (Case No. 2015-000644ENV).
SSIP	CWWSIPSE02: Southeast Plant (SEP) New Headworks (Grit) Replacement	Mitigated Negative Declaration adopted 12/19/16 (Case No. 2015-006224ENV). Addendum issued 3/7/19.
SSIP	CWWSIPSE07: SEP Facility-wide Distributed Control System (DCS) Control Upgrades	Not a project under CEQA Guidelines section 15378.
SSIP	CWWSIPSE10: SEP Power Feed and Primary Switchgear Upgrades	Categorical Exemption issued 2/22/18 (Case No. 2017-015855ENV).
SSIP	CWWSIPTPNP02: North Shore Wet Weather Pump Station Improvement and Disinfect	Categorical Exemption issued 10/13/17 (Case No. 2017-010521ENV).
SSIP	CWWSIPTPOP02: Westside Pump Station Reliability Improvements	Categorical Exemption issued 4/20/17 (Case No. 2016-014160ENV). No Substantial Modification issued 2/25/20 (Case No. 2016-014160ENV-modified 1).

¹ Projects that are not funded by Proposition E or Proposition A bonds are not included in this table.

² Projects that are funded by Proposition E or Proposition A bonds but do not have a FY23-24 appropriation are not included in this table.

EXHIBIT A

WASTEWATER ENTERPRISE REVENUE BONDS AND OTHER FORMS OF INDEBTEDNESS
 FY 2023-2024 CAPITAL IMPROVEMENT PROJECTS

Program	Project Number and Name	CEQA Compliance ^{1,2}
SSIP	CWWSIPCSSR05: Better Market Street Sewer Improvements	Better Market Street Project Final Environmental Impact Report certified 10/10/19 (Case No. 2014.0012E). Statutory Exemption issued 8/23/22 (Case No. 2022-008230ENV).
SSIP	CWWSIPFCDB06: Yosemite Green Infrastructure	Categorical Exemption issued 8/15/17 (Case No. 2015-004546ENV).
SSIP	CWWSIPFCGI01: Watershed Stormwater Management (Planning Only)	Not a project under CEQA Guidelines section 15378.
SSIP	10037353: SEP 550 Booster Pump Station (PS) Condition Inspection & Interim	Environmental review will begin when project scope is defined.
SSIP	10038373: SEP, Booster PS, & Bruce Flynn Pump Station (BFS) Security Enhancements	Environmental review will begin when project scope is defined.
SSIP	10037330: Primary Treatment (SEP 040/041) Health & Safety (H&S) Improvements	Categorical Exemption issued 7/12/2023 (Case No. 2022-011482).
SSIP	SEP-6N: Secondary Clarifiers (SEP 230) Rehabilitation	Environmental review will begin when project scope is defined.
SSIP	SEP-7N: New Trades and Maintenance Buildings	Categorical Exemption issued 5/10/2023 (Case No. 2023-003097ENV) for geotechnical work to inform design. Environmental review for the project will begin when project scope is defined.

EXHIBIT A

WASTEWATER ENTERPRISE REVENUE BONDS AND OTHER FORMS OF INDEBTEDNESS
 FY 2023-2024 CAPITAL IMPROVEMENT PROJECTS

Program	Project Number and Name	CEQA Compliance ^{1,2}
SSIP	SEP-8: SEP Condition Improvement Projects - Part 1	Environmental review will begin when project scope is defined.
SSIP	SEP-10A: Aeration Tanks (SEP 200) Rehab-Condition Assessment and Plan	Environmental review will begin when project scope is defined.
SSIP	10037331: Maintenance Building (SEP 940) Interim Improvement	Environmental review will begin when project scope is defined.
SSIP	NPF-1: Sedimentation North Point Facility (NPF) 040/041 Tanks Condition Improvement	Environmental review will begin when project scope is defined.
SSIP	10037904: NPF & NSS Security Enhancements	Environmental review will begin when project scope is defined.
SSIP	10038353: NPF DCS Upgrades (Construction)	Environmental review will begin when project scope is defined.
SSIP	OSP-1A: Westside FM Reliability Project - Planning	Environmental review will begin when project scope is defined
SSIP	OSP-2: Solids Thickening (OSP 011) Process Upgrade	Not a project under CEQA Guidelines section 15378.
SSIP	OSP-3: OSP Plant-wide Ventilation (HVAC) Upgrades	Not a project under CEQA Guidelines section 15378.
SSIP	OSP-5: OSP Odor Control Upgrades	Not a project under CEQA Guidelines section 15378.

EXHIBIT A

WASTEWATER ENTERPRISE REVENUE BONDS AND OTHER FORMS OF INDEBTEDNESS
 FY 2023-2024 CAPITAL IMPROVEMENT PROJECTS

Program	Project Number and Name	CEQA Compliance ^{1,2}
SSIP	10037777: OSP & WSPS Security Enhancements	Environmental review will begin when project scope is defined.
SSIP	OSP-12A: Grit Removal (OSP 011) Upgrades - Planning	Environmental review will begin when project scope is defined.
SSIP	10034718: Large Diameter Sewer Initial Projects	<p>This includes multiple projects:</p> <ul style="list-style-type: none"> • WW-723R Channel Force Main Intertie - Categorical Exemption issued 5/9/2022 (Case No. 2021-006317ENV). • WW-712 New Montgomery, Mission, Jessie, & Minna Streets Brick Sewer Rehabilitation - Statutory Exemption issued 8/6/20 (Case Number 2020-006988ENV). • WW-724 Panhandle and Inner Sunset Sewer Improvements - Categorical Exemption issued 7/13/22 (Case No. 2021-006343ENV). • WW-731 Tenderloin and Nob Hill Sewer Project - Statutory Exemption issued 3/23/21 (Case No. 2021-002879ENV). • WW-731 Chinatown and North Beach Large Sewer - Statutory Exemption issued 3/8/22 (Case No. 2022-002008ENV). • WW-736 Castro and Mission Districts Sewer Improvements - Statutory Exemption issued 6/29/22 (Case No. 2022-005580ENV). • WW-738 East SOMA Sewer Improvements - Statutory Exemption issued 2/1/2023 (Case No. 2023-000862ENV). • South Van Ness Ave Sewer Project – Statutory Exemption issued 6/22/21 (Case No. 2021-003411ENV). • WW-754 West SOMA Sewer Improvements - Environmental review will begin when project scope is defined. • WW-753 Hayes Valley Sewer Improvements - Environmental review will begin when project scope is defined.

EXHIBIT A

WASTEWATER ENTERPRISE REVENUE BONDS AND OTHER FORMS OF INDEBTEDNESS
 FY 2023-2024 CAPITAL IMPROVEMENT PROJECTS

Program	Project Number and Name	CEQA Compliance ^{1,2}
SSIP	LDS-6: Geary BRT Sewer Improvements - Phase 2 Construction	Environmental review is underway (Case No. 2023-005315ENV).
SSIP	10037245: Brannan (019) CSD Gate & Baffle Rehab	Environmental review will begin when project scope is defined.
SSIP	10037244: Baker (009) Baffle Improvements	Not a project under CEQA Guidelines section 15378.
SSIP	10038468: System-wide Monitoring Equipment Assessment	Environmental review will begin when project scope is defined.
SSIP	10038547: CSD Structure Rehab & Upgrades - Part 1	Environmental review will begin when project scope is defined.
SSIP	CSD-5: Islais Creek (031A) CSD Rehab & Backflow Prevention	Environmental review will begin when project scope is defined.
SSIP	10037251: Seacliff No. 1 PS & FM Upgrade	Categorical Exemption issued 6/13/23 (Case No. 2023-001723ENV).
SSIP	10037246: Seacliff No. 2 PS & FM Upgrade	Environmental review is underway (Case No. 2023-003960).
SSIP	10037303: Sunnydale PS Safety Improvements	Environmental review will begin when project scope is defined.
SSIP	10038469: Pump Station Security Upgrades (Cesar Chavez, GFS)	Environmental review will begin when project scope is defined.

EXHIBIT A

WASTEWATER ENTERPRISE REVENUE BONDS AND OTHER FORMS OF INDEBTEDNESS
FY 2023-2024 CAPITAL IMPROVEMENT PROJECTS

Program	Project Number and Name	CEQA Compliance ^{1,2}
SSIP	PS-5: Geary Underpass PS Safe Access Enhancements	Environmental review will begin when project scope is defined.
SSIP	PS-8: PS & FM Seismic Evaluation	Environmental review will begin when project scope is defined.
SSIP	PS-17: CHFM Inspection and Rehabilitation - Southern Port	Environmental review will begin when project scope is defined.
SSIP	10037194: Balboa High School Regional Runoff Reduction Project	Environmental review will begin when project scope is defined.
SSIP	GI-17: Buchanan Street Mall	Statutory Exemption issued 01/17/23 (Case No. 2023-000229ENV).
SSIP	10034553: GI For Stormwater Management (Grant)	No disbursement of funds will be made except for feasibility or planning tasks prior to completion of any environmental review necessary for the project(s).
SSIP	FR-1: Folsom Area Stormwater Imp. Project Phase 2	Categorical Exemption issued 9/23/21 (Case No. 2021-002217ENV).
SSIP	FR01: Flood Resiliency Planning	Environmental review will begin when project scope is defined.
SSIP	FR02: Floodwater Management Grant Assistance Program (Grant)	No disbursement of funds will be made except for feasibility or planning tasks prior to completion of any environmental review necessary for the project(s).
Capital	CWP11001: Treasure Island New WWTP and RWF	Treasure Island and Yerba Buena Island Redevelopment Plan Final Environmental Impact Report certified 4/21/11 (Case No 2007.0903E). Note to File issued 4/18/19 (Case No. 2007.0903E) for current wastewater treatment plant design (Case No 2007.0903E).



San Francisco
Water
Power
Sewer



Wastewater Financial Projections

October 12, 2023



BARTLE WELLS ASSOCIATES
INDEPENDENT PUBLIC FINANCE ADVISORS



BARTLE WELLS ASSOCIATES
INDEPENDENT PUBLIC FINANCE ADVISORS

2625 Alcatraz Avenue, #602
Berkeley, CA 94705
Tel 510 653 3399
www.bartlewells.com

TO: San Francisco Public Utilities Commission

DATE: October 12, 2023

ATTN: Edward Kwong, SFPUC

FROM: Alex Handlers, Bartle Wells Associates

RE: Wastewater Financial Projections for Proposition E Compliance

Background

Bartle Wells Associates (BWA) was retained by the San Francisco Public Utilities Commission (SFPUC) to develop financial projections in support of San Francisco Charter Article VIII B, Section 8B.124, as established by Proposition E which was approved by the voters of the City and County of San Francisco on November 5, 2002. This section of the Charter a) authorizes the SFPUC to issue revenue bonds and other forms of indebtedness and b) authorizes the Board of Supervisors to take actions necessary for the issuance and repayment of such debt subject to various conditions including *“that estimated net revenue after payment of operating and maintenance expenses will be sufficient to meet debt service coverage and other indenture or resolution requirements, including debt service on the bonds to be issued, and estimated repair and replacement costs.”*

Financial Projections

BWA developed financial projections based on data provided by the SFPUC as well as a number of independent calculations and assumptions which constitute such examination or investigation as is necessary to enable BWA to express an informed opinion as to whether the requirements of Proposition E have been satisfied. Based on the projections, the Wastewater Enterprise will generate net revenues (as defined per the Indenture securing the SFPUC’s outstanding Wastewater Revenue Bonds) that are at least 1.25 times Annual Debt Service in each fiscal year from Fiscal Years 2023-24 through 2032-33. In accordance with the requirements of Proposition E, BWA certifies that estimated net revenue after payment of operating and maintenance expenses will be sufficient to meet debt service coverage and other indenture or resolution requirements, including debt service on projected bonds to be issued, and estimated repair and replacement costs.

Attached Tables

The attached tables include:

- **Table 1 - SFPUC Wastewater Cash Flow Projections** – This table was developed by Bartle Wells Associates based on information provided by the SFPUC and a number of independent assumptions, and includes projections of future fund balances, revenues, operating and maintenance expenses, debt service, other non-operating expenses, net revenues, and debt service coverage.
- **Table 2 - Cash Flow Assumptions** – This table describes assumptions used in developing the financial projections.
- **Table 3 - 10-Year Capital Improvement Program & Funding Sources** – This table shows projected SFPUC power capital improvements and anticipated sources of funding.
- **Table 4 - Estimated Debt Service** – This table estimates annual debt service on future bonds per each \$100 million of project funding.
- **Table 5 - Projected Bond Issues** – This table shows projected debt issued by fiscal year and calculates annual debt service for each bond issue.
- **Table 6 - Projected Debt Service on Future Financings** – This table projects debt service by fiscal year for each water debt issue and shows a schedule of projected debt payments.
- **Table 7 - Outstanding Debt** – This table shows debt service due on outstanding debt issues.

The tables are based on information provided by the SFPUC as well as a number of independent calculations and assumptions. BWA takes no responsibility for the accuracy of information provided by the SFPUC, nor for any errors or omissions in information provided.

SFPUC Wastewater Enterprise Financial Projections

List of Tables

- Table 1 - SFPUC Wastewater Cash Flow Projections
 - Table 2 - Cash Flow Assumptions
 - Table 3 - 10-Year Capital Improvement Program & Funding Sources
 - Table 4 - Estimated Debt Service
 - Table 5 - Projected Bond Issues
 - Table 6 - Projected Debt Service on Future Financings
 - Table 7 - Outstanding Debt
-

Table 1 - SFPUC Wastewater Cash Flow Projections

Years 1 - 5

	2023/24	2024/25	2025/26	2026/27	2027/28
ASSUMPTIONS					
Projected Rate Increases	9.0%	9.0%	9.0%	9.0%	10.0%
Drought Surcharges (Net)	0.0%	0.0%	0.0%	0.0%	0.0%
Change in Retail Sales Volume	3.4%	1.1%	1.4%	-0.4%	-0.1%
Change in Wholesale Sales Volume	0.0%	0.0%	0.0%	0.0%	0.0%
Interest Earnings Rate	-	2.0%	2.0%	2.0%	2.0%
O&M Cost Escalator	-	-	3.0%	3.0%	3.0%
Beginning Fund Reserves (Unapprop)	152,960,894	175,688,894	169,238,894	174,052,894	155,689,894
Fund Balance Budgeted as Revenue	0	0	0	0	0
Total Fund Reserves	152,960,894	175,688,894	169,238,894	174,052,894	155,689,894
REVENUES					
Retail Volumetric Service Charges	374,788,000	412,917,000	456,260,000	495,543,000	544,522,000
Retail Fixed Service Charges	11,903,000	12,974,000	14,142,000	15,415,000	16,957,000
Wholesale Sewer Service Charges	12,181,000	13,700,000	14,933,000	16,277,000	17,905,000
Interest Income	1,654,000	3,514,000	3,385,000	3,481,000	3,114,000
BABs Bond Subsidy	3,471,000	3,356,000	3,235,000	3,105,000	2,968,000
Rental Revenues	774,000	795,000	815,000	836,000	857,000
Other Revenues	911,000	935,000	963,000	992,000	1,022,000
Programmatic Revenues	5,252,000	5,233,000	5,214,000	5,202,000	5,189,000
Capacity Fees/Other Non-Debt Revs	5,371,000	5,544,000	5,695,000	5,695,000	5,695,000
Total	416,305,000	458,968,000	504,642,000	546,546,000	598,229,000
EXPENSES					
Operating & Maintenance					
Salaries & Benefits	83,191,000	86,020,000	88,601,000	91,259,000	93,997,000
Other Non-Personnel	27,696,000	28,526,000	29,382,000	30,263,000	31,171,000
Materials/Supplies/Equipment	13,719,000	14,130,000	14,554,000	14,991,000	15,441,000
Services of SFPUC Bureaus	37,090,000	38,203,000	39,349,000	40,529,000	41,745,000
Services of Other Depts	38,793,000	39,767,000	40,960,000	42,189,000	43,455,000
Other Operating Expenses	141,000	141,000	145,000	149,000	153,000
Programmatic Projects (Net of Lease)	5,350,000	5,391,000	5,433,000	5,477,000	5,522,000
Adjustments	0	0	0	0	0
Subtotal	205,980,000	212,178,000	218,424,000	224,857,000	231,484,000
Debt Service (Net of Cap I)					
Outstanding Bonds	90,991,000	108,844,000	130,075,000	177,464,000	180,685,000
Outstanding SRF Loans	4,005,000	10,152,000	10,484,000	15,738,000	15,738,000
Outstanding WIFIA Loans	0	0	5,239,000	10,479,000	10,479,000
Projected Bonds (Net of Cap I)	0	0	0	0	30,209,000
Subtotal	94,996,000	118,996,000	145,798,000	203,681,000	237,111,000
Non-Operating					
Pay-Go Capital Funding	86,709,000	128,352,000	130,806,000	133,308,000	135,860,000
525GG Lease	2,417,000	2,417,000	2,417,000	2,417,000	2,417,000
Proposed BANs - Interest Only (Subord)	3,475,000	3,475,000	2,383,000	646,000	0
Subtotal	92,601,000	134,244,000	135,606,000	136,371,000	138,277,000
Total Expenses	393,577,000	465,418,000	499,828,000	564,909,000	606,872,000
Revenues Less Expenses	22,728,000	(6,450,000)	4,814,000	(18,363,000)	(8,643,000)
Ending Fund Reserves	175,688,894	169,238,894	174,052,894	155,689,894	147,046,894
Annual Revenues	416,305,000	458,968,000	504,642,000	546,546,000	598,229,000
Plus Fund Rsrvs Budgeted as Revenues	0	0	0	0	0
Less Revs Excluded from Coverage	(4,984,000)	(4,965,000)	(4,946,000)	(4,926,000)	(4,905,000)
Less Operating & Maintenance Exps	(205,980,000)	(212,178,000)	(218,424,000)	(224,857,000)	(231,484,000)
Add Back O&M Excluded from Covg	2,600,000	2,600,000	2,600,000	2,600,000	2,600,000
Net Revenues (Current Basis)	207,941,000	244,425,000	283,872,000	319,363,000	364,440,000
Net Revs + Beginning Fund Reserves	360,901,894	420,113,894	453,110,894	493,415,894	520,129,894
Debt Service Coverage, Current Basis	2.19	2.05	1.95	1.57	1.54
Debt Service Coverage, Indenture Basis	3.80	3.53	3.11	2.42	2.19

Table 1 - SFPUC Wastewater Cash Flow Projections

Years 6 - 10

	2028/29	2029/30	2030/31	2031/32	2032/33
ASSUMPTIONS					
Projected Rate Increases	9.0%	9.0%	8.0%	5.0%	5.0%
Drought Surcharges (Net)	0.0%	0.0%	0.0%	0.0%	0.0%
Change in Retail Sales Volume	-0.6%	-0.3%	-0.1%	0.4%	-0.1%
Change in Wholesale Sales Volume	0.0%	0.0%	0.0%	0.0%	0.0%
Interest Earnings Rate	2.0%	2.0%	2.0%	2.0%	2.0%
O&M Cost Escalator	3.0%	3.0%	3.0%	3.0%	3.0%
Beginning Fund Reserves (Unapprop)	147,046,894	103,150,894	59,716,894	41,490,894	52,502,894
Fund Balance Budgeted as Revenue	0	0	0	0	0
Total Fund Reserves	147,046,894	103,150,894	59,716,894	41,490,894	52,502,894
REVENUES					
Retail Volumetric Service Charges	590,137,000	641,331,000	691,691,000	729,234,000	764,585,000
Retail Fixed Service Charges	18,483,000	20,146,000	21,758,000	22,846,000	23,988,000
Wholesale Sewer Service Charges	19,516,000	21,272,000	22,974,000	24,123,000	25,329,000
Interest Income	2,941,000	2,063,000	1,194,000	830,000	1,050,000
BABs Bond Subsidy	2,822,000	2,668,000	2,506,000	2,335,000	2,153,000
Rental Revenues	879,000	902,000	925,000	949,000	973,000
Other Revenues	1,053,000	1,085,000	1,118,000	1,152,000	1,187,000
Programmatic Revenues	5,167,000	5,144,000	5,120,000	5,095,000	5,078,000
Capacity Fees/Other Non-Debt Revs	5,695,000	5,695,000	5,695,000	5,695,000	5,695,000
Total	646,693,000	700,306,000	752,981,000	792,259,000	830,038,000
EXPENSES					
Operating & Maintenance					
Salaries & Benefits	96,817,000	99,722,000	102,714,000	105,795,000	108,969,000
Other Non-Personnel	32,106,000	33,069,000	34,061,000	35,083,000	36,135,000
Materials/Supplies/Equipment	15,904,000	16,381,000	16,872,000	17,378,000	17,899,000
Services of SFPUC Bureaus	42,997,000	44,287,000	45,616,000	46,984,000	48,394,000
Services of Other Depts	44,759,000	46,102,000	47,485,000	48,910,000	50,377,000
Other Operating Expenses	158,000	163,000	168,000	173,000	178,000
Programmatic Projects (Net of Lease)	5,568,000	5,616,000	5,665,000	5,716,000	5,768,000
Adjustments	0	0	0	0	0
Subtotal	238,309,000	245,340,000	252,581,000	260,039,000	267,720,000
Debt Service (Net of Cap I)					
Outstanding Bonds	203,752,000	203,587,000	203,416,000	190,577,000	177,731,000
Outstanding SRF Loans	15,738,000	15,738,000	15,738,000	15,738,000	15,738,000
Outstanding WIFIA Loans	10,479,000	10,479,000	10,479,000	23,137,000	35,795,000
Projected Bonds (Net of Cap I)	81,431,000	125,060,000	142,749,000	142,749,000	172,310,000
Subtotal	311,400,000	354,864,000	372,382,000	372,201,000	401,574,000
Non-Operating					
Pay-Go Capital Funding	138,463,000	141,119,000	143,827,000	146,590,000	149,408,000
525GG Lease	2,417,000	2,417,000	2,417,000	2,417,000	2,201,000
Proposed BANS - Interest Only (Subord)	0	0	0	0	0
Subtotal	140,880,000	143,536,000	146,244,000	149,007,000	151,609,000
Total Expenses	690,589,000	743,740,000	771,207,000	781,247,000	820,903,000
Revenues Less Expenses	(43,896,000)	(43,434,000)	(18,226,000)	11,012,000	9,135,000
Ending Fund Reserves	103,150,894	59,716,894	41,490,894	52,502,894	61,637,894
Annual Revenues	646,693,000	700,306,000	752,981,000	792,259,000	830,038,000
Plus Fund Rsrvs Budgeted as Revenues	0	0	0	0	0
Less Revs Excluded from Coverage	(4,836,000)	(4,811,000)	(4,785,000)	(4,758,000)	(4,729,000)
Less Operating & Maintenance Exps	(238,309,000)	(245,340,000)	(252,581,000)	(260,039,000)	(267,720,000)
Add Back O&M Excluded from Covg	2,600,000	2,600,000	2,600,000	2,600,000	2,600,000
Net Revenues (Current Basis)	406,148,000	452,755,000	498,215,000	530,062,000	560,189,000
Net Revs + Beginning Fund Reserves	553,194,894	555,905,894	557,931,894	571,552,894	612,691,894
Debt Service Coverage, Current Basis	1.30	1.28	1.34	1.42	1.39
Debt Service Coverage, Indenture Basis	1.78	1.57	1.50	1.54	1.53

Table 2
 SFPUC Wastewater Financial Projections
 Cash Flow Assumptions

SFPUC Model Basis	Financial projections are partially based on SFPUC's <i>Wastewater 10 Year Plan</i> provided 9/27/23.
Projected Rate Increases	Future rate increases are based on SFPUC projections.
Beginning Fund Reserves	Beginning fund reserves based on SFPUC estimates.
Sewer Service Charges	Sewer Service Charges are based on SFPUC estimates for 2023/24 with BWA projections for future years accounting for SFPUC-projected rate increases and SFPUC projections of changes in retail sales volumes. Wholesale volumes, which are less than 1% of retail volumes, are assumed to remain constant.
Interest Income	Interest earnings starting 2024/25 are estimated based on beginning fund reserves for each year multiplied by projected interest rates.
BABs Bond Subsidy	Based on BWA projections assuming a 35% federal interest reimbursement offset by 5.7% sequestration.
Rental & Programmatic Revenues	Based on SFPUC projections.
Capacity Fees/Other Non-Debt Revs	Based on SFPUC projections.
Operating & Maintenance Expenses	Primarily based on SFPUC projections for the first two years and subsequently escalated at the annual rate of 3%, with the exception of Programmatic Expenses which are based on SFPUC projections.
Outstanding Debt Service	Outstanding debt service is based on debt service schedules for each issue, as provided by SFPUC, and is shown on a fiscal year basis.
Debt Service Assumptions & Projected Debt Service	Debt assumptions are shown on Table 4, which calculates debt service per \$100 million of project funding. Future debt service projections are based on SFPUC projections of annual financing requirements and BWA projections of debt service as shown on Table 5, with a schedule of projected debt service by fiscal year shown on Table 6.
Capital Projects	Capital Project expenses and sources of funding are based on SFPUC projections.
Other Non-Operating Expenses	Based on SFPUC projections.
Net Revenues	Pursuant to the Indenture, Net Revenues are defined as Annual Revenues -- excluding revenues identified as ineligible in the SFPUC model and interest earnings on any bond funds, but including fund reserves available to pay debt service assuming the Commission determined such reserves should be "Revenues" under the Indenture -- less Operation and Maintenance Expenses.
Debt Service Coverage, Current Basis	Coverage based on annual Net Revenues (excluding available fund reserves) divided by Annual Debt Service.
Debt Service Coverage, Indenture Basis	Coverage based on annual Net Revenues plus Beginning Fund Reserves (as allowed per Indenture) divided by Annual Debt Service.

SFPUC Wastewater Enterprise Projected Revenues & Expenses (\$ Millions)

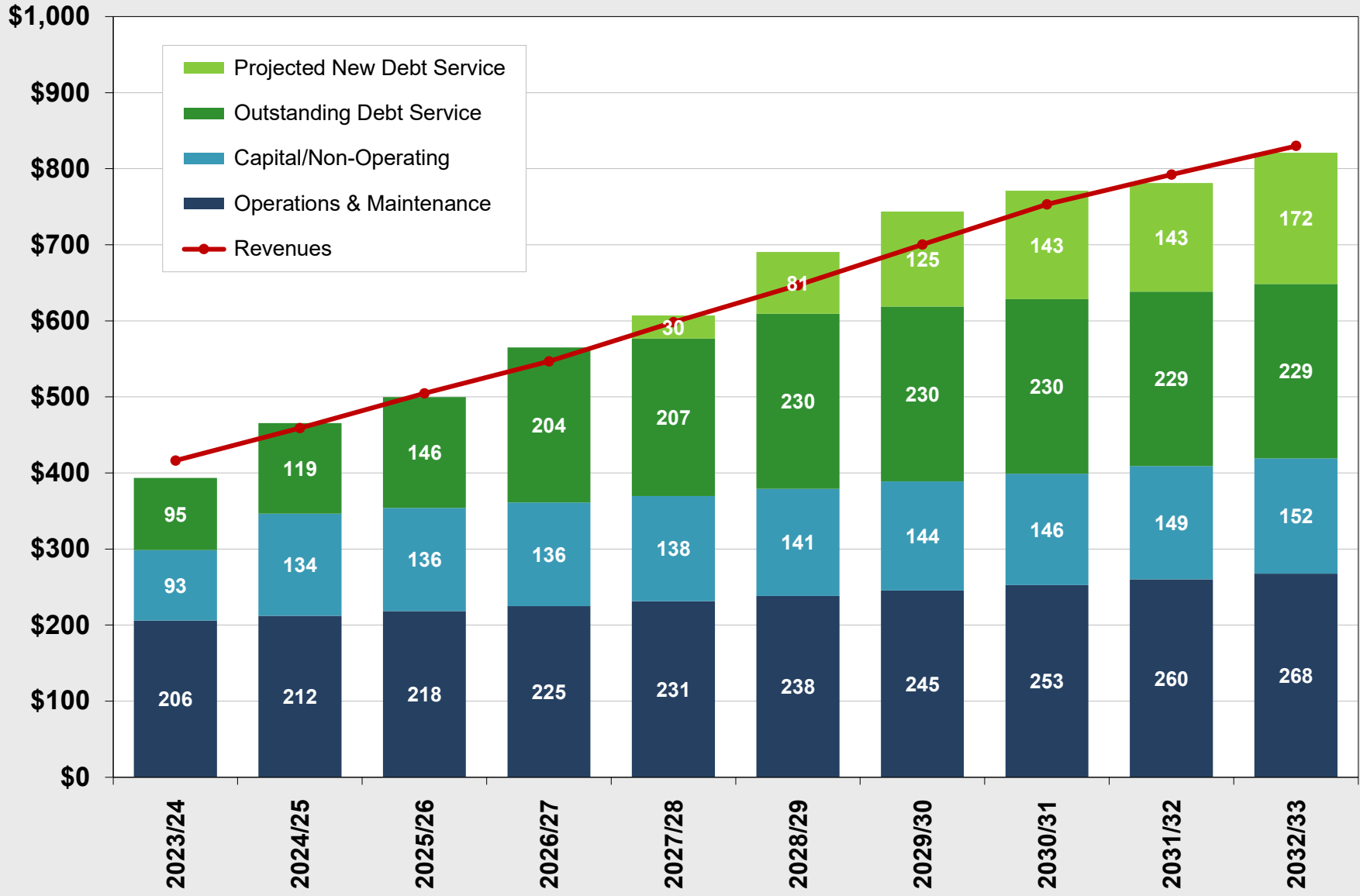


Table 3
SFPUC Wastewater Enterprise
10-Year Capital Improvement Program & Funding Sources
Includes Construction Cost Inflation

	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33
CAPITAL IMPROVEMENT PROGRAM COSTS										
Sewer System Improvement Program (SSIP)										
Program-Wide Management	18,000,000	18,000,000	17,000,000	17,000,000	17,000,000	16,000,000	15,500,000	14,997,000	14,500,000	14,500,000
Treatment Facilities	609,228,000	491,960,000	318,363,000	143,048,000	39,687,000	10,663,000	32,432,000	9,983,000	12,173,000	74,452,000
Sewer/Collection System	83,122,000	42,362,000	37,749,000	31,336,000	5,082,000	50,260,000	5,100,000	2,521,000	20,742,000	1,296,000
Stormwater Mgmt/Flood Resilience	68,186,000	123,696,000	217,121,000	132,490,000	89,900,000	9,781,000	10,307,000	12,889,000	21,906,000	43,436,000
Subtotal SSIP	778,536,000	676,018,000	590,233,000	323,874,000	151,669,000	86,704,000	63,339,000	40,390,000	69,321,000	133,684,000
Non-SSIP Improvements										
Repairs & Replacements	95,309,000	148,720,000	172,124,000	170,727,000	174,026,000	162,986,000	165,237,000	171,519,000	183,710,000	191,050,000
Treasure Island Improvements	111,660,000	39,001,000	1,896,000	0	0	0	0	0	0	0
Facilities & Infrastructure	0	30,777,000	54,165,000	26,501,000	27,898,000	30,771,000	4,074,000	2,793,000	194,000	471,000
Subtotal Non-SSIP	206,969,000	218,498,000	228,185,000	197,228,000	201,924,000	193,757,000	169,311,000	174,312,000	183,904,000	191,521,000
Rounding Adjustment	(1,000)			1,000			1,000		1,000	1,000
Total	985,504,000	894,516,000	818,418,000	521,103,000	353,593,000	280,461,000	232,651,000	214,702,000	253,226,000	325,206,000
FUNDING SOURCES										
New Debt Funding	890,195,000	766,164,000	687,612,000	387,795,000	217,733,000	141,998,000	91,532,000	70,875,000	106,636,000	175,798,000
Annual Revenues	81,338,000	122,808,000	125,111,000	127,613,000	130,165,000	132,768,000	135,424,000	138,132,000	140,895,000	143,713,000
Capacity Fees/Other	13,971,000	5,544,000	5,695,000	5,695,000	5,695,000	5,695,000	5,695,000	5,695,000	5,695,000	5,695,000
Total	985,504,000	894,516,000	818,418,000	521,103,000	353,593,000	280,461,000	232,651,000	214,702,000	253,226,000	325,206,000
SURPLUS / (SHORTFALL)	0	0	0	0	0	0	0	0	0	0

Note: Amounts shown reflect capital improvements projected to be budgeted, but not necessarily funded or financed, each year.

Table 4
 SFPUC Wastewater Enterprise
 Estimated Debt Service
 Per \$100 Million of Project Funding

		Bonds 30 Years 5.00%
		All Years
Funding Target		Per each \$100,000,000
Assumed Issuance & Payment Months		
Issuance Date		Jan-1
Payment: Semi-Annual Interest		Apr-1
Payment: Semi-Annual Interest + Principal		Oct-1
Total Debt Issue		\$115,080,000
Project Funding		\$100,000,000
Issuance Costs & Reserve Requirement		
Underwriter Discount	0.30%	\$345,000
Issuance Costs	Est.	300,000
Reserve Requirement		0
Capitalized Interest (Months)	30	14,385,000
Accrued Interest During Construction		n/a
Rounding/Contingency		<u>50,000</u>
Total		15,080,000
Financing Terms		
Term (Years)		30
Interest Only (Years)		2.5
Principal Amortization (Years)		28
Est. Average Interest Rate		5.00%
Debt Service		
Interest Only Period (Annual Amount)		5,754,000
Principal Amortization Period		7,790,000
<i>Financing costs and interest rates estimated for financial planning purposes.</i>		

Table 5
SFPUC Wastewater Enterprise
Projected Bond Issues

Debt Issuance	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33
Financing Terms										
CIP Project Funding Target [1]	0	700,000,000	623,355,000	509,110,000	0	0	685,000,000	0	0	0
Total Issue Size	0	805,560,000	717,360,000	585,880,000	0	0	788,300,000	0	0	0
Issuance Date	Jan-1	Jan-1	Jan-1	Jan-1	Jan-1	Jan-1	Jan-1	Jan-1	Jan-1	Jan-1
Issuance Year	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Interest Payments	Apr-1 & Oct-1	Apr-1 & Oct-1	Apr-1 & Oct-1	Apr-1 & Oct-1	Apr-1 & Oct-1	Apr-1 & Oct-1	Apr-1 & Oct-1	Apr-1 & Oct-1	Apr-1 & Oct-1	Apr-1 & Oct-1
Principal Payments (Year 3+)	Oct-1	Oct-1	Oct-1	Oct-1	Oct-1	Oct-1	Oct-1	Oct-1	Oct-1	Oct-1
Average Interest Rate	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Repayment Term (Years)	30	30	30	30	30	30	30	30	30	30
Capitalized Interest (Years)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Debt Service per \$100M										
Interest Only Period (Annual)	5,754,000	5,754,000	5,754,000	5,754,000	5,754,000	5,754,000	5,754,000	5,754,000	5,754,000	5,754,000
Principal Amort Period	7,790,000	7,790,000	7,790,000	7,790,000	7,790,000	7,790,000	7,790,000	7,790,000	7,790,000	7,790,000
Annual Debt Service										
Interest Only Period	0	40,278,000	35,868,000	29,294,000	0	0	39,415,000	0	0	0
Principal Amort Period	0	54,530,000	48,559,000	39,660,000	0	0	53,362,000	0	0	0
Cumulative MADS										
	0	54,530,000	103,089,000	142,749,000	142,749,000	142,749,000	196,111,000	196,111,000	196,111,000	196,111,000

1 Based on SFPUC Wastewater Model debt sizing projections.

Table 6
SFPUC Wastewater Enterprise
Projected Debt Service on Future Financings

Fiscal Year Ending June 30	2023/24 Debt	2024/25 Debt	2025/26 Debt	2026/27 Debt	2027/28 Debt	2028/29 Debt	2029/30 Debt	2030/31 Debt	2031/32 Debt	2032/33 Debt	Total Net of Cap I
2024											0
2025											0
2026											0
2027	0										0
2028	0	30,209,000									30,209,000
2029	0	54,530,000	26,901,000								81,431,000
2030	0	54,530,000	48,559,000	21,971,000							125,060,000
2031	0	54,530,000	48,559,000	39,660,000	0						142,749,000
2032	0	54,530,000	48,559,000	39,660,000	0	0					142,749,000
2033	0	54,530,000	48,559,000	39,660,000	0	0	29,561,000				172,310,000
2034	0	54,530,000	48,559,000	39,660,000	0	0	53,362,000	0			196,111,000
2035	0	54,530,000	48,559,000	39,660,000	0	0	53,362,000	0	0		196,111,000
2036	0	54,530,000	48,559,000	39,660,000	0	0	53,362,000	0	0	0	196,111,000
2037	0	54,530,000	48,559,000	39,660,000	0	0	53,362,000	0	0	0	196,111,000
2038	0	54,530,000	48,559,000	39,660,000	0	0	53,362,000	0	0	0	196,111,000
2039	0	54,530,000	48,559,000	39,660,000	0	0	53,362,000	0	0	0	196,111,000
2040	0	54,530,000	48,559,000	39,660,000	0	0	53,362,000	0	0	0	196,111,000
2041	0	54,530,000	48,559,000	39,660,000	0	0	53,362,000	0	0	0	196,111,000
2042	0	54,530,000	48,559,000	39,660,000	0	0	53,362,000	0	0	0	196,111,000
2043	0	54,530,000	48,559,000	39,660,000	0	0	53,362,000	0	0	0	196,111,000
2044	0	54,530,000	48,559,000	39,660,000	0	0	53,362,000	0	0	0	196,111,000
2045	0	54,530,000	48,559,000	39,660,000	0	0	53,362,000	0	0	0	196,111,000
2046	0	54,530,000	48,559,000	39,660,000	0	0	53,362,000	0	0	0	196,111,000
2047	0	54,530,000	48,559,000	39,660,000	0	0	53,362,000	0	0	0	196,111,000
2048	0	54,530,000	48,559,000	39,660,000	0	0	53,362,000	0	0	0	196,111,000
2049	0	54,530,000	48,559,000	39,660,000	0	0	53,362,000	0	0	0	196,111,000
2050	0	54,530,000	48,559,000	39,660,000	0	0	53,362,000	0	0	0	196,111,000
2051	0	54,530,000	48,559,000	39,660,000	0	0	53,362,000	0	0	0	196,111,000
2052	0	54,530,000	48,559,000	39,660,000	0	0	53,362,000	0	0	0	196,111,000
2053	0	54,530,000	48,559,000	39,660,000	0	0	53,362,000	0	0	0	196,111,000
2054	0	54,530,000	48,559,000	39,660,000	0	0	53,362,000	0	0	0	196,111,000
2055	0	54,530,000	48,559,000	39,660,000	0	0	53,362,000	0	0	0	196,111,000
2056	0	54,530,000	48,559,000	39,660,000	0	0	53,362,000	0	0	0	196,111,000
2057	0	54,530,000	48,559,000	39,660,000	0	0	53,362,000	0	0	0	196,111,000
2058		54,530,000	48,559,000	39,660,000	0	0	53,362,000	0	0	0	196,111,000
2059			48,559,000	39,660,000	0	0	53,362,000	0	0	0	141,581,000
2060				39,660,000	0	0	53,362,000	0	0	0	93,022,000
2061					0	0	53,362,000	0	0	0	53,362,000
2062						0	53,362,000	0	0	0	53,362,000
2063							53,362,000	0	0	0	53,362,000
2064								0	0	0	0
2065									0	0	0
2066										0	0

Note: First fiscal year debt payment of each bond issue assumes 9 months of interest-only payments.

Table 7
SFPUC Wastewater Enterprise
Outstanding Debt

Net of Capitalized Interest

Maximum Annual Debt Service: \$237,293,240

FYE June 30	2010B Bonds (BABS)			2013A Bonds	2013B Bonds	2016A Bonds	2016B Bonds	2018A Bonds	2018B Bonds	2018C Bonds	2021A Bonds	2021B Bonds	2022B Bonds	2023A Bonds	2023B Bonds	2023C Bonds	Total Senior Bonds (Gross)	SRF Loans	WIFIA Loans	Total Senior Debt (Gross)
	Gross	Int Reimbs	Net																	
		Seq: 5.70%																		
		33.005%																	Assumes Full Drawdown	
2023	17,796,166	3,470,860	21,267,026	13,421,000	7,346,600	10,645,750	3,001,050	18,265,975	15,401,000	3,806,831							94,729,677	4,004,851		98,734,529
2024	17,673,662	3,356,167	21,029,829	589,375	3,723,800	15,983,875	4,507,425	17,339,100	14,649,250								90,991,154	4,004,851		94,996,005
2025	17,545,666	3,234,710	20,780,375		3,723,800	15,988,000	4,508,175	16,415,600	13,895,625		10,000,638	1,615,574	14,970,875		3,375,588	6,295,080	108,843,602	10,152,294		118,995,896
2026	17,408,913	3,105,412	20,514,325		3,723,800	16,017,900	4,513,450	16,413,225	13,897,000		11,465,700	1,852,250	16,358,375	13,317,531	8,480,500	6,626,400	130,075,044	10,483,590	5,239,457	145,798,091
2027	17,261,893	2,967,774	20,229,667		3,723,800	16,047,675	4,524,475	16,413,600	13,899,250		11,465,700	1,852,250	16,356,625	48,085,063	21,207,750	6,626,400	177,464,481	15,738,159	10,478,914	203,681,553
2028	17,110,033	2,821,938	19,931,971		3,723,800	16,046,300	4,522,475	16,415,725	13,896,750		11,465,700	1,852,250	16,358,125	50,397,563	22,270,250	6,626,400	180,685,371	15,738,159	10,478,914	206,902,443
2029	16,943,973	2,668,115	19,612,088		3,723,800	16,048,175	4,520,850	16,413,725	13,898,750		11,465,700	1,852,250	16,361,375	67,403,813	28,493,500	6,626,400	203,752,311	15,738,159	10,478,914	229,969,383
2030	16,772,303	2,505,840	19,278,143		3,723,800	16,047,425	4,524,225	16,411,725	13,899,375		11,465,700	1,852,250	16,355,125	67,531,313	28,377,000	6,626,400	203,586,641	15,738,159	10,478,914	229,803,713
2031	16,593,293	2,334,540	18,927,833		3,723,800	16,048,175	4,522,350	16,413,600	13,897,875		11,465,700	1,852,250	16,357,875	67,533,938	28,380,500	6,626,400	203,415,756	15,738,159	10,478,914	229,632,828
2032	16,397,827	2,152,859	18,550,686		3,723,800	16,044,550	4,524,975	16,413,225	13,898,375		11,465,700	1,852,250	16,357,875	57,978,813	25,293,125	6,626,400	190,576,914	15,738,159	23,137,093	229,452,167
2033	16,194,233	1,961,894	18,156,127		3,723,800	16,045,550	4,521,850	16,414,475	13,895,000		11,465,700	1,852,250	16,358,500	49,046,313	21,586,750	6,626,400	177,730,821	15,738,159	35,795,273	229,264,253
2034	15,983,646	1,763,670	17,747,316		3,723,800	16,045,050	4,522,725	16,411,225	13,901,625		11,465,700	1,852,250	16,362,875	48,786,438	21,847,250	6,626,400	177,528,983	15,738,159	35,795,273	229,062,415
2035	15,765,202	1,557,903	17,323,104		3,723,800	16,046,925	4,522,225	16,412,225	13,897,250		11,465,700	1,852,250	16,364,125	49,069,938	21,579,125	6,626,400	177,325,164	15,738,159	35,795,273	228,858,597
2036	15,542,896	1,344,259	16,887,155		3,723,800	16,045,050	4,524,975	16,411,100	13,900,875		11,465,700	1,852,250		50,225,813	36,793,500	6,626,400	177,112,358	15,738,159	35,795,273	228,645,790
2037	15,306,552	1,121,032	16,427,584		3,723,800	16,048,175	4,525,600	16,411,475	13,901,250		11,465,700	1,852,250		27,926,313	28,521,750	6,626,400	146,309,265	15,738,159	66,372,486	228,419,910
2038	15,055,150	887,884	15,943,033		3,723,800	16,046,300	4,524,700	16,411,850	13,897,375		11,465,700	1,852,250		27,933,438	28,538,000	6,626,400	146,074,962	15,738,159	66,372,486	228,185,607
2039	14,801,539	645,756	15,447,294		3,723,800	16,048,300	4,523,400	16,410,725	13,898,000		11,465,700	1,852,250		27,950,188	28,532,875	6,626,400	145,833,176	15,738,159	66,372,486	227,943,821
2040	14,534,555	394,263	14,928,818		3,723,800	16,047,000	4,522,000	16,437,000	13,872,375		11,465,700	1,852,250		27,963,563	28,538,750	6,626,400	145,583,393	15,738,159	66,372,486	227,694,038
2041	14,258,181	133,070	14,391,250		23,706,000	16,046,700	4,525,200	16,499,200	13,810,750		11,465,700	1,852,250		26,565,975	9,967,375	6,626,400	145,323,731	15,738,159	66,372,486	227,434,376
2042					37,820,700	16,046,600	4,522,800	16,565,600	13,742,875		11,465,700	1,852,250		19,116,763	7,003,500	6,626,400	134,763,188	15,738,159	76,798,704	227,300,050
2043					37,821,600	16,045,900	4,524,600	16,635,000	13,677,500		11,465,700	1,852,250		19,144,694	7,200,625	6,626,400	134,994,269	15,738,159	76,565,315	227,297,743
2044						16,048,700	4,525,300	11,673,900	9,537,625		34,773,075	5,108,750				13,736,300	95,403,650	15,738,159	114,175,784	225,317,593
2045						16,044,200	4,524,700				34,772,200	5,112,375				34,952,200	95,405,675	15,738,159	114,313,193	225,457,027
2046						16,046,500	4,522,600				34,773,450	5,112,125				34,950,400	95,405,075	15,738,159	120,288,906	231,432,140
2047						16,044,600	4,523,700				34,773,575	5,112,625				34,950,000	95,404,500	15,738,159	126,108,786	237,251,446
2048											34,773,200	5,108,500				34,949,000	74,830,700	15,738,159	146,724,380	237,293,240
2049											34,772,500	5,109,250				34,950,300	74,832,050	13,712,861	147,002,591	235,547,501
2050											34,773,400	5,109,250					39,882,650	13,712,861	160,168,329	213,763,840
2051											34,773,900	5,112,875					39,886,775	11,998,386	160,510,974	212,396,135
2052											34,776,900	5,109,625					39,886,525	11,733,308	161,114,424	212,734,257
2053																		11,733,308	186,265,689	197,998,997
2054																		11,733,308	186,628,520	198,361,828
2055																		5,254,569	187,134,653	192,389,222
2056																		5,254,569	200,287,649	205,542,218
2057																			201,043,161	201,043,161
2058																			201,702,819	201,702,819
2059																			202,470,562	202,470,562
2060																			153,211,882	153,211,882
2061																			153,369,976	153,369,976
2062																			129,431,267	129,431,267
2063																			65,776,192	65,776,192
2064																			65,776,192	65,776,192
2065																			65,776,192	65,776,192
2066																			65,776,192	65,776,192

Note: Excludes junior lien 2009 COPs.