Finance Committee recommends the City Council adopt a resolution declaring intention to reimburse expenditures related to the four capital projects from the proceeds of the bonds to be issued by the City for Wastewater Treatment Fund for a not-to-exceed amount of $85 million.

Recommendation
Finance Committee recommends that Council adopt a resolution (Attachment A) declaring the City’s intention to reimburse expenditures made for related capital improvement projects from the proceeds of bonds to be issued by the City for the Regional Water Quality Control Plant (RWQCP), Wastewater Treatment Fund, for a not-to-exceed amount of $85 million.

Background
On December 4, 2018, Finance Committee discussed staff recommended actions to adopt a resolution declaring the City’s intention to reimburse expenditures related to four capital projects described below from the proceeds of the bonds to be issued by the City for Wastewater Treatment Fund, if the City determined to issue such bonds. The preferred financing option is low-interest State Revolving Fund (SRF) Loans from the California State Water Resources Control Board (CSWRCB). Staff has applied for SRF funding for the first two of the four projects and expects a determination on whether SRF funding will be provided by June 2019. An application for SRF funding for the remaining two projects will be submitted in late 2019 for consideration during the 2020 SRF process. If the City is not granted one or both of the SRF loans, bond funding is another avenue of financing. Staff also provided a review of the near-term capital improvement program for the Regional Water Quality Control Plant. (CMR #9678, Attachment B)

The RWQCP, originally constructed in 1934, has undergone several expansions and upgrades. The RWQCP is now an advanced (tertiary treatment) facility that provides treatment and disposal of wastewater for Palo Alto, Mountain View, Los Altos, Los Altos Hills, East Palo Alto.
Sanitary District, and Stanford University (the “Partners”) under separate Partner agreements with Palo Alto which owns and operates the RWQCP.

The City Council, on June 18, 2018, adopted the City’s Capital Budget (CMR# 9229), which included the Wastewater Treatment Fund’s multi-year capital expenditure plan. Included in this expenditure plan were four capital improvement projects (the “Projects”). The Projects are: 1) WQ-14002 New Laboratory and Environmental Services Building; 2) WQ-14003 Primary Sedimentation Tank Rehabilitation; 3) WQ-19000 Outfall Line Construction; and 4) WQ-19001 Secondary Treatment Upgrades. The Projects are described in the Long Range Facilities Plan (LRFP) prepared in 2012 and accepted by Council in July 2012 (CMR #2914). More details and descriptions of the Projects are included in Attachment C.

Discussion
If the City is not granted the SRF loans, staff anticipates selling two series of tax-exempt Utility Revenue Bonds in approximately September or October of 2019 and late 2020 to finance the Projects. Prior to that, staff will be conducting design and other work on the projects. To pay for certain pre-construction costs from bond proceeds, it is necessary for the City Council to approve a resolution declaring the City’s intent to reimburse those expenditures.

The City engaged the services of Woodard and Curran, an engineering firm, to assist with conceptual designs and preliminary cost estimates which are shown in the below table. Since these cost estimates are based on conceptual designs and due to recent escalation of construction costs, staff is seeking a higher not-to-exceed amount of $85 million for this reimbursement resolution, representing an approximately 16% increase from the current estimated project costs. City Council approval of this reimbursement resolution is not authorizing the issuance of these bonds. Staff will return to Council in 2019 and mid 2020 with a recommendation for approval to issue bonds if one or both of the SRF loan applications are unsuccessful. At that time, the amounts for the bond issuance will be updated based on more accurate estimation of construction costs.
Project Cost Estimate Based on Conceptual Designs as of November 2018:

<table>
<thead>
<tr>
<th>CIP Project Titles</th>
<th>Design Phase Est. Expense</th>
<th>Construction Phase Est. Expense</th>
<th>Total Est. Project cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) WQ-14003 Primary Sedimentation Tank Rehabilitation</td>
<td>$800,000</td>
<td>$12,900,000</td>
<td>$13,700,000</td>
</tr>
<tr>
<td>2) WQ-14002 New Laboratory and Environmental Services Building</td>
<td>$1,800,000</td>
<td>$16,500,000</td>
<td>$18,300,000</td>
</tr>
<tr>
<td>3) WQ-19001 Secondary Treatment Upgrades</td>
<td>$2,300,000</td>
<td>$31,300,000</td>
<td>$33,600,000</td>
</tr>
<tr>
<td>4) WQ-19000 Outfall Line Construction</td>
<td>$0</td>
<td>$7,400,000</td>
<td>$7,400,000</td>
</tr>
<tr>
<td><strong>Total Project Costs</strong></td>
<td><strong>$4,900,000</strong></td>
<td><strong>$68,100,000</strong></td>
<td><strong>$73,000,000</strong></td>
</tr>
<tr>
<td>Less: Available Funds</td>
<td></td>
<td>($3,400,000)</td>
<td></td>
</tr>
<tr>
<td><strong>Total Est. Bond Financing</strong></td>
<td></td>
<td><strong>$69,600,000</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Timeline**

If the City determines that it will issue two series of tax-exempt Utility Revenue Bonds, they will be issued in approximately September or October of 2019 and late 2020. The conceptual timeline for the first bond issuance is below.

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/4/2018</td>
<td>Finance Committee – Reimbursement resolution and project status/briefing</td>
</tr>
<tr>
<td>February 2018</td>
<td>City Council – Reimbursement resolution adoption</td>
</tr>
<tr>
<td>Mid 2019*</td>
<td>Rating Presentation &amp; Receipt of Rating</td>
</tr>
<tr>
<td>August/September 2019*</td>
<td>City Council approves resolution authorizing the issuance and sale of the first Utility Revenue Bonds</td>
</tr>
<tr>
<td>September/October 2019*</td>
<td>Receive bond proceeds from the first series bonds</td>
</tr>
</tbody>
</table>

*This timeline has been updated in early January 2019 with a more accurate projection and is different from the timeline shown in the Finance Committee Report.

**Resource Impact**

It is estimated that the principal amount of the bonds, not including the amount needed to pay for debt service reserve funds, costs of issuance, and capitalized interest, will not exceed $85 million. The annual debt service payment depends upon prevailing interest rates at the time of the bond issuance, currently estimated to be 4%. The annual debt service payments will be paid by all the Partners to the Palo Alto RWQCP and will be specified in amendments to their Partner agreements with Palo Alto, which are being developed and will be presented to Council for approval later this year.
The impact of the Bonds on expenses from the Wastewater Treatment Enterprise Fund (WWT Fund) is shown in Attachment D. This 10-year forecast shows the expenses for the entire fund which is shared among all six Partners of the RWQCP; Palo Alto would be responsible for payment of approximately one-third of the total. Attachment D also shows the impact on the Debt Service Ratio of issuing the two Bonds. The City’s Debt Policy is to keep the Debt Service Ratio, defined as the ratio of annual debt service to total annual operating expenses, below 15%. Should the Bonds be issued, the Debt Service Ratio for the Wastewater Treatment Fund would exceed 15%. Staff would return to Council with recommendations on handling the potential increase in the Debt Service Ratio and related issues with the recommendation for the approval of bonds.

The impact of executing the two bonds on customer Sewer Rates in Palo Alto is shown in Attachment E. This 10-year forecast isolates and shows the increase in Sewer rates in Palo Alto that would be caused by increasing expenses and the new debt service. The estimated rate increases shown are not being proposed at this time, and the City Council is not being asked to act on them.

**Environmental Review**

The approval of the resolution is not a project approval under the California Environmental Quality Act (CEQA) and thus is not subject to CEQA review. Individual capital improvement projects, however, will be reviewed under CEQA prior to any project approval.

**Attachments:**

- Attachment A - RESO Declaring Intent to Reimburse Expenditures - WW Revenue Bonds
- Attachment B - Finance Committee CMR#9678
- Attachment C - CIP Project Description
- Attachment D - WWT FY19-29 est. expenses & est. debt ratio
- Attachment E - CPAU FY19-28 Wastewater rate projection -2018Nov
Resolution of the Council of the City of Palo Alto
Declaring Intention to Reimburse Expenditures Relating to Four Capital Projects at the Regional Water Quality Control Plant From the Proceeds of Tax-Exempt Debt

WHEREAS, the City proposes to undertake the capital projects at the Regional Water Quality Control Plant (the “Plant”) described on Exhibit A hereto (collectively, the “Project”), to incur tax-exempt debt to finance the Project, and use a portion of the proceeds of such debt to reimburse expenditures made for the Project prior to the issuance of the debt;

WHEREAS, United States Income Tax Regulations section 1.150-2 provides generally that proceeds of tax-exempt debt are not deemed to be expended when such proceeds are used for reimbursement of expenditures made prior to the date of issuance of such debt unless certain procedures are followed, one of which is a requirement that prior to the payment of any such expenditure, the issuer declares an intention to reimburse such expenditure; and

WHEREAS, it is in the public interest and for the public benefit that the City declares its official intent to reimburse the expenditures referenced herein.

NOW, THEREFORE, the Council of the City of Palo Alto does hereby RESOLVE, as follows:

SECTION 1. The City intends to issue one or more series of debt payable from its Wastewater Treatment Fund, including, but not limited to revenue bonds, loans and installment purchase obligations (the “Bonds”) for the purpose of paying the costs of the Project.

SECTION 2. The City hereby declares that it reasonably expects (i) to pay certain costs of the Project prior to the date of issuance of the Bonds, and (ii) to use a portion of the proceeds of the Bonds for reimbursement of expenditures for the Project that are paid before the date of issuance of the Bonds.
SECTION 3. The principal amount of the Bonds is not expected to exceed $85,000,000, not including the amount needed to pay for debt service reserve funds, costs of issuance and capitalized interest.

INTRODUCED AND PASSED:

AYES:

NOES:

ABSENT:

ABSTENTIONS

ATTEST:

City Clerk

Mayor

APPROVED AS TO FORM:

City Attorney

City Manager

By: ________________
Christopher K. Lynch,
Jones Hall, A Professional Law Corporation
Bond Counsel

Director of Public Works

Director of Administrative Services
EXHIBIT A

Project Description

1. **Primary Sedimentation Tank Replacement (PST)**

   This project is for new protective coatings on each of the four concrete primary sedimentation tanks and replacement of worn rotating parts. The tanks which remove settled solids and grease were installed in 1972. The coating ensures that reinforcing steel bars within the concrete are protected from penetrating corrosive sewer gases and extends the concrete’s life another 30 years. Without recoating, the concrete will lose its structural integrity, gradually spalling and harming pumps, pipes, and treatment systems as a result. In a mild seismic event, weakened concrete could potentially collapse, endangering staff and the treatment system.

2. **Laboratory & Environmental Services Building (Lab)**

   This project is for a new building that will consolidate staff and provide a larger updated lab. Currently staff is located in four separate aging buildings that also house industrial pumps. An existing laboratory does not have adequate space for staff, instruments, chemical storage, and microbiology testing.

3. **Secondary Treatment Upgrades (STU)**

   The existing Secondary Treatment process has two main components: the Fixed Film Reactors (FFR) and the Activated Sludge (AS) Process. This project includes the reconstruction of the AS process, rehabilitation of the AS Aeration Basins and the elimination of the FFRs. The AS Aeration Basins will be subdivided with concrete walls creating different zones where different pollutants can be treated. A special study was completed in 2017, which proposed a complete Secondary Treatment process upgrade instead of individual rehabilitation projects (e.g. FFR). The project will not only reduce organics and ammonia like the existing processes, but will also reduce total nitrogen, the next pollutant being regulated.

4. **Outfall Line (OFL)**

   This project is to construct a new parallel outfall pipe to convey final plant effluent to San Francisco Bay. Installation of a new outfall line is needed to address outfall age (built in 1964), but especially to address the outfall capacity considering all peak wet-weather flow, peak tide, and future sea level rise scenarios. The existing system lines are inadequate to pass the Plant's peak wet weather hydraulic flow capacity of 80 million gallons per day under all circumstances of peak tides, peak wet-weather flows, and future sea level rise scenarios.
City of Palo Alto
Finance Committee Staff Report

Report Type: Action Items  Meeting Date: 12/4/2018

Summary Title: Reimbursement Resolution for Revenue Bonds for the Regional Water Quality Control Plant

Title: Review of Near Term Capital Projects at the Regional Water Quality Control Plant and Recommendation to Adopt a Resolution Declaring Intention to Reimburse Expenditures Related to the Four Capital Projects From the Proceeds of the Bonds to be Issued by the City for Wastewater Treatment Fund

From: City Manager

Lead Department: Public Works

Recommendation
Staff recommends that the Finance Committee review the near term capital improvement program for the Regional Water Quality Control Plant and recommend to the City Council approval of a resolution (Attachment A) declaring the City’s intention to reimburse expenditures made for related capital improvement projects from the proceeds of bonds to be issued by the City’s Regional Water Quality Control Plant (RWQCP), Wastewater Treatment Fund, for a not-to-exceed amount of $85 million.

Background
The RWQCP, originally constructed in 1934, has undergone several expansions and upgrades. The RWQCP is now an advanced (tertiary treatment) facility that provides treatment and disposal of wastewater for Palo Alto, Mountain View, Los Altos, Los Altos Hills, East Palo Alto Sanitary District, and Stanford University.

A Long Range Facilities Plan (LRFP) was prepared in 2012 to provide a plan for future capital projects. A Biosolids Facility Plan (BFP) was completed in 2014 to map the management of biosolids when the sewage sludge incinerators are decommissioned. In October 17, 2016, Council approved (CMR# 7144) executing a
loan agreement for low-interest State Revolving Fund loan of $29.7 million to replace the sewage sludge incinerators at the RWQCP; $4 million of this loan is expected to be forgiven by the State so the repayment plan is based on a $25.7 million loan.

The City Council, on June 18, 2018, adopted the City’s Capital Budget (CMR# 9229), which included the Wastewater Treatment Fund’s multi-year capital expenditure plan. Included in this plan were four capital improvement projects (the “Projects”) which are consistent with the RWQCP’s LRFP. The projects include: 1) WQ-14002 New Laboratory and Environmental Services Building; 2) WQ-14003 Primary Sedimentation Tank Rehabilitation; 3) WQ-19000 Outfall Line Construction; and 4) WQ-19001 Secondary Treatment Upgrades. More detail and descriptions of the projects are included in Attachment B.

**Discussion**

At this time, staff anticipates selling two series of tax-exempt Utility Revenue Bonds around May 2019 and early 2020. Prior to that, staff will be conducting design and other work on the projects. To pay for certain pre-construction costs from bond proceeds, it is necessary for the City Council to approve a resolution declaring the City’s intent to reimburse those expenditures. Prior to seeking the Council’s approval, staff is first bringing this to the Finance Committee to obtain its recommendation on the proposed resolution and provide a status update/briefing on these projects.

The City engaged the services of Woodard and Curran, an engineering firm, to assist with conceptual designs and preliminary cost estimates which are shown in the below table. Since these cost estimates are based on conceptual designs and due to recent escalation of construction costs, staff is seeking a higher not-to-exceed amount of $85 million for this reimbursement resolution. The Finance Committee recommendation and Council approval of this reimbursement resolution is not authorizing the issuance of these bonds. Staff will return to Council in 2019 and early 2020 with a recommendation for approval to issue bonds.
Project Cost Estimate Based on Conceptual Designs as of November 2018:

<table>
<thead>
<tr>
<th>CIP Project Titles</th>
<th>Design Phase Est. Expense</th>
<th>Construction Phase Est. Expense</th>
<th>Total Est. Project cost</th>
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</thead>
<tbody>
<tr>
<td>1) WQ-14003 Primary Sedimentation Tank Rehabilitation</td>
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<td>$13,700,000</td>
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<tr>
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<td>$18,300,000</td>
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<td>4) WQ-19000 Outfall Line Construction</td>
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<td>$4,900,000</td>
<td>$68,100,000</td>
<td>$73,000,000</td>
</tr>
<tr>
<td>Less: Available Funds</td>
<td></td>
<td>(3,400,000)</td>
<td></td>
</tr>
<tr>
<td>Total Est. Bond Financing</td>
<td></td>
<td>$69,600,000</td>
<td></td>
</tr>
</tbody>
</table>

Timeline
Two series of tax-exempt Utility Revenue Bonds will be issued, around May 2019 and early 2020. The conceptual timeline for the first bond issuance is below.

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/16/2018</td>
<td>Finance Committee – Reimbursement resolution and project status/briefing</td>
</tr>
<tr>
<td>December 2018</td>
<td>City Council – Reimbursement resolution adoption</td>
</tr>
<tr>
<td>March 2019</td>
<td>Rating Presentation &amp; Receipt of Rating</td>
</tr>
<tr>
<td>April 2019</td>
<td>City Council approves resolution authorizing the issuance and sale of the first Utility Revenue Bonds</td>
</tr>
<tr>
<td>May 2019</td>
<td>Receive bond proceeds from the first series bonds</td>
</tr>
</tbody>
</table>

Resource Impact
It is estimated that the principal amount of the bonds, not including the amount needed to pay for debt service reserve funds, costs of issuance, and capitalized interest, will not exceed $85 million. The annual debt service payment depends upon prevailing interest rates at the time of the bond issuance. The annual debt service payments will be paid by all the Partners to the Palo Alto RWQCP and will
be specified in amendments to their Agreements with Palo Alto, which are being
developed.

The impact of the Bonds on expenses from the Wastewater Treatment Enterprise
Fund is shown in Attachment C. This 10 year forecast is for the entire fund, and is
supported by all six Partners of the RWQCP; Palo Alto being responsible for
payment of approximately one-third of the total. Attachment C also shows the
impact on the Debt Service Ratio of establishing the two Bonds. The current Palo
Alto policy is to keep the Debt Service Ratio below 15%; and the Bonds would
cause this amount to be exceeded. Should the Bonds be established, Staff will
return to Council with recommendations on handling the potential increase in the
debt service and related issues.

The impact of executing the two bonds on customer Sewer Rates in Palo Alto is
shown in Attachment D. This 10 year forecast is just for Palo Alto, as opposed to
Attachment C, which is for the entire Wastewater Treatment Enterprise Fund. The
rate increases shown are not being proposed at this time, and the Finance
Committee is not being asked to act on them. In the spring of 2019, other factors
(such as impacts on Reserves) will be considered, and adjustments to rates will be
proposed. Attachment D is designed to isolate and show the increase in rates that
would be caused by increasing expenses and the new debt service.

Environmental Review
The approval of the resolution is not a project approval under the California
Environmental Quality Act (CEQA) and thus is not subject to CEQA review.
Individual capital improvement projects, however, will be reviewed under CEQA
prior to any project approval.

Attachments:
• Attachment A: RESO Declaring Intent to Reimburse Expenditures - WW Revenue Bonds
• Attachment B: CIP Project Description
• Attachment C: WWT FY19-29 estimated expenses and debt ratio
• Attachment D: CPAU FY19-28 Wastewater rate projection - 2018Nov
Resolution of the Council of the City of Palo Alto
Declaring Intention to Reimburse Expenditures Relating to Four Capital Projects at
the Regional Water Quality Control Plant From the Proceeds of Tax-Exempt Debt

WHEREAS, the City proposes to undertake the capital projects at the Regional Water Quality Control Plant (the “Plant”) described on Exhibit A hereto (collectively, the “Project”), to incur tax-exempt debt to finance the Project, and use a portion of the proceeds of such debt to reimburse expenditures made for the Project prior to the issuance of the debt;

WHEREAS, United States Income Tax Regulations section 1.150-2 provides generally that proceeds of tax-exempt debt are not deemed to be expended when such proceeds are used for reimbursement of expenditures made prior to the date of issuance of such debt unless certain procedures are followed, one of which is a requirement that prior to the payment of any such expenditure, the issuer declares an intention to reimburse such expenditure; and

WHEREAS, it is in the public interest and for the public benefit that the City declares its official intent to reimburse the expenditures referenced herein.

NOW, THEREFORE, the Council of the City of Palo Alto does hereby RESOLVE, as follows:

SECTION 1. The City intends to issue one or more series of debt payable from its Wastewater Treatment Fund, including, but not limited to revenue bonds, loans and installment purchase obligations (the “Bonds”) for the purpose of paying the costs of the Project.

SECTION 2. The City hereby declares that it reasonably expects (i) to pay certain costs of the Project prior to the date of issuance of the Bonds, and (ii) to use a portion of the proceeds of the Bonds for reimbursement of expenditures for the Project that are paid before the date of issuance of the Bonds.

* * * * *
SECTION 3. The principal amount of the Bonds is not expected to exceed $85,000,000, not including the amount needed to pay for debt service reserve funds, costs of issuance and capitalized interest.

INTRODUCED AND PASSED:

AYES:

NOES:

ABSENT:

ABSTENTIONS

ATTEST:

__________________________________________  __________________________________________
City Clerk  Mayor

APPROVED AS TO FORM:

__________________________________________  __________________________________________
City Attorney  City Manager

Jones Hall,
A Professional Law Corporation

By: ________________________________________
Christopher K. Lynch,
Jones Hall, A Professional Law Corporation
Bond Counsel

__________________________________________
Director of Public Works

__________________________________________
Director of Administrative Services
1. **Primary Sedimentation Tank Replacement (PST)**

   This project is for new protective coatings on each of the four concrete primary sedimentation tanks and replacement of worn rotating parts. The tanks which remove settled solids and grease were installed in 1972. The coating ensures that reinforcing steel bars within the concrete are protected from penetrating corrosive sewer gases and extends the concrete’s life another 30 years. Without recoating, the concrete will lose its structural integrity, gradually spalling and harming pumps, pipes, and treatment systems as a result. In a mild seismic event, weakened concrete could potentially collapse, endangering staff and the treatment system.

2. **Laboratory & Environmental Services Building (Lab)**

   This project is for a new building that will consolidate staff and provide a larger updated lab. Currently staff is located in four separate aging buildings that also house industrial pumps. An existing laboratory does not have adequate space for staff, instruments, chemical storage, and microbiology testing.

3. **Secondary Treatment Upgrades (STU)**

   The existing Secondary Treatment process has two main components: the Fixed Film Reactors (FFR) and the Activated Sludge (AS) Process. This project includes the reconstruction of the AS process, rehabilitation of the AS Aeration Basins and the elimination of the FFRs. The AS Aeration Basins will be subdivided with concrete walls creating different zones where different pollutants can be treated. A special study was completed in 2017, which proposed a complete Secondary Treatment process upgrade instead of individual rehabilitation projects (e.g. FFR). The project will not only reduce organics and ammonia like the existing processes, but will also reduce total nitrogen, the next pollutant being regulated.

4. **Outfall Line (OFL)**

   This project is to construct a new parallel outfall pipe to convey final plant effluent to San Francisco Bay. Installation of a new outfall line is needed to address outfall age (built in 1964), but especially to address the outfall capacity considering all peak wet-weather flow, peak tide, and future sea level rise scenarios. The existing system lines are inadequate to pass the Plant's peak wet weather hydraulic flow capacity of 80 million gallons per day under all circumstances of peak tides, peak wet-weather flows, and future sea level rise scenarios.
**Capital Improvement Program Project Description**

1. **Primary Sedimentation Tank Replacement (PST)**

   This project is for new protective coatings on each of the four concrete primary sedimentation tanks and replacement of worn rotating parts. The tanks remove settled solids and grease were installed in 1972. The coating ensures reinforcing steel bars within the concrete are protected from penetrating corrosive sewer gases and extends the concrete’s life another 30 years. Without recoating, the concrete will lose its structural integrity, gradually spalling and harming pumps, pipes, and treatment systems as a result. In a mild seismic event, weakened concrete could potentially collapse, endangering staff and the treatment system.

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3. **Secondary Treatment Upgrades (STU)**

   The existing Secondary Treatment process has two main components; the Fixed Film Reactors (FFR) and the Activated Sludge (AS) Process. This project includes the reconstruction of the AS process, rehabilitation of the AS Aeration Basins and the elimination of the FFRs. The AS Aeration Basins will be subdivided with concrete walls creating different zones where different pollutants can be treated. A special study was completed in 2017, which proposed a complete Secondary Treatment process upgrade instead of individual rehabilitation projects (e.g. FFR). The project will not only reduce organics and ammonia like the existing processes, but will also reduce total nitrogen, the next pollutant being regulated.

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Estimated Expenses FY2019-FY2029
2019 Bond $18.1M + 2020 Bond $51.5M + 2025 SRF $39M
Palo Alto’s Wastewater Rate Projection

Attachment D
1. **Primary Sedimentation Tank Replacement (PST)**

This project is for new protective coatings on each of the four concrete primary sedimentation tanks and replacement of worn rotating parts. The tanks remove settled solids and grease were installed in 1972. The coating ensures reinforcing steel bars within the concrete are protected from penetrating corrosive sewer gases and extends the concrete’s life another 30 years. Without recoating, the concrete will lose its structural integrity, gradually spalling and harming pumps, pipes, and treatment systems as a result. In a mild seismic event, weakened concrete could potentially collapse, endangering staff and the treatment system.

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This project is for a new building that will consolidate staff and provide a larger updated lab. Currently staff is located in four separate aging buildings that also house industrial pumps. An existing laboratory does not have adequate space for staff, instruments, chemical storage, and microbiology testing.

3. **Secondary Treatment Upgrades (STU)**

The existing Secondary Treatment process has two main components; the Fixed Film Reactors (FFR) and the Activated Sludge (AS) Process. This project includes the reconstruction of the AS process, rehabilitation of the AS Aeration Basins and the elimination of the FFRs. The AS Aeration Basins will be subdivided with concrete walls creating different zones where different pollutants can be treated. A special study was completed in 2017, which proposed a complete Secondary Treatment process upgrade instead of individual rehabilitation projects (e.g. FFR). The project will not only reduce organics and ammonia like the existing processes, but will also reduce total nitrogen, the next pollutant being regulated.

4. **Outfall Line (OFL)**

This project is to construct a new parallel outfall pipe to convey final plant effluent to San Francisco Bay. Installation of a new outfall line is needed to address outfall age (built in 1964), but especially to address the outfall capacity considering all peak wet-weather flow, peak tide, and future sea level rise scenarios. The existing system lines are inadequate to pass the Plant's peak wet weather hydraulic flow capacity of 80 million gallons per day under all circumstances of peak tides, peak wet-weather flows, and future sea level rise scenarios.
Estimated Expenses FY2019-FY2029
2019 Bond $18.1M + 2020 Bond $51.5M + 2025 SRF $39M
Palo Alto’s Wastewater Rate Projection

![Graph showing the projected changes in waste water rates for the years 2013 to 2028. The graph includes columns for Actual and Projected years. The revenue is shown as a red line, with various colored bars representing different expenses and rates. The graph indicates an increasing trend in revenue and expenses over the years.]