METRO TAC AGENDA
(Technical Advisory Committee to Metro JPA)

TO: Metro TAC Representatives and Metro Commissioners

DATE: Wednesday, March 20, 2019

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

LOCATION: 9192 Topaz Way, (PUD MOC II Auditorium) – Lunch will be provided

PLEASE DISTRIBUTE THIS NOTICE TO METRO COMMISSIONERS AND METRO TAC REPRESENTATIVES

1. Review and Approve MetroTAC Action Minutes for the Meeting of January 16, 2019 (**Attachment**)

2. Metro Commission/JPA Board Meeting Recap (Standing Item)

3. **ACTION:** Review and Consideration and Possible Action to Recommend to the Metro Commission/Metro Wastewater JPA for Approval of The Metro Wastewater Joint Powers Authority Treasurer's Report for Six Months Ending December 31, 2018 (Karen Jassoy) (**Attachment**)

4. **ACTION:** Review and Consideration and Possible Action to Recommend to the Metro Commission/Metro Wastewater JPA for Approval of Ferric Chloride Chemical Purchase (Juan Guerrero) (**Attachment**)

5. **REPORT:** Update from Residuals Management Working Group (Scott Tulloch/Dexter Wilson)

6. **REPORT:** Update from Sample Rejection Protocol Working Group (Edgar Patino)

7. Metro Wastewater Update (Standing Item) (Edgar Patino)

8. Pure Water Program Update (Standing Item) (John Helminski)

9. Metro Capital Improvement Program and Funding Sources (Standing Item) (Tung Phung) (**Attachment**)

10. Financial Update (Standing Item) (Karyn Keese)

    - PUD Five-Year Financial Outlook – FY 2020-2024 (**Attachment**)

11. IRWMP Update (Standing Item) (Yazmin Arellano)

12. MetroTAC Work Plan (Standing Item) (Roberto Yano) (**Attachment**)

13. Review of Items to be Brought Forward to the Regular Metro Commission/Metro JPA Meeting (**April 4, 2019**)

14. Other Business of Metro TAC

15. Adjournment (To the next Regular Meeting April 17, 2019)

Metro TAC 2019 Meeting Schedule

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

Attachment 1

Draft Minutes of
January 16, 2019

Metro TAC
(Technical Advisory Committee to Metro Commission/JPA)

ACTION MINUTES

DATE OF MEETING: January 16, 2019

TIME: 11:00 AM

LOCATION: MOC II Auditorium

MEETING ATTENDANCE:

Roberto Yano, National City
Beth Gentry, Chula Vista
Ed Walton, Coronado
Yazmin Arellano, El Cajon
Eric Minicilli, Imperial Beach
Hamed Hashemian, La Mesa
Mike James, Lemon Grove
Dexter Wilson, Lemon Grove
Roberto Yano, National City
AL Law, Padre Dam MWD
Mark Niemiec, Padre Dam MWD
Rudy Guzman, Poway
Jessica Parks, Poway
Scott Tulloch, NV5
Lori Anne Peoples, MetroTAC

Jerry Jones, Metro JPA Chair

John Helminski, City of San Diego
Charles Modica, City of San Diego
Edgar Patino, City of San Diego
Charlotte Strong-Williams, City of SD

Doug Owen, Stantec

1. Review and Approve MetroTAC Action Minutes for the Meeting November 21, 2018

Yazmin Arellano of El Cajon motioned and Eric Minicilli of Imperial Beach seconded to approve the draft minutes. The motion carried unanimously.

2. Metro Commission/JPA Board Meeting Recap

Chair Yano stated that since the JPA did not meet in January, he had no recap.

3. INFORMATION ONLY: Phase II Design Flows and Loads

Doug Owen of Stantec, consultant for City of San Diego stated they have been working with a subgroup collaborative and have taken a large number of alternatives and whittled them down to a smaller number to take forward and

evaluate. Part I today; Part II in a month or so.

Mr. Owen then presented a PowerPoint presentation on the Phase II Design Flows and Loads. A copy is provided as Exhibit A to these Minutes.

Dexter Wilson of Lemon Grove explained the chart noting that the average annual daily flow number relates to capacity rights subtracting the So. Bay and East County projects, the total equals the number in Exhibit G. Average flows are not driving the base design. The 240 MGD peak flow that does not appear in any agreements is what is driving. They need to design for peak flows. This means when looking at Pt. Loma, you are subtracting off 403.6 because they are designing for peak. He suggested doing a study to see where all the water is coming from and will come back with alternative evaluations, costs, qualitative criteria etc. in the near future.

4. REPORT: Update from Residuals Management Working Group

Dexter Wilson of Lemon Grove stated that the group was working to facilitate reaching an agreement with East County. They had met this morning with the Technical group and were tasked to determine the level of a containment needed to cause an issue at NCWRP or NCPWF. The group has developed a model. The main group meeting will be this coming Friday to review. Al though there are different subjects, all 4 agencies are being cooperative. This will be a separate agreement that will come out for residuals that will cause another amendment to the disposal agreement.

5. REPORT: Update from Sample Rejection Protocol Working Group Working Group

Edgar Patino, City of San Diego stated he had no update.

6. Metro Wastewater Update (Standing Item)

Edgar Patino, City of San Diego stated that Hana Hanigan from his office had sent the FY 2020 estimated Metro billings yesterday so all agencies should have received them. He asked if anyone had any questions. Karyn Keese stated that she had some but would email to him. She had noticed that the budget estimate for the protocol was at $80 million for FY 2020 which is in line with what San Diego staff had predicted but was concerned that this might be low as we move into construction of Phase I facilities.

7. Pure Water Program Update (Standing Item)

John Helminski, City of San Diego stated that Design Phase I was wrapping up and permits were being issued. Early site work packages were advertised in October and 2 bids were received. Groundbreaking is anticipated to occur in April

and invites will be sent to the PA's. They are now focusing on the other contracts and bids have been staggered every couple of weeks.

8. Metro Capital Improvement Program and Funding Sources (Standing item)

Tung Phung, City of San Diego provided a handout and a brief verbal report. The handout is attached as Exhibit B to these Minutes.

9. Financial Update (Standing Item)

Karyn Keese, Keze Group, consultant to Metro Comm/Metro Wastewater JPA stated that the financial fieldwork on the 2017 audit has been completed and she is expecting an early spring close out and financial reconciliation. She is working with the City of San Diego on preparing early financial estimates, hopefully by next month. She then provided a handout, attached as Exhibit C to these Minutes, titled City of San Diego Public Utilities Department, Notes to the Schedule of Allocation for Billing to Metropolitan Wastewater Utility (Continued) For the Fiscal Year Ended June 30, 2016. She stated that they had implemented the footnote in the audit as of the FY 2016 audit for the purpose of tracking Pure Water costs (note 9 in the attachment). In addition, they will be adding a line showing the cumulative cost of the Pure Water Program starting in FY 2020 once the project cost allocation has been reconciled. She requested the PAs provide a copy of the handout to their Elected Officials and their representatives need be aware that costs associated with the Pure Water program are being tracked and audited. Lastly, she stated that work has started on the 2018 Audit and has added Dexter to the team to assist in auditing the Pure Water Program cost and cost allocations. As of the end of FY 2018 there were 214 Pure Water Program O&M task orders and 3 CIP projects in design.

10. IRWMP Report (Standing Item)

Yazmin Arellano stated they had met on December 5, 2018 and they had received updates on studies, one being the San Diego Basin to determine climate change and population. Another, the Final 2019 IRWMP Plan Phase I on site. They are working on Phase 2 and a water needs assessment. She then requested a volunteer to be her alternate should she not be able to attend a meeting. Beth Gentry of Chula Vista volunteered.

11. MetroTAC Work Plan (Standing Item)

Chair Yano stated that the MetroTAC Work Plan was being given a complete overhaul and although he had hoped to have it for this meeting, it will be presented at the February meeting. He also asked if anyone had interest in being on a particular committee to contact him.

12. Review of Items to be Brought Forward to the Regular Metro Commission/Metro JPA Meeting (February 7, 2019)

There were none.

13. Other Business of Metro TAC

Al Lau of Padre Dam announced he was leaving to become the General Manager of the Santa Fe Irrigation District and was congratulated by all present. Mark Niemiec is currently the Acting Engineering Director.

Chair Yano noted that the Erin Bullers of La Mesa was no longer interested in providing services to Metro as web mistress and asked the group for volunteers to step up. Susan Spotts of the County of San Diego offered her services and was thanked by all especially Secretary Peoples.

14. Adjournment to the next Regular Meeting, February 20, 2019

At 12:32 p.m. the meeting was adjourned.

Attachment 3

Metro JPA
Treasurer's Report
for 6 months Ending
December 31, 2018

Metro Wastewater Joint Powers Authority
Treasurer's Report
Six months ending December 31, 2018

Metro Wastewater JPA
Treasurer's Report
Six months ending December 31, 2018

Beginning Cash Balance at July 1, 2018	$	266,958
Operating Results		
Membership Dues & Interest Income		207,699
Expenses		(183,871)
Change in Net Position		23,828
Net change in Receivables & Payables		(52,063)
Cash used in Operations		(28,235)
Ending Cash Balance at December 31, 2018	$	238,724

Submitted by:

Karen Jassoy, Treasurer, 2/26/19

Metro Wastewater JPA
Statement of Net Position
As of June 30, 2018 and Dec 31, 2018

	June 30, 2018	Dec 31, 2018	$ Change
ASSETS			
Checking/Savings	$ 266,958	$ 238,724	$ (28,235)
Accounts Receivable	11,155	200,932	189,777
Total Assets	**$ 278,113**	**$ 439,655**	**$ 161,542**
LIABILITIES			
Accounts Payable	$ 100,738	$ 30,783	$ (69,956)
Unearned Membership Billings	-	207,670	207,670
Total Liabilities	**$ 100,738**	**$ 238,453**	**$ 137,714**
NET POSITION			
Net Position at Beginning of Period	$ 139,725	$ 177,375	$ 37,650
Change in Net Position	37,650	23,828.26	(13,822)
Net Position at End of Period	**$ 177,375**	**$ 201,203**	**$ 23,828**
TOTAL LIABILITIES & NET POSITION	**$ 278,113**	**$ 439,655**	**$ 161,543**

Net Position at 12/31/18	*$ 201,203*
FY '18 Required Reserve (4 months of Op Exp)	*138,467*
Over (under) required reserve	*$ 62,736*

Metro Wastewater JPA
Statement of Operations
Budget vs. Actual
Six months ending December 31, 2018

	Actual	Budget	Over (Under) Budget
Income			
Membership Dues	$ 207,670	$ 207,670	$ -
Interest Income	29	30	(1)
Total Income	$ 207,699	$ 207,700	$ (1)
Expenses			
Administrative Assistant	$ 3,190	$ 4,200	$ (1,010)
Bank Charges	-	100	(100)
Contingency	-		-
Dues & Subscriptions	-	300	(300)
JPA/TAC meeting expenses	2,895	2,500	395
Miscellaneous	-	125	(125)
Per Diems	7,650	9,000	(1,350)
Postage & Supplies	238	250	(12)
Professional Services			
Auditing - WNDE	2,000	6,000	(4,000)
Engineering - Dexter Wilson	51,822	44,025	7,797
Engineering - NV5	15,025	25,000	(9,975)
Financial Advisor - Keze Group	32,720	38,800	(6,080)
Legal - BB&K	59,543	65,000	(5,457)
Treasurer - Padre Dam	7,500	10,500	(3,000)
Telephone	487	700	(213)
Website Maintenance & Hosting	800	1,200	(400)
Total Expenses	$ 183,871	$ 207,700	$ (23,829)
Change in Net Position	$ 23,828	$ -	$ 23,828

Metro Wastewater JPA
Statement of Cash Flows

Six months ending December 31, 2018

OPERATING ACTIVITIES		
Change in Net Position	$	23,828
Adjustments to Reconcile Change in Net Position to Net Cash Provided by Operations:		
Accounts Receivable		(189,777)
Accounts Payable		(69,956)
Deferred Revenue		207,670
Net cash provided by (used in) Operations		(28,235)
Net cash increase (decrease) for period		(28,235)
		266,958
Cash at end of period	**$**	**238,724**

Metro Wastewater JPA
A/R Aging Summary
As of Dec 31, 2018

	Current	1 - 30	31 - 60	TOTAL	
City of Chula Vista	$ -	$ -	$ 134,609.46	$ 134,609.46	Pmt rec'd 1/30/19
City of SD - Metro Wastewater	$ 5,839.65	$ -	$ -	$ 5,839.65	Pmt rec'd 2/19/19
County of San Diego	$ -	$ -	$ 60,482.86	$ 60,482.86	Pmt rec'd 1/30/19
TOTAL	**$ 5,839.65**	**$ -**	**$ 195,092.32**	**$ 200,931.97**	

Metro Wastewater JPA
Vendor Accrual Summary
As of Dec 31, 2018

Best Best & Kreiger	$ 4,469.30	*Invoice rec'd in Jan*
City of Lemon Grove	10,400.00	*Invoice rec'd in Jan*
Jerry Jones	450.00	*Invoice rec'd in Jan*
Keze Group	5,200.00	*Invoice rec'd in Jan*
NV5	2,575.00	*Invoice rec'd in Jan*
Padre Dam	7,688.31	*Invoice rec'd in Jan*
Total	**$ 30,782.61**	

Attachment 4

Ferric Chloride
Chemical Purchase

METRO JPA/TAC
Staff Report
Date: 3/11/19

Project Title:
Ferric Chloride Chemical Purchase

Requested Action:
JPA/TAC authorization to use up to $13,935,772 of Metro funds to purchase wastewater treatment plant chemical.

Recommendations:
Approve the chemical purchase request and forward to the Metro Commission.

Metro TAC:	To be submitted for consideration
IROC:	N/A
Prior Actions: (Committee/Commission, Date, Result)	This is an on-going chemical purchase. Last time it was submitted for JPA/TAC approval was on August 20, 2014 and Metro Commission approval on September 4, 2014.

Fiscal Impact:

Is this projected budgeted?	X Yes ___ No ____
Cost breakdown between Metro & Muni:	It is estimated that funding will be distributed as follows: Metro $13,935,772; Muni $0
Fiscal impact to the Metro JPA:	33% of Metro costs = $4,598,805

Capital Improvement Program:

New Project?	Yes ___ No ___ N/A _X__
Existing Project?	Yes ___ No ___ Upgrade/addition ___ Change ___ N/A X

Previous TAC/JPA Action:
None for this 2019 – 2024 contract

Additional/Future Action:
Pending Environmental Committee Meeting for April 18, 2019

City Council Action: Pending for May 14, 2019

Background: *Provide background information on the need for the project*
Ferric chloride is used at the Point Loma Wastewater Treatment Plant (PLWTP) to coagulate particulates for sedimentation in its wastewater treatment processes to comply with the modified NPDES permit and to ensure the health and safety of residents and the marine environment.

Discussion: *Provide information on decisions made to advance the project*
Ferric chloride is a proven and cost-effective chemical used in Chemically Enhanced Primary Treatment that supports the PLWTP's ability to comply with the modified NPDES discharge permit to comply with State and Federal regulations.

Bid Results: *If bidding was done provide bidding format and results*
The bid was released on January 16, 2019 and closed on February 1, 2019. Two vendors submitted bids and Kemira Water Solutions, Inc was notified on February 21, 2019 of the City's intent to award the contract.

The estimated expenditure would not exceed $13,935,772 for five years; $403,524 for FY19 and $13,532,248 for FY20-FY24.

Wastewater Treatment and Disposal Division
Distribution of Ferric Chloride Dry Tons
Kemira Water Solutions, Inc. Bid #10089520-19-V
Estimated Effective May 2019 - April 2024

Max Annual Increase:	5%

WWTD Facility -METRO FUND	Annual Dry Ton Usage	Unit Price	Annual Cost	FY 19 Est. Expense for 2 months	FY 20 Est. Expense with 5% increase	FY 21 Est. Expense with 5% increase	FY 22 Est. Expense with 5% increase	FY 23 Est. Expense with 5% increase	FY 24 Est. Expense for 10 months	TOTAL
Point Loma WWTP	**3500 ***	**$ 642**	**$ 2,247,000**	$ 374,500	$ 2,359,350	$ 2,477,318	$ 2,601,183	$ 2,731,243	$ 2,389,837	
Taxes				$ 29,024	$ 182,850	$ 191,992	$ 201,592	$ 211,671	$ 185,212	
Total for Wastewater				**$ 403,524**	**$ 2,542,200**	**$ 2,669,310**	**$ 2,802,775**	**$ 2,942,914**	**$ 2,575,049**	**$ 13,935,772**
WSO Facilities - WATER FUND										
Alvarado WTP	1,300	$ 642	$ 834,600	$ 139,100	$ 876,330	$ 920,147	$ 966,154	$ 1,014,462	$ 887,654	
Miramar WTP	700	$ 642	$ 449,400	$ 74,900	$ 471,870	$ 495,464	$ 520,237	$ 546,249	$ 477,967	
Otay WTP	600	$ 642	$ 385,200	$ 64,200	$ 404,460	$ 424,683	$ 445,917	$ 468,213	$ 409,686	
Subtotal for Water	**2,600**		**$ 1,669,200**	**$ 278,200**	**$ 1,752,660**	**$ 1,840,293**	**$ 1,932,308**	**$ 2,028,923**	**$ 1,775,308**	
Taxes				$ 21,561	$ 135,831	$ 142,623	$ 149,754	$ 157,242	$ 137,586	
Total for Water				**$ 299,761**	**$ 1,888,491**	**$ 1,982,916**	**$ 2,082,062**	**$ 2,186,165**	**$ 1,912,894**	**$ 10,352,289**
PUD TOTAL	**6,100**			**$ 703,285**	**$ 4,430,691**	**$ 4,652,226**	**$ 4,884,837**	**$ 5,129,079**	**$ 4,487,943**	**$ 24,288,061**

TOTAL COST WITH LOWEST BIDDER	FY 19	FY 20 - FY 24	TOTAL
METRO FUND	$ 403,524	$ 13,532,248	**$ 13,935,772**
WATER FUND	$ 299,761	$ 10,052,528	**$ 10,352,289**
	$ 703,285	$ 23,584,776	**$ 24,288,061**

* Unit Price includes shipping

Attachment 10

PUD Five-Year Financial Outlook 2020-2024

The City *of*

SAN DIEGO

PUBLIC UTILITIES DEPARTMENT

FISCAL YEAR 2020-2024

FIVE-YEAR FINANCIAL OUTLOOK

Matthew Vespi
Interim Director

Lee Ann Jones-Santos
Assistant Director

Charles Modica
Deputy Director

Mark Gonzalez
Program Manager

JANUARY 2019

Disclaimer:
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. The City will provide the PUD Five-Year Financial Outlook to the rating agencies, its bond insurers and other interested parties, and welcomes and encourages their careful review of this document. 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. No representation is made by the City that, as of the date this document is read, there is not a material difference between the City's actual performance as of such date and the financial data presented in the PUD Five-Year Financial Outlook. Certain statements in this document constitute forward-looking statements or statements which may be deemed or construed to be forward-looking statements. 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 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.

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) Fiscal Year 2020-2024 Five-Year Financial Outlook (PUD Outlook) is provided to guide long-range planning and serve as the framework for the development of the Fiscal Year (FY) 2020 Proposed Budget for the Water and Sewer Revenue 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 lays out a funding strategy to finance major capital investments in water and wastewater system infrastructure and the construction of the Pure Water Program. 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 and Environmental Stewardship

- Water supply and conservation
- Carbon footprint and energy management

Goal 2: Organization Excellence

- Rate structure optimization
- Safety
- Training and development
- Excellent organizational culture

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. Its projections are consistent with those in PUD's bond offering statements, and largely use a budgetary basis.[1] 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 2020 Budget.

[1] Revenues, Operating Expenses, and Capital Expenses in the Outlook use a cash basis. Debt payments are based on a projected debt schedule.

SUMMARY OF KEY FINANCIAL DATA

This section presents a summary of the PUD FY 2020 through FY 2024 Outlook, and the overall financial condition of the Water and Wastewater System. Summary tables of revenues and operating expenses are provided along with expenses associated with PUD's Capital Improvement Program (CIP), debt service payments, and reserve contributions. 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. Revenue projections include differing growth rates for each line-item. Baseline operating expenditures are those expenditures that are sufficient to allow PUD to continue maintaining its existing operations 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 One of the Pure Water Program coming online.

Water System

Overall, the PUD Outlook for the Water System forecasts revenue to increase moderately over the next five years, primarily due to projected water rate increases in FY 2020 that have been approved by Council, as well as rate increases and that are expected to be needed in FYs 2021 through 2024 (see section on Water Systems Revenues). Other operating revenues are projected to increase slightly between FY 2020 and FY 2021 due to an increase in cash balances and associated interest earnings, but gradually decline over the following three years based on projected market fluctuations. PUD is projecting the receipt of approximately $11.5 million in Local Resource Program incentives from Metropolitan Water District for developing local water supplies, which accounts for the increase in other revenue in FY 2024.

Baseline operating expenditures are projected 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 as reflected in the table 1.1 below. Conversely, capital improvement program expenditures (CIP) begin gradually decreasing starting in FY 2022, as Phase 1 of the Pure Water Program nears completion. Water purchase expenses in FY 2024 decline due to Phase 1 coming on-line.

PUD continues to pursue financing to fund the CIP, including the Pure Water Program, as illustrated on table 1.2 below.

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Table 1.1 - Water System Fiscal Year 2020-2024 Financial Outlook Summary of Operating & Maintenance Key Financial Data ($ in Millions)	Fiscal Year 2020	Fiscal Year 2021	Fiscal Year 2022	Fiscal Year 2023	Fiscal Year 2024
Water Sales	$598.1	$638.7	$678.4	$719.9	$761.1
Capacity Charges	$14.4	$14.4	$14.4	$14.4	$14.4
Revenue from Use of Property	$5.8	$5.8	$5.8	$5.8	$5.8
Other Revenue	$18.3	$19.3	$18.8	$18.4	$31.8
TOTAL SYSTEM REVENUES	**$636.6**	**$678.2**	**$717.4**	**$758.5**	**$813.1**
Salaries & Wages	$49.0	$49.3	$49.6	$49.4	$49.4
Fringe Benefits	$35.9	$36.8	$36.9	$37.0	$37.2
Water Purchases	$268.8	$285.3	$299.9	$315.2	$286.4
Other Non-Personnel Expenditures	$109.4	$113.6	$117.7	$121.8	$126.2
BASELINE OPERATING EXPENDITURES	**$463.2**	**$485.0**	**$504.1**	**$523.4**	**$499.1**
CRITICAL OPERATING EXPENDITURES	**$4.8**	**$4.5**	**$22.1**	**$28.2**	**$37.0**
Contribution to Capital Improvement Program (CIP)	$82.4	$61.4	$65.0	$60.6	$61.7
Debt Service	$90.6	$103.6	$122.3	$131.9	$148.5
(Use of) / Contributions to Reserves	$0.0	$1.0	$4.2	$2.8	$2.6
NON-OPERATING EXPENDITURES	**$173.0**	**$165.9**	**$191.5**	**$195.3**	**$212.7**
TOTAL EXPENDITURES	**$641.0**	**$655.4**	**$717.7**	**$746.9**	**$748.8**
Impact to Fund Balance	**($4.4)**	**$22.7**	**($0.3)**	**$11.7**	**$64.3**

Table 1.2 - Water System Fiscal Year 2020-2024 Financial Outlook Summary of Capital Improvement Program Key Financial Data ($ in Millions)	Fiscal Year 2020	Fiscal Year 2021	Fiscal Year 2022	Fiscal Year 2023	Fiscal Year 2024
Baseline CIP	$249.1	$182.7	$149.5	$144.3	$144.0
Pure Water CIP	$197.0	$281.5	$204.5	$106.0	$13.0
TOTAL CIP EXPENDITURES	**$446.1**	**$464.2**	**$354.0**	**$250.3**	**$157.0**
SOURCES OF FUNDS					
Commercial Paper / Revenue Bonds	$139.0	$111.6	$67.9	$135.0	$88.0
State Revolving Funds	$54.0	$54.8	$59.2	$38.7	$7.3
WIFIA	$170.7	$236.4	$161.9	$16.0	$0.0
Cash	$82.4	$61.4	$65.0	$60.6	$61.7
FINANCING SOURCES	**$446.1**	**$464.2**	**$354.0**	**$250.3**	**$157.0**

Wastewater System

Overall, the PUD Outlook for the Wastewater System forecasts revenue to increase moderately over the next five years, primarily due to projected rate increases related to sewer service charges (see section on Wastewater Systems Revenues). Other operating revenues are projected to increase slightly from FY 2019, primarily due to wastewater system charges to Participating Agencies of the Metropolitan Wastewater System (further described in the PUD Outlook overview below) to reflect anticipated increases in shared costs of Pure Water Program expenses. Additional growth in other revenues is associated with projected increases in pooled investments. The PUD Outlook also anticipates the transfer of funds from the Rate Stabilization Fund to mitigate potential fluctuations in the rates in FYs 2020 through 2024.

Baseline operating expenditures are projected to grow modestly over the next five years, but increases in critical operating expenditures are expected as PUD begins to prepare its operations and maintenance program for Phase 1 of the Pure Water Program as reflected in the table 1.3 below. Similar to the water system CIP, expenditures in the wastewater CIP begin decreasing in FY 2022, as Phase 1 of the Pure Water Program nears completion.

PUD continues to pursue financing to fund the CIP, including the Pure Water Program, as illustrated on table 1.4 below.

Table 1.3 - Wastewater System Fiscal Year 2020-2024 Financial Outlook
Summary of Operating & Maintenance Key Financial Data
($ in Millions)

	Fiscal Year 2020	Fiscal Year 2021	Fiscal Year 2022	Fiscal Year 2023	Fiscal Year 2024
Sewer Service Charges	$271.4	$280.2	$295.0	$310.5	$328.4
Capacity Charges	$16.3	$17.5	$17.5	$17.5	$17.5
Other Revenue	$103.7	$107.6	$109.8	$113.3	$118.6
TOTAL SYSTEM REVENUES	**$391.4**	**$405.3**	**$422.3**	**$441.3**	**$464.5**
Salaries & Wages	$58.3	$58.9	$58.9	$58.9	$58.8
Fringe Benefits	$42.2	$43.1	$43.3	$43.4	$43.6
Other Non-Personnel Expenditures	$134.8	$140.2	$145.0	$149.8	$155.1
BASELINE EXPENDITURES	**$235.3**	**$242.2**	**$247.2**	**$252.1**	**$257.5**
CRITICAL OPERATING EXPENDITURES	**$6.3**	**$7.0**	**$21.3**	**$23.1**	**$29.8**
Contributions to Capital Improvement Program (CIP)	$66.8	$97.1	$96.4	$34.3	$20.0
Debt Service	$106.1	$105.3	$113.6	$124.0	$118.9
(Use of) / Contributions to Reserves [1]	($5.0)	($5.0)	($11.7)	($13.7)	$2.3
NON-OPERATING EXPENDITURES	**$168.0**	**$197.4**	**$198.2**	**$144.6**	**$141.1**
TOTAL EXPENDITURES	**$409.5**	**$446.6**	**$466.7**	**$419.8**	**$428.4**
Impact to Fund Balance	**($18.2)**	**($41.3)**	**($44.5)**	**$21.5**	**$36.1**

[1] Reflects use of Rate Stabilization Reserve to mitigate potential flucuations in rates and contributions to the Operating Reserve.

Table 1.4 - Wastewater System Fiscal Year 2020-2024 Financial Outlook Summary of Capital Improvement Program Key Financial Data ($ in Millions)					
	Fiscal Year 2020	**Fiscal Year 2021**	**Fiscal Year 2022**	**Fiscal Year 2023**	**Fiscal Year 2024**
Baseline CIP	$167.7	$125.5	$142.8	$128.4	$120.1
Pure Water CIP	$190.0	$220.2	$124.5	$38.4	$5.9
TOTAL CIP EXPENDITURES	**$357.7**	**$345.7**	**$267.2**	**$166.8**	**$126.0**
SOURCES OF FUNDS					
Revenue Bonds	$0.0	$0.0	$145.0	$116.0	$90.0
State Revolving Funds	$262.2	$232.6	$9.9	$0.6	$0.0
Capacity Fees	$16.0	$16.0	$16.0	$16.0	$16.0
Grants	$12.7	$0.0	$0.0	$0.0	$0.0
Cash	$66.8	$97.1	$96.4	$34.3	$20.0
FINANCING SOURCES	**$357.7**	**$345.7**	**$267.2**	**$166.8**	**$126.0**

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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 Fund".

The PUD Outlook provides a brief overview of the water and wastewater systems and the impacts of the Pure Water Program. Each section also provides a discussion of baseline projections for revenues and expenditures, and upcoming critical operational expenditures that will require additional resources. Projected Capital Improvement Program (CIP) needs and financing options are also discussed.

The Water System and Wastewater System sections of the PUD Outlook include projections for the next five years of ongoing revenues and expenditures, as displayed in Table 1.1 – Water System Fund Fiscal Year 2020-2024 Financial Outlook, and Table 1.3 Wastewater System Fiscal Year 2020-2024 Financial Outlook, respectively. 'Baseline' projections include expenditure adjustments necessary to support current service levels provided by PUD. Actual FY 2018 unaudited expenditures serve as the starting point for non-personnel baseline projections unless otherwise noted; personnel expenditure projections use the FY 2019 Adopted Budget as a starting point. As noted earlier, 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 implementation of 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. They are discussed within each expenditure category. All expenditures discussed in this report will be further refined during the FY 2020 budget development process.

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Overview of the Water and Wastewater System

The City of San Diego is a major metropolis and is ranked the eighth largest City in the United States and the second largest city in California. The City's total population is estimated at 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 not only the City of San Diego but 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 potable water deliveries of 155 million gallons per day (mgd), or 174,000 acre-feet per year (AFY). 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 by 22% over the next 20 years. PUD expects that this projected growth will increase demand for potable water by 18% to 22%, depending on the variables of future weather and conservation level assumptions.

The City's wastewater system owns and operates wastewater treatment plants that serve the City as well as other the 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 156 million gallons of sewage daily via a vast network of facilities which include an extensive collection system, regional wastewater treatment, cogeneration, and a biosolids production center. The wastewater system is comprised of two subsystems, the Municipal Sub-System and the Metropolitan Sub-System. The Municipal 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 Metropolitan 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 and Metro 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 County Water Authority (CWA) to meet the other 85 - 90% of demand. The CWA is a wholesale water agency that provided approximately 400,000 AF of imported and desalinated water to its member agencies in Fiscal Year 2018, including 155,000 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 19.5% 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 Metropolitan 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 Metropolitan Sub-System facilities, as well as costs relating to the operation and maintenance of the Metropolitan Sub-System. Since Fiscal Year 2011, these aggregate costs have consistently constituted approximately 33% of the total Metropolitan Sub-System costs. Between Fiscal Years 2014 and 2018, the department received, on average, approximately $65 million in System Revenues per fiscal year from the Participating Agencies.

Pure Water Program

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 PUD.

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 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 outfalls and recycle a valuable and limited resource that is currently discharged to the ocean. Phase 1 of the program is expected to produce 30 mgd of purified drinking water by February 2024. This will allow the City to reduce the amount of water purchased in FY 2024 and beyond.

In 2010, the City received a renewal of the Modified Permit for the Point Loma Plant 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), issued the final approval renewing 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 the Point Loma Plant 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 Point Loma Plant that would otherwise be necessary.

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. The designs for the North City Pure Water Phase 1 Projects are complete, and in November 2018 the City Council authorized PUD begin advertising for construction. Future phases include the potential expansion of the South Bay Water Reclamation Plant, as well as proposed Central Area facilities that would include both reclamation and purified water facilities.

Phase 1 is estimated to cost approximately $1.48 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 $865 million is allocated to the Water Utility Fund and approximately $612 million is allocated to the Sewer Revenue.

Phase 1 costs extends through FY 2024; water rates for Fiscal Year 2021 and beyond were not part of the 2016 Rate Case (discussed below). Projected Pure Water Program expenditures for both the Water and Sewer Utility Funds will be dependent on future rates, and PUD anticipates that additional rate capacity from each Fund will be necessary after Fiscal Year 2020.

WATER SYSTEM

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

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: water sales revenue makes up approximately 94% 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 component 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 determined by 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) 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.

Cost of Service Study. The PUD last conducted a Cost of Service (COS) analysis 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 costs expenditures including the Pure Water Program, and purchased water costs from CWA that become effective in January during each fiscal year. 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.[2]

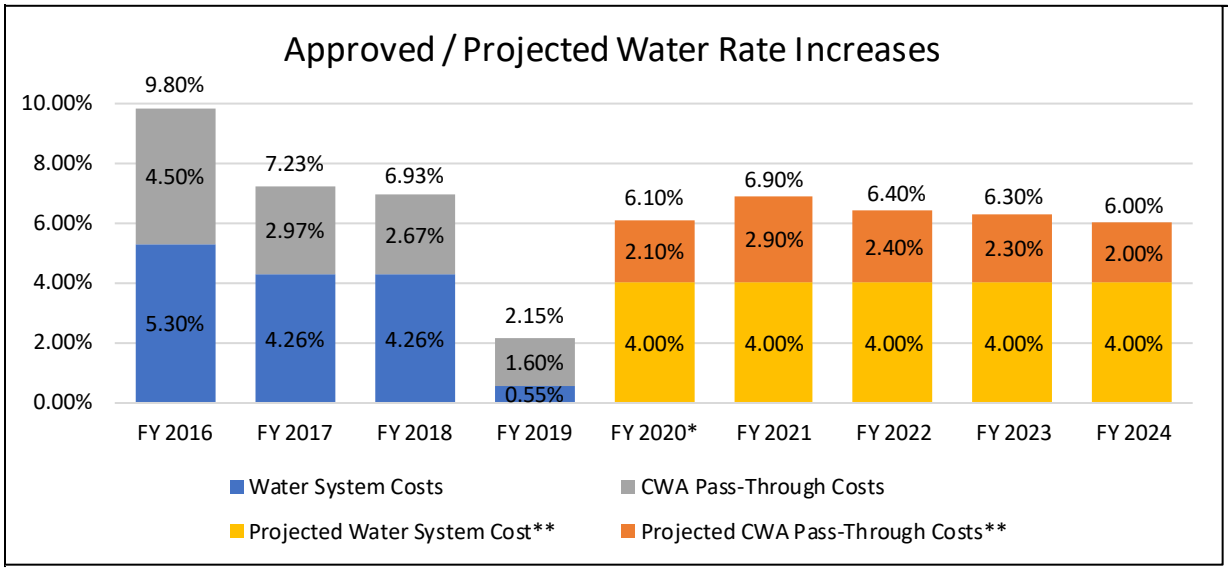
The City is in the preliminary stages of reviewing the rate impacts of revenues and expenditures that are projected to begin in Fiscal Year 2021. The City has engaged Raftelis Financial Consultants, Inc. to assist in the preparation of the COS analysis. The analysis and Proposition 218 process are expected to be undertaken and completed in Fiscal Year 2020. New rates would be proposed to become effective in Fiscal Year 2021. This Outlook assumes preliminary water rate increases of 6.9% in FY 2021, 6.4% in FY 2022, 6.3% in FY 2023, and 6.0% in FY 2024 as detailed on Figure 2.1 below. Actual

[2] 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 2019 are reflected on Figure 2.1 below.

rate increase will be determined through a cost of service study and presented to the City Council for review and approval.

CWA rate increase impacts to the City were projected to be 2.5% in Fiscal Year 2019, and 3.0% in Fiscal Year 2020. Because actual CWA pass through increases are lower than the projections for those years, PUD only passes through the actual CWA costs to its ratepayers. The actual pass through impacts are shown in Figure 2.1 below. The CWA pass through impact for Fiscal Year 2020 is currently projected to be 2.1%.

Figure 2.1 – Water Service Charge Rate Increases.



* The 2016 Rate Case projected an increase of 7.00% for FY 2020, but Public Utilities is only projecting a 6.1% increase based on CWA pass-through costs and Water System costs.

** Projected rates for FY 2021-2024 are *preliminary* projections that include forecasts for CWA pass-through costs, Water System Needs, and revenue necessary to comply with debt service covenants. Detailed forecasts and projections will be prepared in a full cost of service study.

As discussed above, a portion of the projected rate adjustments are attributable to CWA pass-through costs. The remaining 4% is associated with increased PUD operating and capital costs. Roughly half of those needs – and half (2%) of the projected rate adjustments – are associated with capital and operational expenditures necessary for Phase 1 of Pure Water.

Over the Outlook period, $806.1 million, or 48%, of Water Fund CIP needs are attributed to the Pure Water program (see "Water System Capital Improvement Program" section). $80.4 million, or 83%, of Critical Operating Expenditures are attributed to Pure Water program needs. Non-Pure Water Critical Operating Expenditures and increases in baseline expenditures total $104.0 million (see "Water System Expenditures" section).

The following table displays the existing water rates for FY 2019.

Table 2.2 - Fiscal Year 2019 Water Rates (Effective August 1, 2018)			
Service Charge ($/month)		Commodity Charge ($/HCF)	
Meter	Rate	Customer Class	Rate
5/8"	$24.74	Single Family[1]	
3/4"	$24.74	Tier 1 (0-4 HCF)	$4.95
1"	$32.77	Tier 2 (5-12 HCF)	$5.54
1.5"	$51.13	Tier 3 (13-18 HCF)	$7.92
2"	$74.07	Tier 4 (19+ HCF)	$11.13
3"	$127.98	Multi Family	$5.99
4"	$204.83	Non-Residential[2]	$5.84
6"	$395.23	Construction	$6.75
8"	$624.62	Irrigation	$6.64
10"	$893.02		
12"	$1,656.92		
16"	$2,880.76		

1. Bi-Monthly Tiers = 2 x Monthly Tiers.
2. Non-Residential customers include Commercial, Industrial, and Outside City.

Forecast. The following table presents FY 2018 actuals, year-end projections for FY 2019 and the forecast for FY 2020 through FY 2024 for revenue from water sales. The FY 2019 projection includes the rate increase of 2.15% that went into effect August 1, 2018. The growth rates as shown in table 2.3 reflect overall revenue growth, and not actual water rate increases which were presented in Figure 2.1. Additionally, the financial projections in Table 2.3 below assume the proposed rate increases shown in Figure 2.1.

Table 2.3 - Water Sales Revenue Five-Year Forecast ($ in Millions)							
	FY 2018 Actuals	FY 2019 Projection	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Potable Water							
Growth Rate	N/A	2.7%	6.2%	6.9%	6.3%	6.2%	5.8%
Projection	$538.6	$550.4	$584.6	$625.2	$664.9	$706.3	$747.5
Other Water Sales [(1)]							
Growth Rate	N/A	2.4%	4.1%	0.4%	0.4%	0.4%	0.0%
Projection	$12.6	$12.9	$13.4	$13.5	$13.5	$13.6	$13.6

[(1)] Revenue figures for "Other Water Sales" include recycled water sales revenue figures.

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. According to the City's 2015 Urban Water Management Plan (2015 UWMP), single-family residential water use is projected to increase by 39 percent over the period of 2020 to

2040. Multifamily residential water use is forecasted to increase at 69 percent over the projection period of 2020 to 2040.

The City's Pure Water Program is expected to be crucial in meeting 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 of just 1% can impact water sales revenue by approximately $4.5 million. The impact in revenue from potential rate increases ranges from $5.7 to $6.5 million for each percent added or subtracted from projected rate increases depending on the year in which rates are adjusted. Adjustments to projected rates in earlier years would compound this amount.

Note that these factors may also impact each other: declines in water demand may necessitate larger rate increases, while increases in demand may partially offset the need for rate increases. The Department is also currently in the process of evaluating potential alternative water rate structures and expects to bring a report summarizing those alternatives to the City Council in early 2019.

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 City Council and Mayor 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. The City will be undertaking a cost of service study to review existing capacity charge rates in calendar year 2019.

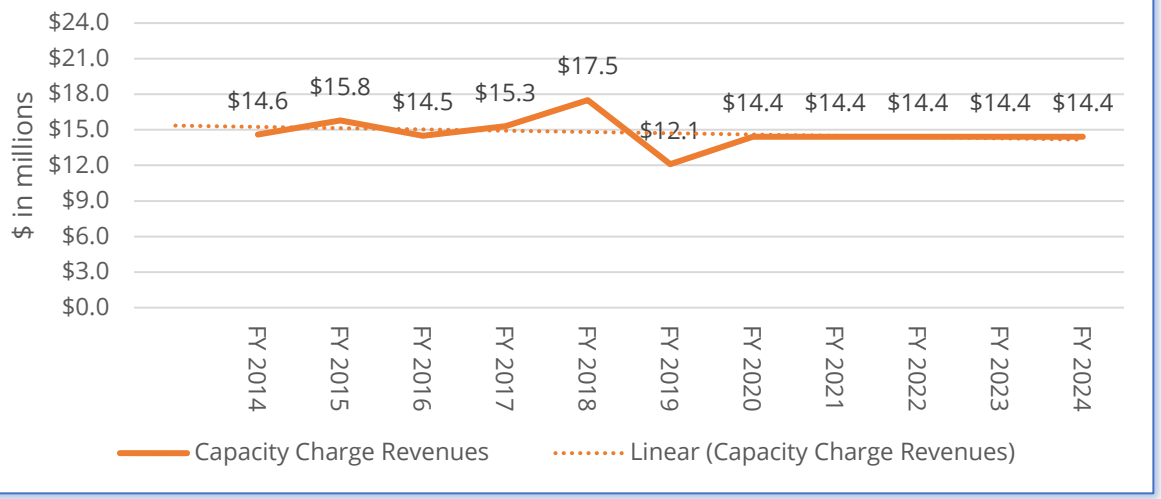
Forecast. The following table presents average capacity charge revenue received between FY 2014 to FY 2018, FY 2019 Budget, and the forecast for FY 2020 through FY 2024. This revenue source represents 2.4 percent of the Water System's overall revenue receipts.

Table 2.5 - Capacity Charges Five-Year Forecast ($ in Millions)

	FY 2014-2018 Average	FY 2019 Budget	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Growth Rate	0.0%	0.0%	4.0%	0.0%	0.0%	0.0%	0.0%
Projection	$15.5	$12.1	$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 2014 through FY 2018 as shown in Figure 2.6 below. Average capacity fee revenue between FY 2014 and FY 2018 was approximately $15.5 million. Water capacity charges in FY 2019 were budgeted historically low and will be adjusted to reflect historical and projected revenue trends in the FY 2020 budget. Capacity charge revenue is conservatively projected at $14.4 million for FY 2020 through FY 2024.

Figure 2.6 - Water Capacity Charge Revenue Forecast



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 seven percent 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. Table 2.7 presents projected regional population and housing growth for the next 50 years.

Table 2.7 - Preliminary 2050 Regional Growth Forecast

	2000	2020	2030	2040	2050	% Change 2000-2050
Population	1,223,400	1,542,324	1,690,232	1,819,810	1,947,184	49%
Housing	469,689	577,416	629,694	675,928	722,718	44%
Jobs (incl. military)	777,600	874,678	928,189	982,476	1,042,649	26%

According to SANDAG, 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 percent of the total units in the region will be multi-family by 2030. These trends are reflected in the City's experiences: multi-family units approved and permitted in 2018 were up 150 percent in 2018, while single-family units permitted increased by 47 percent. Similarly, PUD saw significant increases in capacity charge revenues in FY

2018 - approximately 15% above FY 2017 amounts - largely related to residential developments. Though FY 2018 experienced an increase in building permits associated with multi and single-family units, the California Association of Realtors (C.A.R) is forecasting a modest decline in single family units due to a combination of high home prices and eroding affordability. Likewise, multi-family housing is expected to continuing growing until it reaches a peak in 2019 and then to level off as multi-family units under construction near completion. As a result, water capacity charge revenue is projected to remain flat for 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.

The following table presents average revenue received from use of property between FY 2014 to FY 2018, FY 2019 year-end projections, and forecasted revenue for FY 2020 through FY 2024. This revenue source represents 0.8 percent of the Water Utilities overall revenue receipts.

Table 2.8 - Revenue from Use of Property Five-Year Forecast ($ in Millions)

	FY 2014-2018 Average	FY 2019 Projection	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Growth Rate	N/A	N/A	3.6%	0.0%	0.0%	0.0%	0.0%
Projection	$5.8	$5.6	$5.8	$5.8	$5.8	$5.8	$5.8

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 declined slightly since FY 2014, and has remained relatively flat at $5.8 million since FY 2016. As a result, $5.8 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.

The following table presents FY 2018 actuals, the FY 2019 year-end projection and forecasted revenue for FY 2020 through FY 2024. This revenue source represents 2.0 percent of the Water Utilities overall revenue receipts.

Table 2.9 - Other Revenue Five-Year Forecast ($ in Millions)

	FY 2018 Actuals	FY 2019 Projection	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Growth Rate	0.0%	-1.4%	26.2%	5.5%	-2.6%	-2.1%	72.8%
Projection	$14.7	$14.5	$18.3	$19.3	$18.8	$18.4	$31.8

Other revenue in FY 2020 is projected to increase by 26.2% from FY2019 primarily due to an increase in unrestricted balances and associated interest earnings. Interest earnings are projected to slightly increase between FY 2020 and FY 2021, and then gradually decline over the next three years based on projected fluctuations in the market. However, the Department is projecting to receive approximately $11.5 million in Local Resource Program incentives from Metropolitan Water District for developing local water supplies, which accounts for the increase in revenue in FY 2024.

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 percent of 2018 actual 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 percent of the Water Utility Fund's expenditure 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.

The following table presents projected costs for purchasing water from CWA, and assumes that 5 percent of demand will be met with local water supplies in FY 2019, and 10 percent for FY 2020 through FY 2024.[3] The decrease in growth rates beginning in FY 2021 reflects a decline in CWA's projected pass through. Though the projected rate remains constant through FY 2024, the cost and amount of water purchased declines in FY 2024 as Phase 1 of the Pure Water Program is expected to be on line and providing 30 mgd of water by February 2024.

Table 3.1 - Water Purchases - Baseline Expenditures ($ in Millions)

	FY 2018 Actuals	FY 2019 Projection	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Projection	$230.7	$269.2	$268.8	$285.3	$299.9	$315.2	$286.4
Acre Feet Purchased	161,348	185,081	174,326	174,614	174,900	175,183	141,864

Personnel Expenditures

Personnel expenditures include salaries and wages and fringe benefits. Salaries and wages are comprised of regular salaries and wages, special pay, overtime, step increases, and vacation pay in lieu. Fringe benefits include pension payments or Actuarially Determined Contribution (ADC), flexible benefits, retiree health or Other Post-Employment Benefits (OPEB), workers' compensation,

[3] Rainfall in water year 2018 (October 1, 2017 – September 30, 2018) totaled 3.34 inches, 7 inches below San Diego's historical average of 10.34 inches, and in FY 2019 the Department projects supplying only 5% of its water demand from local sources. Fiscal Years 2020 and thereafter assume more normal rainfall.

Supplemental Pension Savings Plan (SPSP), and other fringe benefits. The FY 2019 Adopted Budget for Water Fund salaries and wages was $46.6 million and included 784.18 full-time equivalents (FTE). The following table displays the FY 2019 through FY 2024 personnel expenditure projections by category.

Table 3.2 - Personnel Expenditures - Baseline Expenditures ($ in Millions)

	FY 2018 Actuals	FY 2019 Budget	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Salary & Wages Projection	$43.2	$46.6	$49.0	$49.3	$49.6	$49.4	$49.4
Fringe Benefits Projection	$34.6	$34.2	$35.9	$36.8	$36.9	$37.0	$37.2

Adjustments within the salary and wages category incorporate only those expenditures associated with staff included in the FY 2019 Adopted Budget. Position adds identified for FY 2020-2024 to support critical expenditures are discussed below. Personnel expenditures are projected to increase through the PUD Outlook period primarily due to general salary and special pay increases, retiree healthcare benefits or OPEB, pension payments or ADC, and workers' compensation expenditure increases. The PUD Outlook does not project for any impact of future MOUs with REOs, and therefore salary and wages forecasts are fixed to the last negotiated amounts. The City of San Diego Fiscal Year 2020-2024 Five-Year Financial Outlook for the General Fund includes a more detailed discussion of the various personnel expenditure components including projection methodologies and assumptions.

Critical Operating Expenditures

Table 3.3 - Critical Strategic Expenditures - Personnel

Request	FTE/Exp	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Customer Services Office	FTE	4.00	4.00	4.00	4.00	4.00
Program Support	Expense	$311,918	$311,918	$311,918	$311,918	$311,918
Pure Water Program	FTE	3.00	7.00	44.50	45.00	45.00
Support	Expense	296,911	624,407	5,678,266	5,706,387	5,706,387
Facilities Maintenance	FTE	(3.50)	(3.50)	(3.50)	(3.50)	(3.50)
Consolidation	Expense	(270,029)	(270,029)	(270,029)	(270,029)	(270,029)
EAM Support	FTE	0.47	0.47	0.47	0.47	0.47
	Expense	47,521	47,521	47,521	47,521	47,521
Supply Chain Warehouse	FTE	1.88	1.88	1.88	1.88	1.88
Staffing	Expense	220,165	220,165	220,165	220,165	220,165
	Total FTE	**5.85**	**9.85**	**47.35**	**47.85**	**47.85**
	Total Expense	**$606,485**	**$933,981**	**$5,987,840**	**$6,015,961**	**$6,015,961**

Table 3.3 above identifies additional personnel expenditures, including fringe benefits, for the addition of staff to support enhancements to the Customer Services Office Program, expansion of the Pure Water Program, expansion of Enterprise Asset Management (EAM), and improvements to procurement processes. The PUD Outlook also identifies the transfer of 3.50 full-time equivalents from the Water Utility Fund to the General Fund beginning in FY 2020 to support the facilities maintenance consolidation efforts.

The identified funding needs for the Pure Water Program are for the operation and maintenance of new and expanding Pure Water facilities and staffing needs. A total of 45.00 full-time equivalent positions are anticipated to be required by Pure Water in FY 2023. Because most of the position

classifications identified by the Department's consultant do not yet exist within the City, projected salary costs were based on industry estimates.

Supplies

The Supplies category includes costs for chemicals, water meters, pipe fittings, asphalt road materials, machine parts, and low value assets. The following table displays FY 2018 actuals and FY 2019 through FY 2024 projections for the Supplies category.

Table 3.4 - Supplies - Baseline Expenditures ($ in Millions)

	FY 2018 Actuals[1]	FY 2019 Projection	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Growth Rate	N/A	2.9%	2.9%	2.9%	2.9%	2.9%	2.9%
Projection[1]	$13.5	$13.9	$14.3	$14.7	$15.2	$15.6	$16.1

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 2.9 percent growth rate that was applied to the Supplies category for FY 2020 through FY 2024 represents a weighted growth rate that was calculated after applying the corresponding growth rate for each component.

Critical Operating Expenditures

Table 3.5 - Critical Strategic Expenditures - Supplies

Request	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Pure Water Program Expansion	-	$25,000	$4,961,096	$7,218,534	$10,462,192
Total Expense	**-**	**$25,000**	**$4,961,096**	**$7,218,534**	**$10,462,192**

Table 3.5 above identifies increased expenditures associated with the expansion of the Pure Water Program. These expenditures will be necessary as Pure Water 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, general government services billing, City services billings, fleet vehicle usage and assignment fees, rental expenses, security services, and other contractual expenses. The table below displays PUD's FY 2018 actuals and FY 2019 through FY 2024 projections for the Contracts category.

Table 3.6 - Contracts - Baseline Expenditures ($ in Millions)

	FY 2018 Actuals[1]	FY 2019 Projection	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Growth Rate	N/A	3.7%	3.8%	3.8%	3.9%	3.9%	3.9%
Projection[1]	$72.8	$70.5	$73.2	$76.0	$79.0	$82.0	$85.2

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

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. 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.

Critical Operating Expenditures

Table 3.7 - Critical Strategic Expenditures - Contracts

Request	FTE/Exp	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Pure Water Program Expansion	Expense	$45,000	$150,000	$663,000	$1,612,200	$3,702,900
WIFIA Loan Service Fee	Expense	25,000	25,000	25,000	25,000	7,500
Pump Inspection and Maintenance Program	Expense	500,000	-	-	-	-
Morena Outlet Tower Safety Improvements	Expense	550,000	200,000	-	-	-
Cost of Service Study Consulting Services	Expense	42,000	-	-	300,000	387,887
	Total Expense	**$1,162,000**	**$375,000**	**$688,000**	**$1,937,200**	**$4,098,287**

Table 3.7 above identifies increased contractual expenditures associated with Phase 1 of the Pure Water Program, and the Water Infrastructure Finance Innovation Act (WIFIA loan annual service fee, as well as expenditures necessary for pump inspections and maintenance, Morena Reservoir outlet tower improvements, consulting services for financial review of the water services cost of service study.

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 3.8 below displays the FY 2018 actuals and FY 2019 through FY 2024 projections for the Information Technology category.

Table 3.8 - Information Technology - Baseline Expenditures ($ in Millions)

	FY 2018 Actuals	FY 2019 Projection	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Growth Rate	N/A	8.9%	7.3%	6.4%	1.9%	0.3%	2.5%
Projection	$5.7	$6.2	$6.6	$7.0	$7.2	$7.2	$7.4

The projections include estimates of IT costs related to desktop support, networks, data-centers, applications, and systems critical to water treatment plant operations for FY 2019 through FY 2024. All other base IT costs are inflated by the California Consumer Price Index.

Critical Operating Expenditures

Table 3.9 - Critical Strategic Expenditures - Information Technology					
Request	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**
LIMS Implementation	$182,900	$108,125	$108,125	$108,125	$108,125
EAM Tracking Software	141,000	141,000	235,000	235,000	235,000
IT Infrastructure Network and Cloud Services	121,050	121,050	31,050	31,050	31,050
IT Roadmap - Modernization of Legacy Systems	180,000	180,000	180,000	180,000	180,000
PC Refresh	-	-	-	675,000	-
SCADA Water Distribution System	1,011,827	1,024,727	955,727	955,727	955,727
Treatment Plant Processing System	735,200	447,200	947,200	497,200	497,200
Total Expense	**$2,371,977**	**$2,022,102**	**$2,457,102**	**$2,682,102**	**$2,007,102**

The Supervisory Control and Data Acquisition (SCADA) Water Distribution System monitors the water distribution facilities and detects and rectifies equipment malfunctions and operation problems. SCADA funding displayed above reflects upgrades needed to implement the next generation of SCADA in an enterprise environment. 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. Other major critical operating expenditures identified are PC replacements; the Treatment Plant Processing System, which is critical to managing and monitoring Water Treatment Plants; EAM Tracking software for costs associated with future maintenance and enhancements of the system, and Laboratory Information Management System (LIMS) which provides tracking and reporting of chemical and biological tests for compliance.

Energy & Utilities

The Energy and Utilities category includes the Water Fund's costs for electricity, water services, fuel, and other utility and energy expenses. The following table displays FY 2018 actuals, and FY 2019 through FY 2024 projections for the Energy and Utilities category.

Table 3.10 - Energy & Utilities - Baseline Expenditures ($ in Millions)							
	FY 2018 Actuals	FY 2019 Projection	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Growth Rate	N/A	0.7%	3.2%	4.1%	3.9%	3.6%	3.9%
Projection	$13.5	$13.3	$13.7	$14.3	$14.9	$15.4	$16.0

The Energy and Utilities category includes various costs. Each cost component has a different applicable rate. Growth rates for energy are based on the Annual Energy Outlook 2018 report prepared by the U.S. Energy Information Administration.

Water rates are determined by the Public Utilities Department approved by City Council and reflect the growth rates for potable water sales as presented in Table 2.3 – Water Sales Five-Year Forecast. As a result, the growth rate for the Energy and Utilities category represents a weighted growth rate that was calculated after applying the corresponding growth rate for each component.

Critical Operating Expenditures

Table 3.11 - Critical Strategic Expenditures - Energy & Utilities					
Request	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**
Pure Water Program Expansion	-	-	$7,111,526	$9,956,136	$14,223,052
Total Expense	**-**	**-**	**$7,111,526**	**$9,956,136**	**$14,223,052**

Table 3.11 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.

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 Fund), and the Emergency Capital Reserve (Capital Reserve). The Department maintain these reserve funds in accordance with the City's reserve policy (the City Reserve Policy). As of June 30, 2018, the Water Utility Fund had estimated total reserves of approximately $130.5 million.

Table 3.12 below details reserve targets and projected funding levels. Reserves are projected to be fully funded throughout the PUD Outlook period. The Water Fund 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. This Outlook does not project use of the Water Fund Rate Stabilization Reserve over its period, but the potential to use the Rate Stabilization Reserve Fund does exist, and will be evaluated as part of the Cost of Service Study that will be prepared in 2019.

Table 3.12 - Reserve Target Levels ($ in Millions)						
	FY 2019 Projection	**Fiscal Year 2020**	**Fiscal Year 2021**	**Fiscal Year 2022**	**Fiscal Year 2023**	**Fiscal Year 2024**
Operating Reserve Target ($)	$38.4	$38.2	$39.2	$43.4	$45.3	$47.9
Operating Reserve Level ($)	$40.1	$40.1	$40.1	$43.4	$45.3	$47.9
Secondary Purchase Reserve Target ($)	$16.4	$16.1	$17.1	$18.0	$18.9	$17.2 [(1)]
Secondary Purchase Reserve Level ($)	$16.1	$16.1	$17.1	$18.0	$18.9	$18.9
Rate Stabilization Fund Target ($)	$28.5	$29.2	$31.1	$33.2	$35.2	$37.2
Rate Stabilization Fund Level ($)	$70.1	$70.1	$70.1	$70.1	$70.1	$70.1
Capital Reserve Target ($)	$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

[(1)] The Secondary Purchase Reserve Target for FY 2024 reflects a decrease in water purchases as Phase 1 of the Pure Water Program nears completion.

Other Expenditures

Expenses included in this category are transfers out to other funds, capital expenses, estate taxes, and other miscellaneous expenditures. Debt service obligations, including bond, commercial paper, state revolving fund (SRF) loan and WIFIA payments, are excluded from this category and are discussed in the Water System Capital Improvement Program section of this report. The following table displays FY 2018 actuals and FY 2019 through FY 2024 projections for the Other Expenditures category.

Table 3.13 - Other Expenditures - Baseline Expenditures ($ in Millions)

	FY 2018 Actuals[1]	FY 2019 Projection	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Growth Rate	N/A	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Projection[1]	$3.4	$1.5	$1.5	$1.5	$1.5	$1.5	$1.5

1. Figures exclude debt service payments on bonds, commercial paper, and state revolving fund (SRF) loans, and Water Infrastructure Innovation Act (WIFIA).

Significant one-time expenditures identified and included in FY 2018 actuals include a one-time transfer to the Department's newly established inventory fund and a one-time transfer of funds to reflect accounting corrections associated with the Stadium Wetland Mitigation Fund.

Critical Operating Expenditures

Table 3.14 - Critical Strategic Expenditures - Other Expenditures

Request	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Pure Water Program Expansion	$155,000	$678,000	$892,800	$350,000	$150,000
Van Nuys Canyon Water Main Protection Project	500,000	500,000	-	-	-
Total Expense	**$655,000**	**$1,178,000**	**$892,800**	**$350,000**	**$150,000**

The table above identifies increased expenditures associated with the expansion of the Pure Water Program and the Van Nuys Canyon water main protection project. Pure Water Program expenditures include new laboratory equipment necessary for sampling analysis in support of the expanding program.

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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.

The following table shows categories of projects with the estimated cost of expenditures contained in the CIP for the period of Fiscal Years 2020 through 2024.

Table 4.1 - Summary of Projected CIP Projects[1][2][3]
FY 2020 through FY 2024
($ in Millions)

Water CIP Projects	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL [7]
Pure Water Program [4]	$197.0	$281.5	$204.5	$106.0	$17.1	$806.1
Transmission Pipelines	$67.2	$55.7	$62.3	$63.7	$42.3	$291.3
Pipelines	$64.3	$71.3	$36.8	$33.8	$46.4	$252.7
Storage Facilities [5]	$9.4	$33.1	$38.3	$30.2	$35.0	$146.0
Water Treatment Plants	$18.3	$6.5	$0.5	$0.3	$0.0	$25.6
Pump Stations	$7.5	$2.7	$8.6	$7.9	$9.1	$35.8
SDG&E Relocation Advance [6]	$48.2	$0.0	$0.0	$0.0	$0.0	$48.2
Ground Water Projects	$0.5	$2.6	$0.0	$0.4	$1.2	$4.7
Recycled Water	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Miscellaneous Projects [7]	$33.6	$10.6	$2.9	$8.0	$5.9	$61.1
Total [8]	**$446.1**	**$464.2**	**$354.0**	**$250.3**	**$157.0**	**$1,671.6**

[1] Projections as of March 2018 for the Water System Baseline CIP and October 2018 for the Pure Water Program.

[2] Amounts reflect the aggregate costs of all CIP projects required to satisfy the DDW Compliance Order as well as projects related thereto or necessary for the operation thereof. It is the Department's expectation that the final awarding of cast iron distribution line replacement will be completed by Calendar Year 2021, thus fulfilling the requirements of the compliance order. For Fiscal Years 2020 through 2024, approximately 4% of the capital program is mandated by the DDW.

[3] The projected amounts in Fiscal Year 2020 and onward reflect an annual inflation rate of 3.1% due to anticipated increases in construction costs over time and the expected execution of the CIP.

[4] Projections are based on expected completion of the Pure Water Project Phase 1 by the end of February 2024 and include only the portion of the Pure Water Program attributable to the Water System.

[5] Storage Facilities include treated and untreated water reservoirs.

[6] Funding for the SDGE Relocation Advance in Fiscal Year 2020 will be provided by the Fiscal Year 2019 unallocated Fund Balance.

[7] Miscellaneous Projects include water security projects, solar projects, and the AMI Program.

[8] Figures may not add to total due to independent rounding.

Capital Improvement Financing Plan

Table 4.2 below describes the projected sources of funds to finance the Water System CIP for Fiscal Years 2020 through 2024.

As shown in Table 4.2, the PUD anticipates incurring approximately $658.0 million of additional debt obligations in Fiscal Years 2020 through 2024 for the Water System CIP and $683.0 million of additional obligations in Fiscal Years 2020 through 2024 for the Pure Water CIP. Capacity fees and cash are anticipated to fund an additional $331.0 million.

Table 4.2 - Sources of Funds for the Water Capital Improvement Program [1]
FY 2020 through FY 2024
($ in Millions)

Source of Funds	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Pure Water CIP						
Commercial Paper/Revenue Bonds	$0.0	$0.0	$0.0	$85.0	$13.0	$98.0
WIFIA Loan [2]	$170.7	$236.4	$161.9	$16.0	$0.0	$585.0
Cash	$26.3	$45.1	$42.6	$5.0	$4.1	$123.1
Total	**$197.0**	**$281.5**	**$204.5**	**$106.0**	**$17.1**	**$806.1**
Baseline CIP						
Commercial Paper/Revenue Bonds	$139.0	$111.6	$67.9	$50.0	$75.1	$443.6
SRF Loans [3]	$54.0	$54.8	$59.2	$38.7	$7.3	$214.1
Capacity Fees/Cash	$56.1	$16.3	$22.3	$55.6	$57.5	$207.8
Total	**$249.1**	**$182.7**	**$149.5**	**$144.3**	**$139.9**	**$865.5**
Total Funding	**$446.1**	**$464.2**	**$354.0**	**$250.3**	**$157.0**	**$1,671.6**

[1] Projects are based on expected completion of the Pure Water Project by the end of February 2024.

[2] Assumes periodic draw on the WIFIA Loan. Instead of drawing on the WIFIA Loan, the City could also utilize bridge financing instruments (commercial paper notes and/or bond anticipation notes) for some or all of the construction expenses during this period.

[3] Includes proceeds from existing SRF loans (approximately $17 million), and additional proceeds through Fiscal Year 2023 (approximately $204 million) for SRF loans to be entered into.

The City anticipates to finance the costs of certain projects in the Water System Baseline CIP in the approximate amount of $214.1 million through SRF loans. This includes approximately $17 million from existing SRF loans for which the City has already applied and $204 million from loans for which the City plans to apply. The proceeds from additional SRF loans will provide funding in Fiscal Years 2020 through 2024. 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 – potentially impacting water rates – and/or postponing various CIP projects.

The City anticipates financing approximately $443.5 million of the Baseline Water System CIP through a combination of revenue bonds and commercial paper. It is expected that $14.4 million in funding for the Water System CIP per year will come from capacity fees in FYs 2020 through 2024. Any remaining costs of the Water System Baseline CIP are anticipated to be paid on a pay-as-you-go-basis.

The Department anticipates financing up to $614 million of the Pure Water Project through the WIFIA Loan which will provide funding in Fiscal Years 2019 through 2023. The remainder of the projects for Phase 1 of the Pure Water Program are expected to be financed through revenue bonds, commercial

paper, and cash, which includes a State funding allocation of $30 million that is anticipated to be allocated across both Water and Sewer funds in FY 2020.

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WASTEWATER SYSTEM

This section discusses baseline revenue and expenditure projections, upcoming critical operational expenditures, projected capital improvement program needs and financing options for the next five years for the Wastewater System. The Wastewater System is comprised of the Metropolitan and Municipal Utility Funds, collectively known as the "Sewer Revenue Funds". All revenue and expenditure projections, including CIP are presented as "Sewer Revenue Funds" in the following sections.

Wastewater System Revenues

The following section provides details of revenue projections for the Wastewater System Sewer Revenue Funds FY 2020-2024 Five-Year Financial Outlook. 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

The Department manages and operates the Sewer 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 Metropolitan Sub-System and the Municipal 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, 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. Since the indirect costs are common to all users, the costs are shared equally by all user meters. 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.

Table 5.1 below displays the existing sewer rates for FY 2019.

Table 5.1 - Fiscal Year 2019 Wastewater Rates		
Line #	**Customer Class**	**Rate**
	Single Family	
1	Base Sewer Fee ($/month)	$15.33
2	Flow Charge ($/HCF)	$3.60
	Multi Family	
3	Base Sewer Fee ($/month)	$15.33
4	Flow Charge ($/HCF)	$5.03
	Commercial / Industrial	
5	Base Sewer Fee ($/month)	$15.33
6	Flow Charge ($/HCF)	$3.77
7	COD Charge ($/lb)	$0.22
8	TSS Charge ($/lb)	$0.55

Forecast. The following table shows the budget and year-end projection for FY 2019 and the forecast for FY 2020 through FY 2024 for revenue from sewer service charges. This revenue source represents approximately 65 percent of the Sewer Revenue Funds overall revenue receipts. The forecast assumes a 0.25 percent increase in accounts and reflects projected rate increases beginning in FY 2021 through FY 2024.

Table 5.2 - Sewer Service Charge Five-Year Forecast ($ in Millions)							
	FY 2018 Actuals	FY 2019 Projection	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Growth Rate	N/A	-1.4%	0.25%	3.26%	5.26%	5.25%	5.78%
Projection	$274.6	$270.7	$271.4	$280.2	$295.0	$310.5	$328.4

Discussion. 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 including capital costs 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.

In May of 2018, The department conducted a FY 2018 Wastewater Financial Plan Study and Cost of Service Review Report (the Study) prepared by Raftelis Financial Consultants, Inc. (Raftelis). The objectives of the study were to review current wastewater rates and the cost of providing service to determine if rates need to increase or be adjusted based on revenue requirements and /or updated flow characteristics. The Study reviewed and developed a financial plan for the wastewater system to ensure financial sufficiency, meet operation and maintenance (O&M) costs, and ensure sufficient funding for capital improvements.

Based on the Study, Raftelis found that existing wastewater revenues were sufficient and additional rate adjustments are not necessary to meet operating fund requirements for FY 2019 and FY 2020.

However, construction of Phase 1 of the Pure Water Program is expected to begin in FY 2020 and projected rate increases are anticipated to be necessary to fund the Pure Water Program beyond FY 2020 in addition to the baseline CIP.

Accordingly, this PUD Outlook assumes preliminary wastewater rate increases of 3% in FY 2021, 5% in FY 2022 and 2023, and 5.5% in FY 2024. Actual rate increase will be determined through a cost of service study and presented to the City Council for review. For more details on projected financing for the CIP, refer the Wastewater Capital Improvement program section of this report.

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 $2.8 to $3.2 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 consumption 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. The City will be undertaking a cost of service study in FY 2020 to review existing capacity rates.

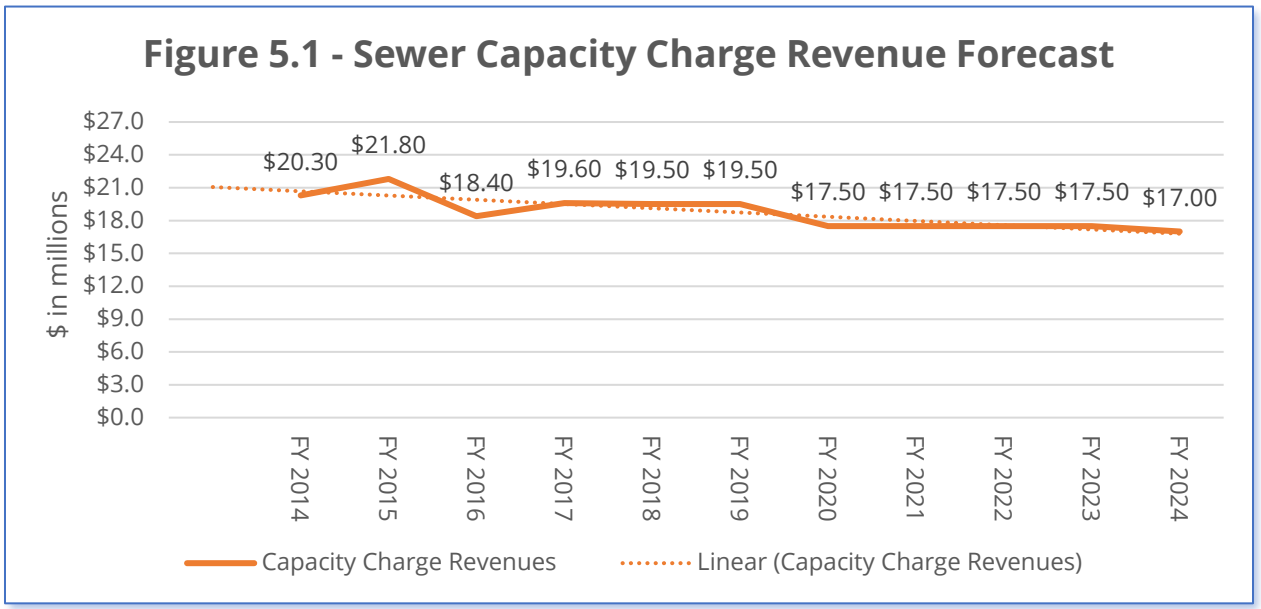
Forecast. The following table presents wastewater capacity charge revenue received between FY 2014 to FY 2018, FY 2019 Budget and the forecast for FY 2020 through FY 2024 for revenue from sewer capacity charges. This revenue source represents 5 percent of the Wastewater System's overall revenue receipts.

Table 5.3- Capacity Charges Five-Year Forecast ($ in Millions)

	FY 2014-2018 Average	FY 2019 Budget	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Growth Rate	N/A	N/A	7.4%	0%	0%	0%	-2.9%
Projection	$19.9	$16.3	$17.5	$17.5	$17.5	$17.5	$17.0

Projected revenues for wastewater capacity charges use conservative growth estimates based on spending trends from FY 2014 through FY 2018 as shown in Figure 1 below and projected construction

permitting activity. Average wastewater capacity fee revenue between FY 2014 and FY 2018 was approximately $19.9 million. However, due to a projected decrease in the housing market beginning in FY 2020, wastewater capacity charge revenue was conservatively adjusted downward. The wastewater capacity charge budget for FY 2019 has been budgeted historically low and may be adjusted to reflect historical and projected revenue trends in the FY 2020 budget.



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, San Diego's population has grown by approximately seven percent 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. 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 for sewer system charges. These represent 70.1 percent of FY 2018 revenues in the Other Revenue category. The Other Revenue category also includes revenue received from the Water Utility Fund pertaining to the sales of reclaimed water, interest on pooled investments, reimbursements from services provided to other City departments / funds, grants revenue, and other miscellaneous revenues.

The following table displays the FY 2019 through FY 2024 projections for the Other Revenue category.

Table 5.4 - Other Revenue Five-Year Forecast ($ in Millions)							
	FY 2018 Actuals	**FY 2019 Projection**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**
Participating Agencies							
Growth Rate	N/A	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Projection	$70.1	$75.0	$80.0	$85.0	$90.0	$95.0	$100.0
Other Revenue							
Growth Rate	N/A	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Projection	$28.7	$17.5	$23.7	$22.6	$19.8	$18.3	$18.6

No growth rate is applied to the Other Revenue category for the PUD Outlook period. However, revenues are projected to increase from FY 2020 through FY 2024 based on historical analysis and other adjustments made on known and anticipated events. The projected increases primarily consist of sewer system charges to Participating Agencies to reflect anticipated increases in shared costs of Pure Water Program expenses, and projected increases in pooled investments. Per their agreement with the City, Participating Agencies pay their actual costs for service and capital expenses; if projected expenditures associated with the Participating Agencies increase or decrease, this will ultimately be offset by increased or decreased revenue from the Participating Agencies.

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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 includes the salaries and wages category as well as fringe benefits category. The salaries and wages category is comprised of regular salaries and wages, special pays, overtime, step increases, and vacation pay in lieu, whereas the fringe benefits category includes 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 2019 Adopted Budget for the Sewer Funds salaries and wages was $55.3 million and included 871.74 full-time equivalents (FTE). The following table displays the FY 2019 through FY 2024 personnel expenditure projections by category.

Table 5.5 - Personnel Expenditures - Baseline Expenditures ($ in Millions)

	FY 2018 Actuals	FY 2019 Budget	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Salary & Wages Projection	$49.8	$55.3	$58.3	$58.9	$58.9	$58.9	$58.8
Fringe Benefits Projection	$39.0	$40.2	$42.2	$43.1	$43.3	$43.4	$43.6

Adjustments within the salary and wages category incorporate only those expenditures associated with staff included in the FY 2019 Adopted Budget. Position additions identified for FY 2020-2024 to support critical strategic expenditures are discussed below. Personnel expenditures are projected to increase through the Outlook period primarily due to general salary and special pay increases, retiree healthcare benefits or OPEB, pension payments or ADC, and workers' compensation expenditure increases. The PUD Outlook does not project for any impact of future MOUs with REOs, and therefore salary and wages forecasts are fixed to the last negotiated amounts.

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Critical Strategic Expenditures

Table 5.6 - Critical Strategic Expenditures - Personnel						
Request	**FTE/Exp**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**
Customer Services Office Program	FTE	4.00	4.00	4.00	4.00	4.00
Support	Expense	$311,918	$311,918	$311,918	$311,918	$311,918
Facilities Maintenance Consolidation	FTE	(4.50)	(4.50)	(4.50)	(4.50)	(4.50)
	Expense	(347,676)	(347,676)	(347,676)	(347,676)	(347,676)
EAM Support	FTE	0.53	0.53	0.53	0.53	0.53
	Expense	53,588	53,588	53,588	53,588	53,588
Supply Chain Warehouse Staffing	FTE	2.12	2.12	2.12	2.12	2.12
	Expense	248,271	248,271	248,271	248,271	248,271
Pure Water Program Expansion	FTE	-	-	13.00	13.00	13.00
	Expense	-	-	1,636,751	1,636,751	1,636,751
	Total FTE	**2.15**	**2.15**	**15.15**	**15.15**	**15.15**
	Total Expense	**$266,101**	**$266,101**	**$1,902,851**	**$1,902,851**	**$1,902,851**

Table 5.6 above identifies increased personnel expenditures, including fringe benefits, for the addition of staff to support enhancements to the Customer Services Office Program, expansion of inventory asset management (EAM), and improvements to procurement processes. The PUD Outlook also identifies the transfer of 4.50 full-time equivalents from the Water Utility Fund to the General Fund beginning in FY 2020 to support the facilities maintenance consolidation efforts.

The identified funding needs for the Pure Water Program are for the operation and maintenance of new and expanding Pure Water facilities and staffing needs. A total of 13.00 full-time equivalent positions were identified to be required by FY 2022. Because these position classifications identified by the Department's consultant do not yet exist within the City, projected salary costs were based on industry estimates.

Supplies

The Supplies category includes costs for chemicals, machine parts, electrical materials, laboratory supplies, and pipe fittings. The following table displays the FY 2019 through FY 2024 projections for the Supplies category.

Table 5.7 - Supplies - Baseline Expenditures ($ in Millions)							
	FY 2018 Actuals	FY 2019 Projection	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Growth Rate	N/A	5.1%	3.7%	3.7%	3.7%	3.7%	3.7%
Projection	$23.6	$24.8	$25.7	$26.6	$27.6	$28.6	$29.7

The Supplies category includes various costs. Each cost component has a different applicable rate. Growth rates for each category are based on historical analysis, and other adjustments made on known and anticipated events. As a result, the growth rate for the Supplies category represents a weighted growth rate that was calculated after applying the corresponding growth rate for each component.

Critical Strategic Expenditures

Table 5.8 - Critical Strategic Expenditures - Supplies					
Request	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**
Pure Water Program Expansion	10,000	$5,000	$3,027,235	$4,327,993	$6,049,470
Total Expense	**10,000**	**$5,000**	**$3,027,235**	**$4,327,993**	**$6,049,470**

Table 5.8 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. The following table displays the FY 2019 through FY 2024 projections for the Contracts category.

Table 5.9 - Contracts - Baseline Expenditures ($ in Millions)							
	FY 2018 Actuals	FY 2019 Projection	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Growth Rate	N/A	3.5%	3.5%	3.5%	3.6%	3.6%	3.6%
Projection	$75.7	$74.4	$77.1	$79.8	$82.7	$85.6	$88.7

The Contracts category includes various costs. Each cost component has a different applicable rate. Growth rates for each category are based on historical analysis, and other adjustments made on known and anticipated events. 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.

Critical Strategic Expenditures

Table 5.10 - Critical Strategic Expenditures - Contracts						
Request	**FTE/Exp**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**
Pure Water Program Expansion	Expense	$ -	$ -	$3,060,560	$5,549,460	$8,442,569
Digester Cleanings	Expense	2,550,000	-	3,300,000	-	1,100,000
Participating Agencies - True-Up Payments	Expense	-	3,600,000	4,000,000	3,000,000	3,000,000
Cost of Service Study Consulting Services	Expense	-	-	-	300,000	377,881
Hale Avenue Resource Recovery Facility Payment	Expense	(600,000.00)	(600,000.00)	(600,000.00)	(600,000.00)	(600,000.00)
	Total Expense	**$1,950,000**	**$3,000,000**	**$9,760,560**	**$8,249,460**	**$12,320,450**

The table above identifies increased contractual expenditures associated with Phase 1 of the Pure Water Program, various wastewater digester cleanings, true-up payments to Participating Agencies for their proportionate costs of the sewer system, and consulting services for financial review of the water services cost of service study. The PUD Outlook also identifies expenditure reductions of $600,000 beginning FY 2020 for contractual costs associated with Hale Avenue Resource Recovery Facility due to the completion of the project.

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 5.11 below displays the FY 2019 through FY 2024 projections for the Information Technology category.

Table 5.11 - Information Technology - Baseline Expenditures ($ in Millions)

	FY 2018 Actuals	FY 2019 Projection	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Growth Rate	N/A	11.3%	7.7%	11.1%	2.2%	1.0%	2.7%
Projection	$7.3	$8.1	$8.7	$9.7	$9.9	$10.0	$10.3

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 2019 through FY 2024, and all other base IT costs are inflated by the California Consumer Price Index.

Critical Strategic Expenditures

Table 5.12 - Critical Strategic Expenditures - Information Technology

Request	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
LIMS Implementation	$182,900	$108,125	$108,125	$108,125	$108,125
EAM Tracking Software	159,000	159,000	265,000	265,000	265,000
IT Infrastructure Network and Cloud Services	147,950	147,950	37,950	37,950	37,950
IT Roadmap - Modernization of Legacy Systems	220,000	220,000	220,000	220,000	220,000
PC Refresh	-	-	-	825,000	-
COMNET System Support	2,920,437	2,716,333	2,716,333	2,716,333	2,716,333
IT Run the Business & Enhancements	359,890	359,890	359,890	359,890	359,890
Total Expense	**$3,990,177**	**$3,711,298**	**$3,707,298**	**$4,532,298**	**$3,707,298**

Table 5.12 above identifies critical needs associated with maintaining and improving existing hardware and software. The expenditures identified in Table 5.12 primarily consist of costs associated with COMNET system support. COMNET serves as a communication network that utilizes a process control system to coordinate operations at different wastewater locations such as Point Loma Wastewater Treatment Plant, North City Reclamation Plant, and bio solid centers and pump stations. Other critical operating expenditures identified are PC replacements; funding to retire/modernize legacy systems (IT Roadmap) and for general IT needs/enhancements; EAM Tracking software for

costs associated with future maintenance and enhancements of the system, and Laboratory Information Management System (LIMS) which provides tracking and reporting of chemical and biological tests for compliance.

Energy & Utilities

The Energy and Utilities category includes the Water Fund's costs for electricity, water services, fuel, and other utility and energy expenses. The following table displays the FY 2019 through FY 2024 projections for the Energy and Utilities category.

Table 5.13 - Energy & Utilities - Baseline Expenditures ($ in Millions)

	FY 2018 Actuals	FY 2019 Projection	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Growth Rate	N/A	2.0%	2.8%	3.5%	3.5%	3.3%	3.7%
Projection	$19.9	$20.3	$20.9	$21.6	$22.4	$23.1	$24.0

The Energy and Utilities category includes various costs. Each cost component has a different applicable rate. Growth rates for each category are based on the Annual Energy Outlook 2018 report prepared by the U.S. Energy Information Administration with the exception of sewer service charges, which are based on the 2006 cost of service study and projected rates. As a result, the growth rate for the Energy and Utilities category represents a weighted growth rate that was calculated after applying the corresponding growth rate for each component.

Critical Strategic Expenditures

Table 5.14 - Critical Strategic Expenditures - Energy & Utilities

Request	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Pure Water Program Expansion	-	-	$2,897,397	$4,093,075	$5,794,794
Total Expense	**-**	**-**	**$2,897,397**	**$4,093,075**	**$5,794,794**

Table 5.14 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 expenditures for the Morena pump station, North City Water Reclamation Plant, and Metro Biosolids Center facilities.

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 (the City Reserve Policy). As of June 30, 2018, the Sewer Revenue Fund had estimated total reserves of approximately $114.5 million.

Table 5.15 below details reserve targets and projected fund levels. Reserves are projected to be fully funded throughout the 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. This PUD Outlook does project use of the Sewer Fund's

Rate Stabilization Reserve in FY 2020 ($5 million), FY 2021 ($5 million), FY 2022 ($15 million) and FY 2023 ($15 million) to absorb increasing costs. Actual use of the Rate Stabilization Reserve Fund will be evaluated as part of future Cost of Service Studies.

Table 5.15 - Reserve Target Levels ($ in Millions)

	FY 2019 Projection	Fiscal Year 2020	Fiscal Year 2021	Fiscal Year 2022	Fiscal Year 2023	Fiscal Year 2024
Operating Reserve Target ($)	$47.8	$46.4	$47.9	$51.6	$52.9	$55.2
Operating Reserve Level ($)	$48.3	$48.3	$48.3	$51.6	$52.9	$55.2
Rate Stabilization Fund Target ($)	$18.0	$17.3	$17.6	$18.3	$19.3	$20.3
Rate Stabilization Fund Level ($)	$75.3	$70.3	$65.3	$50.3	$35.3	$35.3
Capital Reserve Target ($)	$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

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. The following table displays the FY 2019 through FY 2024 projections for the Other Expenditures category.

Table 5.16 - Other Expenditures - Baseline Expenditures ($ in Millions)

	FY 2018 Actuals[1]	FY 2019 Projection	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Growth Rate	N/A	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Projection[1]	$4.3	$2.5	$2.5	$2.5	$2.5	$2.5	$2.5

[1] Figures exclude debt service and state revolving fund (SRF) loan expenditure payments.

Significant one-time expenditures identified and included in the FY 2018 actuals include $2.0 million in expenditures for a one-time transfer to the department's newly established inventory fund as part of the EAM project.

Critical Strategic Expenditures

Table 5.17 - Critical Strategic Expenditures - Other Expenditures

Request	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
Pure Water Program Expansion	$65,000	-	-	$17,000	-
Total Expense	**$65,000**	**-**	**-**	**$17,000**	**-**

The table above identifies increased expenditures associated with the expansion of the Pure Water Program. These expenditures include new laboratory equipment necessary for sampling analysis in support of the expanding program.

Wastewater System Capital Improvement Program

The Wastewater System CIP is established to address current and future system needs in a cost-effective manner. While operation and maintenance expenditures support day-to-day operations, the Wastewater System Capital Improvement Program (CIP) supports the infrastructure for reliable wastewater collection, treatment and replacement of existing wastewater assets. As a result, PUD has developed a long-term CIP that identifies future facility needs. Furthermore, in order to improve its aging infrastructure, the City works towards the replacement and rehabilitation of 45 miles of sewer pipeline each year. The Wastewater System's CIP for this Outlook period includes improvements to the Wastewater System infrastructure, as well as Phase 1 of the multi-year Pure Water Program.

The following table shows categories of projects with the estimated cost of expenditures contained in the CIP for the period of Fiscal Years 2020 through 2024.

Table 5.18 - Summary of Projected CIP Projects [1] [2]
FY 2020 through FY 2024
($ in Millions)

Wastewater CIP Projects	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	Total
Pure Water Program [3]	$190.0	$220.2	$124.5	$38.4	$5.9	$579.0
Trunk Sewers	$14.3	$32.4	$48.7	$37.9	$24.6	$157.9
Muni Pump Station	$0.3	$0.6	$7.6	$12.5	$29.9	$50.9
Sewer Pipelines	$57.8	$45.5	$63.1	$57.1	$54.7	$278.2
Miscellaneous Projects	$8.5	$3.2	$0.5	$4.1	$1.2	$17.5
SDG&E Relocation	$33.6	$0.0	$0.0	$0.0	$0.0	$33.6
Sewer Treatment Plants	$28.3	$32.5	$19.0	$8.3	$1.5	$89.7
Large Sewer Pump Station	$24.8	$11.3	$3.8	$8.4	$8.2	$56.6
Total [4]	**$357.7**	**$345.7**	**$267.2**	**$166.8**	**$126.0**	**$1,263.4**

[1] Projections as of March 2018 for the Wastewater System Baseline CIP and October 2018 for the Pure Water Program.

[2] The projected amounts in Fiscal Years 2019 and onward reflect an annual inflation rate of 3.1% due to anticipated increases in construction costs over time and the expected execution of the CIP.

[3] Projections are based on expected completion of the Pure Water Project by the end of February 2024 and include only the portion of the Pure Water Program attributable to the Wastewater System.

[4] Figures may not add to total due to independent rounding.

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The Capital Improvement Financing Plan

Table 5.19 below describes the projected sources of funds to finance the Wastewater System CIP for Fiscal Years 2020 through 2024.

Table 5.19 - Sources of Funds for the Wastewater Capital Improvement Program [1]
FY 2020 through FY 2024
($ in Millions)

Source of Funds	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	TOTAL
Pure Water CIP						
Revenue Bond Financing	$0.0	$0.0	$25.0	$8.0	$0.0	$33.0
State Grants	$12.7	$0.0	$0.0	$0.0	$0.0	$12.7
SRF	$239.9	$218.6	$5.7	$0.0	$0.0	$464.2
Cash	(62.6) [2]	$1.6	$93.8	$30.4	$5.9	$69.1
Total	**$190.0**	**$220.2**	**$124.5**	**$38.4**	**$5.9**	**$579.0**
Baseline CIP						
Revenue Bond Financing	$0.0	$0.0	$120.0	$108.0	$90.0	$318.0
SRF Loans [3]	$22.3	$14.0	$4.2	$0.6	$0.0	$41.0
Capacity Fees/Cash	$145.4	$111.5	$18.6	$19.9	$30.1	$325.4
Total	**$167.7**	**$125.5**	**$142.8**	**$128.4**	**$120.1**	**$684.5**
Total Funding	**$357.7**	**$345.7**	**$267.2**	**$166.8**	**$126.0**	**$1,263.4**

[1] Projects are based on expected completion of the Pure Water Project by the end of February 2024.

[2] The negative amount in the FY 2020 Cash line is offsetting SRF proceeds for prior year Pure Water expenditures

[3] Includes proceeds from existing SRF loans (approximately $41 million), and additional proceeds through Fiscal Year 2024 (approximately $464 million) for SRF loans to be entered into.

The Department anticipates financing up to $464 million for Wastewater's portion of the Pure Water Project through low-interest State Revolving Fund (SRF) loans which will provide funding in Fiscal Years 2020 through 2022. The remainder of the costs for Phase 1 of the Pure Water Program are expected to be financed through revenue bond financing (short-term and/or long-term), and cash, which includes a State funding allocation of $30 million that will be allocated to both Water and Wastewater fund costs. The State funding allocation is anticipated to be available for encumbrance or expenditure through June 30, 2021.

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. Financing from anticipated SRF loans represents a significant portion of funding for the Wastewater System CIP, and is anticipated to provide the majority of funding for Wastewater's Pure Water expenses. If the City is not awarded the SRF loans projected over this Outlook period, it will need to seek financing sources that carry higher interest rates. Such financing sources could impact projected sewer service charge increases.

The City has existing SRF loans which will be used to finance approximately $41 million of Wastewater System Baseline CIP in Fiscal Years 2020 through 2023. Additionally, the City anticipates financing approximately $318 million of the Wastewater System Baseline CIP through revenue bonds in Fiscal Years 2022 through 2024. It is expected that $16 million in funding for Wastewater System CIP will come from capacity fees in Fiscal Years 2020 through 2024. Any remaining costs of the Wastewater System Baseline CIP will be paid on a pay-as-you-go-basis. Projected funding for Wastewater's Pure Water and Baseline CIP is supported in Fiscal Years 2020 and 2021 by currently approved Wastewater rates, and by projected rates for Fiscal Years 2022 through 2024.

Attachment 12

MetroTAC Work Plan

Metro TAC Work Plan
Active & Pending Items
January 2019
Updated Items in Red Italics

Active Items	Description	Member(s)
Muni Transportation Rate Study Working Group	San Diego has hired Carollo Engineers to review the existing transportation rate structure. A work group has been formed to review and give input. First meeting will be in December 2017. Although this is a muni issue it is included on the work plan due to its significance and potential effect on all Metro TAC members. 3/18: Technical consultants to meet with PUD staff and Carollo on 3/22/18 to review model in detail 6/18: JPA technical consultants continue to work with PUD staff on understanding rate calculations *1/19: Working group still meeting with PUD staff & consultants.*	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. 10/17: Group has met several times. Discussions are ongoing. 3/18: Group continues to meet at least monthly. 6/18: Group continues to meet monthly. Outreach subgroup formed. *1/19: This group continues to meet as needed.*	Jerry Jones Jim Peasley Ed Spriggs Bill Baber Steve Padilla Metro TAC staff & JPA consultants
Phase II Pure Water Facilities Working Group	Created to work with SD staff & consultants on determining Phase II facilities. *1/19: Work group has eliminated two alternatives and continues to review updated facilities and their costs. Presentation to Metro TAC by Stantec re: Phase 2 Flows and Loads. Copy attached to Metro TAC minutes.*	Roberto Yano Seval Sen Scott Tulloch Dexter Wilson SD staff & consultants
Residuals Management Working Group	This working group was formed to continue work on Sections 2.9.2 and 2.9.3 of the Amended and Restated Agreement regarding the potential transfer of the East Mission Gorge Pumps Station and the disposal, treatment, or transfer of residuals. *1/19: Group continues to meet.*	Eric Minicilli Yazmin Arellano Dan Brogadir Seval Sen Scott Tulloch Dexter Wilson SD staff & consultants
Phase I Financial Implementation Work Group	This working group was formed to continue to work on Section 2.9.1 and other financial implementations issues associated with the Amended Restated Agreement. 1/19: Working group had formation meeting 12/18. Has prepared draft task list and task assignments for group members and SD staff. Will meet at least monthly until tasks are complete. Ownership of EMGPS determined. Appraisal in progress.	Karyn Keese Dexter Wilson SD staff & consultants
Phase II Disposal Agreement Working Group	This group replaces the Debt Allocation Working Group with the approval of the Amended and Restated Agreement for Phase 1. *1/19: Group will start meeting in February*	Roberto Yano Karyn Keese Scott Tulloch Dexter Wilson SD staff & consultants

METRO WASTEWATER JPA

Metro TAC Work Plan
Active & Pending Items
January 2019
Updated Items in Red Italics

Active Items	Description	Member(s)
Pretreatment Working Group	Formed to work with San Diego on new standards for industrial waste discharge. *1/19: SD has received draft report from consultant but has sent back for revisions. Second draft will be reviewed by working group.*	Yazmin Arellano Mark Niemiec Ed Walton Beth Gentry Dexter Wilson SD Staff & Consultants
JPA Website Update Working Group	The JPA Website, especially the New Director Manual, has not been updated for several years. As we have several new Directors, the manual needs to be updated. *1/19: Working group formed. First meeting 2/20/19.*	Roberto Yano Karyn Keese Lori Peoples Susan Spotts
Exhibit E Audit	*1/19: FYE 2017 fieldwork complete. FYE 2018 entrance conference complete. Sample selection under way.*	Karen Jassoy Karyn Keese Dexter Wilson
IRWMP	Members should monitor funding opportunities at: http://www.sdirwmp.org *1/19: PA representatives continue to report monthly at Metro TAC*	Yazmin Arellano Beth Gentry
Strength Based Billing Evaluation	San Diego will hire a consultant every three years to audit the Metro metered system to insure against billing errors. *1/19: 2019 is the year for the billing review. Scope to be discussed at Financial Implementation Work Group and then brought to TAC. This group combined w/ Sample Rejection Protocol Working Group. SBB workshop by SD staff still outstanding.*	Dan Brogadir Dennis Davies? Karyn Keese Mark Niemiec Dexter Wilson SD Staff
Changes in water legislation	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	Inactive; Members added as needed

METRO WASTEWATER JPA

Metro TAC Work Plan

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Pure Water Facilities Working Group	This subcommittee was formed by Metro TAC and is a technical group of engineers and supporting financial staff to work with San Diego staff and consultants on cost allocations for proposed Pure Water facilities. This group meets at least monthly. Current projects include North City and MBC expansions. First meeting was 3/24/17. Roberto Yano is the chair. 5/17: Group continues to meet monthly with PUD and PWP consultants. Reviewed and accepted cost allocation for MBC.7/17: Facilities WG has submitted their comments to the City of SD on the 30% design of the North City Expansion Project. They are working cooperatively with PUD staff and consultants in the review of the design and their comments. 9/17: Positive progress, reviewed Construction package 1 and 3 and provided comments 10/17: Continued work w/SD on cost allocation of major PWP facilities. Projected draft cost allocation document in November/December 2017. 3/18: Working group have reviewed all four construction design packages and has turned in comments & questions to PUD staff. Work on cost allocation continues. 6/18: Continued review of designs & questions. *1/19: With the approval of the San Diego City Council of the Amended Restated Agreement in December 2018 this working group has been closed and replaced.*	Yazmin Arellano Dan Brogadir Steve Beppler Al Lau Scott Tulloch Dexter Wilson Roberto Yano SD staff & consultants
Sample Rejection Protocol Working Group	7/16: The sample rejection protocol from the B&C 2013 report has been under discussion between PUD staff and Metro TAC. A working group was formed to deal with this highly technical issue and prepare draft recommendations on any changes to current sampling procedures. The existing protocol is to be used through FY17. If changes are approved to the protocol they will be implemented in FY18. 1/17: Work group continues to meet monthly. 6/17: Working Group has complete their review. Three work items to be brought forward at June Metro TAC and during the next fiscal year quarter: 1) Edgar Patino will write memo to support decisions of working group. 2) PUD financial staff to provide workshop for PAs during next fiscal year quarter to go over strength based billing and how to understand sampling data and quarterly billings. Training session to be videotaped and uploaded to the JPA website 3) Dexter Wilson to provide draft protocol on how to read and validate quarterly billings. March 2018: PUD staff has prepared the draft memo and has distributed it to the working group 6/18: Memo presented to TAC and accepted as Protocol #3. Only remaining task is SBB training session.	Dennis Davies Dan Brogadir Al Lau Dexter Wilson Erin Bullers SD staff
PLWTP Permit Ad Hoc Working Group	1/17: Greg Humora and Scott Tulloch continue to meet with stakeholders. . Milestones are included in each month Metro TAC and Commission agenda packet. *1/19: With the approval of the San Diego City Council of the Amended Restated Agreement in December 2018 this working group has been closed and replaced.*	Greg Humora Scott Tulloch SD staff & consultants Enviro members

METRO WASTEWATER JPA

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Flow Commitment Working Group	6/16: Upon the request of Metro Com Chair Jim Peasley Chairman Humora created a working group to review the Flow Commitment section of the Regional Agreement and make recommendations on the fiscal responsibilities of members who might withdraw their flow from the Metro System. The Work Group held their first meeting June 24, 2016. Yazmin Arellano chairs the work group. 1/17: Work group continues to meet monthly. 4/17: Group has prepared draft RFP to hire engineering consultant to update Pt. Loma capacities. 7/17: Working Group is waiting for additional data from PUD staff and is finalizing the scope and selection of a consultant for the Pt. Loma Cost Capacity Study 10/17: Metro System Sewage Generated Flow projections worksheet handed out. Copy attached. 3/18: Working group continues to meet monthly; presentation made at March Metro TAC meeting. Agencies to review draft capacity numbers and provide comments by April Metro TAC meeting. 6/18: New capacity numbers developed and incorporated into draft Amendment. *1/19: With the approval of the San Diego City Council of the Amended Restated Agreement in December 2018 this working group has been closed and replaced.*	Yazmin Arellano Roberto Yano Erin Bullers Eric Minicilli Al Lau Dexter Wilson Karyn Keese SD staff
Secondary Equivalency	5/14: Definition of secondary equivalency for Point Loma agreed to be enviros 12/14: Cooperative agreement signed between San Diego and enviros to work together to pass legislation for secondary equivalency (until 8/1/19) San Diego indicated that passage of Federal legislation is not possible under the current political environment. San Diego is exploring options for State legislation 9/15: Letter received from EPA endorsing modified permit for Point Loma 6/16: Pursuit of Federal Legislation will be held off until after the November 2016 election. City of San Diego to consult with DC lobbyists on 2/4/17 6/17: Mayor Faulconer to meet with EPA Washington re: proceeding with Admin Fix. JPA to send letter stating that they do not support Admin Fix and request pursuit of permanent legislation instead. 10/17: SD is pursing both Admin Fix and Secondary Equivalency legislation in Washington; Ad Hoc to monitor efforts. Updates to be provided by SD staff/consultants at each Metro Commission meeting. *1/19: With the approval of the San Diego City Council of the Amended Restated Agreement in December 2018 this working group has been closed and replaced.*	Greg Humora Scott Tulloch
Pure Water Program Cost Allocation Working Group	A working group was formed to discuss Pure Water program cost allocation policies. 9/16: Concepts to be refined by Metro TAC and San Diego staff for presentation to Commission 1/17. 4/17: This group is currently being supported on a technical level by the Pure Water Facilities Subcommittee.7/17: Working group is reviewing full PWP components list with PUD staff. 3/18: Cost allocation continues. Phase I cost allocation to be set based on outcome of bids for13 PWP construction packages due to be bid in the fall of 2018. 6/18: Award of blanket contract approval by San Diego City Council moved to 10/2/18. *1/19: With the approval of the San Diego City Council of the Amended Restated Agreement in December 2018 this working group has been closed and replaced.*	Greg Humora Scott Tulloch Roberto Yano Karyn Keese SD staff & consultants

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Pure Water Program Cost Allocation Metro TAC Working Group	5/14: Draft facility plan and cost allocation table provided to Metro TAC working group 3/15: Draft cost allocation presentation provided to Metro TAC *1/19: With the approval of the San Diego City Council of the Amended Restated Agreement in December 2018 this working group has been closed and replaced.*	Greg Humora Scott Tulloch Rick Hopkins Roberto Yano Al Lau Bob Kennedy Karyn Keese
Amend Regional Wastewater Disposal Agreement	The addition of Pure Water facilities and costs will likely require the amendment of the 1998 Regional Wastewater Disposal Agreement. The Padre Dam billing errors have led to a need to either amend the Agreement and/or develop administrative protocols to help resolve potential future billing errors. After Pure Water cost allocation had been agreed to this effort will begin. *1/19: With the approval of the San Diego City Council of the Amended Restated Agreement in December 2018 this working group has been closed and replaced.*	Greg Humora Roberto Yano Dan Brogadir Karyn Keese Paula de Sousa Mills
Debt Allocation Working Group	3/18: Working group has been preparing an MOU and draft Amendment to the Regional Disposal Agreement to incorporate cost allocation "deal points" into a formal document. Draft MOU and Agreement has been reviewed by Ad Hoc and will go to Metro TAC at their March meeting. 6/18: Draft amendment is still under negotiation with San Diego staff. 5/14/18 version presented to Metro TAC and JPA/Commission. *1/19: With the approval of the San Diego City Council of the Amended Restated Agreement in December 2018 this working group has been closed and replaced.*	Greg Humora Roberto Yano Scott Tulloch Dexter Wilson Karyn Keese Paula de Sousa Mills Nicholas Norvell
Exhibit E Audit	6/16: FY 2013 audit accepted by Metro Commission; 9/16: FYE 2014 audit accepted by Metro Commission. FYE 2015 audit report to be issued by end of 2016 and then all audits will be caught up. 1/17: FYE 2015 to be issued in February 2017. FYE 2016 fieldwork is underway with anticipated draft 7/17. 3/17: FYE 2015 audit report issued. Acceptance pending resolution of PWP cost allocation for cost incurred in that fiscal year. 5/17: FYE 2015 audit to move forward as requested costs have been received. FYE 2016 audit field work complete. 6/17: FYE 2015 audit accepted by JPA with assurances that once the PWP cost allocation is complete and approved by all parties that incurred costs will be adjusted as necessary to approved split of shared costs between water and wastewater. FYE 2016 audit field work complete. Completion anticipated in October 2017. 10/17: FYE 2017 Exhibit E Audit has begun. 3/18: FYE 2016 audit completion date moved to 4/18. FYE 2017 preliminary draft number prior to fieldwork is showing an increase from $65 million PA share to $70 million. 6/18: Exhibit E 2016 audit completion projected to be 7/18. *1/19: FYE Exhibit E audit completed 7/18.*	Karyn Keese Karen Jassoy Dexter Wilson SD staff

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IRWMP	8/15 RAC minutes included in August Metro TAC agenda. Padre Dam received a $6 million grant for their project. 9/16: June 2, 2016 and August 3, 2016 minutes presented to Metro TAC. 12/16: Roberto Yano and Yazmin Arellano appointed to IRWMP. 5/17: Roberto Yano providing monthly updates as well as grant funding opportunities 6/17: Robert Yano urged Metro TAC members to visit the IRWMP website to keep on top of funding opportunities: http://www.sdirwmp.org; Yazmin to attend June meeting. 10/17: Roberto Yano requested comments from TAC on storm water presentation to be provided to IRWMP10/17: Yazmin gave update on Prop 1 and other funding sources. Members should monitor funding opportunities at: http://www.sdirwmp.org	Roberto Yano Yazmin Arellano
Pure Water EIR Comment Ad Hoc Sub Committee	Created at September 2017 Metro TAC meeting. Purpose to provide technical review of the Pure Water Program EIR and provide draft comments for Metro TAC/JPA review. 10/17: Dexter Wilson & Carmen Kasner reviewed their comments w/Metro TAC. They will forward comments to Chair Humora & he will forward to San Diego. 3/18: Comments submitted to EIR staff. Response from San Diego does not address all issues. Technical consultants and Ad Hoc working with City staff on issues. 6/18: One lawsuit filed by La Jolla Planning Group against the EIR. San Diego extends JPA tolling agreement for 60 days. *1/19: EIR certified. Group closed*	Roberto Yano Dexter Wilson Carmen Kasner Lisa Coburn-Boyd Paula de Sousa Mills
Sample Rejection Protocol Working Group	7/16: The sample rejection protocol from the B&C 2013 report has been under discussion between PUD staff and Metro TAC. A working group was formed to deal with this highly technical issue and prepare draft recommendations on any changes to current sampling procedures. The existing protocol is to be used through FY17. If changes are approved to the protocol they will be implemented in FY18. 1/17: Work group continues to meet monthly. 6/17: Working Group has complete their review. Three work items to be brought forward at June Metro TAC and during the next fiscal year quarter: 1) Edgar Patino will write memo to support decisions of working group. 2) PUD financial staff to provide workshop for PAs during next fiscal year quarter to go over strength based billing and how to understand sampling data and quarterly billings. Training session to be videotaped and uploaded to the JPA website 3) Dexter Wilson to provide draft protocol on how to read and validate quarterly billings. March 2018: PUD staff has prepared the draft memo and has distributed it to the working group 6/18: Memo presented to TAC and accepted as Protocol #3. Only remaining task is SBB training session. *1/19: SBB training still outstanding.*	Dennis Davies Dan Brogadir Al Lau Dexter Wilson SD staff

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 Water (Mark Niemiec will participate)	5/31/18
County of San Diego	Dan Brogadir		

Chula Vista	Frank Rivera		
Imperial Beach	Eric Minicilli		
La Mesa	Greg Humora		
Poway	Mike Obermiller		
El Cajon	Dennis Davies		
Lemon Grove	Mike James		
National City	Roberto Yano		
Coronado	Ed Walton		
Otay Water District	Bob Kennedy		
Del Mar	Joe Bride		
Padre Dam	Al Lau		
County of San Diego	Dan Brogadir		
Chula Vista	Frank Rivera		
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El Cajon	Dennis Davies		
Lemon Grove	Mike James		
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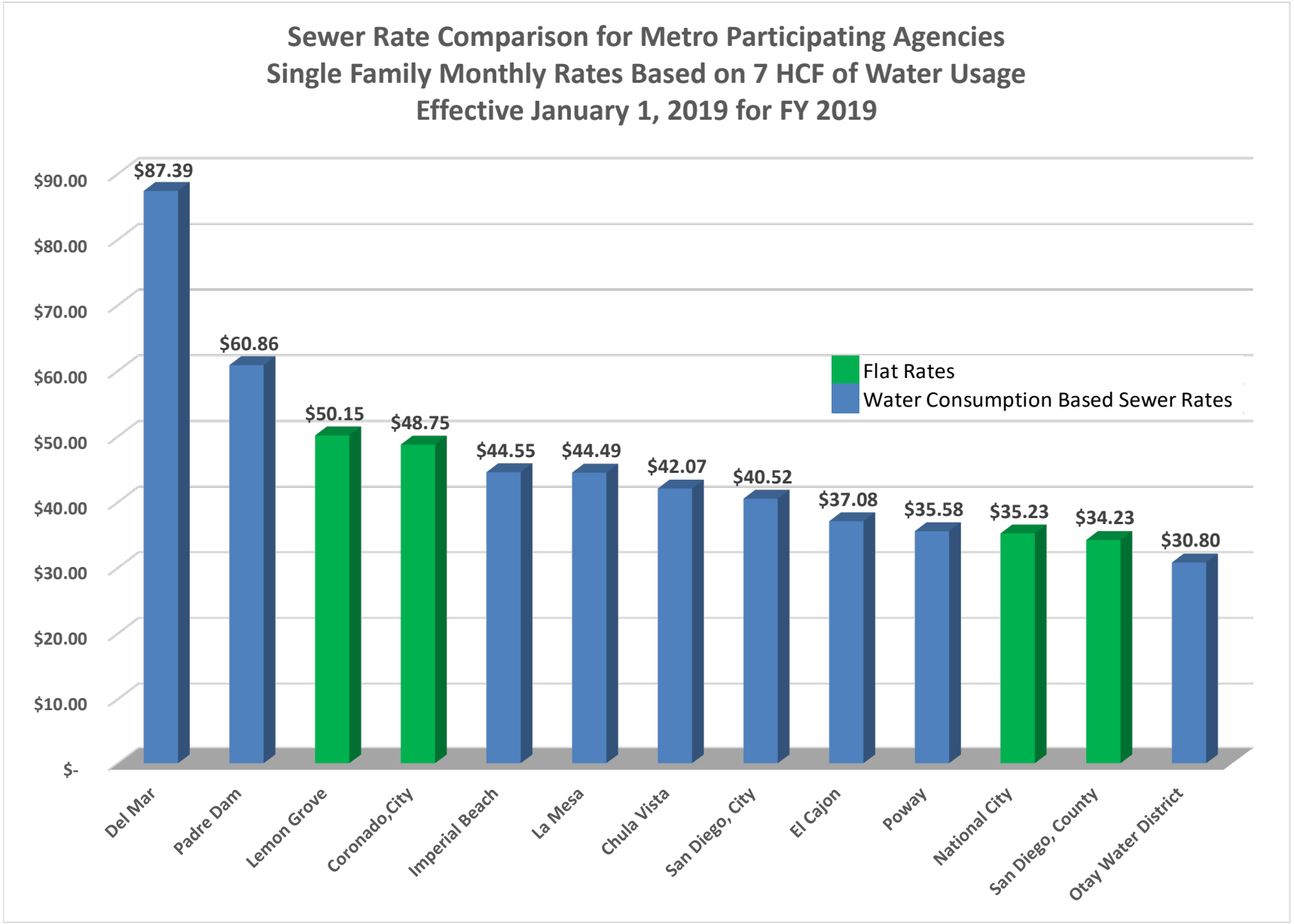
Coronado	Ed Walton		


Sewer Rate Comparison for Metro Participating Agencies
Single Family Monthly Rates Based on 7 HCF of Water Usage
Effective January 1, 2019 for FY 2019
$90.00
$80.00
$70.00
$60.00
$50.00
$40.00
$30.00
$20.00
$10.00
$-
$87.39
$60.86
$50.15
$48.75
$44.55
$44.49
$42.07
$40.52
$37.08
$35.58
$35.23
$34.23
$30.80
Flat Rates
Water Consumption Based Sewer Rates
Del Mar
Padre Dam
Lemon Grove
Coronado,City
Imperial Beach
La Mesa
Chula Vista
San Diego, City
El Cajon
Poway
National City
San Diego, County
Otay Water District