METRO TAC AGENDA
(Technical Advisory Committee to Metro JPA)

TO: Metro TAC Representatives and Metro Commissioners

DATE: Wednesday, February 17, 2021

TIME: 11:00 a.m. to 1:30 p.m.

LOCATION: The health and well-being of the MetroTAC members/alternates and participating staff during the COVID-19 outbreak remains our top priority. The MetroTAC is taking steps to ensure the safety of all involved by holding its September meeting electronically via Zoom.

An e-mail containing information on how to participate in the meeting will be distributed to the MetroTAC members e-mail list and approved San Diego City Staff by Monday, February 15, 2021 at 5:00 p.m. If you do not receive the e-mail, please contact Lori Peoples at lpeoples@ci.chula-vista.ca.us

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1. Review and Approve MetroTAC Action Minutes for the Meeting of January 20, 2020 (**Attachment**)
2. Metro Commission/JPA Board Meeting Recap (Standing Item)
3. **PRESENTATION :** Industrial Discharge Permit (Tom Rosales/Lisa Celaya/Beth Gentry) (Attachment)
4. **PRESENTATION:** Pt. Loma Wastewater Treatment Plant - Identification and Analysis of Mitigation Measures (Tom Rosales/Claudio Fassardi, Jacobs.com) (**Attachment**) - (25 min./Q & A 20 min.)
5. Metro Wastewater Update (Financial) (Standing Item) (Edgar Patino)
6. Metro Wastewater Update (General) (Standing Item) (Tom Rosales)
7. Metro Capital Improvement Program and Funding Sources (Standing Item) (Tung Phung) (**Attachment**)
8. Pure Water Program Update (Standing Item) (John Stufflebean) (Attachment)
9. **PRESENTATION:** Pure Water Phase II Cost (Second Review) (Dexter Wilson/Scott Tulloch/John Stufflebean/Doug Owen) (**Attachment**) (20 min.)
10. **PRESENTATION:** Pure Water Phase II Alternatives Refinement (First Review) (Dexter Wilson/Scott Tulloch/John Stufflebean/Doug Owen) (**Attachment**) (20 min.)
11. Financial Update (Standing Item) (Karyn Keese)
    a. City of San Diego Public Utilities Department FY 2022-2026 5-Year Financial Outlook (**Attachment**)
12. **REPORT**: IRWMP Update (Standing Item) (Beth Gentry)
13. MetroTAC Work Plan (Standing Item) (Roberto Yano) (**Attachment**)

14. Review of Items to be Brought Forward to the Regular Metro Commission/Metro JPA Meeting (**March 4, 2021**)

15. Other Business of Metro TAC

16. Adjournment (To the next Regular Meeting March 17, 2021)

Metro TAC 2021 Meeting Schedule

January 18	May 19	September 15
February 17	June 16	October 20
March 17	July 21	November 17
April 21	August 18	December 15

ATTACHMENT 1

ACTION MINUTES FOR THE MEETING OF JANUARY 20, 2021

Metro TAC

(Technical Advisory Committee to Metro Commission/JPA)

ACTION MINUTES

DATE OF MEETING: January 20, 2021

TIME: 11:00 AM

LOCATION: Zoom Meeting held On Line

MEETING ATTENDANCE:

Roberto Yano, National City
Beth Gentry, Chula Vista
Frank Rivera, Chula Vista
Ed Walton, Coronado
Joe Bride, Del Mar
Yazmin Arellano, El Cajon
Dennis Davies, El Cajon
Blake Behringer, El Cajon
Eric Minicilli, Imperial Beach
Hamed Hashemian, La Mesa
Mike James, Lemon Grove
Steven Beppler, Otay WD
Bob Kennedy, Otay WD
Mark Niemiec, Padre Dam MWD
Troy DePriest, Poway
Jessica Parks, Poway
Angela Martinez, Poway
Dan Brogadir, County of San Diego

John Stufflebean, City of San Diego
Tom Rosales, City of San Diego
Peter Vroom, City of San Diego
Edgar Patino, City of San Diego
Joy Newman, City of San Diego
Keli Balo, City of San Diego
Claudio Fassardi, Jacobs
Paulo Silva, Jacobs
Mark Seits, HDR, Inc.
Mark Hiatt
Tomas Maur

Doug Owen, Stantec

Dean Gipson, HDR

Pete Wong

Nicholaus Norvell, BBK Assistant General Counsel
Dexter Wilson, Wilson Engineering
Carmen Kasner, NV5
Scott Tulloch, NV5
Karyn Keese, the Keze Group
Lori Anne Peoples, MetroTAC

1. **Review and Approve MetroTAC Action Minutes for the Meeting of November 18, 2020**

   ACTION: Motion by Bob Kennedy, seconded by Jessica Parks, the Minutes be approved. Motion carried unanimously.

2. **Metro Commission/JPA Board Meeting Recap**

   MetroTAC Chair Roberto Yano stated there had not been a meeting and therefore he had no report.

3. REPORT: Update from Residuals Management Working Group

Allen Carlisle, Padre Dam Municipal Water District stated that they had come to an agreement with the City of San Diego on the Residuals Agreement and that it had been signed by Padre and had the two readings required by the City of San Diego and was just pending the City of San Diego's Mayor's signature. As soon as they receive the San Diego signature, they can sign the Amended/Restated Agreement. Karyn Keese, The Keze Group thanked John Stufflebean and Allen Carlisle for all of their hard work in getting this accomplished.

4. REPORT: Industrial Discharge Permit

Beth Gentry, Committee Chair stated they had held a meeting and provided a brief summary thereof. The committee setting was a brief, 30-minute, question and answer with San Diego regarding the Industrial Waste Discharge Permit Fee. San Diego identified that they planned to go to their Environment Committee on January 28th and then to the City Council in February for approval but they did not make the agenda for the January Environment committee. Tom Rosales with the City of San Diego planned to presentation to the San Diego Chamber of Commerce on January 26th.

Roberto Yano asked how this will be presented to the individual PA's. Beth stated that TAC was not yet aware of options available and requested a meeting after the San Diego Chamber presentation to get all ideas on the table so they can process them with San Diego staff.

Tom Rosales, City of San Diego stated that this approach made sense since it could be accomplished as requested. Roberto Yano noted that this item was not a TAC issue previously so as they transition along there is a need to make sure all PA's have had an opportunity to express concerns.

Jessica Parks, City of Poway, inquired as to when the PA's could see the cost of service study and Tom Rosales responded that it was not completed yet. The Audit and Fee Study for the Industrial Waste is done and he will have that presented at the February TAC meeting after the San Diego Chamber presentation and San Diego City Council briefing.

Mark Niemiec, Padre Dam stated it would be helpful to get the draft of the Cost Allocation Study prior to the workshop meeting to which Tom Rosales stated he would certainly provide this. Karyn Keese, The Keze Group requested a copy also.

` Yazmin Arellano, City of El Cajon requested a copy of the presentation prior to it being presented to the San Diego Chamber of Commerce.

Dexter Wilson, Wilson Engineering inquired as to whether this presentation could also be provided by San Diego staff to the individual cities. Tom Rosales stated he would look into that.

Roberto Yano requested the link to the San Diego Chamber of Commerce presentation and Tom Rosales stated he would look into that.

Beth Gentry stated that there had been discussion of the ability to spread the total

programming costs into the total Metro Fees and inquired as to whether this was still an option for consideration (the annual program costs applied to treatment of wastewater). Tom Rosales stated that they would recover through individual waste charges, direct billing to individual companies not through the PA's.

Beth Gentry mentioned the Prop 218 requirements regarding fees and asked if this shouldn't also follow those requirements?

Yazmin Arellano, City of El Cajon stated she had understood that San Diego staff was going to confirm it was not a 218 requirement.

Tom Rosales stated his understanding was that this was not subject to Prop 218.

Tom Rosales stated a letter would be drafted and sent to the individual companies involved.

Beth Gentry stated the Committee and City of San Diego had also discussed possibly putting the fee into the next Amended/Restated Agreement.

Dexter Wilson stated that was his understanding, that the PA's wanted this to be put under the Amended/Restated Agreement.

Tom Rosales confirmed that there had been prior discussion of putting this under a separate agreement and possibly putting it under the next Amended/Restated Agreement.

Robert Kennedy, Otay Water stated that Otay has had no involvement in the costs and that he thought a true up was being done regarding costs that were billed in error.

Beth Gentry clarified that she understood they would standardize how Industrial Discharge fees would be charged so for Otay, if there were none then no charge would be applied.

Dexter Wilson stated his understanding was the true up was with the Industrial Wastewater people direct, not the PA's.

Karyn Keese, stated that San Diego was not allowed to charge PA's and Edgar Patino, City of San Diego clarified they were not charged in the Metro Audit.

Joy Newman, City of San Diego stated the billings are sent separate from the Metro System.

Mike James, City of Lemon Grove stated he had a conversation with Joy Newman and the billings were specific to each of the City contributors per Section 10 in the agreement. Additionally, he prefers the City of San Diego take over the billings to the contributors directly but would prefer a phased approach to full cost recovery. It is important to have each PA involved. This has been a long standing City of San Diego issue so had to be handled in a manner that works for everyone.

Hamed Hashemian, City of La Mesa thinks this is a good thing although still obscure items, but is concerned with the one year deadline talked about. There are a lot of unanswered questions that are not being talked about. It also sounds like no two agencies have the same needs or agreement.

Roberto Yano requested Tom Rosales lay out the timing and clear roles and responsibility, potentially through an agreement. Tom Rosales responded that they are presenting to the San Diego Chamber of Commerce on January 26th and he will check to see if the link to their meeting can be made available. The City of San Diego will then move onto the Environmental Committee in February and for final approval by the San Diego City Council the end or February/beginning of March. They will be preparing a DRAFT letter for the Industrial Users/Dischargers and will send that for distribution to the PA's.

Roberto Yano inquired as to whether the TAC wanted to hold a Special Meeting to address this issue specifically or hold another smaller focus group and then report out at the next TAC meeting. Consensus was to keep it in the focus group with anyone who wished to participate to be provided the link to join in.

Beth Gentry noted that there is a requirement for the JPA to vote on this item prior to the City of San Diego taking the item to their Council for approval.

5. Metro Wastewater Update (Financial)

Edgar Paterno, City of San Diego stated that everyone should have received their Metro Estimated Billing on January 15th (Friday) for FY 22. It stayed the same at $80 million although the true up could be higher or lower.

Karyn Keese, The Keze Group expressed concern as to potential under billing and requested the financial projections for FY 21 year end.

6. Metro Wastewater Update (General)

Tom Rosales, City of San Diego reported they had received an energy savings incentive check in the amount of $580,000. for the CIP UV project at the So. Bay Wastewater Treatment Plant. The project was $4.6 million but due to the energy efficiencies, they expect to see large savings annually. They are currently working on a new recycled water permit and expect to get it in May or June of this year. COVID had had a major uptick in Public Utilities in December. They are struggling to staff the facilities. They started the surveillance program with the State to monitor for COVID in untreated wastewater at the Pt. Loma Wastewater Treatment Plant in November and will continue through June. They determined a huge spike in December but expect with the vaccine it will go down by June.

7. Metro Capital Improvement Program and Funding Sources

This item was continued to next month for presentation by Tung Phung.

8. Pure Water Program Update

John Stufflebean, City of San Diego reported that all construction projects were moving ahead and were pretty much on schedule. Additionally, OPRA II passed but did not make it to the Senate so will have to be re introduced again and they remain optimistic. They are continuing to proceed as if they have to do the waiver until legislation is passed.

9. <u>PRESENTATION</u>: Pure Water Phase II Update

Dexter Wilson, Wilson Engineering stated that this would be the first presentation on cost and will come back next month to add and receive final questions. San Diego has been very responsive and they are attempting to get the best alternatives. Scott Tulloch of NV5, Roberto Yano TAC Chair and himself have back up information so he encouraged the members to contact them if any explanations were needed. He then thanked John Stufflebean and Doug Owen for all of their help.

Doug Owen echoed the collaborative work done with Dexter, Roberto and Scott and stated they have made a better project. He then provided a verbal overview of his PowerPoint presentation, copy of which was provided with the agenda.

Karyn Keese thanked Doug for the excellent presentation and stated her understanding of the 53 mgd increment between 42 and 53 was for water supply not wastewater. John Stufflebean, City of San Diego stated they will need to renegotiate what it means in terms of how much the PA's would be required to pay. This will be brought back to TAC in February.

10. Financial Update

Karyn Keese, The Keze Group reported that the major item currently was the January estimate. If the PA's have not received their copy, they should contact Edgar Patino or her and they will get it sent. She then stated she was working with Lori Peoples, Board Secretary on the update of the New Commissioners Manual. She located the 5 year forecast on the City of San Diego site and noted we normally receive a presentation from San Diego staff but did not this year due to staffing turnover. Additionally she noted she was ready to finalize the fieldwork on FY 19.

11. <u>REPORT</u>: IRWM - Industrial Wastewater Control Committee Update

Beth Gentry, City of Chula Vista stated that the last IRWM RAC meeting was held December 2, 2020. Every two years half of the seats turn over so the December meeting welcomed some new members. A major topic at the meeting was diversity, inclusion and equity as it applies to the IRWP. Setting up criteria is important as the group makes recommendations on large amounts of grant money. If TAC members have suggestions, she requested they contact her. There was also a presentation on the Sustainable Groundwater Management Act. Prop 1 funding, the last round, will open at the end of this year. A Grants 101 informational will be presented during the February 3, 2021 from 9-11:30 meeting and anyone is welcome.

12. MetroTAC Work Plan

Roberto Yano, TAC Chair thanked Karyn for cleaning up the Work Plan. He noted that they were starting work on the 2nd Amended/Restated Agreement and asked and received Eric Minicilli's, City of Imperial Beach confirmation to assist.

13. Review of Items to be Brought Forward to the Regular Metro Commission/Metro Wastewater JPA Meeting February 4, 2021

Roberto Yano, TAC Chair stated he would be recommending cancellation of the Metro JPA meeting in February

14. Other Business of MetroTAC

Roberto Yano, TAC Chair thanked Karyn Keese and Lori Peoples for updating the New Commissioner's Manual. Karyn Keese thanked Lori Peoples for doing the heavy lifting and noted they had removed all unnecessary sections and uploaded more useful information. Lori will post the updated manual to the website for everyone to review with their new Commissioners.

Roberto then noted that they will be rotating the Treasurer position during the new budget cycle.

18. Adjournment to the Next Regular Meeting February 17, 2021

There being no further business, MetroTAC Chair Roberto Yano adjourned the meeting at 1:08 p.m.

ATTACHMENT 3

INDUSTRIAL DISCHARGE PERMIT STAKEHOLDERS PRESENTATION

Public Utilities Department

Industrial Wastewater Control Program (IWCP)

Stakeholder Outreach on Cost Recovery o IWCP Fees

Lisa Celaya, Assistant Director
Joy Newman, IWCP Manager

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Presentation's Purpose

- Background of Industrial Wastewater Control Program (IWCP)
- Discuss Cost Recovery
- Provide Impact on Businesses
- Solicit Feedback

ndustrial Wastewater Control Program

Purpose

- Minimize toxic discharges to the sewerage system:
- Permit system to establish industrial discharge limits and equirements
- Facility inspections and sampling
- Enforcement to deter violations and bring non-compliant dischargers back into compliance

ndustrial Wastewater Control Program

Cost Recovery

Fees are outdated and not fully recovering costs of services provide

- Industrial Users Program ($2.1M)
- Trucked Waste Program ($0.5M)

Inconsistent recovery/application within/outside City boundaries

IWCP fees (User Fee) should be developed in accordance with San Diego Municipal Code Section 64.0508, Council Policy 100-05, and Administrative Regulation 95.25

Prop 218 concerns associated with this program being subsidized by sewer charges

WCP Proposed Fees – Examples of Impact

ndustrial Users

Category	Business Types	Approx # of Businesses	Current Range	Proposed
SIU - Standard	Pharmaceutical manufacturing, Brewery, Industrial Laundry	70	$600 - $2,180	$8,999
SIU – Complex	Education campus, Military base, Metal related businesses	15	$500 - $5,280	$29,903
Non-SIU / Categorical Process	Education campus, Aerospace manufacturing, Metal finisher	40	$275 - $1,050	$5,277
Enhanced Source Control	Car wash, Bio tech, Hospitals, Theme park, Heavy Equipment Rental	300	$135 - $310	$2,603

SIU = Significant Industrial User

WCP Proposed Fees – Examples of Impact

Trucked Waste

Category	Current	Proposed
Base Permit	$25	$1,289
Self Monitoring	$25	$2,598
High Strength Discharges	$25	$3,271
After Hours – Scheduled	$50	$107
After Hours – Emergency	$85	$206

Phased In Approach

Industrial Users Program	Full Cost Recovery	10% Cost Recovery	20% Cost Recovery	25% Cost Recovery	50% Cost Recovery
SIU-Standard	**$8,999**	$900	$1,800	$2,250	$4,499
SIU-Complex	**$29,903**	$2,990	$5,981	$7,476	$14,952
NON-SIU/Categorical Process	**$5,277**	$528	$1,055	$1,319	$2,639
Enhanced Source Control	**$2,603**	$260	$521	$651	$1,302

Trucked Waste Program	Full Cost Recovery	10% Cost Recovery	20% Cost Recovery	25% Cost Recovery	50% Cost Recovery
Base Permit	**$1,289**	$129	$258	$322	$645
Self Monitoring	**$2,598**	$260	$520	$650	$1,299
High Strength Discharges	**$3,271**	$327	$654	$818	$1,636
After Hours					
Scheduled	**$107**	$11	$21	$27	$53
Emergency	**$226**	$23	$45	$57	$113

Next Steps

Implementation plan to achieve full cost recovery

Stakeholder Outreach

Council Consideration

- February – Environment Committee

CITY OF

San Diego

Industrial Waste Control Program

Cost Allocation Study and Model User Guide

Final Report / November 23, 2020

RAFTELIS

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Proposed Fee Summary

The City of San Diego (City) retained Raftelis to complete a comprehensive review and update its Industrial Waste Control Program (IWCP) fees. The Tables below summarize our analysis and present the proposed fees. Note that Table 1 Permit Fees are adjusted after the Enhanced Source Control Program's benefit is applied; see the Program Benefits section for details. The report details the methodology and assumptions used to calculate the proposed fees.

Table 1: Permit Fees (Adjusted for Program Benefits)

Program Task	Average Cost / Task
SIU - Standard	$8,999
SIU - Complex	$29,903
Non-SIU / Categorical Process	$5,277
Enhanced Source Control	$2,603

Table 2: Trucked Waste Fees

Program Task	Average Cost / Task
Base Permit (BP)	$1,289
Self-Monitoring (SM) = BP + SM costs	$2,598
High Strength Surcharges Billing (HSSB) = BP + SM + HSSB	$3,271
Pre-arranged after-hours discharge request	$107
Emergency after hours discharge fee	$226

Table 3: Enforcement Fees

Program Task	Average Cost / Task
Initial Notice of Violation (NOV)	$2,237
NOV Reissued	$2,903
NOV significant non-compliance	$4,355
NOV Preliminary	$7,223
NOV Show Cause	$11,121

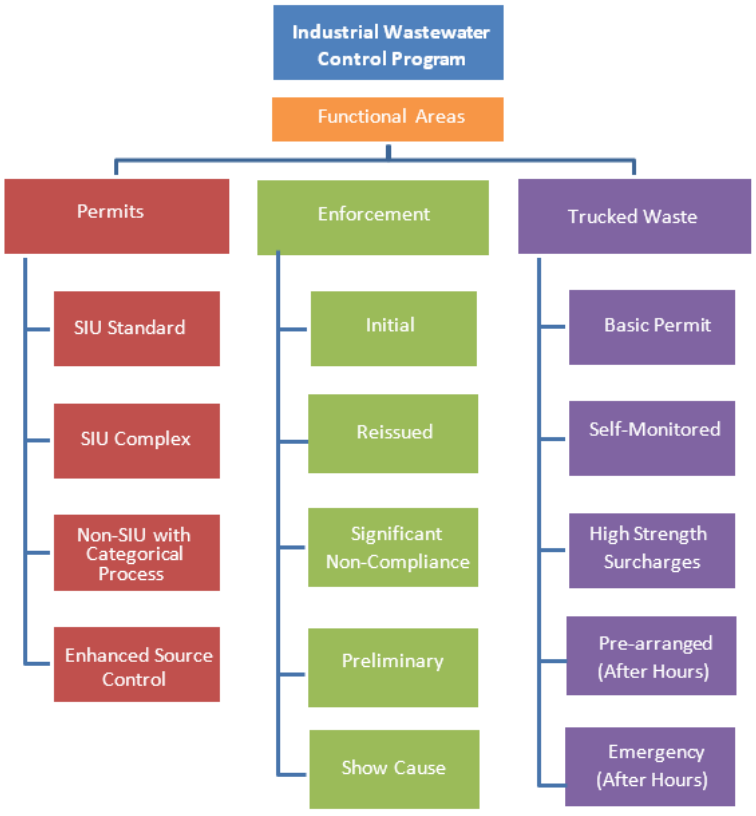
Introduction

The City of San Diego (City) retained Raftelis to complete a comprehensive review and update of their Industrial Waste Control Program (IWCP) fees. The study goals and objectives included:

- Developing a cost allocation methodology to equitably recover the cost of IWCP operations.
- With assistance from City Staff, assigning the level of effort based on staff positions to each permit type and enforcement action and
- Developing an Excel-based model which can be updated annually by staff incorporating the most recent salary and other budget information.

Raftelis developed these fees based on the City's 'top down' approach. This process started with determining the total budgetary requirements (salaries/fringe and non-personnel expenses) for administering IWCP permits and enforcement. Next, City staff identified the primary functions of IWCP (Permits, Trucked Waste, and Violations) and determined the overall percentage of time for each functional area. The percentages were then broken down to hours of staff time. The hours were then distributed to each of the permits or violation notices within each functional area. The final step was to further allocate the hours to the specific job classifications involved in the permit or violation notice process. The functional areas and fees are illustrated in Figure 1 below.

Figure 1: Fee Allocation Overview



Raftelis developed an Excel-based model which allows the City to update all assumptions. This includes employee positions, number of full-time equivalents (FTEs) by position, direct labor rates, overheads and burdens. In addition, the model includes the ability to adjust the number of hours allocated to the three functional areas, as well as the various permits and violation notices within each functional area.

PROPOSITIONS 218 COMPLIANCE

In California, several constitutional laws such as Proposition 218, set the parameters under which the user fees are established and administered by local government agencies. While such laws do not necessarily require full cost recovery, the basis of a user fee program such as IWCP is to recover all or a portion of its costs associated with providing a service to a public individual or group when the service fully or partially benefits said individual or group; otherwise the fee could be considered a tax and subject to voter approval.

IWCP's cost recovery level is ultimately a decision that should be made by the Mayor and the City Council, in accordance with San Diego Municipal Code Section 64.0508, Council Policy 100-05, and Administrative Regulation 95.25.

RELIANCE ON CITY PROVIDED DATA

During this project, the City (and/or its representatives) provided Raftelis with a variety of technical information, including cost and revenue data. Raftelis did not independently assess or test for the accuracy of such data – historic or projected. Raftelis has relied on this data in the formulation of our findings and subsequent recommendations, as well as in the preparation of this report. Raftelis also relied on cost allocation data provided by the City needed to complete the cost-of-service analysis.

There are often differences between actual and projected data. Some of the assumptions used for projections in this report will not be realized, and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the data or results projected in this report and actual results achieved, and those differences may be material. As a result, Raftelis takes no responsibility for the accuracy of data or projections provided by or prepared on behalf of the Department, nor do we have any responsibility for updating this report for events occurring after the date of this report.

Program Background

The Public Utilities Department's (PUD) Industrial Wastewater Control Program (IWCP) represents a key element of the City of San Diego's (City) environmental management efforts. IWCP is a pretreatment and pollution prevention program intended to minimize toxic discharges to the metropolitan sewerage system. To that end, IWCP implements industrial wastewater discharge permitting, monitoring, and enforcement for the City and 11 other jurisdictions within the County of San Diego whose sewage is treated by the City's Point Loma and South Bay Wastewater Treatment Plants.

In general, IWCP's primary focus is to minimize toxic discharges to the sewerage system. The program consists of:

1. An industrial wastewater discharge permit system to establish industrial discharge limits and requirements;
2. Facility inspections and unannounced sampling;
3. Enforcement procedures to deter violations and bring noncompliant dischargers back into compliance with discharge standards and requirements; and
4. Industrial user guidance and permit conditions designed to encourage pollution prevention and waste minimization.

For the Cost Allocation Study, the IWCP was divided into three functional areas: Permits, Enforcement, and Trucked Waste.

PERMITS

The IWCP implements an industrial wastewater discharge permit system for the City of San Diego and 11 other Participating Agencies whose sewage is treated by the Point Loma Wastewater Treatment Plant and the South Bay Plant. The program regulates pollutant discharges into the metropolitan sewerage system from industrial facilities by issuing permits that establish enforceable pollutant limits and authorize civil and criminal penalties for discharge violations. They also establish sampling, reporting, record keeping, and notification requirements.

The Program generally defines a Significant Industrial User (SIU) in accordance with Federal regulations, as an Industrial User that:

- Is subject to federal categorical pretreatment standards under 40 Code of Federal Regulations (CFR) 403
- Any other industrial user that:
    - Discharges an average of 25,000 gallons per day or more of process wastewater to the publicly owned treatment works (POTW).
    - For groundwater remediation sites, the presence of free product or discharges >14,000 gpd have "reasonable potential" and are regulated as SIUs.

Fees developed under the Permits functional area include initial, renewal, and amended permits and are as follows:

- **SIU – Standard.**
- **SIU – Complex.** Typically includes production based, education campuses, hospitals, or facilities with 3 or more sewer connections.
- **Non-SIU / Categorical Process.** Class 2C, 3C, 4C, 2Z, 3Z, & 4Z facilities with a non-discharging categorical process.

- **Enhanced Source Control.** Includes non-SIU facilities that do not also have non-discharging categorical process and for which local requirements have been established or are required by the Pure Water NPDES permit adopted May 2020.

ENFORCEMENT

The IWCP has the primary objectives of bringing permittees into compliance with applicable Federal Pretreatment Standards and local limit requirements and controlling and reducing the discharge of industrial pollutants to the sewer. The Program has a broad range of enforcement mechanisms available, including the recovery of administrative and supplemental monitoring costs related to violation identification and processing; Notices of Violation; Compliance or Penalty Orders; publication of the annual List of SIUs in Significant Non-Compliance; and permit revocations and suspensions.

Fees developed under the Enforcement functional unit are described as:

- **Initial Notice of Violation.** The first Notice of Violation (NOV) issued by the Program for specific violations of discharge limits or requirements that have occurred. The NOV requires the permittee to take corrective actions. Subsequently, the discharger is invoiced for fees to cover costs associated with administering the NOV.
- **NOV Reissued.** When the Industrial User (IU) fails to adequately respond to a previously issued NOV, another NOV is issued, typically with a new due date for the response.
- **NOV Significant Non-Compliance.** SIUs exceeding applicable discharge limits or failing to meet reporting requirements, based on statistical criteria established by the US EPA and set forth at 40 CFR 403.8(f)(2)(viii) are noticed to identify the date of publication in the local newspaper.
- **NOV Preliminary.** If the violation(s) persists, the response may escalate to a compliance inspection and/or Preliminary Conference as described in the program's Enforcement Response Plan.
- **NOV Show Cause.** A Show Cause Hearing may be appropriate when the IU violates an ordinance provision, permit condition, or Compliance Order which warrants permit revocation. An NOV shall require the IU to attend a hearing before the Program Manager to "show cause" why the IU Discharge Permit should not be suspended or revoked.

TRUCKED WASTE

Industrial and domestic trucked wastes originate from sources such as landfill leachate/condensate, dewatering of grease trap wastes, ship maintenance and repair, private treatment system sludge disposal, portable toilets, sewage holding tanks, and septic tanks. All truckloads are logged at the pump station and monthly billings are prepared by program staff.

Fees developed under the Trucked Waste functional unit are described as:

- **Base Permit (BP).** Permit issued to trucking companies registered with the program to provide hauling services for trucked wastes discharged to the City sewer dumpsite. Includes the costs of drafting and issuing the permit and performing the monthly load billing.
- **Self-Monitoring (SM).** Permit includes base permit costs plus those associated with the self-monitoring requirements established by the permit.
- **High Strength Surcharge Billing (HSSB).** Permit includes base permit costs and those associated with the self-monitoring requirements, plus the additional costs to bill for the high-strength waste stream.

- **Pre-arranged after-hours discharge fee.** A fee per discharge for processing discharges made outside of the normal open hours and **with** advance notice to subsequently enter the discharge event into the data system.
- **Emergency after hours discharge fee.** A fee per discharge for processing discharges made outside of the normal open hours and **without** advance notice to subsequently enter the discharge event into the data system.

Cost Allocation Fee Methodology

Raftelis used the City's "top down" approach, focusing on three functional areas of the Program based on the amount of FTE level of effort required for each fee within the functional areas. In addition to distributing costs to the functional areas, the costs are then distributed to permit and violation fees based on time or instances the tasks have been are performed historically. Raftelis used FY 2020 values throughout the report and user guide for illustrative purposes only and those values will vary annually based on the level of effort in each fee area function. Raftelis used the following approach in allocating the IWCP department costs.

- Determine the overall level of effort required to administer the functional area permit and violation fees
- Allocate hours to functional areas
- Allocate hours to fees within each functional area
- Determine number of instances for each permit and violation
- Calculate unit cost for each fee
- Adjust level of effort to ensure total costs for the entire program match total budget

DEVELOPMENT OF FY20 FEES

Table 4 reflects the full Fiscal Year (FY) 2020 budget for IWCP (Fund Center 2000161211) of $3,971,596 including all personal expenses (PE) and non-personal expenses (NPE). Additionally, approximately five percent or $380,466 of the Environmental Chemistry Services (ECS) budget (Fund Center 2000161611) helps support the IWCP.

Table 4: Budget for IWCP Functions

Budget	PE	NPE	Total
IWCP Budget	$3,573,190	$398,406	$3,971,596
ECS Budget supporting IWCP	303,900	76,566	380,466
Total	$3,877,090	$474,972	$4,352,062

The budgeted costs were then split into four categories across the three functional areas.

- **Direct Costs**: As the largest component of the IWCP budget, the direct costs reflect the salary and fringe costs based on estimated labor hours by job classification, which are further allocated to each of the permit and violation fees within the three functional areas.
- **Sampling Group and NPE Costs**: An additional component of the IWCP budget, the sampling group includes the salary and fringe cost for IWCP's Chemists and Lab Technicians, and all material (NPE costs) for the program. The sampling group costs are allocated at the functional level only (no allocation of labor hours), based on the level of support provided to each of the three functions. There is one exception in the

Trucked Waste function. The costs for the sampling group allocation were reduced to offset the 39 hours of Lab Tech support (Sampling Group personnel) that is being captured as a direct cost in the Trucked Waste Pre-Planned and Emergency after hour sub-functions.

- **Program Manager Costs**: The smallest component of the IWCP budget, the Program Manager (Position Number 2270) costs are also allocated only at the functional level. Costs were distributed evenly across each IWCP function to recognize the position's overall need to provide leadership and strategy to all areas of the program.
- **ECS**: In addition to the IWCP budget, five percent of the ECS budget is also included in the IWCP cost recovery study. The five percent allocation of the ECS budget was derived based on sample counts performed for IWCP in FY 2019. Similar to the Sampling Group costs, ECS costs are also allocated at the functional level only, based on the level of support provided to each function.

Table 5 shows the percent allocation of time and Table 6 shows the detailed cost breakout across the categories and functions, respectively. The allocations based on hours should be reviewed each year to ensure that costs are distributed accurately.

Table 5: IWCP Function Allocations

IWCP Functions	Direct Costs	Sampling Group and NPE	Program Manager	ECS
Permit Fees	76%	75%	33%	75%
Trucked Waste	6%	20%	33%	20%
Enforcement	18%	5%	33%	5%
Total	100%	100%	100%	100%

Table 6: IWCP Cost Allocations

IWCP Functions	Direct Costs	Sampling Group	Program Manager	ECS	Total
Permit Fees	$2,189,361	$833,856	$63,410	$285,350	$3,371,977
Trucked Waste	$158,883	$214,926	$63,410	$76,093	$513,312
Enforcement	$526,576	$55,590	$63,410	$19,023	$664,599
Total	$2,874,820	$1,104,372	$190,230	$380,466	$4,549,888

The approach does provide a variance between IWCP costs and budget, as shown below in Table 7. The variance is less than five percent and is attributable to differences between Salary/Fringe amounts in the budget for IWCP and ECS, compared to the calculated Salary/Fringe costs which are based on estimated labor hours for each job classification, as used in the Cost Allocation Model. This variance is within an acceptable range based on the City's input.

Table 7: Comparison of IWCP Costs and Budget

IWCP Estimated Costs	$4,549,888
IWCP + ECS budget	($4,352,062)
Variance	$197,826

The fees presented in Tables 8 through 10 are full-cost user fees. The fees cover monitoring of significant industrial users (SIU) and non SIUs that are categorized to have significant strength loadings on the wastewater system. The fees do not take into consideration the benefits to the average wastewater customer – which are discussed in the Program Benefits section.

Table 8: Permit Fees

Program Task	Average Cost / Task
SIU - Standard	$14,577
SIU - Complex	$47,257
Non-SIU / Categorical Process	$8,531
Enhanced Source Control	$4,338

Table 9: Trucked Waste Fees

Program Task	Average Cost / Task
Base Permit (BP)	$1,289
Self-Monitoring (SM) = BP + SM costs	$2,598
High Strength Surcharges Billing (HSSB) = BP + SM + HSSB	$3,271
Pre-arranged after-hours discharge request	$107
Emergency after hours discharge fee	$226

Table 10: Enforcement Fees

Program Task	Average Cost / Task
Initial Notice of Violation (NOV)	$2,237
NOV Reissued	$2,903
NOV significant non-compliance	$4,355
NOV Preliminary	$7,223
NOV Show Cause	$11,121

Program Benefits

The IWCP is a critical component of the City's wastewater treatment system because a pretreatment program is required for Publicly-Owned Treatment Works (POTWs) and sewage collection agencies and enforcement of these regulations has been identified as an effective approach to source control of industrial pollutants. The many tangible and intangible benefits provided by this program are listed below.

- Protects infrastructure and helps to manage Operations and Maintenance costs
- Ensures the treatability of the wastewater being discharged protecting public health and the ocean environment
- Promotes reuse of biosolids as a soil amendment or cover at landfills, which saves ratepayers money
- Precludes the need for significant upgrades to the Point Loma Wastewater Treatment Plant (PLWTP) which also saves ratepayers money

ENHANCED SOURCE CONTROL

The Enhanced Source Control program provides additional pretreatment requirements for the Pure Water Program and the Urban Area Pretreatment Program (associated with the PLWTP permit waiver). Both key programs provide benefits to all customers of the wastewater system.

Pure Water

The enhanced source monitoring program is critical to the success of Pure Water. Wastewater that would have been processed by the PLWTP will be re-used as source water for the City's recycled Pure Water program. For the quality of this wastewater to meet Pure Water requirements, the IWCP will ensure that harmful discharges to sewer water are prevented. Additionally, diverting wastewater to be recycled reduces the total suspended solids (TSS) and biochemical oxygen demand (BOD) discharged into the environment and benefits all customers.

Urban Area Pretreatment

The Urban Area Pretreatment Program is associated with the permit waiver, which allows the City to avoid significant and costly upgrades to the PLWTP. The program must satisfactorily demonstrate to the United States Environmental Protection Agency that the discharge has and will meet the Clean Water Act (CWA) section 301(h) requirements. The City sets forth and enforces pretreatment requirements and a schedule of activities to eliminate the entrance of toxic pollutants from non-domestic users. The discharge of pollutants that would otherwise be removed through costly secondary treatment upgrades, are now controlled through the pretreatment requirements of the Urban Area Pretreatment Program in combination with the wastewater treatment processes at the PLWTP.

Since the Enhanced Source Control Program benefits all customers, the costs of this program ($1,301,531) have been removed from the costs of the IWCP program attributed to the industrial users. The methodology for this reduction in program costs is discussed in more detail below.

METHODOLOGY AND MODEL COMPONENTS

The reduction to the cost was applied after the allocation of the entire IWCP budget. The model allocates the reduction of $1,301,531 using a two-step process:

1. Functional Area Allocation to Permits: Allocate the reduction to the Permits Function only.
2. Permit and Violation Allocation: Allocate the reduction based on employee time for each sub-function.

The difference between direct IWCP revenues and IWCP costs are currently made up by the Municipal Wastewater Fund, which effectively places those costs on City ratepayers. IWCP's cost recovery level is ultimately a decision that should be made by the Mayor and the City Council.

The illustration below shows permit fees before and after the benefit to all customers reduction is applied.

Figure 2: Benefit to All Reduction to Permits

Program Summary	Total Cost per Permit Type	Benefit to All Reduction	Total Cost per Permit Type	Average Cost per Task	Reduced Avg Cost/Task
SIU-standard	$1,020,357	($390,459)	$629,897	$14,577	$8,999
SIU-Complex	$708,853	($260,306)	$448,547	$47,257	$29,903
NON-SIU/Categorical Process	$341,236	($130,153)	$211,083	$8,531	$5,277
Enhanced Source Control	$1,301,531	($520,613)	$780,919	$4,338	$2,603
Total	**$3,371,977**	**(1,301,531)**	**$2,070,446**		

Cost Allocation Fee - Model Guide

MODEL OVERVIEW

The model is Excel-based and requires the input of certain financial data and the calibration of various assumptions in order to achieve optimal results. The Model was designed to be simple, while being inclusive of the functionality requested by the City. Input and assumption tabs have been programmed to make future updates quick and easy to perform. However, this User Guide contains information that should be helpful to the user as the user updates and utilizes the Model. While many aspects of the Model may seem intuitive, it is recommended that the user review the User Guide in its entirety to ensure that the Model is being used as intended, and to ensure the most efficient use and accurate results.

While this User Guide contains an in-depth discussion on how to use the Model, some basic information about the Model that may be helpful to the user is included below. In general, the Model contains input, output, and calculation tabs. The input and output tabs are as follows:

Input tabs:

- General Assumptions
- FTE and Cost Allocation
- Dashboard

Output tabs:

- Budget and Cost Allocations
- Permit Fee
- Truck Waste
- Enforcement
- Lab Tech Adj to Sampling Group

Input cells contain a light blue fill and a blue or black text. This helps the user identify where inputs may be made on the various input tabs. Calculation or output cells contain grey or white fill and black text. This helps the user identify where calculations are located, or outputs provided, and that the user should not make any changes to these cells.

ANNUAL MODEL UPDATES

Each year, the following components should be reviewed and updated as necessary within the model:

1. On the FTE and Cost Allocation tab (Cell E3): Input the fringe benefit percent. The calculation is based on the previous year's actuals and reflects the percentage of the IWCP fringe to salary ($1,812,188/$2,362,697) for the previous year. For reference, it was approximately 77% for both FY18 and FY19.

2. On the FTE and Cost Allocation tab (Line Item 1): verify and update as necessary, the data that comprises the Program Manager portion of the IWCP budget. Specifically, verify/update the Direct Labor Rate for the Program Manager. Input "No" in the Direct Costs Position column (J). The model uses 1840 hours for each FTE, which takes into consideration non-productive time. Please work directly with the Program Manager to determine the hourly rate, as it is an unclassified position and not listed in the City's Salary Table.
3. On the FTE and Cost Allocation tab (Line Items 2 – 6): verify and update the data that comprises the Sampling Group portion of the IWCP budget. Specifically, verify/update the job classifications, FTE, and Direct Labor Rate, for the Sampling Group. The salary for each job classification is based on the City's current Salary Table, using the E-step hourly rate. Input "No" in the Direct Costs Position column. The FTE hours and Costs are not calculated on the FTE and Cost Allocation tab. The Sampling Group Costs are calculated on the General Assumptions tab (Cell D14) using the inputs provided and will be added to the total NPE for IWCP in a later step.
4. On the FTE and Cost Allocation tab (Line Items 7 – 25): verify and update the data that comprises the Direct Cost portion of the IWCP budget. Specifically, verify/update the job classifications, number of FTEs, and Direct Labor Rate. Input "Yes" in the Direct Costs Position column. The salary for each job classification is based on the City's current Salary Table, using the E-step hourly rate.
5. On the General Assumptions tab, update the total budget for IWCP including (PE and NPE costs) and a portion of the ECS Budget for supporting IWCP. To determine the ECS portion, contact the ECS group and find out what percentage of analysis performed in the previous year was in support of the IWCP program. In FY19, approximately 5% of the analysis was for IWCP, therefore, 5% of the ECS budget (including all PE and NPE), was included as part of the total IWCP budget for this cost recovery model.
6. On the General Assumptions tab, update the 5-year average historical performance for permits and violation fees in the three functional areas listed. Contact the IWCP group to get the updated average for the last 5-yr period.

MODEL OPTIMIZATION

The model is not programmed to auto solve user fees based on FTEs and permits and violations issued. Due to the top down approach described above, the model could produce variances in the total hours available versus the total hours assigned, depending upon the class-specific level of effort allocated to each of the permit and violation fee categories within each functional area. The user should review results and adjust the percent of hours allocated to arrive at the appropriate cost-based fee.

Located on the FTE and Cost allocation worksheet is a summary of Total Available Hours based on the individual function worksheets where fee hours are assigned to the permits and violations based on the level of effort for each job classification. The hours are then allocated and summarized showing the total hours over and under for each job classification. Figure 3 shows the summary of hours in the current model.

Figure 3: Hour Optimization Summary

FY 2020 Salary Table - E Step Job Classification	Total Hours Assigned (See indiviudal worksheets) Permit Fee	Truck Waste	Enforcement	Total Hours Available	Hours Over	Hours Under
WW Pretreatment Program Manager (1528)	1,791	0	31	1,840	0	(17)
Supervisory WW Pretreatment Inspector	5,611	104	1,611	7,360	0	(35)
WW Pretreatment Inspector III	5,036	253	2,065	7,360	0	(5)
WW Pretreatment Inspector II	8,281	1,241	1,533	11,040	15	0
WW Pretreatment Inspector I	0	0	0	0	0	0
Haz Mat/Pretreatment Trainee	4,867	0	667	5,520	14	0
Field Representative	3,346	0	333	3,680	0	(0)
Senior Clerk Typist	0	0	0	0	0	0
Word Processing Operator	1,589	273	0	1,840	22	0
Clerical Assistant II	2,603	318	780	3,680	21	0
Administrative Aide II	676	370	780	1,840	0	(14)
Management Intern	0	0	0	0	0	0
Totals	33,799	2,600	7,800	44,199	$ 71	(71)

MODEL COMPONENTS

The screenshots in the following section illustrate the steps to update and optimize the cost allocation.

FTE and Cost Allocation Worksheet

The FTE & Cost Allocation Worksheet provides the Direct Costs to be distributed to the three functions. The Direct Costs for the Program are comprised of the following elements:

- Average Direct Labor Hourly Rate
- Benefits
- Number of FTEs
- Available Hours

When the assumptions are entered into the model by Job Classification, the results are the total direct costs of that position to the Program. Figure 4 illustrates an example of the Direct Costs calculations. As discussed in the Cost Allocation Methodology section, all other expenses for Sampling Group, Program Manager, and ECS are allocated at the functional level only. Inputs for Sampling Group and Program Manager are still entered as this information is used to calculate costs on the General Assumptions tab.

Figure 4: Total Direct Cost Calculation

FY 2020 Salary Table Job Classification	Direct Labor (DL) in $/Hour	Fringe (F) DL x 0.77	Direct Cost in $/Hour	No of FTEs	Total Hours	Total Direct Cost
WW Pretreatment Program Manager	$ 54.50	$ 41.97	$ 96.47	1.0	1,840	$ 177,496
Supervisory WW Pretreatment Inspe	$ 49.79	$ 38.34	$ 88.13	4.0	1,840	$ 648,624
WW Pretreatment Inspector III	$ 45.25	$ 34.84	$ 80.09	4.0	1,840	$ 589,481
WW Pretreatment Inspector II	$ 41.10	$ 31.65	$ 72.75	6.0	1,840	$ 803,127

The model sums the total hours and then allocates over the three core functions based on input provided by management and staff on time spent working in each function.

DASHBOARD WORKSHEET

The Dashboard worksheet allows the user to input estimated staff time spent on each function. For Example, the permits function will receive 76.5 percent of the total hours, as shown in Figure 5. The allocation of 76.5 percent is calculated based on 85 percent of staff time spent in the three functional areas, and the other 15 percent of the time (not shown) spent on administration. In addition to IWCP budgeted hours, the user must input percentage allocations for the Sampling Group and NPE Budget, Program Manager Budget, and ECS Budget.

Figure 5: Program Budget Functional Allocation

Program	Estimated Staff Time	Function Allocation	NPE	Sampling Group	Program Manager	ECS
Permit Fees	65.0%	76.5%	75.0%	75.0%	33.3%	75.0%
Trucked Waste	5.0%	5.9%	20.0%	20.0%	33.3%	20.0%
Enforcement	15.0%	17.6%	5.0%	5.0%	33.3%	5.0%
Total	85.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Next, the hours and other expenses for each functional area need to be distributed into their respective permits and violations category using time estimates for each. Figure 6 illustrates the allocation to the Permit Fees categories. The model requires an additional step to allocate the total IWCP budgeted hours for the different types of permits and violation categories. This additional step is not needed for the other budgeted costs listed in Figure 5.

Figure 6: Permit Fee by Permits and Violation Category Allocation

Permit Fees	Allocation	Staff Hours
SIU-standard	30.0%	10,140
SIU-Complex	20.0%	6,760
NON-SIU/Categorical Process	10.0%	3,380
Enhanced Source Control	40.0%	13,520
	100.0%	**33,799**

The model now lists all fees and violations and requires the user to select staff from the drop-down menu and allocate the time to each category. For example, SIU-Standard Permit is allocated 10,140 staff hours as seen in Figure 6. The 10,140 hours must now be distributed to each staff member that works on the permit and violation and the estimated time they spend. Once the selections are made, the model will calculate the Total Direct Costs for each task by multiplying the staff hours by the Direct Cost Rate. Figure 7 shows the screenshot of the current model selection by job classification for SIU Standard.

Figure 7: Permits and Violation Allocation for Staff Classification

Staff Selection	Allocation	Staff Hours	Actual Direct Cost Rate	Total Labor Costs
SIU-standard				
WW Pretreatment Program Manager (1528)	5.0%	507	$96.47	$48,907
Supervisory WW Pretreatment Inspector	10.0%	1,014	$88.13	$89,360
WW Pretreatment Inspector III	19.0%	1,927	$80.09	$154,303
WW Pretreatment Inspector II	35.0%	3,549	$72.75	$258,173
Word Processing Operator	5.0%	507	$34.43	$17,454
Clerical Assistant II	10.0%	1,014	$32.75	$33,203
Haz Mat/Pretreatment Trainee	6.0%	608	$46.57	$28,332
Field Representative	10.0%	1,014	$35.35	$35,841
	100.0%	**10,140**		**$665,572**

The Sampling Group and NPE, Program Manager, and ECS budget allocation will then be automatically distributed based on the same staff allocation. The totals are then rolled up into the permits and violation level. Figure 8 provides the details before the costs are rolled into the sub-function.

Figure 8: Permits and Violation Allocation of Other Costs

Staff Selection	Allocation	Sampling and NPE Allocation	Program Manager Allocation	ECS Budget
SIU-standard				
WW Pretreatment Program Manager (1528)	5.0%	$12,713	$951	$4,280
Supervisory WW Pretreatment Inspector	10.0%	$25,426	$1,902	$8,560
WW Pretreatment Inspector III	19.0%	$48,309	$3,614	$16,265
WW Pretreatment Inspector II	35.0%	$88,991	$6,658	$29,962
Word Processing Operator	5.0%	$12,713	$951	$4,280
Clerical Assistant II	10.0%	$25,426	$1,902	$8,560
Haz Mat/Pretreatment Trainee	6.0%	$15,256	$1,141	$5,136
Field Representative	10.0%	$25,426	$1,902	$8,560
	100.0%	**$254,260**	**$19,023**	**$85,605**

The model then adds the total costs for all categories and divides the costs by the historical tasks performed to come up with a charge for each permit and violation. As illustrated in Figure 9, to fully recover 100% of the cost to process an SIU-Standard permit, the fee is estimated to be an average of $14,577 per instance.

Figure 9: Average Cost per Permit

Program Summary	Est # Tasks Perf Annually	Average Cost/Task	Total Cost per Permit Type
SIU-standard	70	$14,577	$1,020,357
SIU-Complex	15	$47,257	$708,853
NON-SIU/Categorical Process	40	$8,531	$341,236
Enhanced Source Control	300	$4,338	$1,301,531
Total			**$3,371,977**

As mentioned in the Cost Allocation Section, these fees represent full-cost recovery for each permit and violation task performed within the function, however it may not be feasible for the utility to charge the full amount. Other considerations such as benefits to all customers must be considered.

The City of SAN DIEGO

Public Utilities Department
Environmental Monitoring & Technical Services Division

February 8, 2021

Dear Permittee:

Subject: Potential Upcoming Changes to Industrial User Discharge Permit Fees

Thank you for your continued participation in the City of San Diego's (City's) Industrial Wastewater Control Program. Your participation as an industrial user is crucial to ensure that the City's sewerage system, and the environment, is protected and can meet all of its regulatory requirements. We value you as a partner in the region and appreciate the opportunity to assist you with your industrial wastewater. We are informing you of potential upcoming changes to the permit fees applicable to all industrial users that discharge to the City's system.

On February 21, 1984 the San Diego City Council (City Council) adopted resolution #260133 that required permit and monitoring fees for industrial users permitted by the Industrial Wastewater Control Program for discharge to the City's sewerage system. The fees, which were also intended to cover the annual cost of inspections and sampling, have not been updated since 1984.

Since industrial user fees have not been updated in almost 40 years, the current fee structure for permitting, inspections, and monitoring does not adequately recover these costs as required. We conducted an independent analysis to evaluate our program costs and related fees over the last 5 years and will soon bring forward proposed changes to the City Council for consideration.

We anticipate that the proposed fee changes will be heard at City Council's Environment Committee on February 25, 2021. The public hearing information will be posted just prior to the Committee meeting at: https://www.sandiego.gov/council-committees/environment-committee. I have attached a copy of the independent analysis that will be presented at the Committee for you to review.

We encourage you to review the information provided and reach out to me at (858) 654-4106 if you have any questions or concerns.

Sincerely,

Joy R. Newman
Program Manager
Public Utilities Department

JN:rnd

9192 Topaz Way, MS 901D
San Diego, CA 92123
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ATTACHMENT 4

PT. LOMA WASTEWATER TREATMENT PLANT COASTLINE MITIGATION MEASURES

Jacobs Challenging today. Reinventing tomorrow.

Point Loma Wastewater Treatment Plant

Identification and Analysis of Mitigation Measures

Metro TAC Meeting

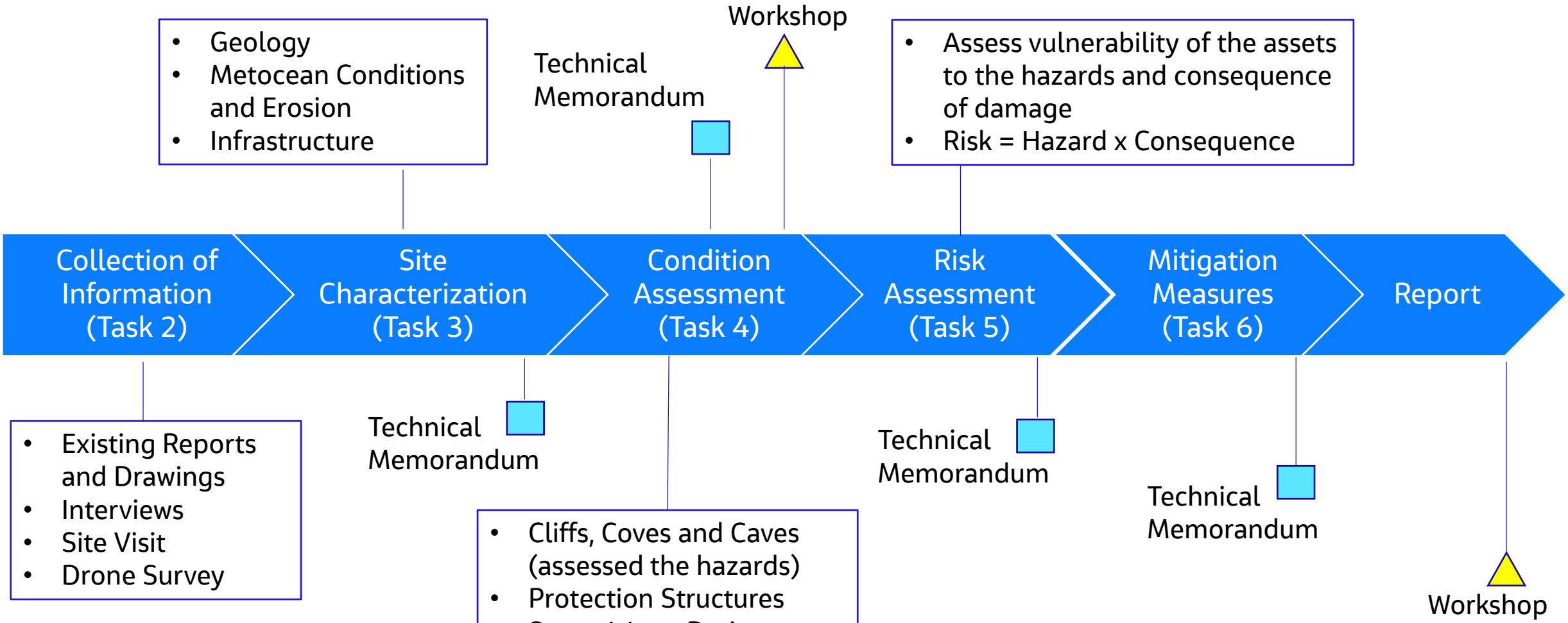
February 17, 2021

HDR – Jacobs - Atlas

Agenda

- Introductions
- Costal Erosion Assessment: Tasks Overview
- Risk Assessment Results: Assets/Locations at High Risk
- Long-term Mitigation Measures
- Conclusions and Recommendations
- Q&A: Near-term Options Discussion

Coastal Erosion Assessment: Tasks Overview



Risk Assessment Results

10 cliff units selected

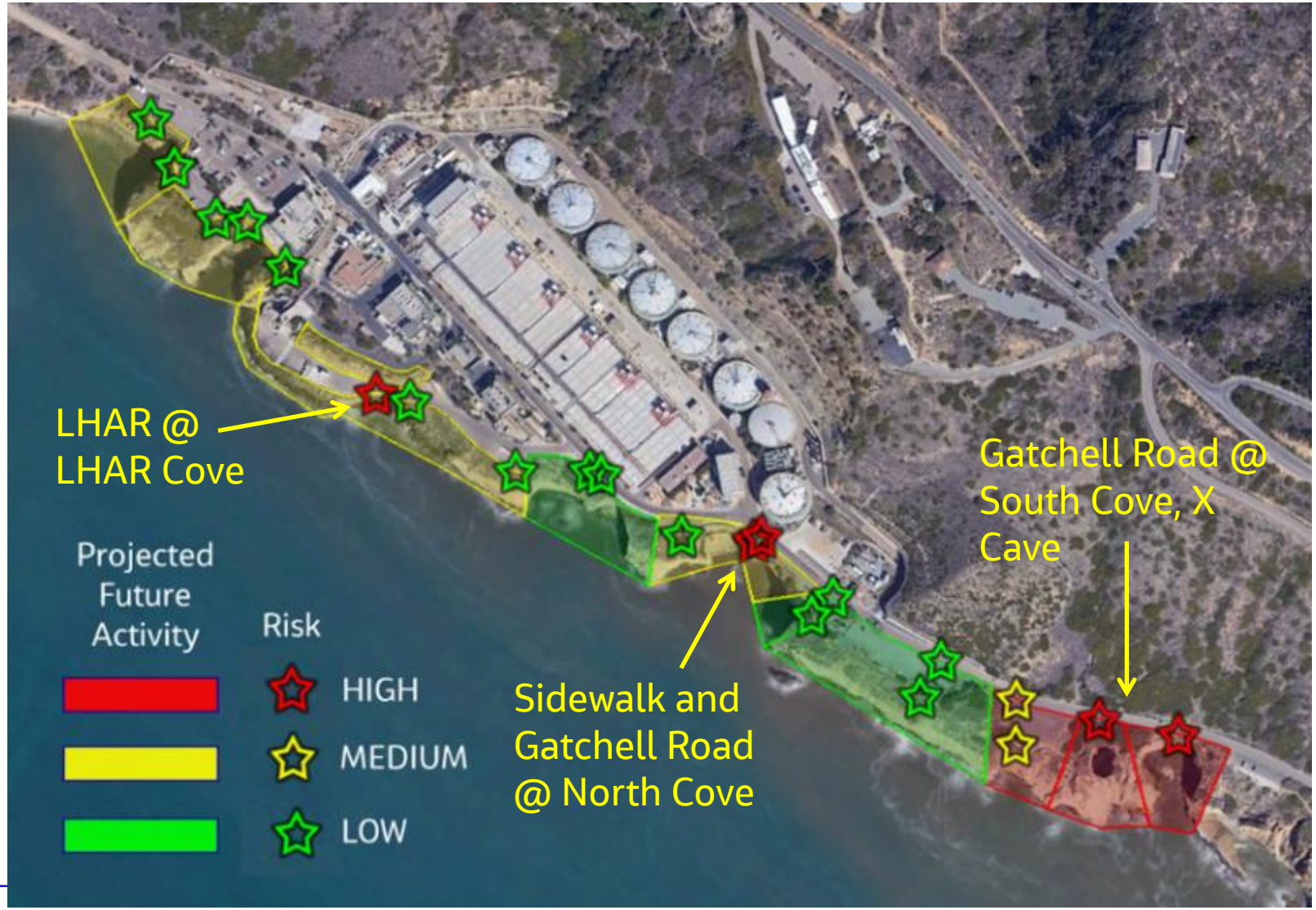
RISK = HAZARD x CONSEQUENCE

HAZARD

- cliff/cove retreat
- cave roof collapse

CONSEQUENCE

- vulnerability
- loss of value, functionality
- impacts on operations



Assets/Locations at High Risk

Long-term Risk Mitigation Measures

Gatchell Road at South Cove/X Cave

- *Road realignment ($1.9 M)
- Bridge ($6.4 M)
- Retaining wall + riprap ($2.2 M)
- New access road (N/A)

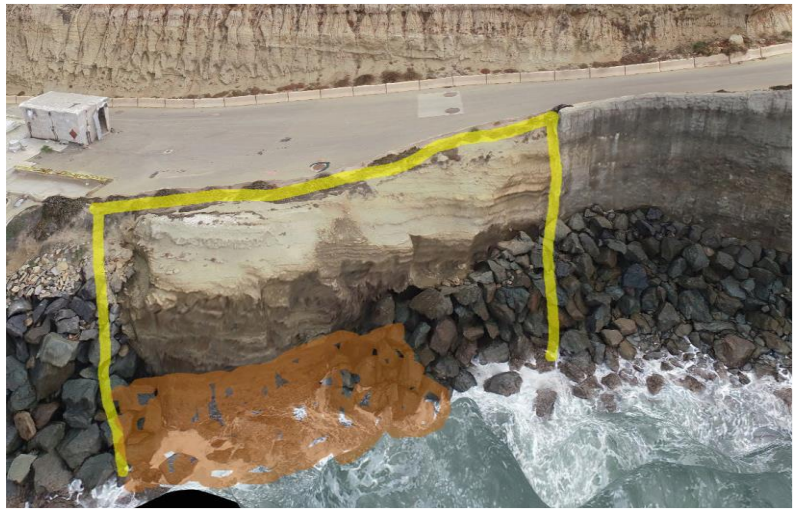
Sidewalk and Gatchell Road at North Cove

- *Retaining wall + riprap ($2.8 M)

200 x 35 feet, 12-inch thick

LHAR at LHAR Cove

- Patch repairs ($100 k)
- *Retaining wall + riprap ($2.2 M)



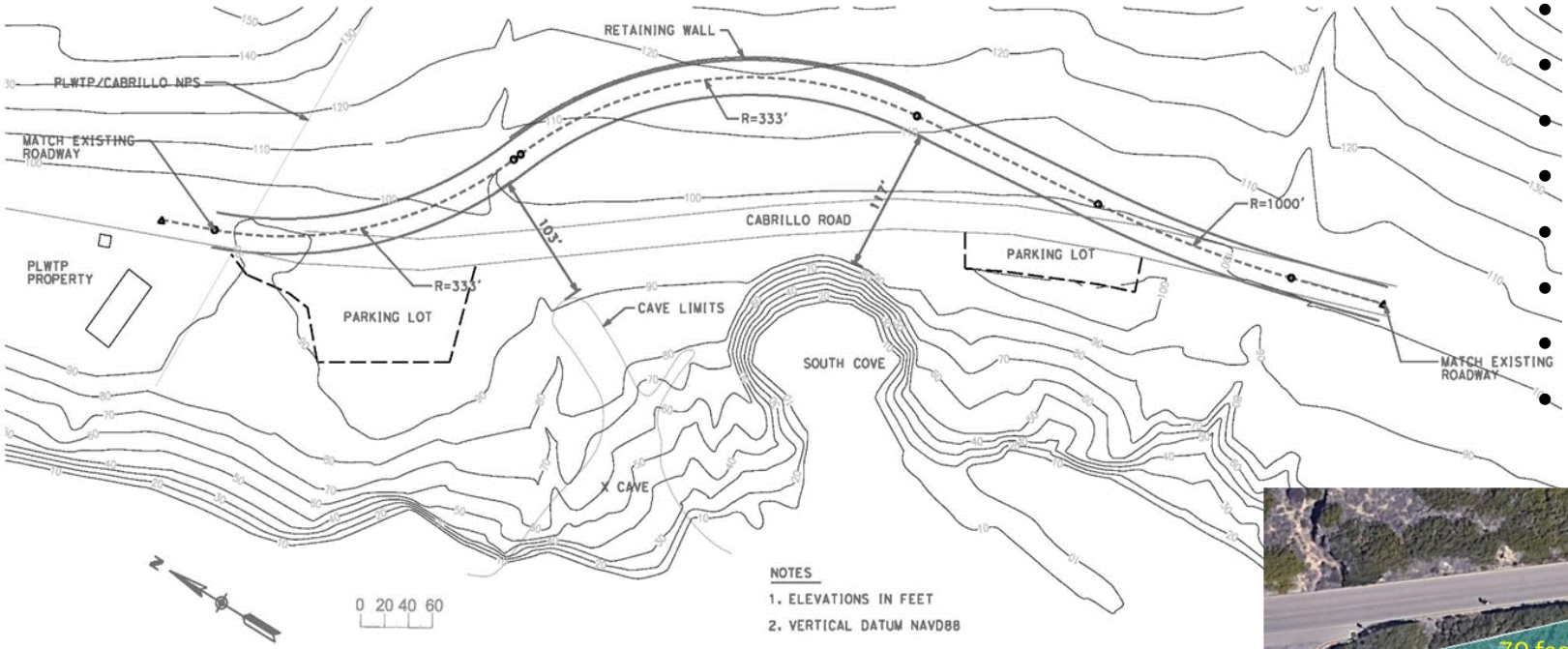
115 x 40 feet, 12-inch thick

* recommended

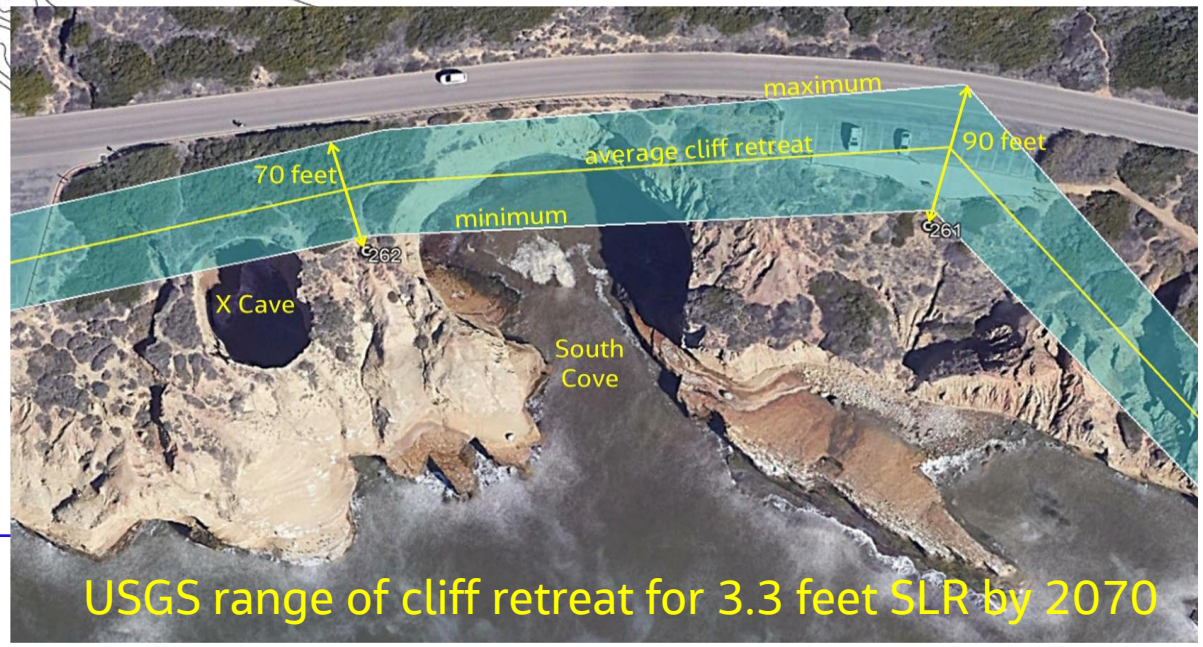
Should be permitted under Coastal Act Section 30235

Gatchell Road Realignment

- asphalt concrete on aggregate base
- 2 x 12-foot lanes, 1-foot shoulders
- 6% up, 3% down slope
- 100 feet setback
- 5-foot retaining wall
- 25 mph posted speed
- 30 mph design speed
- AASHTO (Greenbook)
- 333-foot minimum curve radius
- 2% normal crown
- no super-elevation

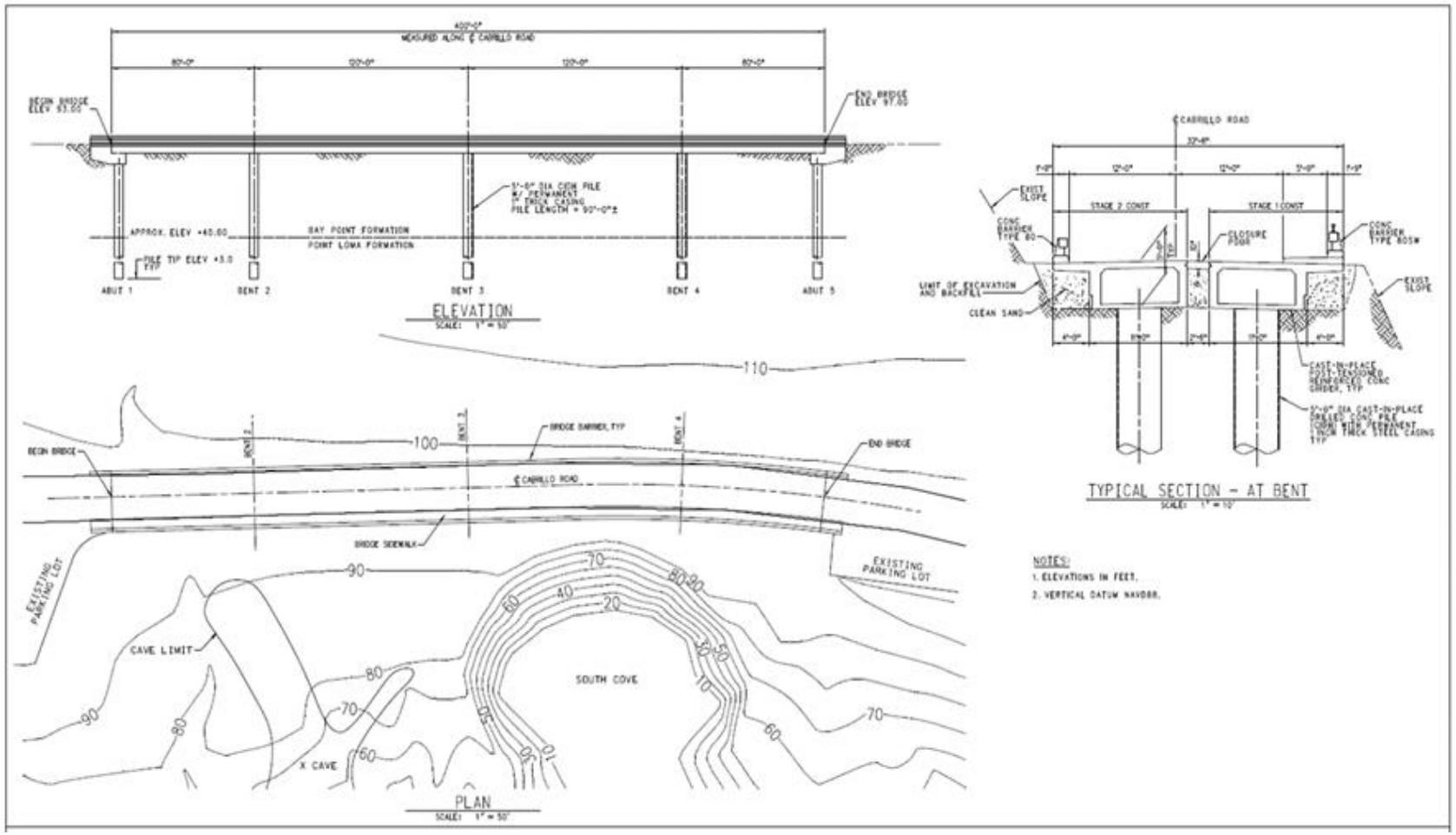


- State of California SLR Guidance
- road has low adaptation capacity
- SLR projection with a 1-in-200 chance (0.5% probability)
- 50 years lifetime
- 3.3 feet SLR by 2070



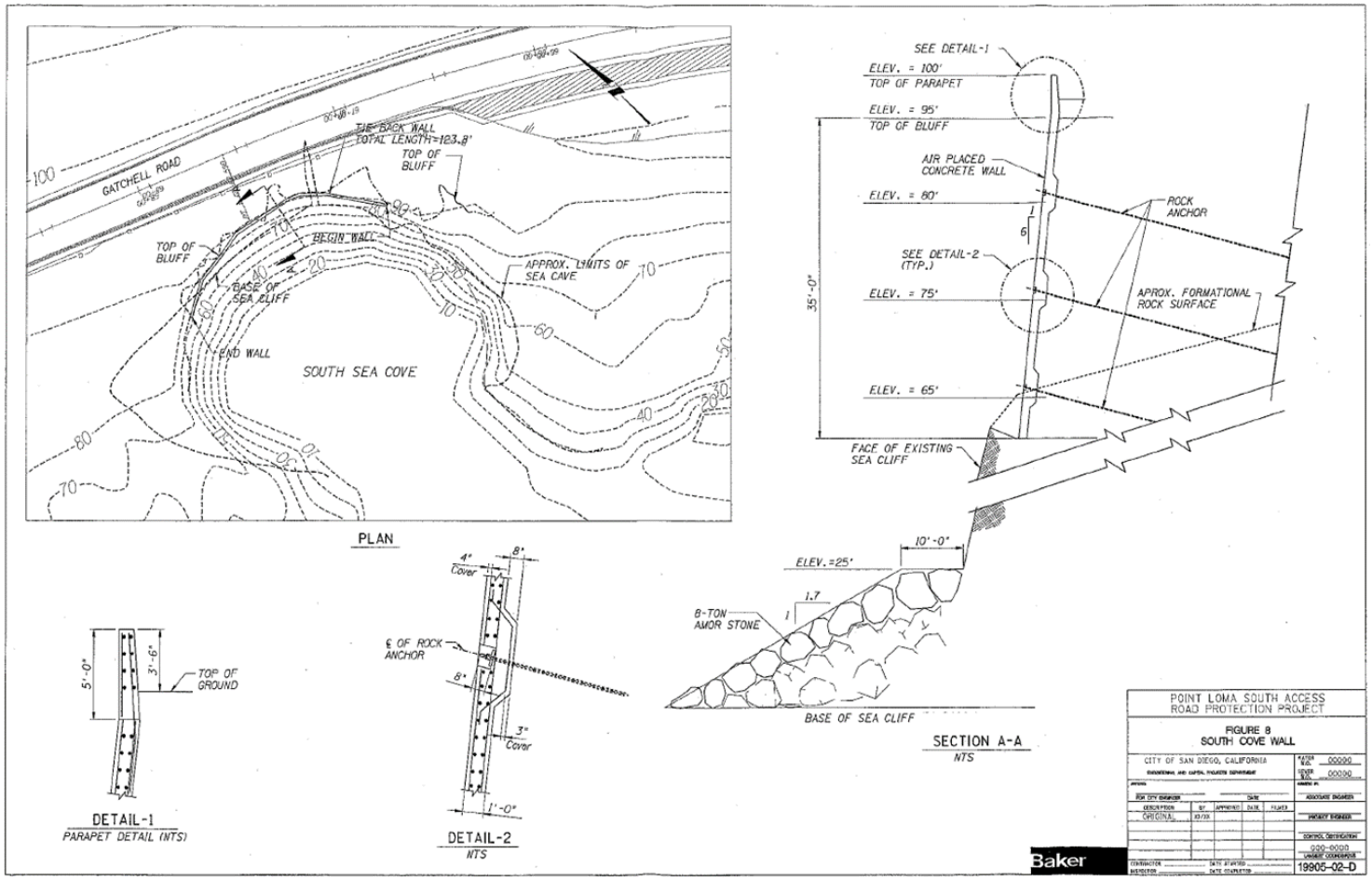
USGS range of cliff retreat for 3.3 feet SLR by 2070

Gatchell Road Bridge



- 400-foot long
- pile-supported
- 2 x 12-foot lanes
- 1 x 5-foot sidewalks
- built in-place
- post-tensioned reinforced concrete girders
- 5-foot diameter cast-in-place drilled concrete piles with 1-inch-thick steel casing
- excavated and backfilled
- abutments setback 150 from cliff edge

South Cove Retaining Wall + Riprap



Retaining wall and riprap at the South Cove (Michael Baker, 2003)

124 x 35 feet, 12-inch thick

Conclusion and Recommendations

- Gatchell Road minimum setback at South Cove is 8 feet
- X Cave extends to within 30 feet from Gatchell Road
- Gatchell Road could be impacted by cliff erosion and/or cave roof collapse in the next 5 years (imminent)
- Time scales of implementation of coastal civil engineering works is 5 to 10 years, or more
- Recommend to urgently start:
  - Planning for the implementation of a long-term mitigation measure
  - Monitoring Program to:
    - recognize precursors of failure
    - communicate to stakeholders, and
    - identify and implemented near-term risk mitigation measures so that the road can continue to be used as a safe access to the PLWTP

Questions?

HDR – Jacobs - Atlas

Jacobs

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Important

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ATTACHMENT 7

CIP AND FUNDING SOURCES 1ST & 2ND QTRS

THE CITY OF SAN DIEGO

M E M O R A N D U M

DATE: November 30, 2020

TO: Metro Technical Advisory Committee (Metro TAC)

FROM: Surraya Rashid, Deputy Director, Public Utilities Department

SUBJECT: FY2021 Capital Improvements Projects (CIP) Report – 1st Quarter

---

The Public Utilities Department hereby submits the FY2021 CIP updates for the period of July 1, 2020 through September 30, 2020.

The report includes the following:

- Project Highlights
- Forecast versus actual expenditures report
- Projects expenditure updates

Project Highlights

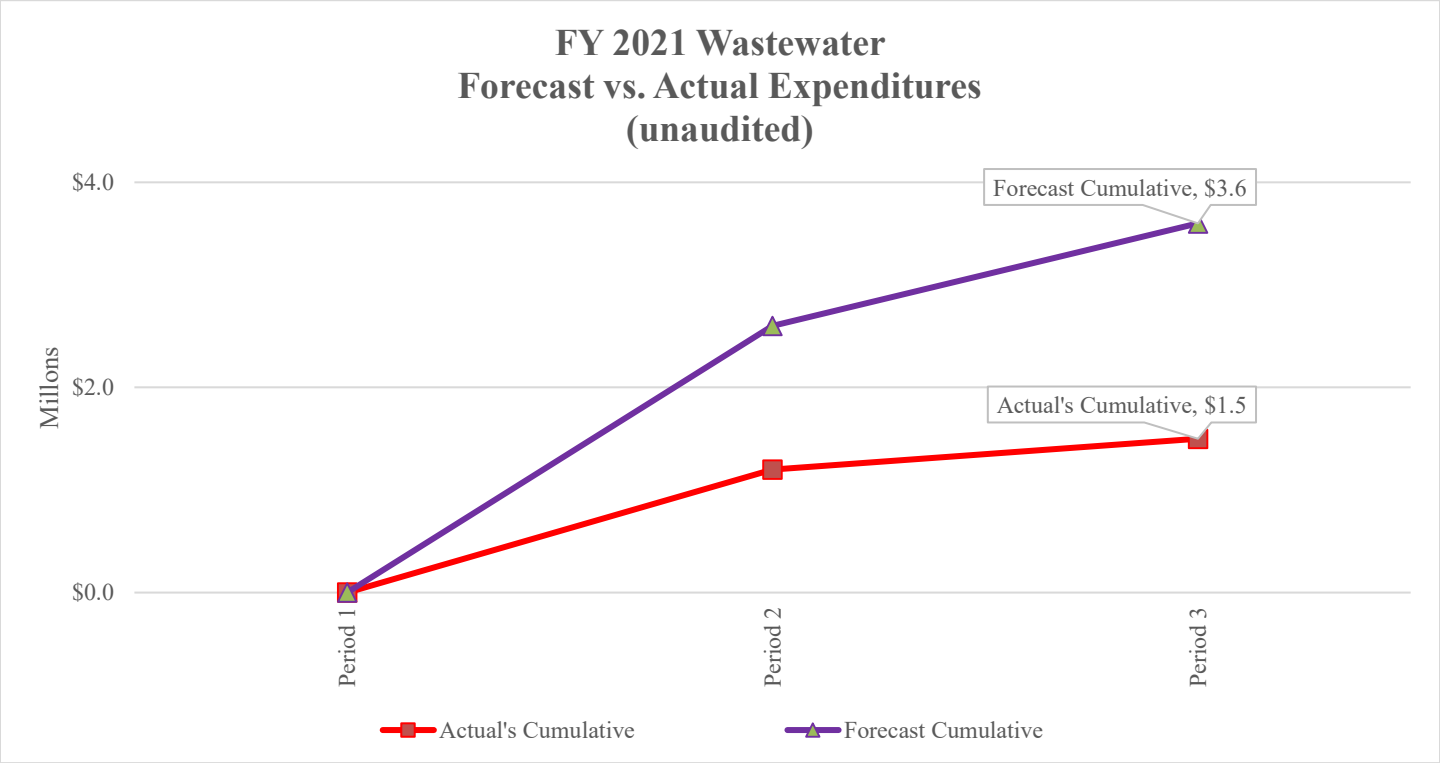
Project	Total Project Cost	Status
MBC Cooling Water System Chiller Upgrade	$4.4 M	Construction

The project involves the replacement of chillers, the three existing primary water pumps with four new pumps. It also includes the modification/expansion of the existing chilled water system enclosure walls to accommodate the new equipment and all necessary piping, mechanical, electrical, instrumentation and controls as required by the cooling water system chillers upgrades and extending the existing concrete pad (6'wide X 55'long X 1' thick) and a new sidewalk (5' wide X 78' long).

Three (3) new 250-Ton chiller units

New chemical and air separator tanks

FORECAST VERSUS ACTUAL EXPENDITURES UPDATES



WASTEWATER PROJECTS
FY 2021 - 1st Quarter (Financial Data run Oct 30, 2020)

NOTES:
- Wastewater projects are separated into Muni and Metro

WASTEWATER PROJECTS									Planning/Design/Award Phase			Construction Phase		
WBS	Project Name	Status	Estimated Total Project Cost	Project to Date Expenditures	Encumbrance at FY21, Pd 3	Project Balance (Revised Proj Cost less Expenditures less Encumbrances)	% Spent (Expenditures /Revised Project Cost)	Start Date	COSS Final Design Approval - End	Final Design Approval - End	Final Design Approval - End Variance	COSS BO/BU	BO/BU	BO/BU Variance
	LARGE SEWER PUMP STATIONS - METRO													
S00312	PS2 Power Reliability & Surge Protection	Construction	$75,600,800	$53,441,275	$14,574,653	$7,584,872	70.69%	11/1/2010	2/8/2016	9/20/2016	165	8/30/2019	9/23/2022	822
B19050	PS1 and 2 Cooling Tower Replacement	Construction	$825,400	$474,389	$416,231	-$65,221	57.47%	8/15/2018	TBD	12/1/2019		TBD	11/11/2020	
	OTHER - METRO													
B20001	STORM WATER DIVERSION AT THE PLWTP	Design	$5,233,240	$123,623	$349,736	$4,759,881	2.36%	7/26/2019	TBD	12/30/2021		TBD	12/30/2022	
B20002	STORM WATER DIVERSION AT THE SBWRP	Design	$3,908,100	$153,850	$647,049	$3,107,201	3.94%	8/1/2019	TBD	8/31/2021		TBD	9/30/2022	
B19197	STORM DRAIN DIVERSION AT THE MBC	Design	$3,481,800	$356,224	$184,405	$2,941,172	10.23%	6/24/2019	TBD	7/30/2021		TBD	3/30/2023	
S00319	EMT&S Boat Dock Esplanade	Bid / Award	$3,333,000	$602,025	$86,705	$2,644,271	18.06%	4/2/2018	11/30/2012	3/30/2020	1963	6/30/2018	3/28/2022	1003
	SEWER TREATMENT PLANTS - METRO													
B18031	Ultraviolet Disinfection System Replacement	Construction	$4,544,156	$3,750,741	$900,370	-$106,956	82.54%	10/2/2017	TBD	1/8/2019		TBD	7/2/2020	
B16165	MBC Cooling Water System Chiller Upgrade	Construction	$4,405,727	$3,885,411	$107,805	$412,511	88.19%	8/1/2016	TBD	12/19/2018		TBD	7/17/2020	
B20137	PLWTP Scum Injection Concentrators Improvements	Design	$2,987,400	$40,402	$0	$2,946,998	1.35%	6/9/2020	TBD	9/30/2022		TBD	5/21/2024	
B20121	Metro Biosolids Ctr Gas Detection Syst Replacement	Design	$3,049,000	$54,729	$0	$2,994,271	1.79%	5/1/2020	TBD	4/12/2022		TBD	11/28/2023	
B19066	SBWRP Variable Frequency Drive Repl	Bid / Award	$955,500	$135,512	$0	$819,988	14.18%	9/4/2018	TBD	4/2/2020		TBD	8/17/2021	
B20122	SBWRP Reverse Osmosis System	Design	$10,700,000	$57,841	$0	$10,642,159	0.54%	5/18/2020	TBD	3/30/2023		TBD	12/31/2024	
B20148	NCWRP - Chiller Replacement	Design	$1,613,600	$13,754	$0	$1,599,846	0.85%	6/15/2020	TBD	9/30/2021		TBD	10/31/2022	
	TRUNK SEWERS - METRO													
	OTHER - MUNI/METRO													
S14000	I AM San Diego Project (Metro)	Implementation	$7,841,449	$7,222,768	$0	$618,681	92.11%	2/1/2014	2/1/2014	TBD	TBD	TBD	12/31/2018	43465

THE CITY OF SAN DIEGO

M E M O R A N D U M

DATE: February 9, 2021

TO: Metro Technical Advisory Committee (Metro TAC)

FROM: Surraya Rashid, Deputy Director, Public Utilities Department

SUBJECT: FY2021 Capital Improvements Projects (CIP) Report – 2nd Quarter

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The Public Utilities Department hereby submits the FY2021 CIP updates for the period of October 1, 2020 through December 31, 2020.

The report includes the following:

- Project Highlights
- Forecast versus actual expenditures report
- Projects expenditure updates

Project Highlights

Project	Total Project Cost	Status
PS 1 and 2 Cooling Tower Replacement	$825,400	Construction

Project removed the existing water cooling towers and replaced with VXT-45RC AND VXT-105RC respectively at Pump Stations 1 and 2.

Photo 1. PS1 Existing cooling towers.

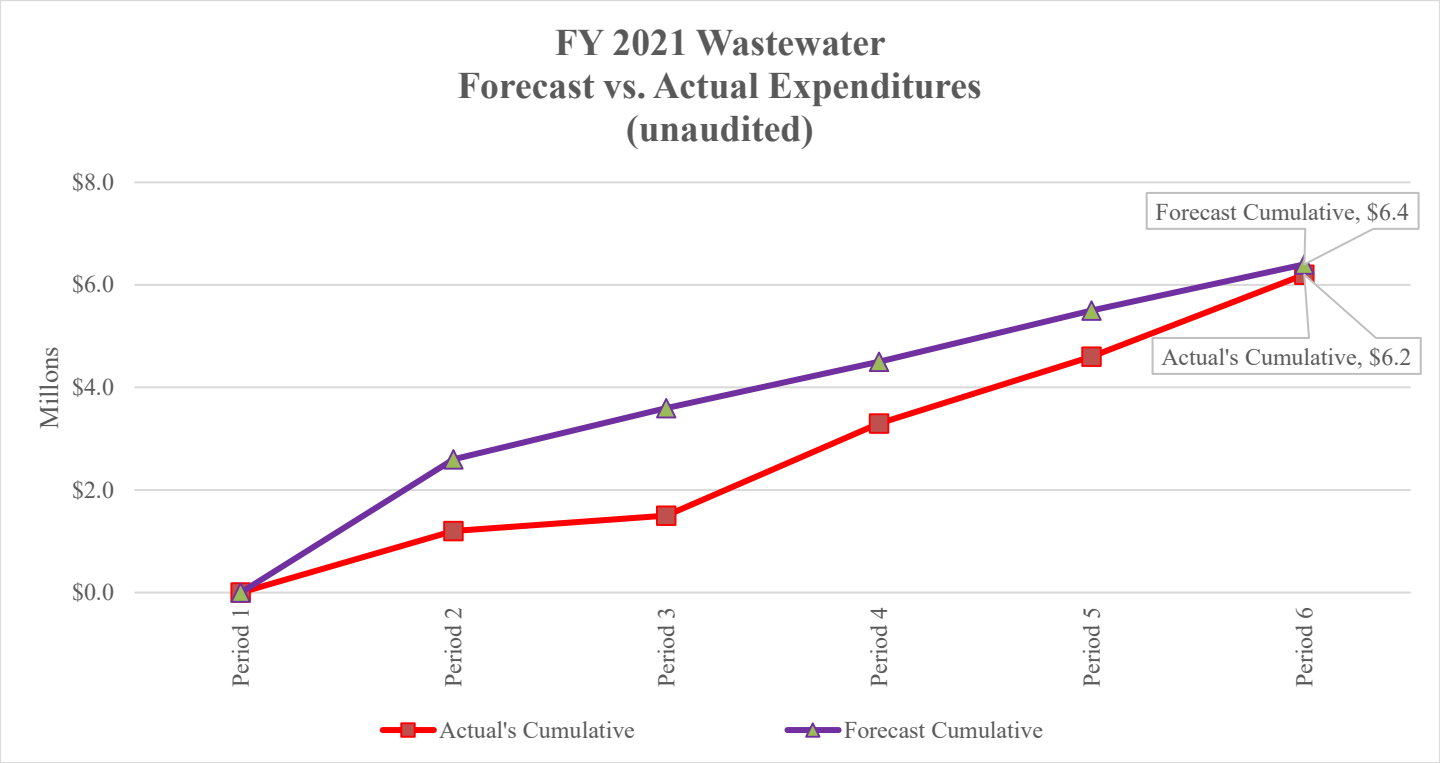
Photo 2. PS1 Existing duct demo using plasma cutters.

Photo 3. PS1 New cooling towers and pumps.

Photo 4. PS2 Existing cooling towers.

Photo 5. PS2 New cooling towers and chemical system.

FORECAST VERSUS ACTUAL EXPENDITURES UPDATES



WASTEWATER PROJECTS
FY 2021 - 2nd Quarter (Financial Data run Dec 31, 2020)

NOTES:
- Wastewater projects are separated into Muni and Metro

WASTEWATER PROJECTS									Planning/Design/Award Phase			Construction Phase		
WBS	Project Name	Status	Estimated Total Project Cost	Project to Date Expenditures	Encumbrance at FY21, Pd 6	Project Balance (Revised Proj Cost less Expenditures less Encumbrances)	% Spent (Expenditures /Revised Project Cost)	Start Date	COSS Final Design Approval - End	Final Design Approval - End	Final Design Approval - End Variance	COSS BO/BU	BO/BU	BO/BU Variance
	LARGE SEWER PUMP STATIONS - METRO													
S00312	PS2 Power Reliability & Surge Protection	Construction	$75,600,800	$56,956,008	$14,804,559	$3,840,233	75.34%	11/1/2010	2/8/2016	9/20/2016	165	8/30/2019	9/23/2022	822
B19050	PS1 and 2 Cooling Tower Replacement	Construction	$825,400	$945,154	$34,714	-$154,469	114.51%	8/15/2018	TBD	12/1/2019		TBD	11/11/2020	
	OTHER - METRO													
B20001	STORM WATER DIVERSION AT THE PLWTP	Design	$5,233,240	$356,593	$701,157	$4,175,491	6.81%	7/26/2019	TBD	12/30/2021		TBD	12/30/2022	
B20002	STORM WATER DIVERSION AT THE SBWRP	Design	$3,908,100	$298,720	$523,620	$3,085,760	7.64%	8/1/2019	TBD	8/31/2021		TBD	9/30/2022	
B19197	STORM DRAIN DIVERSION AT THE MBC	Design	$3,481,800	$533,784	$57,558	$2,890,458	15.33%	6/24/2019	TBD	7/30/2021		TBD	3/30/2023	
S00319	EMT&S Boat Dock Esplanade	Bid / Award	$3,333,000	$623,168	$86,039	$2,623,794	18.70%	4/2/2018	11/30/2012	3/30/2020	1963	6/30/2018	3/28/2022	1003
	SEWER TREATMENT PLANTS - METRO													
B18031	Ultraviolet Disinfection System Replacement	Construction	$4,544,156	$3,812,526	$908,607	-$176,977	83.90%	10/2/2017	TBD	1/8/2019		TBD	7/2/2020	
B16165	MBC Cooling Water System Chiller Upgrade	Construction	$4,405,727	$4,166,143	$58,098	$181,486	94.56%	8/1/2016	TBD	12/19/2018		TBD	7/17/2020	
B20137	PLWTP Scum Injection Concentrators Improvements	Design	$2,987,400	$63,804	$0	$2,923,596	2.14%	6/9/2020	TBD	9/30/2022		TBD	5/21/2024	
B20121	Metro Biosolids Ctr Gas Detection Syst Replacement	Design	$3,049,000	$83,902	$384,411	$2,580,687	2.75%	5/1/2020	TBD	4/12/2022		TBD	11/28/2023	
B19066	SBWRP Variable Frequency Drive Repl	Bid / Award	$955,500	$165,667	$508,292	$281,541	17.34%	9/4/2018	TBD	4/2/2020		TBD	8/17/2021	
B20122	SBWRP Reverse Osmosis System	Design	$10,700,000	$76,229	$0	$10,623,771	0.71%	5/18/2020	TBD	3/30/2023		TBD	12/31/2024	
B20148	NCWRP - Chiller Replacement	Design	$1,613,600	$17,528	$0	$1,596,072	1.09%	6/15/2020	TBD	9/30/2021		TBD	10/31/2022	

ATTACHMENT 8

PURE WATER

PROGRAM UPDATE

Pure Water San Diego

PURE WATER PHASE 1 NORTH CITY ESTIMATED CONTRACTOR PROCUREMENT & CONSTRUCTION SCHEDULE

Project/Construction Package	Anticipated Bid/Advertisement Date	Bid Opening	Anticipated Construction Contractor NTP	Construction Finish (Substantial Completion)
Early Sitework and Ozone/BAC Relocation and NCPWF Clearing & Grubbing	Oct-18	Dec-18	May-19	Mar-21
NC Pure Water Facility & NC Pure Water Pump Station	Aug-20	Oct-20	Mar-21	Jan-25
Morena Northern Pipeline & Tunnels	Aug-20	Oct-20	Apr-21	May-24
Morena Pump Station	Oct-20	Jan-21	Apr-21	Dec-24
NC Pure Water Pipeline and Dechlorination Facility & Subaqueous Pipeline	Nov-20	Feb-21	May-21	Jan-25
NCWRP Expansion, Influent Pump Station and Pipeline	Dec-20	Mar-21	Jun-21	Nov-24
Metro Biosolids Center Improvements	Feb-21	Apr-21	Jul-21	Nov-24
NCWRP Equalization Basin	Feb-21	May-21	Sep-21	Aug-23
Morena Southern Pipeline & Water Main Replacements	Mar-21	Jun-21	Sep-21	May-24
Morena Middle Pipeline	Jul-21	Sep-21	Dec-21	May-24
Miramar Reservoir Pump Station Improvements	Nov-21	Jan-22	May-22	Aug-24

Published 2/17/2021

ATTACHMENT 9

PURE WATER PHASE II

COSTS

Pure Water Phase 2 Alternatives Refinement

DRAFT Cost Estimating Presentation

Metro JPA Technical Advisory Committee
January 20, 2021

The City of SAN DIEGO

Agenda

- Summary of Alternatives
- Construction Cost Approach
- Draft Cost Estimates
- Preparation for Presentation to the JPA Commission

Summary of Alternatives

Alternatives include combinations of:

- CA Water Reclamation Plant
  - Point Loma WTP
  - Harbor Drive
- CA Pure Water Facility
  - Harbor Drive
  - Mission Valley
- Options With and Without:
  - Waiver / Secondary Equivalency
  - Padre Dam 11.5 mgd ECAWP part of a "regional" 83 mgd solution
  - Brine / Treated Centrate Bypass PLWTP directly to Point Loma Ocean Outfall

Summary of Alternatives

Alt	Secondary Equiv	Brine/Treated Centrate Bypass	Regional Purified Water Production	CAWRP/CAPWF Combined at Harbor Dr	Phase 2 Pure Water Production (mgd)
1A	✓				53
1B					53
1C	✓	✓			53
1D		✓			53
1E	✓		✓		41.5
1F*		✓	✓		41.5
1G	✓		✓	✓	41.5
1H*		✓	✓	✓	41.5
3A	✓	✓			53
3B		✓			53
3C	✓	✓	✓		41.5
3D		✓	✓		41.5

Alt 1x – CAWRP at Harbor Drive; Alt 3x – CAWRP at PLWTP

*Revising Alt 1F and Alt 1H to remove B/C Bypass

Peak Treatment Capacity at PLWTP for Phase 2 Pure Water Alternatives

Alt	Secondary Equiv	Brine/Treated Centrate Bypass	Regional Purified Water Production	CAWRP/CAPWF Combined at Harbor Dr	Phase 2 Pure Water Production (mgd)	Peak Treatment Capacity Provided at the PLWTP (mgd)
1A	✓				53	432
1B					53	285
1C	✓	✓			53	432
1D		✓			53	263
1E	✓		✓		41.5	432
1F		✓	✓		41.5	277
1G	✓		✓	✓	41.5	432
1H		✓	✓	✓	41.5	277
3A	✓	✓			53	324
3B		✓			53	327
3C	✓	✓	✓		41.5	324
3D		✓	✓		41.5	327

Alt 1x – CAWRP at Harbor Drive; Alt 3x – CAWRP at PLWTP

Construction Cost Approach

Cost Approach Methodology

Assumptions
- Flow and Load Projections
- Collection Systems

References
- Cost Estimating Tool
- Quantity Take-Offs
- Vendor Quotes
- Equipment Costs from Previous Projects
- BC Cost Estimating Warehouse
- Bid Summaries
- O&M Data

Summary Tables
- Capital Cost
- O&M Cost
- Net Present Value

Construction Cost Estimates

- Treatment and Conveyance Facilities
- Class 5 Conceptual Planning Level Estimate
- Anticipated Accuracy Range -50% to +100%
- 40% Contingency
- 2020 Construction and Delivery Costs
- Does Not Include:
  - *Escalation to midpoint of construction*
  - *Hazardous materials remediations and/or disposal*
  - *Impacts from COVID-19*
  - *Rock excavation*
  - *Permitting/coordination efforts with Navy at PLWTP*

Treatment Construction Costs

- **"Bottom Up" Estimates**
  - *Site Work, Demolition, Excavations, Retaining Walls*
  - *Buildings $/SF*
- **Lump Sump Allowances**
  - *Mob / Demob, Landscaping, BMPs*
  - *Site Constraints, Geotechnical*
- **Equipment Costs by Treatment Process**
- **Compared to $/mgd Treatment Plant Bids and Engineer's Estimates**

PLWTP Rehabilitation Costs

- **Alternative 1 options with Secondary Equivalency include:**
  - *$125.0M Primary Sedimentation Basins 1 – 6 Replacement*
  - *$41.4M Primary Sedimentation Basins 7 -12 Resurfacing*
- **PSB Replacement/Resurfacing Costs consider:**
  - *PSBs 1-6: Complete replacement, including odor control and mechanical / electrical / instrumentation*
  - *PSBs 7-12: Concrete resurfacing / relining; does not include odor control and mechanical / electrical / instrumentation replacement*

Site-specific Stabilization Measures

- **Harbor Drive**
  - *Geotech Improvements due to groundwater and existing geology*
  - *Promenade*
  - *Excludes Treatment for Sea Level Rise (SLR)*
    - Need regional solution to SLR
    - Common to all alternatives
    - Consider in qualitative evaluation
- **Mission Valley**
  - *Geotech Improvements due to groundwater and existing geology*
  - *Retaining wall*
  - *Promenade*

Site-specific Stabilization Measures (cont.)

- **Point Loma**
  - *Soil import/export*
  - *Filling of voids, sea caves*
  - *Retaining wall*
  - *Sheeting and shoring to preserve existing structures during construction*
  - *Excludes sea wall improvements*
    - **Common to all alternatives; needed regardless of which alternative is selected**
    - **Consider in qualitative evaluation**

Conveyance Construction Costs

- **Tunnels**
  - *"Bottom Up" Estimates for Major Tunnels*
  - *$/inch-diameter casing/linear foot for Trenchless Crossings*
- **Open Trench Pipelines - $/inch diameter/linear foot**
- **Pump Stations - $/HP**
- **Validated Costs Against Recent North City Bids**

Draft Cost Estimates

Summary of Alternatives

Alt	Secondary Equiv	Brine/Treated Centrate Bypass	Regional Purified Water Production	CAWRP/CAPWF Combined at Harbor Dr	Phase 2 Pure Water Production (mgd)
1A	✓				53
1B					53
1C	✓	✓			53
1D		✓			53
1E	✓		✓		41.5
1F*		✓	✓		41.5
1G	✓		✓	✓	41.5
1H*		✓	✓	✓	41.5
3A	✓	✓			53
3B		✓			53
3C	✓	✓	✓		41.5
3D		✓	✓		41.5

Alt 1x – CAWRP at Harbor Drive; Alt 3x – CAWRP at PLWTP

*Alts 1F and 1H will be revised to remove B/C Bypass

Additional Cost for Brine/Treated Centrate Bypass

Alternative	Capital Cost	Pure Water Production	Secondary Equivalency	Brine/Treated Centrate Bypass
1A	$3.50 B	53 mgd	✓	
1B	$3.92 B	53 mgd		
1C	$3.99 B	53 mgd	✓	✓
1D	$4.52 B	53 mgd		✓
1E	$3.22 B	41.5 mgd	✓	
1F	$4.36B	41.5 mgd		✓
1G	$3.00 B	41.5 mgd	✓	
1H	$4.00 B	41.5 mgd		✓

Centrate Treatment and Brine/Centrate Bypass Adds ~$0.5B Capital Costs

Costs include treatment and conveyance

Brine/Centrate Bypass to PLOO

- **For Alternative 1 scenarios, centrate treatment and brine/centrate bypass line:**
  - ***Does not reduce water reclamation plant bioreactor volumes***
    - **Flow to Harbor Drive can be accessed upstream of brine/centrate confluence**
  - ***Contribution can be treated effectively to achieve 30/30 secondary effluent with existing CEPT facilities at Point Loma***
  - ***Adds significant cost***
- **Alternatives 1C and 1D do not merit further investigation**
- **Brine/centrate bypass for 1F and 1H do not merit further investigation**
- **Brine/centrate bypass to PLOO is required only for Alternative 3 scenarios**
  - ***Water reclamation plant basin size is significantly increased without bypass***

Updated Summary of Alternatives

Alt	Secondary Equiv	Centrate Treatment (B/C Bypass)	Regional Purified Water Production	CAWRP/CAPWF Combined at Harbor Dr	Phase 2 Pure Water Production (mgd)
1A	✓				53
1B					53
1C	✓	✓			53
1D		✓			53
1E	✓		✓		41.5
1F*			✓		41.5
1G	✓		✓	✓	41.5
1H*			✓	✓	41.5
3A	✓	✓			53
3B		✓			53
3C	✓	✓	✓		41.5
3D		✓	✓		41.5

Alt 1x – CAWRP at Harbor Drive; Alt 3x – CAWRP at PLWTP

*Revised Alt 1F and Alt 1H to remove B/C Bypass

Expandability from 41.5 mgd to 53 mgd

Alternative	Capital Cost	Pure Water Production	Secondary Equivalency
1A	$3.50 B	53 mgd	✓
1B	$3.92 B	53 mgd	
1E	$3.22 B	41.5 mgd	✓
1F	$3.70 B	41.5 mgd	
1G*	$3.00 B	41.5 mgd	✓
1H*	$3.47 B	41.5 mgd	

*Not expandable to 53 mgd

Costs include treatment and conveyance

- City is considering 41.5 mgd and 53 mgd alternatives
- Alternatives 1G and 1H with CAWRP and CAPWF co-located at Harbor Drive are extremely constrained
- Alternatives that restrict ability to expand to 53 mgd will not be considered
- Alternatives 1G and 1H do not merit further investigation

Updated Summary of Alternatives

Alt	Secondary Equiv	Brine/Treated Centrate Bypass	Regional Purified Water Production	CAWRP/CAPWF Combined at Harbor Dr	Phase 2 Pure Water Production (mgd)
1A	✓				53
1B					53
1C	✓	✓			53
1D		✓			53
1E	✓		✓		41.5
1F*			✓		41.5
1G	✓		✓	✓	41.5
1H*			✓	✓	41.5
3A	✓	✓			53
3B		✓			53
3C	✓	✓	✓		41.5
3D		✓	✓		41.5

Alt 1x – CAWRP at Harbor Drive; Alt 3x – CAWRP at PLWTP

*Revised Alt 1F to remove B/C Bypass

53 mgd Alternative Capital Cost Comparison

Alternative	Capital Cost	Pure Water Production	Secondary Equivalency	Brine/Treated Centrate Bypass	Description
1A	$3.50 B	53 mgd	✓		CEPT/MBR CAWRP at Harbor Drive
1B	$3.92 B	53 mgd			CEPT/MBR CAWRP at Harbor Drive; CEPT/BAF at PLWTP
3A	$4.05 B	53 mgd	✓	✓	Densadeg/MBR CAWRP at PLWTP
3B	$4.25 B	53 mgd		✓	Densadeg/MBR CAWRP at PLWTP; BAF for remaining secondary

Costs include treatment and conveyance

41.5 mgd Alternative Capital Cost Comparison

Alternative	Capital Cost	Pure Water Production	Secondary Equivalency	Brine/Treated Centrate Bypass	Description
1E	$3.22 B	41.5 mgd	✓		CEPT/MBR CAWRP at Harbor Drive
1F*	$3.70 B	41.5 mgd			CEPT/MBR CAWRP at Harbor Drive; Densadeg/BAF at PLWTP
3C	$3.81 B	41.5 mgd	✓	✓	Densadeg/MBR CAWRP at PLWTP
3D	$4.08 B	41.5 mgd		✓	Densadeg/MBR CAWRP at PLWTP; BAF for remaining secondary

*Does not include brine/centrate bypass

Costs include treatment and conveyance

53 mgd Alternative O&M Cost Comparison

Alternative	O&M Cost	Pure Water Production	Secondary Equivalency	Brine/Centrate Bypass	Description
1A	$115.9 M	53 mgd	✓		CEPT/MBR CAWRP at Harbor Drive
1B	$123.3 M	53 mgd			CEPT/MBR CAWRP at Harbor Drive; CEPT/BAF at PLWTP
3A	$123.0 M	53 mgd	✓	✓	Densadeg/MBR CAWRP at PLWTP
3B	$127.5 M	53 mgd		✓	Densadeg/MBR CAWRP at PLWTP; BAF for remaining secondary

Costs include treatment and conveyance

41.5 mgd Alternative O&M Cost Comparison

Alternative	O&M Cost	Pure Water Production	Secondary Equivalency	Brine/Centrate Bypass	Description
1E	$93.5 M	41.5 mgd	✓		CEPT/MBR CAWRP at Harbor Drive
1F*	$101.9 M	41.5 mgd			CEPT/MBR CAWRP at Harbor Drive; Densadeg/BAF at PLWTP
3C	$105.0 M	41.5 mgd	✓	✓	Densadeg/MBR CAWRP at PLWTP
3D	$109.0 M	41.5 mgd		✓	Densadeg/MBR CAWRP at PLWTP; BAF for remaining secondary

*Does not include brine/centrate bypass

Costs include treatment and conveyance

Findings

- **Brine/centrate bypass does not add value for the Alternative 1 scenarios**
- **Alternative 1 scenarios have lower capital and O&M costs than corresponding Alternative 3 scenarios**
- **Construction at the PLWTP will be severely challenged**
  - ***Site constraints***
  - ***Construction access***
  - ***Geotechnical stability***

Findings

- City is considering 41.5 mgd and 53 mgd Alternatives
- Constructing WRP and PWF facilities for 41.5 mgd on Harbor Drive site limits flexibility for future expansion
- Alternatives that do not merit further investigation:
  - *Alternatives 1C and 1D - Alternative 1 options with B/C Bypass*
  - *Alternatives 1G and 1H – not expandable to 53 mgd*

Alternatives Cost Estimate Summary

Alternative	Capital Cost	O&M Cost	Pure Water Production	Secondary Equivalency	B/C Bypass	CAWRP Description
1A	$3.50 B	$115.9 M	53 mgd	✓		CEPT/MBR CAWRP at Harbor Drive
1B	$3.92 B	$123.3 M	53 mgd			CEPT/MBR CAWRP at Harbor Drive
1E	$3.22 B	$93.5 M	41.5 mgd	✓		CEPT/MBR CAWRP at Harbor Drive
1F	$3.70 B	$101.9 M	41.5 mgd			Densadeg/Clarifiers/Filters CAWRP at Harbor Dr
3A	$4.05 B	$123.0 M	53 mgd	✓	✓	Densadeg/MBR CAWRP at PLWTP
3B	$4.25 B	$127.5 M	53 mgd		✓	Densadeg/MBR CAWRP at PLWTP
3C	$3.81 B	$105.0 M	41.5 mgd	✓	✓	Densadeg/MBR CAWRP at PLWTP
3D	$4.08 B	$109.0 M	41.5 mgd		✓	Densadeg/MBR CAWRP at PLWTP

Preparation for JPA Meetings

Timing for JPA Meetings

- **Metro TAC Meeting - *January 20 (today)***
- **Metro TAC Meeting (second review of costs) - *February 17***
- **Metro Commission Meeting - *March 4***

ATTACHMENT 10

PURE WATER PHASE II ALTERNATIVES REFINEMENT

Pure Water Phase 2 Alternatives Refinement

DRAFT Qualitative Matrix Presentation

Metro JPA Technical Advisory Committee
February 17, 2021

The City of SAN DIEGO

Agenda

- Summary of Alternatives
- Proposed Evaluation Criteria
- Draft Evaluation Matrix
- Next Steps

Summary of Alternatives

Alternatives include combinations of:

- CA Water Reclamation Plant
  - Point Loma WTP
  - Harbor Drive
- CA Pure Water Facility
  - Harbor Drive
  - Mission Valley
- Options With and Without:
  - Waiver / Secondary Equivalency
  - Padre Dam 11.5 mgd ECAWP part of a “regional” 83 mgd solution
  - Brine / Treated Centrate Bypass PLWTP directly to Point Loma Ocean Outfall

Summary of Alternatives

Alt	Secondary Equiv	Centrate Treatment (B/C Bypass)	Regional Purified Water Production	CAWRP/CAPWF Combined at Harbor Dr	Phase 2 Pure Water Production (mgd)
1A	✓				53
1B					53
*1C	✓	✓			53
*1D		✓			53
1E	✓		✓		41.5
*1F		✓	✓		41.5
1F’			✓		41.5
*1G	✓		✓	✓	41.5
*1H		✓	✓	✓	41.5
3A	✓	✓			53
3B		✓			53
3C	✓	✓	✓		41.5
3D		✓	✓		41.5

Alt 1x – CAWRP at Harbor Drive; Alt 3x – CAWRP at PLWTP

*Alternatives being eliminated from further consideration

Findings

- Brine / Centrate Bypass does not add value for the Alternative 1 scenarios
- Alternatives 1G and 1H with CAWRP and CAPWF co-located at Harbor Drive are extremely constrained and not expandable
- Alternatives that restrict ability to expand to 53 mgd will not be considered
- Alternatives that do not merit further investigation:
  - *Alternatives 1C, 1D, and 1F – Alternative 1 options with B/C Bypass*
  - *Alternatives 1G and 1H – not expandable to 53 mgd*

Evaluation Criteria

Proposed Evaluation Criteria

- Green – Yellow – Red Scoring
  - *Draft Evaluation Matrix created using numeric scoring*
- 10 Evaluation Criteria with Equal 10% Weighting
- Evaluation Matrices Prepared With and Without Cost
  - *After review, suggest evaluation matrix without cost rating*
  - *Estimated costs shown at bottom of matrix for alternative comparison*

Proposed Evaluation Criteria

No.	Criterion	Objective
1	Health and Safety	To protect human health and safety by reducing exposure to untreated or partially treated wastewater
2	Community Impacts	To minimize disruption to the community
3	Environmental Impacts	To avoid or minimize environmental impacts and greenhouse gas emissions
4	Operational Reliability	To maximize ability of facilities to comply with regulatory standards and provide failsafe
5	Ability to Implement	To optimize ability to implement, meet schedule, and acceptability to public, political and outside agencies
6	Constructability	To mitigate construction complexity
7	Property and Easement Acquisition	To minimize the need for property and easement acquisitions
8	System Operability	To provide an accessible and operator friendly system
9	System Simplicity	To simplify and streamline treatment systems
10	System Efficiency	To maximize the use of constructed facilities, avoid retreatment, and allow for future expansion

Initial Ratings Rationale

No.	Criterion	Deductions
1	Health and Safety	sludge force main undisinfected (tertiary treated) recycled water line
2	Community Impacts	CAWRP at Harbor Drive site (views, odor, traffic concerns) multiple open trench pipelines construction through Point Loma majority open trench through Midway/Old Town additional centrate pipeline corridor (MBC to Morena area)
3	Environmental Impacts	PLWTP hillside impact impact to Point Loma viewshed* Impact to environmentally sensitive/ecological area developing Mission Valley site CAPWF Secondary Treatment higher power demand Centrate Treatment higher power demand

Deductions are 1 point, except 2 points deducted where noted*

Initial Ratings Rationale

No.	Criterion	Deductions
4	Operational Reliability	including treated flows outside City system* significant reduction in PLWTP peak wet weather flow capacity (or need for extensive flow equalization or permit modification) using existing infrastructure for CAWRP failsafe (overflow at PS2) using existing infrastructure for CAPWF failsafe (overflow at Mission Valley)
5	Ability to Implement	not meeting 2035 delivery schedule CAWRP at Harbor Drive site (ability to permit and public acceptability) Sea Level Rise issues at Harbor Drive plant site
6	Constructability	constructing major modifications at active PLWTP site construction modifications at constrained and active MBC site constructing on very constrained plant site constructing pipelines adjacent to existing Point Loma tunnel

Deductions are 1 point, except 2 points deducted where noted*

Initial Ratings Rationale

No.	Criterion	Deductions
7	Property and Easement Acquisition	federal temporary construction easement acquisitions at Point Loma* additional centrate pipeline corridor easements (MBC to Morena)
8	System Operability	constrained treatment process layouts extended tunnel or deep pipeline reaches
9	System Simplicity	separate treatment trains at PLWTP new centrate treatment
10	System Efficiency	demolition of major PLWTP facilities new CAWRP site separate site for CAPWF returning brine/untreated centrate to PLWTP not expandable for 53 mgd purified water production

Deductions are 1 point, except 2 points deducted where noted*

Draft Evaluation Matrix

Evaluation Matrix

Number	Criterion	Weight	Alternatives Rating and Score							
			With Waiver / Secondary Equivalency				Without Waiver / Secondary Equivalency			
			Alternative 1 – CAWRP at Harbor Drive		Alternative 3 – CAWRP at PLWTP		Alternative 1 – CAWRP at Harbor Drive		Alternative 3 – CAWRP at PLWTP	
			1A (53 mgd)	1E (41.5 mgd)	3A (53 mgd)	3C (41.5 mgd)	1B (53 mgd)	1F' (41.5 mgd)	3B (53 mgd)	3D (41.5 mgd)
1	Health and Safety	10								
2	Community Impacts	10								
3	Environmental Impacts	10								
4	Operational Reliability	10								
5	Ability to Implement	10								
6	Constructability	10								
7	Property and Easement Acquisition	10								
8	System Operability	10								
9	System Simplicity	10								
10	System Efficiency	10								
	Total Score	**100**								
Ranking (Separated by With and Without Waiver)			**1 (370)**	**2 (350)**	**3 (280)**	**4 (260)**	**1 (310)**	**2 (270)**	**3 (250)**	**4 (230)**
Estimated Capital Cost ($B)			**$3.50**	**$3.22**	**$4.05**	**$3.81**	**$3.92**	**$3.70**	**$4.25**	**$4.08**
Estimated Annual O&M Cost ($M)			**$115.90**	**$93.50**	**$123.00**	**$105.00**	**$123.30**	**$101.90**	**$127.50**	**$109.00**
Estimated NPV ($B)			**$7.44**	**$6.47**	**$8.30**	**$7.50**	**$8.14**	**$7.28**	**$8.67**	**$7.93**

Alternatives With Waiver / Secondary Equivalency

Number	Criterion	Weight	Alternatives Rating and Score							
			With Waiver / Secondary Equivalency				Without Waiver / Secondary Equivalency			
			Alternative 1 – CAWRP at Harbor Drive		Alternative 3 – CAWRP at PLWTP		Alternative 1 – CAWRP at Harbor Drive		Alternative 3 – CAWRP at PLWTP	
			1A (53 mgd)	1E (41.5 mgd)	3A (53 mgd)	3C (41.5 mgd)	1B	1F'	3B	3D
1	Health and Safety	10								
2	Community Impacts	10								
3	Environmental Impacts	10								
4	Operational Reliability	10								
5	Ability to Implement	10								
6	Constructability	10								
7	Property and Easement Acquisition	10								
8	System Operability	10								
9	System Simplicity	10								
10	System Efficiency	10								
	Total Score	**100**								
Ranking (Separated by With and Without Waiver)			**1 (370)**	**2 (350)**	**3 (280)**	**4 (260)**	1	2	3	4
Estimated Capital Cost ($B)			**$3.50**	**$3.22**	**$4.05**	**$3.81**	$3.92	$3.70	$4.25	$4.08
Estimated Annual O&M Cost ($M)			**$115.90**	**$93.50**	**$123.00**	**$105.00**	$123.30	$101.90	$127.50	$109.00
Estimated NPV ($B)			**$7.44**	**$6.47**	**$8.30**	**$7.50**	$8.14	$7.28	$8.67	$7.93

Alternatives Without Waiver / Secondary Equivalency

Number	Criterion	Weight	Alternatives Rating and Score							
			With Waiver / Secondary Equivalency				Without Waiver / Secondary Equivalency			
			Alternative 1 – CAWRP at Harbor Drive		Alternative 3 – CAWRP at PLWTP		Alternative 1 – CAWRP at Harbor Drive		Alternative 3 – CAWRP at PLWTP	
			1A	1E	3A	3C	1B (53 mgd)	1F' (41.5 mgd)	3B (53 mgd)	3D (41.5 mgd)
1	Health and Safety	10								
2	Community Impacts	10								
3	Environmental Impacts	10								
4	Operational Reliability	10								
5	Ability to Implement	10								
6	Constructability	10								
7	Property and Easement Acquisition	10								
8	System Operability	10								
9	System Simplicity	10								
10	System Efficiency	10								
	Total Score	**100**								
Ranking (Separated by With and Without Waiver)			1	2	3	4	**1 (310)**	**2 (270)**	**3 (250)**	**4 (230)**
Estimated Capital Cost ($B)			$3.50	$3.22	$4.05	$3.81	**$3.92**	**$3.70**	**$4.25**	**$4.08**
Estimated Annual O&M Cost ($M)			$115.90	$93.50	$123.00	$105.00	**$123.30**	**$101.90**	**$127.50**	**$109.00**
Estimated NPV ($B)			$7.44	$6.47	$8.30	$7.50	**$8.14**	**$7.28**	**$8.67**	**$7.93**

Next Steps

Next Steps

- February 17 - Metro TAC
  - *Cost Follow-up Questions*
  - *Evaluation Matrix Presentation*
- March 4 - Metro Commission
  - *Cost and Qualitative Presentation*
- March 17 - Metro TAC
  - *Acceptance of Ranking*
- April 1 - Metro Commission
  - *Final Acceptance of Ranking*

ATTACHMENT 11A

CITY OF SAN DIEGO

PUBLIC UTILITIES

DEPT. FY 2022-26

FIVE YEAR FINANCIAL

OUTLOOK

The City of SAN DIEGO

PUBLIC UTILITIES DEPARTMENT
FISCAL YEAR 2022-2026
FIVE-YEAR FINANCIAL OUTLOOK

Shauna Lorance
Director

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NOVEMBER 2020

Disclaimer:
The PUD Five-Year Financial Outlook is intended for use by the City Council and the citizens of the City and is not intended as information to reach investors and the trading markets. The City files its disclosure documents, including official statements, audited financial statements, comprehensive annual financial reports, annual financial information, material event notices, and voluntary disclosures with the Municipal Securities Rule Making Board's Electronic Municipal Market Access ("EMMA") system. The PUD Five-Year Financial Outlook is not filed on EMMA and investors should not rely upon the PUD Five-Year Financial Outlook to make any investment decisions. Readers are cautioned that the numbers presented in this document are the City's best estimate for the next five years based on facts and factors currently known to the City and do not represent actual performance. Estimates and related forward-looking statements involve, and are subject to known and unknown risks, uncertainties and other factors which could cause the City's actual results, performance (financial or operating) or achievements to differ materially from the future results, performance (financial or operating) or achievements expressed or implied by such forward-looking statements. All estimates and forward-looking statements herein are expressly qualified in their entirety by the abovementioned cautionary statement. The City disclaims any obligation to update forward-looking statements contained in this document.

The City of SAN DIEGO

TABLE OF CONTENTS

MISSION STATEMENT

To provide reliable water utility services that protect the health of our communities and the environment

VISION STATEMENT

A world-class water utility for a world-class city

EXECUTIVE SUMMARY

The Public Utilities Department (PUD or Department) Fiscal Year 2022-2026 Five-Year Financial Outlook (PUD Outlook or Outlook) is provided to guide long-range planning and serve as the framework for the development of the Fiscal Year (FY) 2022 Proposed Budget for the Water and Sewer Funds. The purpose of this report is to provide an overview of the Public Utilities Department's long-range needs and to guide programmatic decisions.

The PUD Outlook focuses on the overall fiscal condition of the Water and Wastewater Systems, and assesses impacts to system revenues and expenditures from regional water and wastewater demands. It also explores a funding strategy to finance major capital investments in Water and Wastewater System infrastructure and the Pure Water Program construction. The PUD Outlook quantifies new costs that are critical to accomplishing PUD's strategic goals over the next five-year period. These goals include:

Goal 1: Water Supply/Environmental Stewardship

- Water supply and conservation
- Carbon footprint and energy management

Goal 2: Organization Excellence

- Rate structure optimization
- Safety
- Training and development
- Culture of Accountability

Goal 3: Community Engagement

- Stakeholder understanding and support
- Customer service strategies

Goal 4: Infrastructure Management

- Asset management
- Infrastructure investment

The PUD Outlook is not a budget, and projected revenues and expenditures in any given year of the PUD Outlook may not correspond exactly to those in future Proposed Budgets. Nevertheless, the PUD Outlook can serve as a planning tool to assist in budget decisions and the allocation of resources to meet PUD's strategic goals that are critical to providing the community with a high quality and reliable water supply. The PUD Outlook also provides the City Council, key stakeholders, and the public with information in advance of the budget meetings to facilitate an informed discussion during the development of the FY 2022 Budget.

As enterprise funds, the Water and Wastewater Funds differ from the General Fund in that their services are supported with revenue derived from rates. These rates are determined through a process prescribed by state law, which requires a cost of service analysis and Council approval of any rate adjustments at a public hearing. The period covered by the PUD Outlook overlaps with the periods that are anticipated to be covered by the Department's future cost of service studies. The PUD Outlook identifies the overall system needs, whereas the Cost of Service analysis allocates those needs to establish applicable rate recovery by the different user classes.

SUMMARY OF KEY FINANCIAL DATA

This section presents a summary of the PUD Outlook, and the overall financial condition of the Water and Wastewater Systems. Tables 1.1 and 1.3 summarize revenues projected to support operations, Capital Improvement Program (CIP) related expenditures, and key financial metrics for the Water and Wastewater Systems, respectively. Further detail on CIP expenses and sources of funds for those expenses is also provided.

Additional detail on each line-item in these summaries can be found in the corresponding sections of this report. Baseline operating expenditures are those expenditures that are sufficient to allow PUD to continue providing its existing level of service without expanding any operational programs. Critical operating expenditures are those associated with expanded operations for PUD; a significant portion of these critical operating expenditures are associated with Phase 1 of the Pure Water Program coming online. CIP expenditure projections are also detailed in Tables 1.2 and 1.4 and are split into Pure Water CIP expenditures, which are associated with the City's Pure Water Program, and Baseline CIP expenditures, which consist of capital expenditures on all non-Pure Water related capital improvements. Revenue projections include revenue that will be required to appropriately cover operating expenses, CIP expenses, and to meet financial metrics necessary to operate the systems.

Water and Wastewater Systems

Overall, the PUD Outlook for both the Water and Wastewater Systems forecasts baseline operating expenditures to grow modestly over the next five years, but increases in critical operating expenditures are expected as PUD begins operations and maintenance of Phase 1 of the Pure Water Program. Conversely, CIP expenditures peak in FY 2022 and then gradually decrease through FY 2026, as construction of Phase 1 of the Pure Water Program nears completion.

For the Water System, water purchase expenses in FY 2025 and FY 2026 are projected to decline due to the additional local supply of water produced from Phase 1 of Pure Water coming online.

Revenues for both the Water and Wastewater Systems are projected to increase moderately over the next five years, primarily due to increased rates in order to support the operations as forecasted in FYs 2022 through 2026. The PUD Outlook also anticipates the transfer of funds to and from the Rate Stabilization Fund for each system to mitigate potential fluctuations in rates in FYs 2022 through 2026.

PUD continues to project the use of financing to fund the CIP, including the Pure Water Program, as illustrated in Tables 1.2 and 1.4.

Table 1.1 - Water System Fiscal Year 2022-2026 Financial Outlook Summary of Operating & Maintenance Key Financial Data ($ in Millions)					
	Fiscal Year 2022	Fiscal Year 2023	Fiscal Year 2024	Fiscal Year 2025	Fiscal Year 2026
Water Sales	$594.8	$623.2	$652.3	$689.0	$725.6
Capacity Charges	$14.4	$14.4	$14.4	$14.4	$14.4
Revenue from Use of Property	$6.1	$6.1	$6.1	$6.1	$6.1
Other Revenue	$24.1	$20.5	$21.1	$22.8	$23.7
TOTAL SYSTEM REVENUES	**$639.4**	**$664.2**	**$693.9**	**$732.3**	**$769.9**
Salaries & Wages	$45.9	$45.9	$45.9	$45.9	$45.9
Fringe Benefits	$35.0	$35.0	$35.0	$35.0	$35.0
Water Purchases	$271.6	$285.5	$300.1	$292.9	$284.5
Other Non-Personnel Expenditures	$122.8	$125.5	$127.9	$130.3	$132.8
BASELINE OPERATING EXPENDITURES	**$475.3**	**$491.9**	**$508.8**	**$504.1**	**$498.2**
CRITICAL OPERATING EXPENDITURES	**$13.7**	**$17.9**	**$17.5**	**$23.7**	**$37.7**
Contribution to Capital Improvement Program	$105.8	$29.1	$23.0	$20.5	$15.8
Debt Service	$112.3	$112.6	$118.5	$145.3	$149.6
(Use of) / Contributions to Reserves	($14.0)	($13.0)	($8.8)	($8.3)	$8.2
NON-OPERATING EXPENDITURES	**$204.0**	**$128.7**	**$132.7**	**$157.5**	**$173.6**
TOTAL EXPENDITURES	**$693.0**	**$638.6**	**$659.0**	**$685.4**	**$709.5**
Impact to Unallocated Fund Balance	**($53.6)**	**$25.6**	**$34.9**	**$46.9**	**$60.4**
Debt Service Coverage Ratio	**1.48 x**	**1.51 x**	**1.51 x**	**1.48 x**	**1.54 x**

Table 1.2 - Water System Fiscal Year 2022-2026 Financial Outlook Summary of Capital Improvement Program Key Financial Data ($ in Millions)					
	Fiscal Year 2022	Fiscal Year 2023	Fiscal Year 2024	Fiscal Year 2025	Fiscal Year 2026
Baseline CIP	$303.3	$204.6	$176.1	$119.5	$127.2
Pure Water CIP	$193.1	$225.7	$174.2	$96.1	$23.9
TOTAL CIP EXPENDITURES	**$496.4**	**$430.3**	**$350.4**	**$215.6**	**$151.1**
SOURCES OF FUNDS					
Commercial Paper / Revenue Bonds	$129.1	$95.0	$95.0	$156.0	$105.0
State Revolving Fund Loans	$68.0	$91.1	$69.8	$39.0	$30.3
WIFIA Loan	$191.3	$215.1	$162.6	$0.0	$0.0
Grants	$2.2	$0.0	$0.0	$0.0	$0.0
Capacity Fees / Cash	$105.8	$29.1	$23.0	$20.5	$15.8
FINANCING SOURCES	**$496.4**	**$430.3**	**$350.4**	**$215.6**	**$151.1**

Table 1.3 - Wastewater System Fiscal Year 2022-2026 Financial Outlook Summary of Operating & Maintenance Key Financial Data ($ in Millions)	Fiscal Year 2022	Fiscal Year 2023	Fiscal Year 2024	Fiscal Year 2025	Fiscal Year 2026
Sewer Service Charges	$302.9	$315.8	$329.2	$339.9	$351.0
Capacity Charges	$17.5	$17.5	$17.5	$17.5	$17.5
Grants	$0.3	$0.0	$0.0	$0.0	$0.0
Other Revenue	$100.1	$99.9	$99.8	$105.1	$105.3
TOTAL SYSTEM REVENUES	**$420.8**	**$433.2**	**$446.5**	**$462.5**	**$473.8**
Salaries & Wages	$58.1	$58.1	$58.1	$58.1	$58.1
Fringe Benefits	$41.7	$41.7	$41.7	$41.7	$41.7
Other Non-Personnel Expenditures	$162.7	$166.0	$169.1	$172.3	$175.6
BASELINE EXPENDITURES	**$262.5**	**$265.8**	**$268.9**	**$272.1**	**$275.4**
CRITICAL OPERATING EXPENDITURES	**$12.2**	**$14.2**	**$13.9**	**$15.0**	**$23.8**
Contributions to Capital Improvement Program	$2.4	$77.1	$55.1	$75.6	$65.8
Debt Service	$109.3	$118.1	$103.4	$105.5	$111.0
(Use of) / Contributions to Reserves	($15.6)	($21.5)	$5.5	$8.3	$2.3
NON-OPERATING EXPENDITURES	**$96.2**	**$173.8**	**$164.0**	**$189.4**	**$179.1**
TOTAL EXPENDITURES	**$370.8**	**$453.8**	**$446.8**	**$476.5**	**$478.2**
Impact to Unallocated Fund Balance	**$49.9**	**($20.6)**	**($0.3)**	**($14.0)**	**($4.4)**
Debt Service Coverage Ratio	**1.48 x**	**1.48 x**	**1.53 x**	**1.59 x**	**1.55 x**

Table 1.4 - Wastewater System Fiscal Year 2022-2026 Financial Outlook Summary of Capital Improvement Program Key Financial Data ($ in Millions)	Fiscal Year 2022	Fiscal Year 2023	Fiscal Year 2024	Fiscal Year 2025	Fiscal Year 2026
Baseline CIP	$197.6	$148.2	$166.7	$143.1	$123.1
Pure Water CIP	$157.4	$189.0	$109.2	$43.4	$10.1
TOTAL CIP EXPENDITURES	**$355.1**	**$337.1**	**$275.9**	**$186.5**	**$133.2**
SOURCES OF FUNDS					
Revenue Bonds	$150.0	$80.0	$60.0	$0.0	$0.0
State Revolving Fund Loans	$202.3	$180.0	$160.8	$110.9	$67.5
Grants	$0.3	$0.0	$0.0	$0.0	$0.0
Capacity Fees / Cash	$2.4	$77.1	$55.1	$75.6	$65.8
FINANCING SOURCES	**$355.1**	**$337.1**	**$275.9**	**$186.5**	**$133.2**

REPORT OUTLINE

The PUD Outlook is organized into two main sections: Water System and Wastewater System. The Water System is comprised of the Water Utility Fund and the Wastewater System is comprised of the Metropolitan and Municipal Sewer Funds, collectively known as the "Sewer Revenue Funds".

Similar to the Five-Year Financial Outlook for the General Fund, the PUD Outlook provides a brief overview of the Water and Wastewater Systems and the impacts of the Pure Water Program, as well as a discussion of projected operating and capital expenditures, projected revenues, and potential rate adjustments. However, the PUD Outlook is presented in a different order – expenditures are discussed first, followed by a discussion of revenue. This is due to the nature of rate forecasts, which are driven by the need to support operations and to achieve key financial metrics.

The Water System and Wastewater System sections of the PUD Outlook include additional details on the projections for the next five years of ongoing revenues and expenditures that were displayed in Table 1.1 – Water System Fund Fiscal Year 2022-2026 Financial Outlook, and Table 1.3 – Wastewater System Fiscal Year 2022-2026 Financial Outlook, respectively. Each section begins with a discussion of operating expenditures. 'Baseline' projections for operating expenditures represent those necessary to support current service levels provided by PUD. Expenditure projections for FY 2021 serve as the starting point for non-personnel baseline expenditures unless otherwise noted; personnel expenditure projections use the FY 2021 Adopted Budget as the starting point. As noted earlier, the PUD Outlook projections in any given year may not correspond exactly to the revenues and expenditures in future Proposed Budgets.

Critical operating expenditures are largely associated with implementing the Pure Water Program, but also include expenditures that have been preliminarily identified as necessary in meeting core water and wastewater service levels and PUD's strategic goals.[1] They are discussed within each expenditure category. In some cases, expenditures are allocated in both water and wastewater funds. For instance, the Pure Water Program is displayed in both water and wastewater sections as both systems benefit. All expenditures discussed in this report will be further refined during the budget development process for each respective fiscal year.

Projections for CIP expenditures and funding sources are also provided, with Pure Water CIP expenses and funding sources broken out from the Department's Baseline capital program which covers pumps, treatment plants, pipelines, and reservoirs, among other capital expenses.

Finally, each section includes revenue projections and a discussion of the projected water and sewer rates that are assumed in those revenue projections. Rates adjustments are determined through a process prescribed by state law, and will require a cost of service analysis and Council approval at a public hearing.

[1] Note – this presentation differs from PUD's financial disclosure documents. Critical operating expenditures in the PUD Outlook are broken out from Baseline Operating Expenditures to show programmatic additions to Department operations. Disclosure documents do not show these expenditures separately.

OVERVIEW OF THE WATER AND WASTEWATER SYSTEMS

The City of San Diego is a major metropolis and is ranked the eighth largest city by population in the United States and the second largest city in California. The City's total population is over 1.4 million. The City's climate is semiarid with cycles of multi-year droughts. Average rainfall does not provide adequate local water supplies for the City and is supplemented with water imported from outside the region.

The City's Water and Wastewater Systems are maintained and operated by the City's Public Utilities Department. The City provides water to the City of San Diego as well as to the cities of Del Mar, Coronado and Imperial Beach, primarily from two water sources: (1) local supplies, which provide on average 10 - 15% of water needs, and (2) the San Diego County Water Authority (CWA), which provides 85 - 90% of water needs. The City's Water System extends over 404 square miles, with average (FY15 – FY19) potable water deliveries of approximately 180,000 acre-feet (AF) per year vs. nearly 200,000 AF per year from the previous five-year period of FY10 – FY14. PUD's extensive raw water system includes nine reservoirs, which capture local runoff from rainfall and store purchased imported water that is sent to the City's three water treatment plants for treatment and distribution. Based on statistics provided by the San Diego Association of Governments (SANDAG), the City's population is projected to increase approximately 22% over the next 20 years. While PUD expects water conservation efforts to continue, it also expects the demand for potable water will increase consistent with population growth, depending on the variables of future weather and water conservation efforts.

The City's Wastewater System owns and operates wastewater treatment plants that serve the City as well as other agencies of other cities and districts outside San Diego City boundaries (Participating Agencies). The Wastewater System serves over 2.2 million customers by providing wastewater collection, treatment, and disposal services. The Wastewater System processes an average of approximately 150 million gallons of sewage daily via a vast network of facilities which include an extensive collection system, regional wastewater treatment plants, cogeneration plants, and a biosolids processing center. The Wastewater System is comprised of two sub-systems, the Municipal ("Muni") Sub-System and the Metropolitan ("Metro") Sub-System. The Muni Sub-System is a municipal sewage collection system for the City's residents and consists of all elements required for the collection and conveyance of wastewater generated by the service area, which currently consists of more than 275,000 accounts. The Metro Sub-System is a regional sewage treatment and disposal system that serves the City and twelve other Participating Agencies near the City. The Wastewater System covers approximately 450 square miles, including most of the City, and stretches from Del Mar and Poway to the north, Alpine and Lakeside to the east, and San Ysidro to the south. The communities and agencies served by the Wastewater System form the third largest metropolitan area in the State, surpassed only by the Los Angeles and San Francisco metropolitan areas. The Point Loma Wastewater Treatment Plant serves as a regional treatment facility handling sanitary waste from both Muni Sub System and Metro Sub System customers. Additionally, the Wastewater System operates and maintains two water reclamation plants (North City and South Bay), and a solids management facility (Metropolitan Biosolids Center).

Regional Water Supply

In any given year, the City will use local water supplies to meet 10 - 15% of demand and relies on imported water from the CWA to meet the other 85 - 90% of demand. The CWA is a wholesale water agency that provided approximately 354,000 AF of imported and desalinated water to its member agencies in Fiscal Year 2020, including 142,000 AF supplied to PUD. CWA currently acquires the majority of its water from three main sources: conserved water from the Imperial Irrigation District, water from the Metropolitan Water District (MWD), and desalinated water. MWD obtains its water from the Colorado River through the United States Bureau of Reclamation, and from northern California via the State Water Project through the California Department of Water Resources (DWR). MWD is one of 29 public water agencies that have long-term contracts for water service from DWR, and it is the largest agency in terms of the number of people it serves (approximately 19 million). The CWA is MWD's largest customer, responsible on average for 18% of MWD's annual revenues. Both CWA and MWD are developing storage and additional supplies, such as water transfers, to augment their imported water.

PUD also maintains a recycled water system that supplies a portion of the San Diego region. That system is supplied by two water reclamation plants – the North City Water Reclamation Plant (NCWRP) and South Bay Water Reclamation Plant (SBWRP). The City supplies recycled water to retail customers and to three wholesale customers: the City of Poway, the Olivenhain Municipal Water District, and the Otay Water District. Recycled water usage is seasonal and is primarily used for irrigation. Customers also use the water for dust suppression or soil compaction at construction sites, in cooling towers, ornamental fountains, and for office building toilet and urinal flushing (dual plumbing).

Participating Agencies

Pursuant to the Regional Wastewater Disposal Agreement, the Metro Sub-System provides "wholesale" treatment and disposal services, including some sewage transportation, to the cities of Chula Vista, Coronado, Del Mar, El Cajon, Imperial Beach, La Mesa, National City and Poway, the Lemon Grove Sanitation District, the Otay Water District, the Padre Dam Municipal Water District, and the County of San Diego (on behalf of Winter Gardens Sewer Maintenance District and the Alpine Lakeside and Spring Valley Sanitation Districts). These cities and districts are collectively referred to as the "Participating Agencies".

The Regional Wastewater Disposal Agreement requires the Participating Agencies to pay their respective share of planning, design, and construction of Metro Sub-System facilities, as well as costs related to the operation and maintenance of the Metro Sub-System. Since Fiscal Year 2011, these aggregate costs have consistently constituted approximately 33% of the total Metropolitan Sub-System costs. Between Fiscal Years 2016 and 2020, the Department received, on average, approximately $75 million in system revenues per fiscal year from the Participating Agencies.

Pure Water Program

Background

The Pure Water Program will provide a safe, secure, and sustainable local drinking water supply for San Diego. Advanced water purification technology will be used to produce potable water from recycled water. The City and its regional partners face significant issues with water supply and wastewater treatment. The region's reliance on imported water causes the water supply to be vulnerable to shortages and susceptible to price increases beyond the control of City.

The Pure Water Program is a 20-year (2015-2035) multi-phased water and wastewater capital improvement program that is expected, upon full implementation by the end of calendar year 2035, to create 83 million gallons per day (mgd) of locally controlled water, which will provide one-third of the City's total potable water needs. The Pure Water Program will divert treated water from the Point Loma Wastewater Treatment Plant's (PLWTP) ocean outfall and recycle a valuable and limited resource that is currently discharged to the ocean. Phase 1 of the program is expected to be online by March 2025. There is a staged ramp-up in flow and the production is expected to be 30 mgd by the end of Calendar Year (CY) 2025. This will allow the City to reduce the amount of water purchased in FY 2025 and beyond.

In 2010, the City received a renewal of the Modified Permit for the PLWTP and agreed to identify opportunities to maximize recycling wastewater for potable and non-potable uses. That permit expired in July 2015 and was administratively continued while the regulatory agencies completed work on the renewal application. In 2017 the Environmental Protection Agency (EPA), in conjunction with the California Regional Water Quality Control Board (RWQCB), renewed the Modified Permit (5th Renewal) and a waiver from secondary treatment standards for another five years. The permit took effect October 1, 2017 and expires on September 30, 2022. The 5th Renewal was based on compliance with Clean Water Act requirements, progress of the Pure Water Program, and a reduction in permitted emissions from the previous permit level. The Pure Water Program is designed to reduce discharge into the ocean from PLWTP while providing a new local source of potable water for the City. It is anticipated that continuation of the Pure Water Program will be reflected in future permits, which will eliminate the need for the City to make over $1.8 billion in upgrades to the PLWTP that would otherwise be necessary.

Phase 1 of the Pure Water Program is estimated to cost approximately $1.39 billion. The Water and Wastewater Funds will share in these expenditures according to a cost allocation based on completed design and engineering studies. Based on the cost allocation between the Water and Wastewater Systems, approximately $814 million (58%) is allocated to the Water Utility Fund and approximately $581 million (42%) is allocated to the Sewer Revenue Fund.

Update

Phase 1 of the Pure Water Program includes the construction of the North City Pure Water Facility and the expansion of the existing North City Water Reclamation Plant. In November 2018 the City Council authorized PUD to begin advertising for construction. After initial advertisement of Pure Water

projects, however, the Association of General Contractors (AGC) initiated litigation against the City, alleging that joint apprenticeship language in three of the construction contracts violated the City's Proposition A requirements, and the Court issued an injunction that prohibited proceeding with construction while the litigation was resolved. The State subsequently passed legislation requiring project labor agreements for Pure Water projects that receive State Revolving Fund Loan financing, and on November 5, 2019, the City Council approved removing joint apprenticeship language from all Pure Water contracts. The City successfully negotiated project labor agreements for Pure Water with applicable labor and construction groups.

Consequently construction of Phase 1 of the Pure Water Program experienced a delay of approximately 18 months from the initial authorization for bids. Bidding on Phase 1 projects has resumed; bids on the North City Pure Water Facility and Morena Northern Alignment projects have been received, and bids on the remaining Phase 1 projects are anticipated over the next several months. Given the updated timing of the bids it is anticipated that construction on Pure Water projects will now begin in the first half of calendar year 2021, and that Phase 1 will be complete and fully operational in 2025.

Cost of Service Analysis

Pursuant to State law, PUD uses a cost of service process to determine how to set its rates to ensure they meet PUD's overall revenue requirements. Cost of service studies detail projected expenditures, determine the total revenue required to meet those expenditures, and allocate those revenue needs to different customer classes based on the demands those customer classes place on PUD's systems. Revenue requirements not only support operating and capital costs but are set to ensure appropriate reserve and debt service coverage ratios.

The City last completed a cost of service study and rate case for the Water System in 2015, which included rate adjustments through FY 2020. The City last completed a cost of service study and rate case for the Wastewater System in 2006, which included rate adjustments through FY 2010. Additional information on projected revenues can be found in the Water System Revenues and Wastewater System Revenues sections of this report.

Following contract approval by the City Council, PUD engaged Raftelis Financial Consultants, Inc. to prepare new cost of service studies for both the Water and the Wastewater Systems. The Department anticipates releasing these cost of service studies in the third quarter of FY 2021. Those studies will include overall system-wide revenue requirements, additional details on the allocation of expenses to different customer classes, and potential rate adjustments. Those studies are expected to serve as the basis for Council's deliberation on future rate adjustments. A public hearing will need to be set in order to effectuate any rate increase.

WATER SYSTEM

This section discusses baseline expenditure projections, upcoming critical operational expenditures, and projected capital improvement program needs and financing options for the next five years for the Water Utility Fund. An overview of Water System revenue projections is also included.

Water System Expenditures

Water Utility Fund expenditures are comprised of both personnel and non-personnel expenditures including debt service and other non-discretionary payments. The largest single expenditure of the Water Utility Fund is for water purchases, representing approximately 50% of FY 2021 operating expenditures. These expenditures are therefore discussed separately. The following sections discuss in detail each expenditure category and include a description of the category, projected growth rates, and a discussion of critical strategic expenditures.

Water Purchases

The City currently imports approximately 85-90% of its water through the CWA. Water purchases contribute to the largest expense in the Water Utility Fund and make up approximately 50% of the Water Utility Fund's operating budget. CWA charges a volumetric rate that includes both a commodity rate and a transportation rate. In addition to the volumetric charges the City pays for imported water, both CWA and MWD also levy fixed charges on their member agencies.

Table 2.1 presents projected costs for purchasing water from CWA, and assumes that 10% of the demand will be met with local supplies for FY 2021 through FY 2026.[2] According to CWA's guidance estimates, rates are projected to rise by 5% per year. This increase impacts the Water Utility Fund's overall expenditures by approximately 2.2% as water purchases make up roughly half of the Fund's operating expenditures. The cost and amount of water purchased declines as Phase 1 of the Pure Water Program is expected to be substantially complete by March 2025. There is a staged ramp-up in flow and the production is expected to be 30 mgd by the end of CY 2025.

Additionally, PUD is projecting the receipt of approximately $5.7 million in Local Resource Program incentives from MWD for developing local water supplies, which also contributes to the decline in water purchase expenditures in FY 2025. Starting in FY 2026, the incentives are expected to be $11.4 million per year.

Table 2.1 - Water Purchases - Expenditure Projections ($ in Millions)

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Projection	$239.0	$271.6	$285.5	$300.1	$292.9	$284.5
Acre Feet Purchased	143,000	161,000	162,000	162,000	145,000	129,000

[2] Rainfall has seen increasing volatility over the past several years. Water year 2018 (October 1, 2017 – September 30, 2018) totaled 3.3 inches, 7 inches below San Diego's historical average of 10.3 inches. Rainfall in water year 2019 (October 1, 2018 – September 30, 2019), however, totaled 12.9 inches. Fiscal Years 2022 and thereafter assume average rainfall, but actual experiences in any given year will vary.

Personnel Expenditures

Personnel expenditures include salaries, wages and fringe benefits. Salaries and wages are comprised of regular salaries and wages, hourly wages, special pay, overtime, and pay in lieu of annual leave. Fringe benefits include pension payments or Actuarially Determined Contribution (ADC), flexible benefits, retiree health or Other Post-Employment Benefits (OPEB), workers' compensation, Supplemental Pension Savings Plan (SPSP), and other fringe benefits. Projected FY 2021 Water Utility Fund salaries, wages, and fringe benefits are $80.9 million and include 806.57 full-time equivalent (FTE) positions. Table 2.2 displays the FY 2021 through FY 2026 projected baseline personnel expenditures.

Table 2.2 - Personnel Expenditures - Baseline Expenditure Projections ($ in Millions)

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Salary & Wages Projection	$45.9	$45.9	$45.9	$45.9	$45.9	$45.9
Fringe Benefits Projection	$35.0	$35.0	$35.0	$35.0	$35.0	$35.0

The salary and wages category incorporate only those expenditures associated with staff included in the FY 2021 Adopted Budget. Position adds identified for FY 2022-2026 to support critical expenditures are discussed below. The PUD Outlook does not project for the potential impacts of any future Memorandum of Understandings (MOU) with Recognized Employee Organizations (REOs).

Critical Operating Expenditures

Table 2.3 - Critical Strategic Expenditures - Personnel

Request	FTE/Exp	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
AMI Support	FTE	-	5.00	10.00	19.50	19.50
	Expense	$0	$371,709	$743,417	$1,432,172	$1,432,172
Cross Connection Support	FTE	3.00	5.00	5.00	5.00	5.00
	Expense	234,378	392,592	392,592	392,592	392,592
Customer Service Support	FTE	1.00	1.00	1.00	1.00	1.00
	Expense	94,324	94,324	94,324	94,324	94,324
Field Services & Investigations	FTE	3.50	8.50	8.50	8.50	8.50
	Expense	317,695	766,645	766,645	766,645	766,645
Laboratory Operations	FTE	1.00	-	-	-	-
	Expense	120,479	-	-	-	-
Pure Water Support	FTE	7.00	20.00	34.00	34.00	34.00
	Expense	$800,941	$2,112,863	$3,469,507	$3,469,507	$3,469,507
Reservoirs/Dams/Plant Operations	FTE	15.00	23.00	23.00	23.00	23.00
	Expense	1,366,632	1,953,992	1,953,992	1,953,992	1,953,992
SCADA Support	FTE	3.00	3.00	3.00	3.00	3.00
	Expense	299,021	299,021	299,021	299,021	299,021
Water CIP Support	FTE	2.94	2.94	2.94	2.94	2.94
	Expense	275,760	275,760	275,760	275,760	275,760
	Total FTE	**36.44**	**68.44**	**87.44**	**96.94**	**96.94**
	Total Expense	**$3,509,230**	**$6,266,907**	**$7,995,259**	**$8,684,014**	**$8,684,014**

Table 2.3 identifies additional personnel expenditures, including fringe benefits, for the addition of staff to support a number of Department needs. Significant additions are included to ensure sufficient

staffing to implement, operate, and maintain the City's Advanced Metering Infrastructure Program (AMI); the Pure Water Program, and increased operations and upkeep of the City's water reservoirs, dams, and treatment plants.

Additional FTE support is also being added for the Supervisory Control and Data Acquisition (SCADA) Water Distribution System. This system monitors the water distribution facilities and detects and rectifies equipment malfunctions and operation problems. This is critical to ensuring that water treatment plant operations, public health and regulatory compliance are protected from any system vulnerabilities in older SCADA systems.

The identified funding needs for the Pure Water Program are for the operation and maintenance of new and expanded Pure Water facilities and staffing needs. Pure Water positions are gradually being ramped up so personnel is on hand and fully trained to operate and maintain the facilities when they come online. A total of 34.00 FTEs from the Water System (of 67.00 total FTEs) are anticipated to be required when Pure Water Phase 1 becomes fully operational. These estimates will be further refined as the City gets closer to bringing the facilities online.

Additional support is also included for Cross Connections team to ensure that the potable water delivery system is not impacted the introduction of any used water source, and for Customer Service.

Supplies

The Supplies category includes costs for chemicals, water meters, pipe fittings, asphalt road materials, machine parts, and low value assets. Table 2.4 displays FY 2021 through FY 2026 projections for the Supplies category.

Table 2.4 - Supplies - Baseline Expenditure Projections ($ in Millions)

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Growth Rate	N/A	0.0%	3.0%	3.0%	3.0%	3.0%
Projection[1]	$15.4	$15.4	$15.9	$16.3	$16.8	$17.3

1. Figures exclude expenditures associated with water purchases.

The Supplies category includes various components. Each component has a different growth rate. Growth rates for each category are based on historical analysis and include other adjustments based on known and anticipated events. As a result, the 3.0% growth rate that was applied to the Supplies category represents a weighted growth rate that was calculated after applying the corresponding growth rate for each component. Due to PUD's historical actual operating trends being lower than budgeted amounts and the continued uncertainty surrounding the impacts of the COVID-19 pandemic on operations, FY 2022 baseline amounts are carried forward from FY 2021.

Critical Operating Expenditures

Table 2.5 - Critical Strategic Expenditures - Supplies					
Request	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**
Pure Water Support	$10,000	$5,000	$5,000	$1,104,322	$10,166,717
Total Expense	**$10,000**	**$5,000**	**$5,000**	**$1,104,322**	**$10,166,717**

Table 2.5 above identifies increased expenditures in the supplies category. Pure Water expenses are anticipated to become necessary as facilities come online, and include chemical costs, consumables, pumps, and other materials necessary for operation and maintenance of facilities and equipment.

Contracts

Contracts are a non-personnel expense category that include the cost of contractual services, professional consultant fees for outside expertise, general government services billing, City services billings, fleet vehicle usage and assignment fees, rental expenses, security services, and other contractual expenses. Table 2.6 below displays PUD's projections for FY 2021 through FY 2026 for the Contracts category.

Table 2.6 - Contracts - Baseline Expenditure Projections ($ in Millions)						
	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Growth Rate	N/A	0.0%	2.0%	2.0%	2.0%	2.0%
Projection[1]	$80.1	$80.1	$81.7	$83.3	$85.0	$86.7

1. Projection figures exclude contractual expenditure projections associated with water purchases.

The Contracts category includes various components with different applicable growth rates. Growth rates for each category are based on historical analysis and other adjustments based on known and anticipated events, including anticipated contract expirations. As a result, the growth rate for the Contracts category represents a weighted growth rate that was calculated after applying the corresponding growth rate for each component. Due to PUD's historical actual operating trends being lower than budgeted amounts and the continued uncertainty surrounding the impacts of the COVID-19 pandemic on operations, FY 2022 baseline amounts are carried forward from FY 2021.

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Critical Operating Expenditures

Table 2.7 - Critical Strategic Expenditures - Contracts					
Request	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**
Condition Assessments	$3,340,000	$3,340,000	$2,840,000	$1,840,000	$340,000
Environmental Support & Compliance	$1,200,000	$1,150,000	$1,025,000	$900,000	$900,000
Financial Support	$200,000	$0	$37,500	$350,000	$150,000
Pure Water Support	$280,000	$135,000	$475,000	$743,000	$895,000
Restoration Contracts	$1,000,000	$1,000,000	$1,000,000	$1,000,000	$1,000,000
SCADA Support	$250,000	$100,000	$0	$0	$0
Security System Upgrades	$52,170	$52,170	$52,170	$52,170	$35,250
Water Facilities/Reservoir/Dam Maintenance	$2,600,000	$3,000,000	$2,300,000	$450,000	$100,000
Water Property/Land/Plan Management	$600,000	$600,000	$0	$0	$0
Total Expense	**$9,522,170**	**$9,377,170**	**$7,729,670**	**$5,335,170**	**$3,420,250**

Table 2.7 above identifies increased contractual expenditures in various areas. This includes increased expenditures for condition assessments of Water System facilities and dams, as well as expenditures necessary for the maintenance of water treatment facilities, reservoir repairs, and dam repairs. The Restoration Contracts item includes contractual funding to ensure compliance with various local, state, and federal requirements such as the Habitat Conservation Plan and Multiple Species Conservation Plan. Additional amounts support the Water System's SCADA system, security upgrades, and Phase 1 of the Pure Water Program.

Information Technology

The Information Technology category includes both discretionary expenses and non-discretionary allocations to the Water Utility Fund. The Information Technology category includes the costs related to hardware and software maintenance, help desk support, and other information technology (IT) services. Table 2.8 below displays projections for FY 2021 through FY 2026 in the Information Technology category.

Table 2.8 - Information Technology - Baseline Expenditure Projections ($ in Millions)						
	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Growth Rate	N/A	0.0%	4.5%	2.0%	2.0%	2.0%
Projection	$11.8	$11.5	$12.0	$12.3	$12.5	$12.8

The projections include estimates of IT costs related to desktop support, networks, data-centers, applications, and systems critical to water treatment plant operations. Expenditures were inflated by 2% to account for potential cost increases in IT services and hardware/software products, and one-time expenditures in FY 2021 were removed from FY 2022 projections. Due to PUD's historical actual operating trends being lower than budgeted amounts and the continued uncertainty surrounding the impacts of the COVID-19 pandemic on operations, FY 2022 baseline amounts are otherwise carried forward from FY 2021.

Critical Operating Expenditures

Table 2.9 - Critical Strategic Expenditures - Information Technology					
Request	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**
Customer Service Support	$175,000	$175,000	$175,000	$175,000	$175,000
Desktop Computer Replacement	$0	$705,000	$0	$0	$0
MARS Ongoing Support	550,000	550,000	550,000	550,000	550,000
Total Expense	**$725,000**	**$1,430,000**	**$725,000**	**$725,000**	**$725,000**

Additions in the IT category include additional support for customer service IT systems, replacement of desktop computers in the Department in FY 2023, and ongoing support for the MARS System which provides critical water meter test software and equipment to ensure residential and commercial water meter reliability.

Energy & Utilities

The Energy and Utilities category includes the Water Utility Fund's costs for electricity, water services, fuel, and other utility and energy expenses. Table 2.10 displays FY 2021 through FY 2026 projections for the Energy and Utilities category.

Table 2.10 - Energy & Utilities - Baseline Expenditure Projections ($ in Millions)						
	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Growth Rate	N/A	0.0%	0.4%	0.4%	0.4%	0.4%
Projection	$12.7	$12.7	$12.7	$12.8	$12.9	$12.9

The Energy and Utilities category includes various costs. Each cost component has a different applicable rate. Growth rates for energy are based on growth rates prepared by the U.S. Energy Information Administration[3]; those growth rates showed no projected increases for energy, but some increases for fuel. Due to PUD's historical actual operating trends being lower than budgeted amounts and the continued uncertainty surrounding the impacts of the COVID-19 pandemic on operations, FY 2022 baseline amounts are carried forward from FY 2021.

Critical Operating Expenditures

Table 2.11 - Critical Strategic Expenditures - Energy & Utilities					
Request	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**
Pure Water Support	-	-	-	$7,334,247	$14,651,548
Total Expense	**-**	**-**	**-**	**$7,334,247**	**$14,651,548**

Table 2.11 above identifies increased energy and utility expenditures associated with the expansion of the Pure Water Program. These expenditures are necessary as new and expanding Pure Water facilities come online and include increased electricity, water, and natural gas expenditures necessary for the daily operation of facilities.

[3] U.S. Energy Information Administration, https://www.eia.gov/outlooks/aeo/

Other Expenditures

Expenses included in this category are transfers out to other funds, capital expenses, taxes, and other miscellaneous expenditures. Debt service obligations, including bond, commercial paper, State Revolving Fund loans (SRF Loans) and WIFIA payments, are excluded from this category and are discussed in the Water System Capital Improvement Program section of this report. Table 2.13 displays FY 2021 through FY 2026 projections for the Other Expenditures category.

Table 2.12 - Other Expenditures - Baseline Expenditure Projections ($ in Millions)

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Growth Rate	N/A	0.0%	0.0%	0.0%	0.0%	0.0%
Projection	$3.2	$3.2	$3.2	$3.2	$3.2	$3.2

No growth rate was applied to Other Expenditures as the expenses in this category do not typically recur on an annual basis. The FY 2021 Projection is based on the FY 2021 Adopted Budget which is adjusted to account for historical trends.

Critical Operating Expenditures

Table 2.13 - Critical Strategic Expenditures - Other Expenditures

Request	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
AMI Support	$54,600	$54,600	$54,600	$54,600	$54,600
Laboratory Operations	$0	$0	$484,000	$0	$0
Pure Water Support	$40,000	$660,000	$468,000	$470,000	$0
Water Facility Maintenance	$100,000	$100,000	$0	$0	$0
Total Expense	**$194,600**	**$814,600**	**$1,006,600**	**$524,600**	**$54,600**

Table 2.13 above identifies increased expenditures associated with the expansion of the Pure Water Program. Pure Water Program expenditures include funding for the replacement of laboratory equipment necessary for sampling analysis in support of the expanding program. Other Expenditures also includes one-time funding for various pieces of equipment associated with water and laboratory facilities and the Advanced Metering Infrastructure Program.

Reserve Contributions

The City has established accounts within the Water Utility Fund for four reserve funds: The Emergency Operating Reserve (Operating Reserve), the Secondary Purchase Reserve, the Rate Stabilization Fund Reserve (Rate Stabilization Reserve Fund), and the Emergency Capital Reserve (Capital Reserve). The Department maintains these reserve funds in accordance with the City's reserve policy (the City Reserve Policy). At the end of FY 2021, the Water Utility Fund is estimated to have total reserves of approximately $177.8 million.

Table 2.14 details reserve targets and projected funding levels. Reserves are projected to be fully funded throughout the PUD Outlook period. The Rate Stabilization Reserve Fund is funded above targeted levels; it can be used to provide one-time operating revenue to offset or mitigate the need

for sudden or dramatic rate increases. The PUD Outlook projects use of the Water Rate Stabilization Reserve Fund in FY 2022 through 2025, and a contribution to the reserve in FY 2026.

Table 2.14 - Reserve Targets and Estimated Funding Levels ($ in Millions)

	Fiscal Year 2021	Fiscal Year 2022	Fiscal Year 2023	Fiscal Year 2024	Fiscal Year 2025*	Fiscal Year 2026
Operating Reserve Target ($)	$39.1	$41.8	$43.0	$43.4	$45.1	$48.2
Operating Reserve Level ($)	$40.8	$41.8	$43.0	$43.4	$45.1	$48.2
Secondary Purchase Reserve Target ($)	$14.3	$16.3	$17.1	$18.0	$17.6	$17.1
Secondary Purchase Reserve Level ($)	$16.4	$16.4	$17.1	$18.0	$18.0	$18.0
Rate Stabilization Fund Target ($)	$33.3	$35.5	$36.7	$38.4	$40.1	$42.3
Rate Stabilization Fund Level ($)	$115.6	$100.6	$85.6	$75.6	$65.6	$70.6
Capital Reserve Target ($)	$5.0	$5.0	$5.0	$5.0	$5.0	$5.0
Capital Reserve Level ($)	$5.0	$5.0	$5.0	$5.0	$5.0	$5.0

*The Secondary Purchase Reserve Target for FY 2025 reflects a decrease in water purchases as Phase 1 of the Pure Water Program nears completion.

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Water System Capital Improvement Program

The Water System CIP is established to address current and future system needs in a cost-effective manner. The program's principal drivers are:

- implementation of the Pure Water Program;
- improving infrastructure to reduce pipeline breaks and emergency repairs;
- improving process technology;
- expansion of the Water System to accommodate growth; and
- compliance with the Federal Safe Drinking Water Act and the Division of Drinking Water (DDW) Compliance Order.

Infrastructure improvements generally consist of water treatment plants, pipelines, reservoirs and pump stations, projects related to anticipated growth within the City's service area, and projects required by or related to applicable State and Federal regulations and orders.

Table 3.1 shows categories of projects with the estimated cost of expenditures contained in the CIP for the period of Fiscal Years 2022 through 2026. A number of condition assessments for the Department's dams are currently underway, and may reveal additional capital improvements and repairs to be necessary that are not reflected in Table 3.1, though it is likely that the bulk of such costs would fall outside the period covered by the Outlook.

Table 3.1 - Summary of Projected CIP Projects
FY 2022 through FY 2026
($ in Millions)

Water CIP Projects	2022	2023	2024	2025	2026	TOTAL
Pure Water Program	$193.1	$225.7	$174.2	$96.1	$23.9	$713.0
Transmission Pipelines	$111.1	$77.0	$37.7	$23.2	$40.8	$289.8
Pipelines	$110.4	$92.2	$78.0	$27.9	$17.2	$325.8
Storage Facilities	$8.1	$11.5	$18.4	$19.1	$19.1	$76.2
Water Treatment Plants	$0.8	$2.3	$5.7	$13.2	$18.6	$40.6
Pump Stations	$6.7	$4.5	$6.5	$7.1	$10.7	$35.5
SDG&E Relocation Advance	$58.4	$0.0	$0.0	$0.0	$0.0	$58.4
Ground Water Projects	$0.1	$0.1	$0.1	$0.1	$0.2	$0.5
Miscellaneous Projects	$7.7	$16.9	$29.8	$28.8	$20.7	$104.0
Total	**$496.4**	**$430.3**	**$350.4**	**$215.6**	**$151.1**	**$1,643.7**

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Capital Improvement Financing Plan

Table 3.2 below describes the projected sources of funds to finance the Water System CIP for Fiscal Years 2022 through 2026.

As shown in Table 3.2, PUD anticipates incurring approximately $762.4 million of additional debt obligations for the Baseline Water System CIP and $684.9 million of additional obligations for the Pure Water CIP over the PUD Outlook period. Grants, capacity fees, and cash are anticipated to fund an additional $196.4 million.

Table 3.2 - Sources of Funds for the Water Capital Improvement Program
FY 2022 through FY 2026
($ in Millions)

Source of Funds	2022	2023	2024	2025	2026	TOTAL
Pure Water CIP						
Commercial Paper/Revenue Bonds	$0.0	$0.0	$0.0	$96.0	$20.0	$116.0
WIFIA Loan [1]	$191.3	$215.1	$162.6	$0.0	$0.0	$568.9
Grants	$1.5	$0.0	$0.0	$0.0	$0.0	$1.5
Capacity Fees/Cash	$0.4	$10.6	$11.7	$0.1	$3.9	$26.7
Total	**$193.1**	**$225.7**	**$174.2**	**$96.1**	**$23.9**	**$713.1**
Baseline CIP						
Commercial Paper/Revenue Bonds	$129.1	$95.0	$95.0	$60.0	$85.0	$464.1
SRF Loans	$68.0	$91.1	$69.8	$39.0	$30.3	$298.3
Grants	$0.7	$0.0	$0.0	$0.0	$0.0	$0.7
Capacity Fees/Cash	$105.4	$18.5	$11.3	$20.4	$11.9	$167.6
Total	**$303.3**	**$204.6**	**$176.1**	**$119.5**	**$127.2**	**$930.7**
Total Funding	**$496.4**	**$430.3**	**$350.4**	**$215.6**	**$151.1**	**$1,643.8**

[1] Assumes periodic draw on the WIFIA Loan for FY2021 through FY2024, and a mix of bond funding and cash for the remaining Pure Water costs through FY2026.

The City has secured financing of $614.0 million for the Water System's share of the Pure Water Program Phase 1 through the EPA's Water Infrastructure Finance and Innovation Act (WIFIA) Loan Program which will provide funding through FY 2024. Additional funding for the Water System's portion of Pure Water CIP expenses includes $116.0 million in future debt (commercial paper and revenue bonds), and $26.7 million in grant funding and cash.

For the Water System's baseline CIP, the Department anticipates financing the costs of certain projects in the Water System Baseline CIP in the amount of $298.3 million through SRF loans for which the City has secured or plans to apply. The proceeds from additional SRF loans are assumed to provide funding in Fiscal Years 2022 through 2026. SRF loans are one of the least expensive sources of financing available to the City. If the City is not awarded the additional SRF loans projected over this PUD Outlook period, it will have to evaluate using other financing sources that carry higher interest rates, or potentially postponing various CIP projects.

The City also anticipates financing approximately $464.1 million of the Baseline Water System CIP through a combination of revenue bonds and commercial paper. Remaining costs of the Water System Baseline CIP are anticipated to be paid on a pay-as-you-go basis.

Debt Service Coverage Ratios

As the Water system makes use of various financing instruments to fund its capital program, it is important that it maintain good financial metrics to ensure its creditworthiness and its ability to issue debt at advantageous terms. One of the key components to measuring the Water system's credit quality is its debt service coverage ratio (DSCR). The DSCR is a measure of a system's ability to make payments on its existing and projected debt service and compares the system's net operating revenues against its debt service payments.

While variations in revenues and expenditures will result in varying DSCRs in given years, the Department generally targets a DSCR of 1.5x, a financial target that gives the Department the ability to maintain high credit quality leading to continued low borrowing rates. Additionally, the Department's bond covenants require it to maintain a DSCR of 1.2x for its senior debt and 1.1x for its aggregate debt. The projected DSCRs over the PUD Outlook period are displayed in Table 3.3.

Table 3.3 - Projected Debt Service Coverage Ratios[1]
($ in Millions)

	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Net System Revenues	$166.0	$170.2	$178.5	$215.5	$230.0
Debt Service	$112.3	$112.6	$118.5	$145.3	$149.6
Debt Service Coverage Ratio	**1.48 x**	**1.51 x**	**1.51 x**	**1.48 x**	**1.54 x**

[1] Note - DSCRs shown here are based budgetary projections; DSCRs reported in CAFR statements may differ due to variances in non-budget transactions.

Water System Revenues

The primary revenue sources of the Water Utility Fund are generated from water sales, capacity fees, interest earnings, and rental income. This section discusses each revenue category, and includes a description of revenue sources, projected growth rates, and a discussion of future revenue streams and how they impact the Water Utility Fund.

Water Sales

Background. The majority of Water Utility Fund revenue is generated from water sales which makes up over 90% of the Water Utility Fund's total revenue. City utility bills include water and sewer charges and storm drain fees, but only receipts from water sales are revenues to the Water Utility Fund. The water charge is comprised of two parts: a fixed monthly service charge and a commodity charge that is based on the volume of water used. The fixed service charge is based on the size of a customer's meter, which provides an approximation of the amount of water the customer could have delivered to the customer's property.

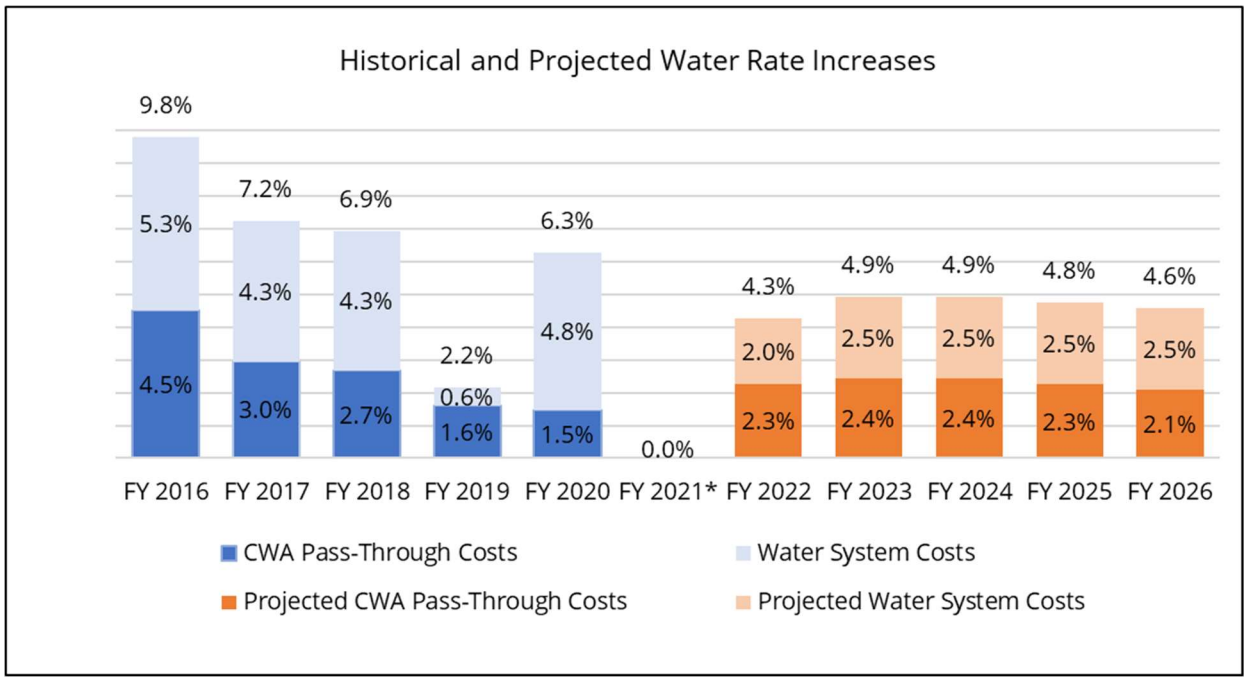
The commodity charge is determined using a set rate based upon each hundred cubic feet (HCF), or approximately 750 gallons, of water consumed. The City has a tiered commodity charge structure for single family residential (SFR) customers that is broken down by water usage within each rate block. The remaining retail customers – Multi-Family Residential (MFR), Non-Residential, Temporary Construction and Irrigation – are billed under a uniform commodity charge for their respective customer classification.

Water Service Charge Rate Increases. PUD last released a Water System cost of service study in 2015, which produced a five-year rate case (the 2016 Rate Case). The 2016 Rate Case was based on comprehensive forecasted annual operations and maintenance costs, capital cost expenditures including the initial costs of the Pure Water Program, and purchased water costs that increase every January 1 from CWA. The 2016 Rate Case covered Fiscal Years 2016 through 2020 and was approved by the City Council in November 2015. The rate case included projected rate increases of 9.8% on January 1, 2016, 6.4% on July 1, 2016, 6.4% on July 1, 2017, 5.0% on July 1, 2018 and 7.0% on July 1, 2019.[4] FY2020 reflects the final year of the prior approved rate case.

Based on the revenue required to support projected expenditures, fund reserves appropriately, and achieve the target financial metrics, this Outlook includes projected water rate revenue adjustments on a system-wide basis of 4.3% in FY 2022, 4.9% in FY 2023, 4.9% in FY 2024, 4.8% in FY 2025, and 4.6% in FY 2026. Actual rate increases and the individual customer class impact will be subject to finalization of the cost of service study that is currently underway and City Council review and approval.

Roughly half of these rate adjustments are necessary to pay for increased CWA water rates, as indicated in Figure 4.1. Increases in revenue necessary to support PUD operations range from 2.0 to 2.5% in each year.

Figure 4.1 – Water Service Charge Rate Increases.



*No water rate increase is shown for FY 2021. While rates will not increase in FY 2021, the Department anticipates absorbing an effective 2.5% increase in CWA's water rates.

[4] These projected rate increases included both PUD's costs as well as increases in CWA water rates. The approved 2016 Rate Case allowed PUD to pass through CWA rate increases up of up to 7.0% each year. Projected and actual CWA rate increases were lower than this 7.0% maximum, though CWA rate increases in FY 2017 and FY 2018 were higher than they were projected to be in the 2016 Rate Case. Actual CWA pass-through costs through FY 2020 are reflected on Figure 4.1.

Forecast. Table 4.2 presents forecasted revenues for FY 2021 through FY 2026 for revenue from water sales. The growth rates as shown in Table 2.3 reflect overall revenue growth, and include revenue impacts of both proposed rate adjustments and slight increases in water use. Revenue from the MWD's Local Resources Program, which provides credits for Pure Water's production of local water, are also included in FYs 2025 and 2026. Note that the rate adjustments shown above are included in these amounts, though these adjustments are proposed to be implemented on January 1st of each year, so the impact to revenues on a Fiscal Year basis do not correspond exactly.

Table 4.2 - Water Sales Revenue Projections ($ in Millions)

	FY 2021	FY 2022	FY 2023[2]	FY 2024	FY 2025[3]	FY 2026
Potable Water						
Growth Rate	N/A	3.5%	4.9%	5.1%	4.8%	4.6%
Projection	$541.7	$560.8	$588.1	$617.9	$647.7	$677.6
Other Water Sales [1]						
Growth Rate	N/A	2.7%	3.2%	-1.8%	19.7%	16.5%
Projection	$33.1	$34.0	$35.1	$34.5	$41.3	$48.1

[1] Revenue figures for "Other Water Sales" include recycled water sales revenue figures and sales to Cal Am.

[2] Recycled LRP credits end in FY23 for NCWRP.

[3] LRP credits for Pure Water start.

Economic Trends. Although PUD continues to promote water conservation, the demand for water within the City's service area is projected to increase as the population continues to grow and development expands. The City last prepared an Urban Water Management Plan (UWMP) in 2016, which projected single-family residential water use to increase by 39% over the period of 2020 to 2040. Multi-family residential water use was forecasted to increase at 69% over the projection period of 2020 to 2040. The average demand over the last five years has not grown significantly, with some small growth in demand largely caused by increases in population. The UWMP is due to be updated in calendar year 2021.

The City's Pure Water Program is expected to be crucial in helping to meet the City's water demands and to reduce the impact of increases in the cost of imported water purchased from CWA. Over the past ten years, CWA's water prices have more than doubled.

Sensitivity Analysis. While these projections represent PUD's best estimate of water sales revenues throughout the PUD Outlook period, actual results will depend on the factors discussed above. Assuming the above rates, declines or increases in water demand, bill payment, or rate increases of just 1% can impact water sales revenue by approximately $5.7 to $6.3 million depending on the year in which they occur. Adjustments to projected rates in earlier years would compound this amount.

Water Capacity Charges

Background. Capacity charges are development fees imposed on permits for new or expanded water connections, and are based on an estimate of the increase in water consumption as measured by equivalent dwelling units (EDUs). Capacity charge proceeds are used to construct, improve, and expand the Water System to accommodate the additional business of such added dwellings or commercial or industrial units.

Pursuant to State law, capacity charges can be used only to pay costs associated with capital expansion, bonds, contracts, or other indebtedness of the Water System related to expansion. Because capacity charges are primarily collected on the issuance of new construction permits within the City, revenues obtained from such charges vary based upon construction permitting activity.

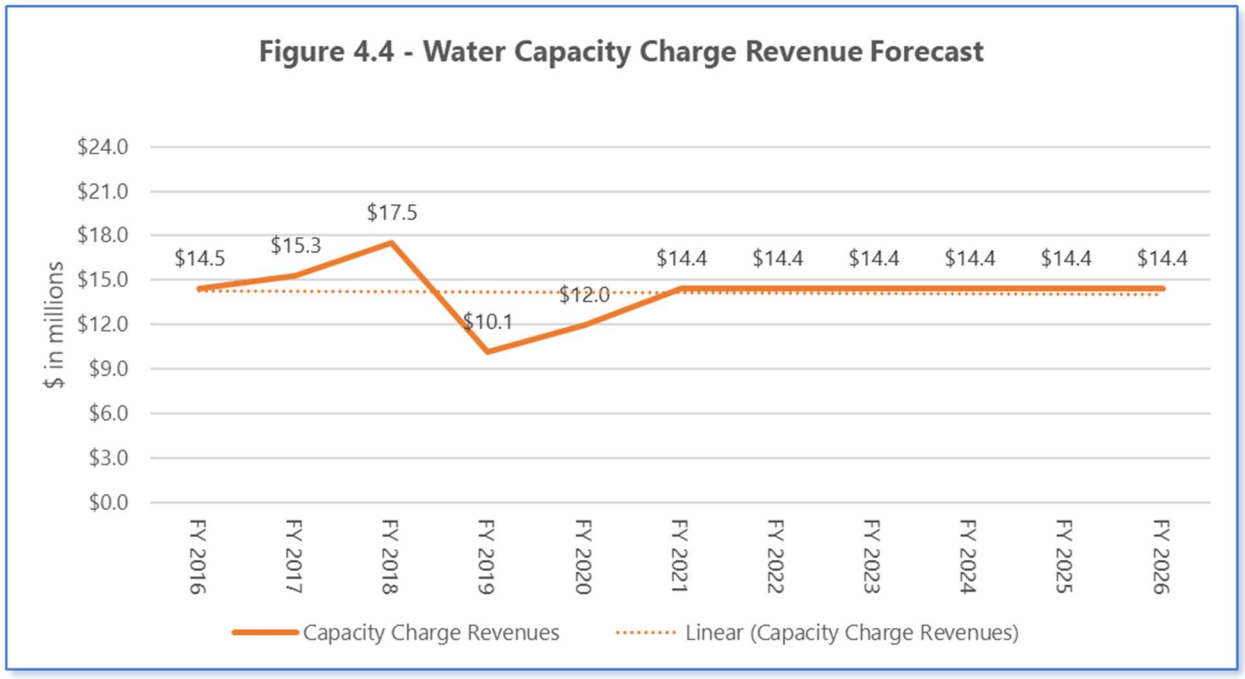
In February 2007, the Mayor and City Council approved increasing the capacity charge by 19.5% to $3,047 per EDU, which was estimated to provide full cost recovery for Water System expansion projects.

Forecast. Table 4.3 presents projected capacity fee revenue for FY 2021 through FY 2026. This revenue source represents less than 2% of the Water System's overall revenue receipts.

Table 4.3 - Capacity Charges Projections ($ in Millions)

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Growth Rate	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Projection	$14.4	$14.4	$14.4	$14.4	$14.4	$14.4

Projected revenues for capacity charges use conservative growth estimates based on historical spending trends from FY 2016 through FY 2020 as shown in Figure 4.4. Average capacity fee revenue between FY 2016 and FY 2020 was approximately $13.9 million; capacity fee projections of $14.4 million over the PUD Outlook period are based on this average and take recent trends into account.



Economic Trends. As previously mentioned, water capacity charges are primarily based on new water connections related to new construction and are directly influenced by population growth and residential and commercial development. The current population for the City of San Diego is 1.4 million. San Diego's population grew by approximately 7% between the 2000 Census and the 2010

Census. As population continues to increase in the region, the demand for new single and multi-family housing is also expected to increase in order to meet population demands.

According to SANDAG[5], multi-family units will make up over half of the new housing that will need to be built over the next 30 years. As a result, SANDAG forecasts that 40% of the total units in the region will be multi-family by 2030.

The California Association of Realtors is forecasting a modest decline in construction of single family units due to a combination of high home prices and eroding affordability. Multi-family housing hit a peak in 2019, but has since leveled off as multi-family units under construction near completion. This combined with uncertainty surrounding the impacts of the COVID-19 pandemic on residential construction contribute to flat capacity fee revenue projections over the next five years.

Revenue from Use of Property

Revenue from Use of Property includes revenues from non-agricultural lease of land, such as the San Diego Zoo Safari Park; storage by private companies on utility-owned lands; agricultural leases of land in San Pasqual Valley; and telecom leases for cell towers on utility-owned properties.

Table 4.5 presents forecasted revenue for FY 2021 through FY 2026. This revenue source represents less than 1% of the Water Utility's overall revenue receipts.

Table 4.5 - Revenue from Use of Property Projections ($ in Millions)

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Growth Rate	N/A	0.0%	0.0%	0.0%	0.0%	0.0%
Projection	$6.1	$6.1	$6.1	$6.1	$6.1	$6.1

Revenues in this category can vary slightly each year as new lease agreements are entered into while other lease agreements expire. Overall, revenue in this category has averaged $6.1 million since FY 2016. As a result, $6.1 million in Revenues from Use of Property is projected throughout the PUD Outlook period.

Other Revenue

The Other Revenue category includes refunds or reimbursements from private parties for damages to utility-owned equipment, buildings, or fire hydrants; refunds from vendors; reimbursements from services provided to other City departments/funds, receipts from the sale of recycled materials or equipment (paper, computers, metal); grant revenue, and interest earnings on pooled investments.

Table 4.6 presents forecasted revenue for FY 2021 through FY 2026. This revenue source represents 2.0% of the Water Utility's overall revenue receipts.

[5] It should be noted that SANDAG's Regional Growth Forecast was published in 2013 using 2012 data.

Table 4.6 - Other Revenue Projections ($ in Millions)						
	FY 2021 Projection	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Growth Rate	N/A	7.3%	-14.9%	2.8%	8.4%	4.0%
Projection	$22.4	$24.1	$20.5	$21.1	$22.8	$23.7

Other revenue in FY 2022 through FY 2026 is projected to stay relatively flat, reflecting stable unrestricted balances and slightly increased interest earnings. Changes from year to year are largely the cause of changes to projected interest income, as well as projected changes in charges for services, including storage and transportation agreements with other local agencies.

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WASTEWATER SYSTEM

The Wastewater System is comprised of the Metropolitan and Municipal Utility Funds, collectively known as the "Sewer Revenue Funds". This section discusses the Wastewater System's baseline expenditure projections, upcoming critical operational expenditures, projected capital improvement program needs and financing options for the next five years. Wastewater System revenues are also discussed.

Wastewater System Expenditures

The Wastewater System expenditures are comprised of both personnel and non-personnel expenditures including debt service and other non-discretionary payments. The following sections will discuss in detail each expenditure category and will include a description of the expenditure, projected growth rates, and a discussion of critical strategic expenditures.

Personnel Expenditures

Personnel expenditures include salaries, wages and fringe benefits. Salaries and wages are comprised of regular salaries and wages, hourly wages, special pay, overtime, and pay in lieu of annual leave. Fringe benefits include pension payments or Actuarially Determined Contribution (ADC), flexible benefits, retiree health or Other Post-Employment Benefits (OPEB), workers' compensation, Supplemental Pension Savings Plan (SPSP), and other fringe benefits. The FY 2021 Adopted Budget for the Sewer Funds salaries, wages, and fringe benefits was $99.8 million and included 902.86 FTEs. Table 5.1 displays forecasted baseline personnel expenditure projections for FY 2021 through FY 2026.

Table 5.1 - Personnel Expenditures - Baseline Expenditure Projections ($ in Millions)

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Salary & Wages Projection	$58.1	$58.1	$58.1	$58.1	$58.1	$58.1
Fringe Benefits Projection	$41.7	$41.7	$41.7	$41.7	$41.7	$41.7

Adjustments within the salary and wages category incorporate only those expenditures associated with staff included in the FY 2021 Adopted Budget. Position adds identified for FY 2022-2026 to support critical expenditures are discussed below. The PUD Outlook does not project for the potential impacts of any future MOUs with REOs.

Critical Strategic Expenditures

Table 5.2 - Critical Strategic Expenditures - Personnel						
Request	**FTE/Exp**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**
AMI Support	FTE	-	-	-	1.50	1.50
	Expense	$0	$0	$0	$104,016	$104,016
Customer Service Support	FTE	1.00	1.00	1.00	1.00	1.00
	Expense	$94,324	$94,324	$94,324	$94,324	$94,324
EAM Support	FTE	1.06	1.06	1.06	1.06	1.06
	Expense	$80,429	$80,429	$80,429	$80,429	$80,429
Field Services & Investigations	FTE	0.50	0.50	0.50	0.50	0.50
	Expense	$47,546	$47,546	$47,546	$47,546	$47,546
Laboratory Operations	FTE	3.00	3.00	3.00	3.00	3.00
	Expense	$374,744	$374,744	$374,744	$374,744	$374,744
Preventative Maintenance	FTE	4.00	4.00	4.00	4.00	4.00
	Expense	$425,475	$425,475	$425,475	$425,475	$425,475
Pure Water Support	FTE	13.00	24.00	33.00	33.00	33.00
	Expense	$1,186,993	$2,241,285	$3,058,044	$3,058,044	$3,058,044
	Total FTE	**22.56**	**33.56**	**42.56**	**44.06**	**44.06**
	Total Expense	**$2,209,510**	**$3,263,803**	**$4,080,561**	**$4,184,578**	**$4,184,578**

Table 5.2 above identifies increased personnel expenditures, including fringe benefits, for the addition of staff to support various key Department functions. These include support for the Department's AMI Smart Meter program, Customer Support, and implementation of Enterprise Asset Management (EAM) systems in the Department. Additional staff are also proposed to support a shift toward increased preventative maintenance as well as increased laboratory testing consistent with current and anticipated regulatory requirements.

The identified funding needs for the Pure Water Program are for the operation and maintenance of new and expanding Pure Water facilities and staffing. Pure Water positions are gradually being ramped up so personnel is on hand and fully trained to operate and maintain the facilities when they come on line A total of 33.00 FTEs from the Wastewater System (of 67.00 total FTEs) are anticipated to be required when Pure Water becomes fully operational. These estimates will be further refined as the City gets closer to bringing the facility on line.

Supplies

The Supplies category includes costs for chemicals, machine parts, electrical materials, laboratory supplies, and pipe fittings. Table 5.3 displays the FY 2021 through FY 2026 projections for the Supplies category.

Table 5.3 - Supplies - Baseline Expenditure Projections ($ in Millions)						
	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Growth Rate	N/A	0.0%	3.0%	3.0%	3.0%	3.0%
Projection	$26.5	$26.5	$27.3	$28.1	$29.0	$29.8

The Supplies category includes various components. Each component has a different growth rate. Growth rates for each category are based on historical analysis and include other adjustments based

on known and anticipated events. As a result, the 3.0% growth rate that was applied to the Supplies category represents a weighted growth rate that was calculated after applying the corresponding growth rate for each component. Due to PUD's historical actual operating trends being lower than budgeted amounts and the continued uncertainty surrounding the impacts of the COVID-19 pandemic on operations, FY 2022 baseline amounts are carried forward from FY 2021.

Critical Strategic Expenditures

Table 5.4 - Critical Strategic Expenditures - Supplies					
Request	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**
Pure Water Support	$0	$0	$1,157,754	$1,710,055	$3,207,506
Total Expense	**$0**	**$0**	**$1,157,754**	**$1,710,055**	**$3,207,506**

Table 5.4 identifies increased expenditures associated with the expansion of the Pure Water Program. These expenditures are necessary as new and expanding Pure Water facilities come online and include chemical costs, consumables, repair and replacement parts for equipment, and other materials necessary for operation and maintenance of facilities and equipment.

Contracts

Contracts are a non-personnel expense category that includes the cost of professional consultant fees, general government services billing, City services billings, fleet vehicle usage and assignment fees, contractual services, other contractual expenses. Table 5.5 displays the FY 2021 through FY 2026 projections for the Contracts category.

Table 5.5 - Contracts - Baseline Expenditure Projections ($ in Millions)						
	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Growth Rate	N/A	0.0%	2.0%	2.0%	2.0%	2.0%
Projection	$95.9	$95.9	$97.8	$99.8	$101.8	$103.8

The Contracts category includes various components that each has different applicable growth rates. Growth rates for each category are based on historical analysis and other adjustments based on known and anticipated events, including anticipated contract expirations. As a result, the growth rate for the Contracts category represents a weighted growth rate that was calculated after applying the corresponding growth rate for each component. Due to PUD's historical actual operating trends being lower than budgeted amounts and the continued uncertainty surrounding the impacts of the COVID-19 pandemic on operations, FY 2022 baseline amounts are carried forward from FY 2021.

Critical Strategic Expenditures

Table 5.6 - Critical Strategic Expenditures - Contracts					
Request	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**
Condition Assessments	$860,000	$660,000	$660,000	$660,000	$660,000
Environmental Support & Compliance	$90,000	$90,000	$90,000	$50,000	$50,000
Financial Support	$50,000	$0	$37,500	$350,000	$150,000
Pure Water Support	$0	$0	$657,034	$1,377,068	$5,886,267
Security System Upgrades	$58,830	$58,830	$58,830	$58,830	$39,750
Wastewater Facility Maintenance	$2,300,000	$3,300,000	$1,000,000	$0	$0
Wastewater Collection Flow & Depth Monitoring	$2,415,000	$2,440,000	$2,485,000	$2,510,000	$1,800,000
Total Expense	**$5,773,830**	**$6,548,830**	**$4,988,364**	**$5,005,898**	**$8,586,017**

Table 5.6 identifies increased contractual expenditures in several areas. Significant expenditures are associated with increased support for Phase 1 of the Pure Water Program as it comes online, increased maintenance at wastewater facilities to ensure all systems are properly maintained, and flow and depth monitoring to ensure ongoing monitoring of the effectiveness of the wastewater collection and treatment system.

Additional amounts are in support of increased condition assessments, environmental support and compliance to ensure compliance with various local, state, and federal requirements such as the Habitat Conservation Plan and Multiple Species Conservation Plan, financial support, and upgrades to various Wastewater System security systems.

Information Technology

The Information Technology category includes both discretionary expense and non-discretionary allocations to the Sewer Revenue Funds. The Information Technology category includes the costs related to hardware and software maintenance, help desk support, and other information technology (IT) services. Table 5.7 below displays the FY 2021 through FY 2026 projections for the Information Technology category.

Table 5.7 - Information Technology - Baseline Expenditure Projections ($ in Millions)						
	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Growth Rate	N/A	0.0%	4.2%	2.0%	2.0%	2.0%
Projection	$12.4	$12.1	$12.6	$12.9	$13.1	$13.4

The projections include estimates of IT costs related to desktop support, networks, data-centers, applications, and systems critical to wastewater treatment plant operations for FY 2021 through FY 2026, Expenditures were inflated by 2% to account for potential cost increases in IT services and hardware/software products, and one-time expenditures in FY 2021 were removed from FY 2022 projections. Due to PUD's historical actual operating trends being lower than budgeted amounts and

the continued uncertainty surrounding the impacts of the COVID-19 pandemic on operations, FY 2022 baseline amounts are otherwise carried forward from FY 2021.

Critical Strategic Expenditures

Table 5.8 Critical Strategic Expenditures - Information Technology					
Request	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**
Customer Service Support	$175,000	$175,000	$175,000	$175,000	$175,000
Desktop Computer Replacement	$0	$795,000	$0	$0	$0
Total Expense	**$175,000**	**$970,000**	**$175,000**	**$175,000**	**$175,000**

Additions in the IT category include additional support for customer service IT systems and replacement of desktop computers in the Department in FY 2023.

Energy & Utilities

The Energy and Utilities category includes the Sewer Fund's costs for electricity, water services, fuel, and other utility and energy expenses. Table 5.9 displays the FY 2021 through FY 2026 projections for the Energy and Utilities category.

Table 5.9 - Energy & Utilities - Baseline Expenditure Projections ($ in Millions)						
	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Growth Rate	N/A	0.0%	0.4%	0.4%	0.4%	0.4%
Projection	$22.6	$22.6	$22.7	$22.8	$22.9	$23.0

The Energy and Utilities category includes various costs. Each cost component has a different applicable rate. Growth rates for energy are based on growth rates prepared by the U.S. Energy Information Administration[6]; those growth rates showed no projected increases for energy, but some increases for fuel. Due to PUD's historical actual operating trends being lower than budgeted amounts and the continued uncertainty surrounding the impacts of the COVID-19 pandemic on operations, FY 2022 baseline amounts are carried forward from FY 2021.

Critical Strategic Expenditures

Table 5.10 - Critical Strategic Expenditures - Energy & Utilities					
Request	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**
Contractual Energy Use	$3,400,000	$3,420,000	$3,420,000	$3,420,000	$3,420,000
Pure Water Support	$0	$0	$0	$416,434	$4,164,343
Total Expense	**$3,400,000**	**$3,420,000**	**$3,420,000**	**$3,836,434**	**$7,584,343**

Table 5.10 above identifies increased energy and utility expenditures for the Wastewater System. Contractual Energy Use covers increased expenditures for methane energy generation at the Metropolitan Biosolids Center and for a fuel cell energy project at the South Bah facility. Expenditures for Pure Water are necessary as new and expanding Pure Water facilities come online and include

[6] U.S. Energy Information Administration, https://www.eia.gov/outlooks/aeo/

expenditures for the Morena pump station, North City Water Reclamation Plant, and the Metro Biosolids Center facilities.

Other Expenditures

Expenses included in this category are transfers out to other funds, capital expenses, and other miscellaneous expenditures. Debt service obligations, including bond and State Revolving Fund (SRF) loan payments, are excluded from this category and are discussed in detail within the Wastewater System Capital Improvement Program section of this report. Table 5.11 displays the FY 2021 through FY 2026 projections for the Other Expenditures category.

Table 5.11 - Other Expenditures - Baseline Expenditure Projections ($ in Millions)

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Growth Rate	N/A	0.0%	0.0%	0.0%	0.0%	0.0%
Projection[(1)]	$5.5	$5.5	$5.5	$5.5	$5.5	$5.5

No growth rate was applied to Other Expenditures as the expenses in this category do not typically recur on an annual basis. The FY 2021 Projection is based on the FY 2021 Adopted Budget which is adjusted to account for historical trends.

Critical Strategic Expenditures

Table 5.12 - Critical Strategic Expenditures - Other Expenditures

Request	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
AMI Support	$23,400	$23,400	$23,400	$23,400	$23,400
Laboratory Operations	$585,000	$15,000	$15,000	$15,000	$15,000
Pure Water Support	$40,000	$0	$0	$0	$0
Total Expense	**$648,400**	**$38,400**	**$38,400**	**$38,400**	**$38,400**

Table 5.12 above identifies small increases in other expenditures, including additional support for laboratory operations, and smaller amounts for immediate Pure Water Program support and ongoing support for the AMI Program.

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Reserve Contributions

The City has established accounts within the Sewer Revenue Fund for three reserve funds: The Emergency Operating Reserve (Operating Reserve), the Rate Stabilization Fund Reserve (Rate Stabilization Fund), and the Emergency Capital Reserve (Capital Reserve). The Department operates these reserve funds in accordance with the City's reserve policy. At the end of FY 2021, the Sewer Revenue Fund is estimating total reserves of approximately $142.0 million. Table 5.13 below details reserve targets and projected funding levels. Reserves are projected to be fully funded throughout the PUD Outlook period. The Sewer Fund's Rate Stabilization Reserve Fund is funded above targeted levels; it can be used to provide one-time operating revenue to offset or mitigate the need for sudden or dramatic rate increases. The PUD Outlook projects use of the Rate Stabilization Reserve Fund in FY 2021 through FY 2023, and contributions to that Reserve in FY 2024 and FY 2025.

Table 5.13 - Reserve Targets and Estimated Funding Levels ($ in Millions)

	Fiscal Year 2021	Fiscal Year 2022	Fiscal Year 2023	Fiscal Year 2024	Fiscal Year 2025	Fiscal Year 2026
Operating Reserve Target ($)	$50.4	$52.7	$53.7	$54.2	$55.1	$57.4
Operating Reserve Level ($)	$50.7	$52.7	$53.7	$54.2	$55.1	$57.4
Rate Stabilization Fund Target ($)	$18.3	$18.9	$19.4	$20.1	$20.8	$21.3
Rate Stabilization Fund Level ($)	$81.3	$63.8	$41.3	$46.3	$53.8	$53.8
Capital Reserve Target ($)	$10.0	$10.0	$10.0	$10.0	$10.0	$10.0
Capital Reserve Level ($)	$10.0	$10.0	$10.0	$10.0	$10.0	$10.0

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Wastewater System Capital Improvement Program

The Wastewater System CIP is established to address current and future system needs in a cost-effective manner. The program's principal drivers are:

- implementation of the Pure Water Program;
- improving infrastructure to reduce emergency spills and repairs;
- improving process technology;
- expansion of the Wastewater System to accommodate growth; and
- ongoing replacement and rehabilitation of 45 miles of sewer pipelines each year.

Infrastructure improvements generally consist of wastewater treatment plants, pipelines, and pump stations, and projects required by or related to applicable State and Federal regulations and orders. The Wastewater System's CIP for this PUD Outlook period includes improvements to the Wastewater System infrastructure, as well as Phase 1 of the multi-year Pure Water Program.

Table 6.1 shows categories of projects with the estimated cost of expenditures contained in the CIP for the period of Fiscal Years 2022 through 2026.

Table 6.1 - Summary of Projected CIP Projects
Fiscal Year 2022-2026
($ in Millions)

Wastewater CIP Projects	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	Total
Pure Water Program	$157.4	$189.0	$109.2	$43.4	$10.1	$509.1
Trunk Sewers	$56.9	$24.7	$21.2	$27.1	$35.6	$165.6
Muni Pump Station	$1.3	$0.9	$1.6	$6.4	$16.8	$26.9
Sewer Pipelines	$70.0	$72.7	$88.8	$63.3	$58.3	$353.1
Miscellaneous Projects	$6.1	$8.5	$27.9	$34.0	$7.9	$84.5
SDG&E Relocation Advance	$28.4	$0.0	$0.0	$0.0	$0.0	$28.4
Sewer Treatment Plants	$29.4	$34.2	$19.7	$10.9	$2.4	$96.6
Large Sewer Pump Station	$5.2	$6.8	$7.1	$1.1	$1.8	$21.9
Recycled Water	$0.4	$0.4	$0.4	$0.4	$0.2	$1.6
Total	**$355.1**	**$337.1**	**$275.9**	**$186.5**	**$133.2**	**$1,287.8**

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Capital Improvement Financing Plan

Table 6.2 describes the projected sources of funds to finance the Wastewater System CIP for Fiscal Years 2022 through 2026. PUD anticipates incurring approximately $447.2 million of additional debt obligations for the Baseline Wastewater System CIP and $564.3 million of additional obligations for the Pure Water CIP over the PUD Outlook period. Additional amounts will be funded with grants, capacity fee revenue, and cash.

Table 6.2 - Sources of Funds for the Wastewater Capital Improvement Program ($ in Millions)

Source of Funds	FY 2023	FY 2024	FY 2025	FY 2026	TOTAL
Pure Water CIP					
SRF Loans	$172.5	$122.9	$57.4	$16.2	$564.3
Grants	$0.0	$0.0	$0.0	$0.0	$0.0
Capacity Fees / Cash	$16.4	($13.6)	($14.0)	($6.1)	($55.2)
Total	**$189.0**	**$109.2**	**$43.4**	**$10.1**	**$509.1**
Baseline CIP					
Commercial Paper/Revenue Bonds	$80.0	$60.0	$0.0	$0.0	$290.0
SRF Loans	$7.5	$38.0	$53.5	$51.2	$157.2
Grants	$0.0	$0.0	$0.0	$0.0	$0.3
Capacity Fees / Cash	$60.7	$68.7	$89.6	$71.9	$331.1
Total	**$148.2**	**$166.7**	**$143.1**	**$123.1**	**$778.7**
Total Funding	**$337.1**	**$275.9**	**$186.5**	**$133.2**	**$1,287.8**

The City anticipates financing all (approximately $581 million) of the Wastewater System's portion of Pure Water Phase 1 through low-interest State Revolving Fund (SRF) loans which will provide funding in Fiscal Years 2022 through 2026. The SRF proceeds will reimburse not only projected expenditures for Fiscal Years 2022 through 2026, but also expenditures from prior years. Because SRF loans are provided on a reimbursable basis, cash is initially used to fund construction amounts before reimbursements are received; this is reflected in the table above by negative cash values for Pure Water financing in FY 2022, and FY 2024 through FY 2026.

As noted in the discussion of the Water System CIP, SRF loans are one of the least expensive sources of financing available to the City. If the City is not awarded the SRF loans projected over this PUD Outlook period, it will need to seek financing sources that carry higher interest rates. Such financing sources could impact the schedule of projected CIP projects.

The City anticipates financing approximately $157.2 million of the Wastewater System Baseline CIP with SRF loans in Fiscal Years 2022 through 2026. This includes approximately $9.0 million from existing SRF loans which the City has already secured, and $148.2 million from loans for which the City has applied or is in the process of applying. Additionally, the City anticipates financing approximately $290.0 million of the Wastewater System Baseline CIP through revenue bonds over the same period. It is expected that a total of $ 331.4 million will come from grants, capacity fees, and cash on a pay-as-you-go-basis.

Debt Service Coverage Ratio

Similar to the Water System, as the Wastewater System makes use of various financing instruments to fund its capital program, it is important that it maintain good financial metrics to ensure its creditworthiness and its ability to issue debt at advantageous terms. One of the key components to measuring the Wastewater System's credit quality is its debt service coverage ratio (DSCR). The DSCR is a measure of a system's ability to make payments on its existing and projected debt service, and compares the system's net operating revenues against its debt service payments.

While variations in revenues and expenditures will result in varying DSCRs in given years, the Department generally targets a DSCR of 1.5x, a financial target that gives the Wastewater system the ability to maintain high credit quality leading to continued low borrowing rates. Additionally, the Department's bond covenants require it to maintain a DSCR of 1.2x for its senior debt and 1.1x for its aggregate debt. The projected DSCRs over the PUD Outlook period are displayed in Table 6.3 below.

Table 6.3 - Projected Debt Service Coverage Ratios[1]
($ in Millions)

	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Net System Revenues	$161.7	$174.7	$158.2	$167.1	$172.4
Debt Service	$109.2	$118.0	$103.3	$105.4	$110.9
Debt Service Coverage Ratio	**1.48 x**	**1.48 x**	**1.53 x**	**1.59 x**	**1.55 x**

[1] Note - DSCRs shown here are based budgetary projections; DSCRs reported in CAFR statements may differ due to variances in non-budget transactions.

Wastewater System Revenues

The following section provides details of revenue projections for the Sewer Revenue Funds. The primary revenue sources of the Wastewater System are generated from sewer service charges, capacity fees, interest earnings from the investments of available funds, and revenues from the Participating Agencies. This section will discuss in detail each revenue category and will include a description of the revenue source, projected growth rates, and a discussion of future revenue streams and how it impacts the Wastewater System.

Sewer Service Charges

Background. PUD manages and operates the Wastewater System with funds derived primarily from service charges that are deposited in the Sewer Revenue Funds and are used for the operation, maintenance and capital improvement of the Metro Sub-System and the Muni Sub-System.

The City establishes fees based upon the costs incurred by the City to collect, treat and discharge wastewater and pay for required capital improvements.

Sewer service charges are based on the characteristics of the wastewater discharged by each sewer user. All sewer users are charged based upon the amount of flow, and the solids and organic material which they discharge into the Sewer System. As sewage discharge is not metered, water consumption is used to approximate each customer's sewage flow.

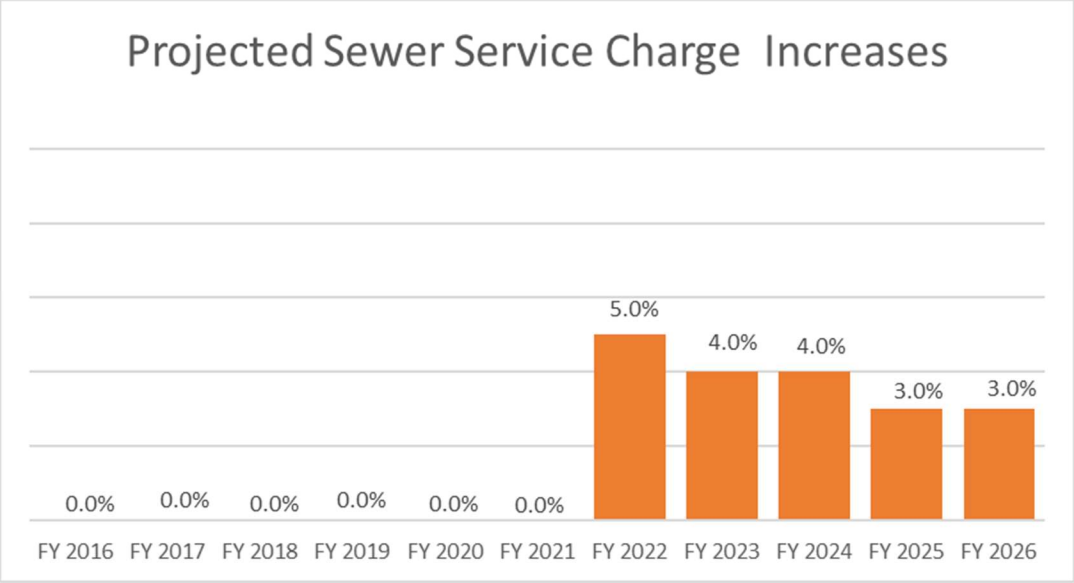
Sewer service charge revenues are comprised of two parts: a base fee and a sewer service charge (flow charge). The base fee is a fixed monthly service fee charged to all customers to recover certain

fixed and indirect costs. The flow charge is based on the amount (flow) and strength of the wastewater discharged to the sewer system, and incorporates allowances for system return that differs by customer class. This adjustment factor recognizes that not all water consumed discharges to the Wastewater System. The flow charge for both Single Family Residential (SFR) and Multi-Family Residential (MFR) customers include a 95% return to sewer, while Commercial/Industrial (C/I) customers average a 73% return to sewer and vary depending on the type of business. Additionally, the flow charge for SFR customers is based on the least amount of water used during the previous winter and includes a water usage cap of 20 HCF.

Wastewater Service Charge Rate Increases. The Department last presented a wastewater rate case in 2006 (the 2006 Rate Case). The 2006 Rate Case covered four years and was based on comprehensive forecasted annual operations and maintenance costs and projected capital expenditures. The 2006 Rate Case covered Fiscal Years 2007 through 2010 and was approved by the City Council in February 2007. The rate case included rate increases of 8.75% on May 1, 2007, 8.75% on May 1, 2008, 7.00% on May 1, 2009, and 7.00% May 1, 2010. Sewer rates have remained unchanged since then.

Based on projected expenditure and revenue needs, this PUD includes projected sewer service charge revenue adjustments of 5.0% in FY 2022, 4.0% in FYs 2023 and 2024, and 3.0% in FYs 2025 and 2026, as shown in Figure 6.1 below. Actual rate increases and the specific impact on each customer class will be subject to finalization of the cost of service study that is currently underway and City Council consideration.

Figure 7.1 – Sewer Service Charge Rate Increases.



Forecast. Table 7.2 shows the forecast for FY 2021 through FY 2026 for revenue from sewer service charges. This revenue source represents approximately 73% of the Sewer Revenue Funds overall revenue receipts. The forecast assumes a 0.25% increase in accounts and reflects projected rate increases beginning in FY 2022 through FY 2025.

Table 7.2 - Sewer Service Charge Revenue Projections ($ in Millions)						
	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Growth Rate	N/A	4.40%	4.26%	4.26%	3.26%	3.26%
Projection	$290.1	$302.9	$315.8	$329.2	$339.9	$351.0

Economic Trends. Overall demand for sewer services closely tracks population growth. The demand for sewer services within the City's service area is projected to increase moderately as the population continues to grow and development expands. The average demand over the last five years has not grown significantly, with some small growth in demand largely caused by increases in population.

Sensitivity Analysis. While these projections represent PUD's best estimate of wastewater revenues throughout the PUD Outlook period, actual results will depend on the factors discussed above. The impact in revenue from potential rate increases ranges from $2.9 to $3.3 million for each percent added or subtracted from projected rate increases depending on the year in which sewer service charges are adjusted. Adjustments to projected rates in earlier years would compound this amount.

Wastewater Capacity Charges

Background. Capacity charges are development fees imposed on permits for new or expanded wastewater connections and are based on an estimate of the increase in wastewater discharge as measured by equivalent dwelling units. Capacity charge proceeds are used to construct, improve and expand the Wastewater System to accommodate the additional business of such added dwellings or commercial or industrial units.

As with water capacity charges, wastewater capacity charges can be applied only for the purpose of paying costs associated with capital expansion, bonds, contracts, or other indebtedness of the Wastewater System related to expansion. Because capacity charges are primarily collected on new construction within the City, revenues obtained from such charges vary based upon construction activity.

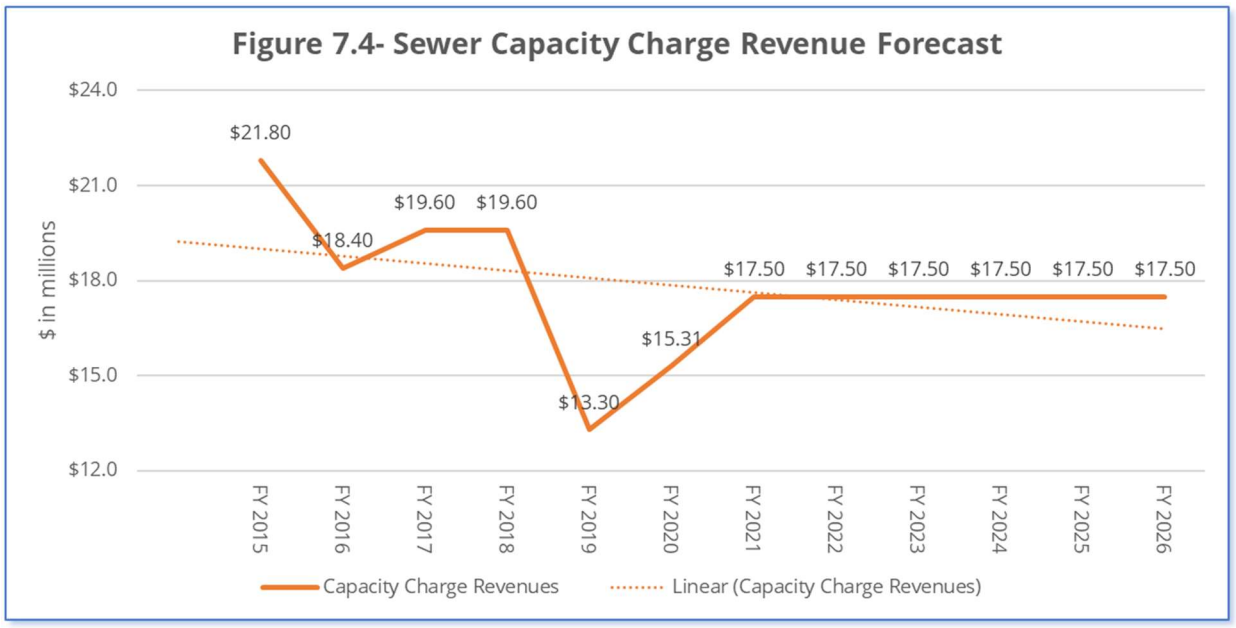
In February 2007, the City Council and Mayor approved raising the capacity charge to $4,124 per Equivalent Dwelling Unit ("EDU"), which was estimated to provide for full cost recovery for Wastewater System expansion projects.

Forecast. Table 7.3 presents revenue forecast for FY 2021 through FY 2026 for revenue from sewer capacity charges. This revenue source represents approximately three percent of the Wastewater System's overall revenue receipts.

Table 7.3 - Capacity Charge Revenue Projections ($ in Millions)						
	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Growth Rate	N/A	0.00%	0.00%	0.00%	0.00%	0.00%
Projection	$17.5	$17.5	$17.5	$17.5	$17.5	$17.5

Projected revenues for wastewater capacity charges use conservative growth estimates based on trends from FY 2016 through FY 2020, and projected construction permitting activity as shown in Figure 6.4. Average wastewater capacity fee revenue between FY 2015 and FY 2020 was approximately

$18.0 million. Capacity fee projections of $17.5 million over the PUD Outlook period are based on this average and take recent trends into account, as shown in Figure 7.4.



Economic Trends. As previously mentioned, wastewater capacity charges are primarily based on new wastewater connections related to new construction and are directly influenced by population growth and residential and commercial development. As discussed in the Water Capacity Charges section of this report, the City of San Diego's population has grown by approximately 7% between the 2000 Census and the 2010 Census for an aggregate increase of 84,000. As population continues to increase in the region, the demand for new single and multi-family housing is also expected to increase in order to meet population demands. Projections mirror those of Water Capacity Charges by remaining flat. For a more detailed discussion on population and housing growth, refer to the Water Capacity Charges section of this report.

Other Revenue

The primary component of the Other Revenue category is revenues received from Participating Agencies (PAs) for use of the City's wastewater treatment system. As discussed earlier, the PAs are other cities and districts that collect wastewater from their customers and send it to the City's wastewater treatment facilities. Each PA pays for its actual impact on the Wastewater System based on a measurement of the strength and flow of wastewater from the PAs. Revenues from the PAs total $80 million per year over the PUD Outlook period and represent approximately 79% of revenues in the Other Revenue category. The Other Revenue category also includes revenue received for the sale of recycled water, interest on pooled investments, reimbursements from services provided to other City departments / funds, grants revenue, and other miscellaneous revenues.

Table 7.5 displays the FY 2021 through FY 2025 projections for the Other Revenue category.

Table 7.5 - Other Revenue Projections ($ in Millions)						
	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Growth Rate	N/A	0.00%	0.00%	0.00%	0.00%	0.00%
Projection	$98.7	$100.1	$99.9	$99.8	$105.1	$105.3

No growth rate is applied to the Other Revenue category for the PUD Outlook period. However, revenues are projected to increase from FY 2021 through FY 2026 based on historical analysis, projected interest income, and other known and anticipated adjustments. Also, the increase in FY 2025 reflects new revenue associated with the sale of Recycled Water from the North City Water Reclamation Plant.

ATTACHMENT 13

METROTAC

UPDATE/WORK PLAN

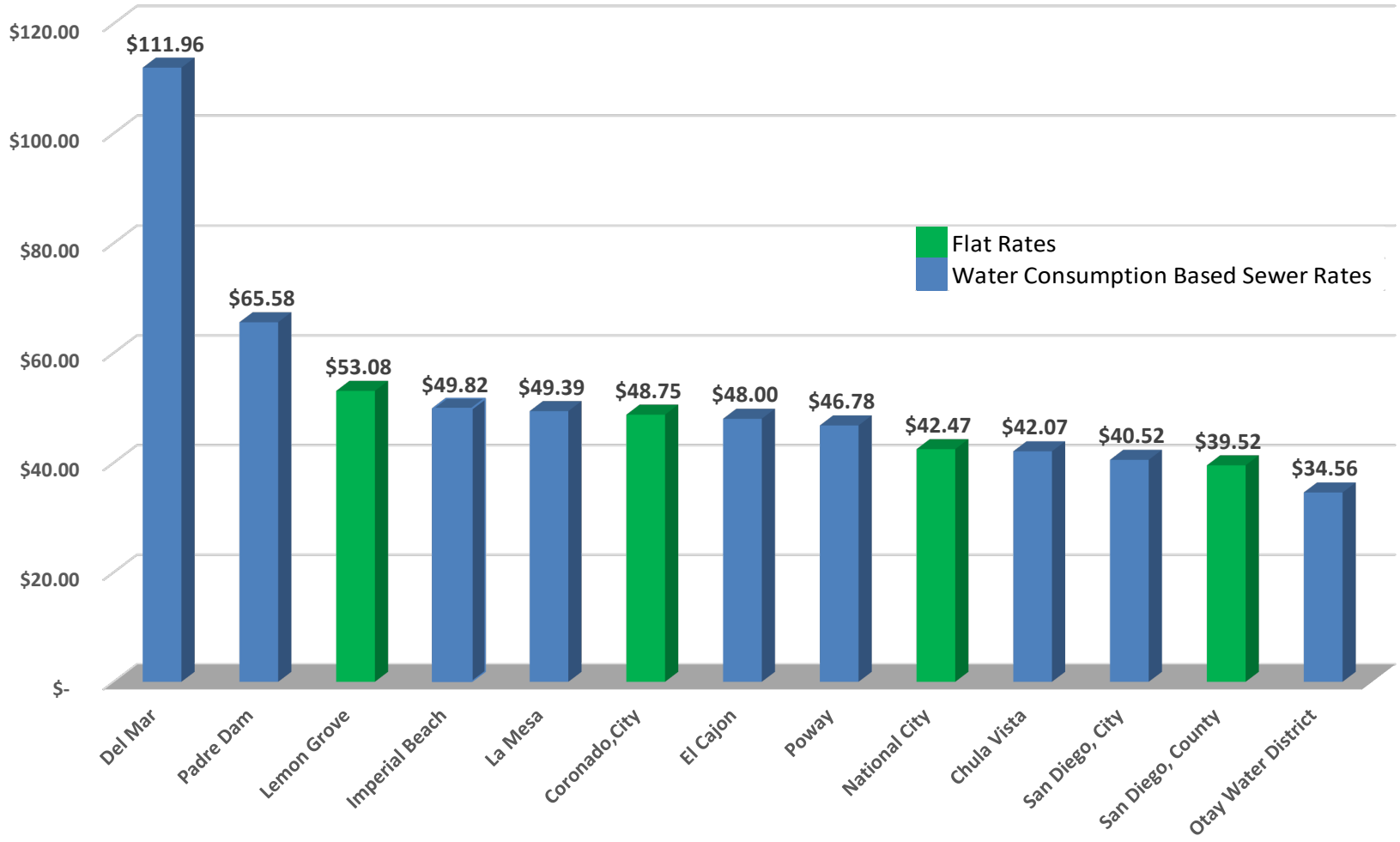
Metro TAC & JPA Work Plan
Active & Pending Items
January 2021
Updated Items in Red Italics

Active Items	Description	Member(s)
SB 332 Working Group	SB 332 (Hertzberg/Weiner) relates to wastewater treatment for recycled water and agencies with ocean outfalls. It requires the entity that owns the wastewater treatment facility that discharges through an ocean outfall and affiliated water suppliers (it defines water not wastewater suppliers) to reduce the facilities annual flow as compared to the average annual dry weather wastewater discharge baseline volume as prescribed by at least 50% on or before January 1, 2030 and by at least 95% on or before January 1, 2040. The working group was formed to track the process of this legislation.	*Yazmin Arellano* *Beth Gentry* *Hamed Hashemian*
Muni Transportation Rate Study Working Group	6/19: Working Group has presented an alternative plan which the City is reviewing.	Roberto Yano Yazmin Arellano Dan Brogadir Carmen Kasner Mark Niemiec Dexter Wilson SD staff
Point Loma Permit Ad Hoc	Metro Commission/JPA Ad Hoc established 9/17. GOAL: Create regional water reuse plan so that both a new, local, diversified water supply is created AND maximum offload at Point Loma is achieved to support legislation for permanent acceptance of Point Loma as a smaller advanced primary plant. Minimize ultimate Point Loma treatment costs and most effectively spend ratepayer dollars through successful coordination between water and wastewater agencies. *1/21 This group continues to meet as needed.*	Jerry Jones Jim Peasley Ed Spriggs Bill Baber Jill Galvez Metro TAC staff & JPA consultants
Phase II Pure Water Facilities Working Group	Created to work with SD staff & consultants on determining Phase II facilities and costs. *1/21: Alternatives have been narrowed to two.*	Roberto Yano Scott Tulloch Dexter Wilson SD staff & consultants
Phase I Financial Implementation Working Group	This working group was formed to continue to work on Section 2.9.1 and other financial implementations issues in Exhibit F associated with the Amended Restated Agreement. *1/21: Group will start meeting once the ARA is fully signed (January 2021) on a regular basis with a goal to complete all tasks by 1/22.*	Roberto Yano Karyn Keese Dexter Wilson SD staff & consultants
Phase II Disposal Agreement Working Group	This group was created to negotiate the 2nd Amended Restated Agreement ARA2) which will incorporate the completed financial and other items from the first ARA. *1/21: Working Group is meeting with SD staff to set up framework for ARA2 process.*	Roberto Yano Eric Minicilli Karyn Keese Scott Tulloch Dexter Wilson SD staff & consultants
Pretreatment Working Group	Formed to work with San Diego on new standards for industrial waste discharge and cost allocation of same. 1*/21: SD is trying to formalize a pretreatment rate case and has hired a consultant. Monthly updates are presented at TAC.*	**Beth Gentry** Interested JPA members Dexter Wilson SD Staff & Consultants

Metro TAC & JPA Work Plan
Active & Pending Items
January 2021
Updated Items in Red Italics

Active Items	Description	Member(s)
JPA Website Update Working Group	The JPA Website, especially the New Director Manual, has not been updated for several years. *1/21: Working group has started revisions and is looking for technical members to assist.*	Roberto Yano Karyn Keese Lori Peoples
Exhibit E Audit	*1/21: FY2019 Exhibit E audit is in fieldwork stage. JPA team reviewing SD responses to sample questions.*	Karen Jassoy Karyn Keese Dexter Wilson
IRWMP	JPA Members should monitor funding opportunities at: http://www.sdirwmp.org *1/21: Beth Gentry continues to give monthly TAC updates. Details can be found in minutes of each meeting.*	Yazmin Arellano Beth Gentry
Changes in wastewater/water legislation	BBK, Metro TAC and the Board should monitor and report on proposed and new legislation or changes in existing legislation that impact wastewater conveyance, treatment, and disposal, including recycled water issues	BBK JPA members as appropriate

Sewer Rate Comparison for Metro Participating Agencies
Single Family Monthly Rates Based on 7 HCF of Water Usage
Effective January 1, 2021 for FY 2021



Metro TAC
Participating Agencies
Selection Panel Rotation

Agency	Representative	Selection Panel	Date Assigned
County of San Diego	Dan Brogadir	As-Needed Condition Assessment Contract	3/24/2015
Chula Vista	Roberto Yano	Out on Leave	6/10/15
La Mesa	Greg Humora	North City to San Vicente Advanced Water Purification Conveyance System	6/10/15
Poway	Mike Obermiller	Real Property Appraisal, Acquisition, and Relocation Assistance for the Public Utilities Department	11/30/15
El Cajon	Dennis Davies	PURE WATER RFP for Engineering Design Services	12/22/15
Lemon Grove	Mike James	PURE WATER RFP Engineering services to design the North City Water reclamation Plant and Influence conveyance project	03/16/15
National City	Kuna Muthusamy	Passes	04/04/2016
Coronado	Ed Walton	As-Needed Environmental Services - 2 Contracts	04/04/2016
Otay Water District	Bob Kennedy	As Needed Engineering Services Contract 1 & 2	04/11/2016
Del Mar	Eric Minicilli	Pure Water North City Public Art Project	08/05/2016
Padre Dam	Al Lau	Biosolids/Cogeneration Facility solicitation for Pure Water	08/24/2016
County of San Diego	Dan Brogadir	Pure Water North City Public Art Project	08/10/2016
Chula Vista	Roberto Yano	Design Metropolitan Biosolids Center (MBC) Improvements Pure Water Program	9/10/2016
La Mesa	Greg Humora	Design of Metropolitan Biosolids Center (MBC) Improvements	9/22/16
Poway	Mike Obermiller	Electrodialysis Reversal (EDR) System Maintenance	12/7/16
El Cajon	Dennis Davies	As-Needed Construction Management Services for Pure Water	3/13/17
Lemon Grove	Mike James	Morena Pipeline, Morena Pump Station, Pure Water Pipeline and Dechlorination Facility, and the Subaqueous Pipeline	8/7/17
National City	Vacant	North City and Miramar Energy Project Landfill Gas and Generation- Pass	1/31/2018
Coronado	Ed Walton	North City and Miramar Energy Project Landfill Gas and Generation	1/31/2018
Otay Water District	Bob Kennedy	As Needed Engineering Services - Contracts 3 and 4 (H187008 & H187009)	2/16/2018
Del Mar	Joe Bride	Request for Proposal Owner Controlled Insurance Program (OCIP) Pure Water – 1st email sent on 5/23/18 & 2nd email sent on 5/29/18	5/23/18
Padre Dam	Al Lau	Request for Proposal Owner Controlled Insurance Program (OCIP) Pure	5/31/18

		Water (Mark Niemiec will participate)	
County of San Diego	Dan Brogadir	Request for Owner Controlled Insurance Program Interview (Pure Water)	2/25/19
Chula Vista	Frank Rivera Beth Gentry	Request for Owner Controlled Insurance Program Interview (Pure Water)	2/26/19
Imperial Beach	Eric Minicilli	RSP Metro Metering	4/22/2020
La Mesa	Hamed Hashemian		
Poway	Eric Heidemann Troy DePriest		
El Cajon	Dennis Davies Yazmin Arellano		
Lemon Grove	Mike James		
National City	Roberto Yano		
Coronado	Ed Walton		
Otay Water District	Bob Kennedy		
Del Mar	Joe Bride		
Padre Dam	Mark Niemiec Sen Seval		
County of San Diego	Dan Brogadir		
Chula Vista	Frank Rivera		
Imperial Beach	Eric Minicilli		
La Mesa	Hamed Hashemian		
Poway	Eric Heidemann Troy DePriest		
El Cajon	Dennis Davies Yazmin Arellano		
Lemon Grove	Mike James		
National City	Roberto Yano		
Coronado	Ed Walton		
Otay Water District	Bob Kennedy		
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Padre Dam	Mark Niemiec Sen Seval		
County of San Diego	Dan Brogadir		
Chula Vista	Frank Rivera		
Imperial Beach	Eric Minicilli		
La Mesa	Hamed Hashemian		