

Wastewater & One Water Connection Fees
and Service Rates Study
Workshop 2 – May 2, 2019



Inland Empire Utilities Agency

A MUNICIPAL WATER DISTRICT

Workshop Agenda

1. Connection Fee Background
2. Wastewater Connection Fees
3. One-Water Connection Fees

IEUA Funding Strategy: Based upon a comprehensive and integrated approach

Water Rates

Wastewater Rates

Connection Fees – One-Water

Connection Fees – Wastewater

General Study Approach: Each fee or rate analysis follows a similar approach.





Connection Fee Basics

What is a connection fee? One-time charge imposed on new or upsized meters or connections to compensate for the cost of providing system capacity

- Assessed per unit of capacity required:
 - Wastewater per Equivalent Dwelling Unit (EDU)
 - Water per Meter Equivalent Unit (MEU)

Adopted Fees

Wastewater
Connection Fees

FY 2018/19: \$6,624 per EDU
FY 2019/20: \$6,955 per EDU

One Water
Connection Fees

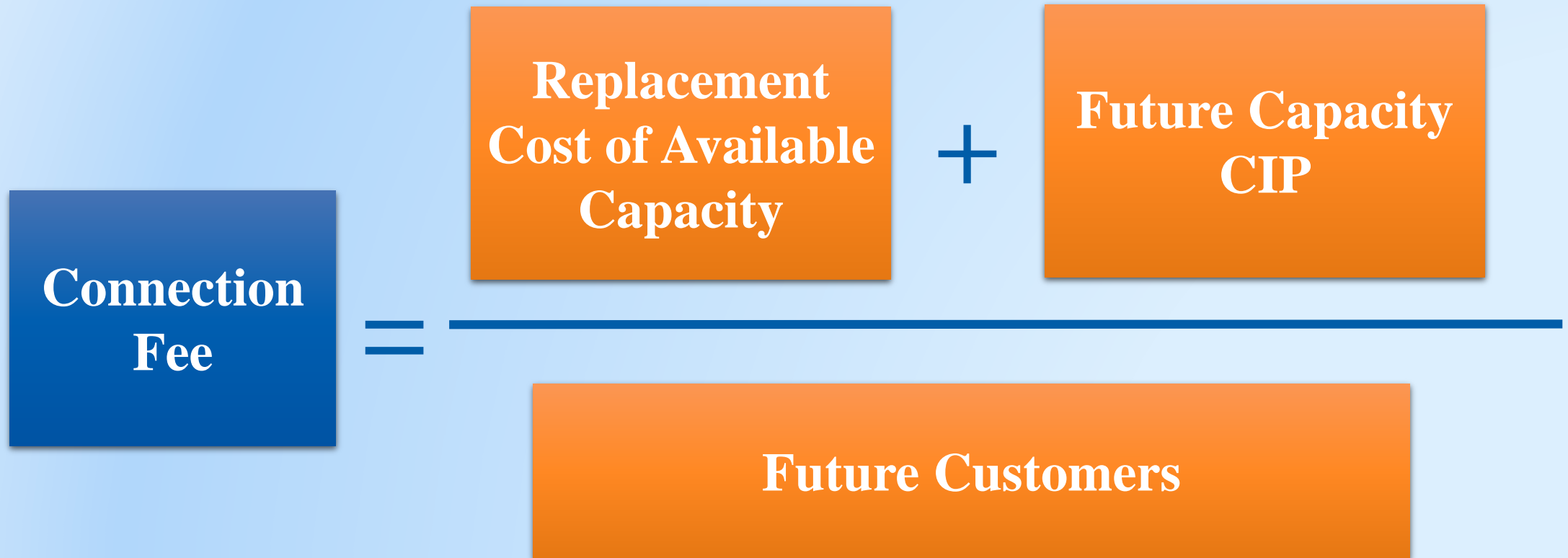
FY 2018/19: \$1,604 per MEU
FY 2019/20: \$1,684 per MEU

Regulatory Requirements: Connection fees are subject to California Government Code §66013

- Requires a reasonable nexus between the amount of the charge and the cost of capacity to serve the new development
- Defines maximum fee that may be imposed
- Legally permissible to include components for water resources, production, storage, distribution, and financial reserves
- Expansion fee revenues may only fund expansion related projects
- Not subject to Proposition 218

Hybrid Connection Fee Methodology:

Recovers proportionate share of capacity for existing system and planned future improvements



System Value and Cost Components: Hybrid connection fees account for existing assets as well as future improvements.

Existing Assets (Buy-In)

- **Existing Physical Assets** (Replacement Cost New Less Depreciation, RCNLD)
- **Plus:** Construction in Progress
- **Plus:** Cash Reserves
- **Less:** Adjustment for property tax revenues used for capital projects

Future Improvements (Incremental)

- Capital Improvements Attributable to Growth



Wastewater Connection Fees

Existing System Assets: Value based on Replacement Cost New Less Depreciation (RCNLD)

- RCNLD
 - Book Value
 - Original Value
 - Less: Accumulated Depreciation
 - Escalated to FY 2018/19 using ENR CCI

Wastewater System Valuation

	Original Value	Accumulated Depreciation	Book Value	RCNLD (Trended Book Value)
Total (M)	\$716.4	(\$373.4)	\$343.0	\$505.9

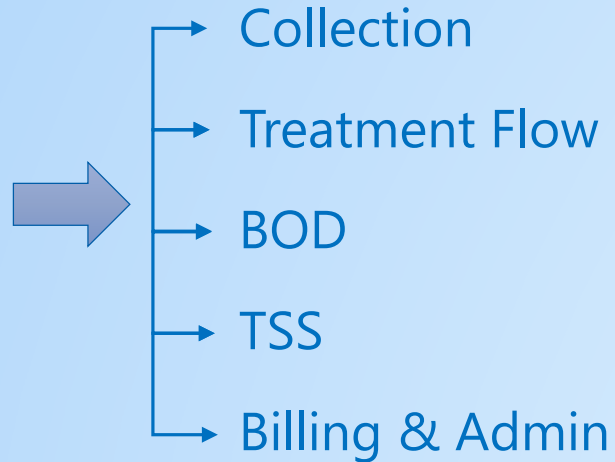
Note: Totals may not tie due to rounding.

Asset Allocation: Asset values are allocated to billable constituents based on each asset's function within the system.

Wastewater System



System Functions



- Ex 1. Collection Assets
 - Allocated to flow since collection systems are sized based on flow
- Ex 2. Aeration Basins
 - Allocated to BOD since they are used to remove BOD from wastewater

Wastewater RCNLD Functional Allocation

Billable Constituent	Flow	BOD	TSS	Total
Total (M)	\$268.3	\$157.3	\$80.2	\$505.9

Available Existing System Assets: The value of existing physical system available to serve growth is based on available capacity within the system.

- Each asset was associated with a particular treatment plant (or the collection system) in order to determine the “capacity” of the asset available for future users.
- Using the asset’s RCNLD, the value of its available capacity was calculated

RCNLD of Available Wastewater Capacity

Billable Constituent	Flow	BOD	TSS	Total
Total (M)	\$82.1	\$47.8	\$22.4	\$152.3
Resulting Functional Allocation	54%	31%	15%	100%

Note: Totals may not tie due to rounding.

Applicable Reserves: Approximately 28% of IEUA's reserves are included based on the total growth in EDUs.

- The reserve funds of the wastewater system include:
 - Regional Operations and Maintenance (RO) Fund
 - Regional Wastewater Capital Improvement (RC) Fund
 - Non-Reclaimable Wastewater (NC) Fund
- Additionally, a share of the Administrative Services (GG) Fund proportional to the wastewater assets' total RCNLD out of all Agency RCNLD was included.

Wastewater Reserves		
Fund	Fund Report Balance 17/18 (M)	Future User's Share (M)
Regional Operations	\$76.8	\$21.5
Regional Capital	\$79.6	\$22.3
Non Reclaimable Wastewater	\$9.8	\$2.7
Administrative Services	<u>\$8.4</u>	<u>\$2.3</u>
Total	\$174.6	\$48.9

Note: Totals may not tie due to rounding.

Construction-in-Progress: Approximately 28% of the construction in progress value is included based on the total growth in EDUs.

- Construction in progress costs are escalated to current dollars using the ENR CCI
- A share of the Administrative Services (GG) Fund costs were included proportional to the wastewater assets' total RCNLD out of all Agency RCNLD

Wastewater Construction In Progress		
Fund	Total Construction In Progress (M)	Future Users' Share (M)
Regional Operations	\$36.9	\$10.3
Regional Capital	\$36.9	\$10.3
Non Reclaimable Wastewater	\$0.4	\$0.1
Administrative Services	<u>\$1.3</u>	<u>\$0.4</u>
Total	\$75.5	\$21.1

Note: Totals may not tie due to rounding.

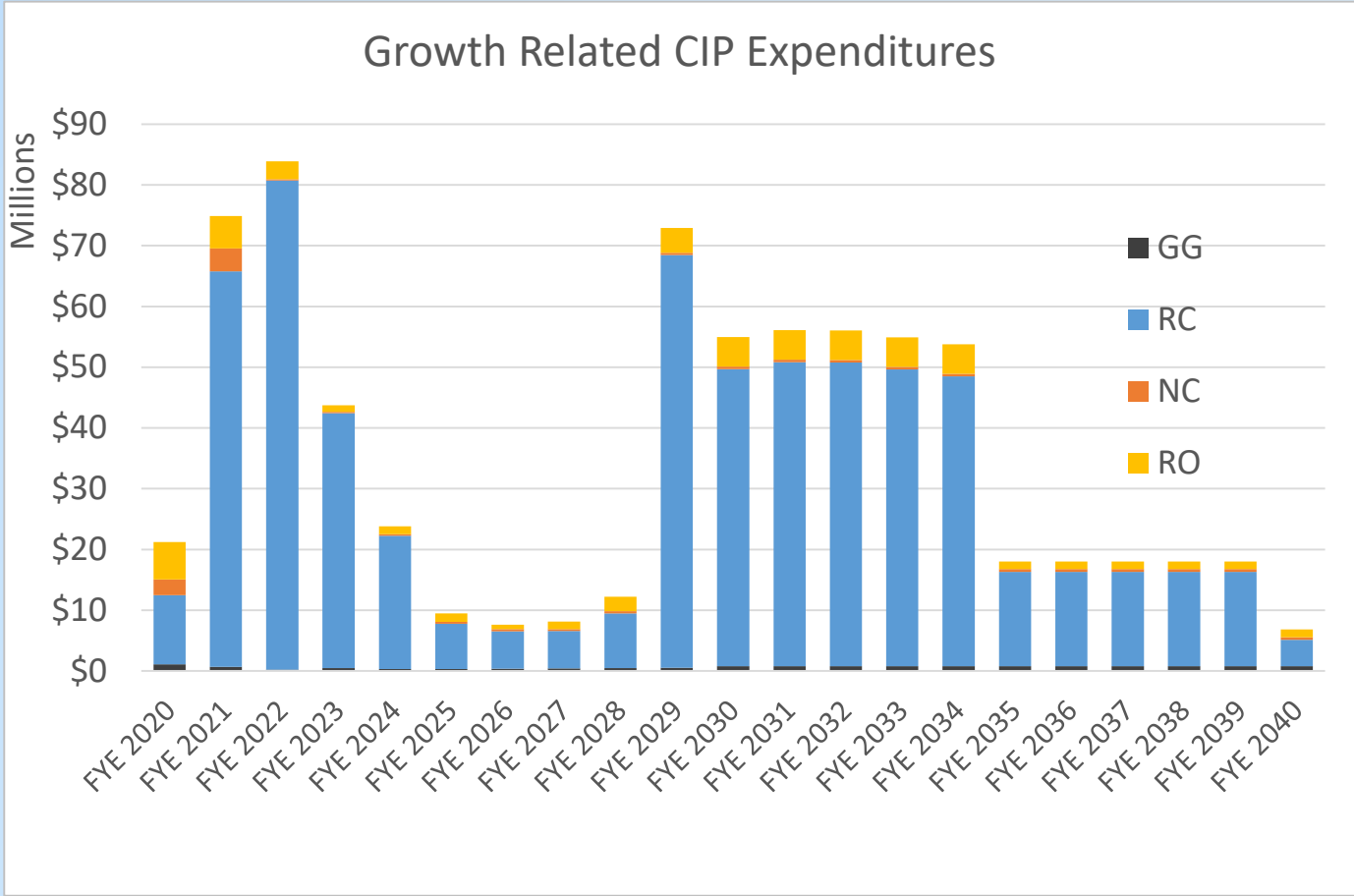
Property Tax Offset: Approximately 28% of the construction in progress value is included based on the total growth in EDUs.

- Each year a share of property tax revenues collected by IEUA are allocated to pay for capital projects, debt service, and O&M
- The present values of each recorded property tax receipt used for capital projects since FY 1999/00 totals \$61.0M
- Percentage of all customers by buildout that are new, 28%, represents the percentage of \$61.0M that has been collected from undeveloped properties
- \$17.1M is allocated to future users

Capital Improvement Plan: Approximately 46% of CIP costs through 2040 are considered to be growth related.

Wastewater Capital Improvement Plan

Fund	2020 - 2040 Project Costs (M)	Future Users' Share (M)
Regional Operations (RO)	\$286.9	\$58.6
Regional Capital (RC)	\$1,192.9	\$645.0
Non Reclaimable Wastewater (NC)	\$49.4	\$13.4
Administrative Services (GG)	\$48.9	\$13.7
Total	\$1,578	\$730.8



Note: Totals may not tie due to rounding.

Customer Base: Determined based on flow and loading forecasts and Equivalent Dwelling Unit (EDU) assumptions.

Flow
Forecast

Loading
Forecast

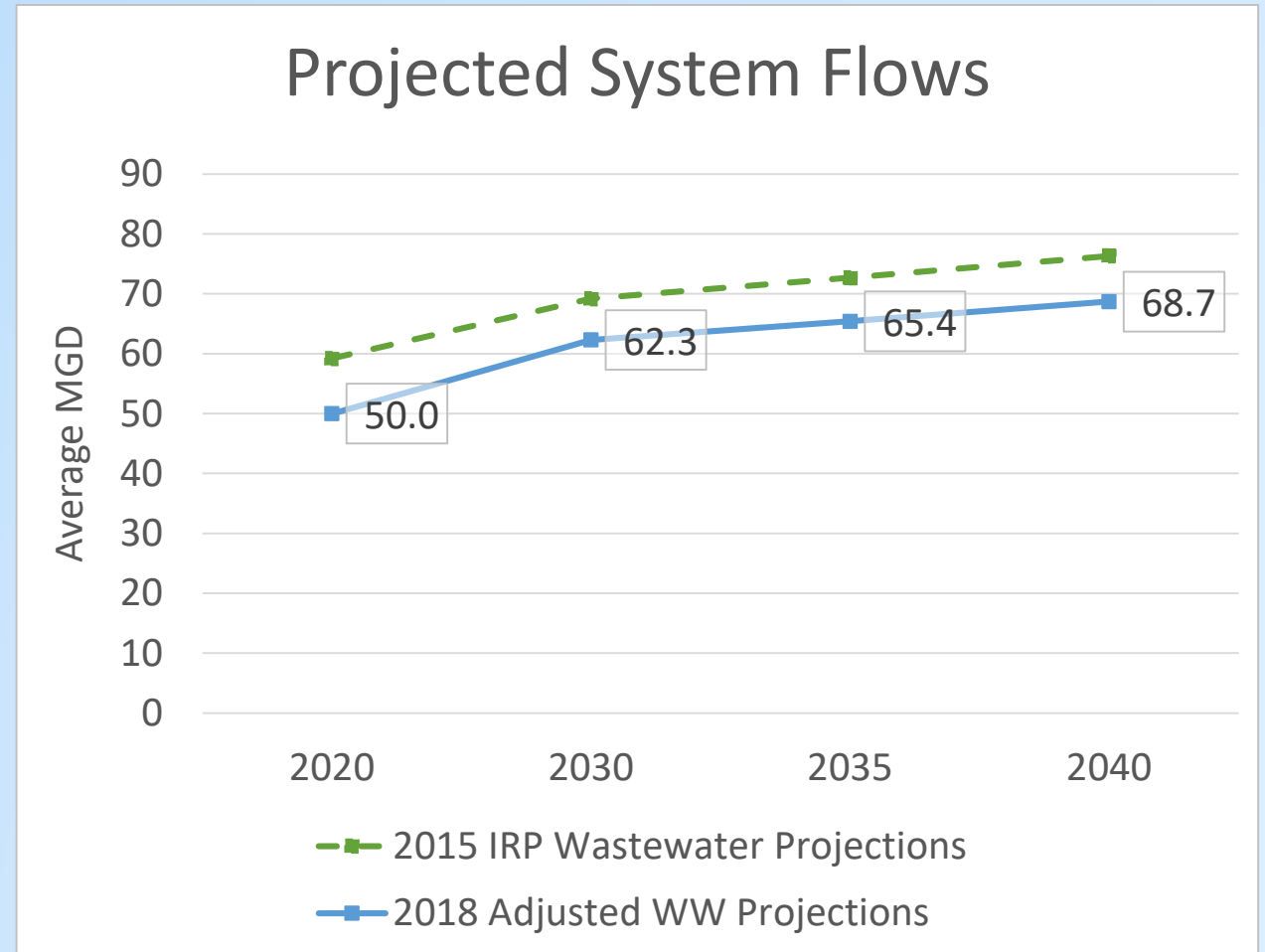
EDU
Assumptions

Cost
Allocations

Existing and Future Customer Base
(EDUs)

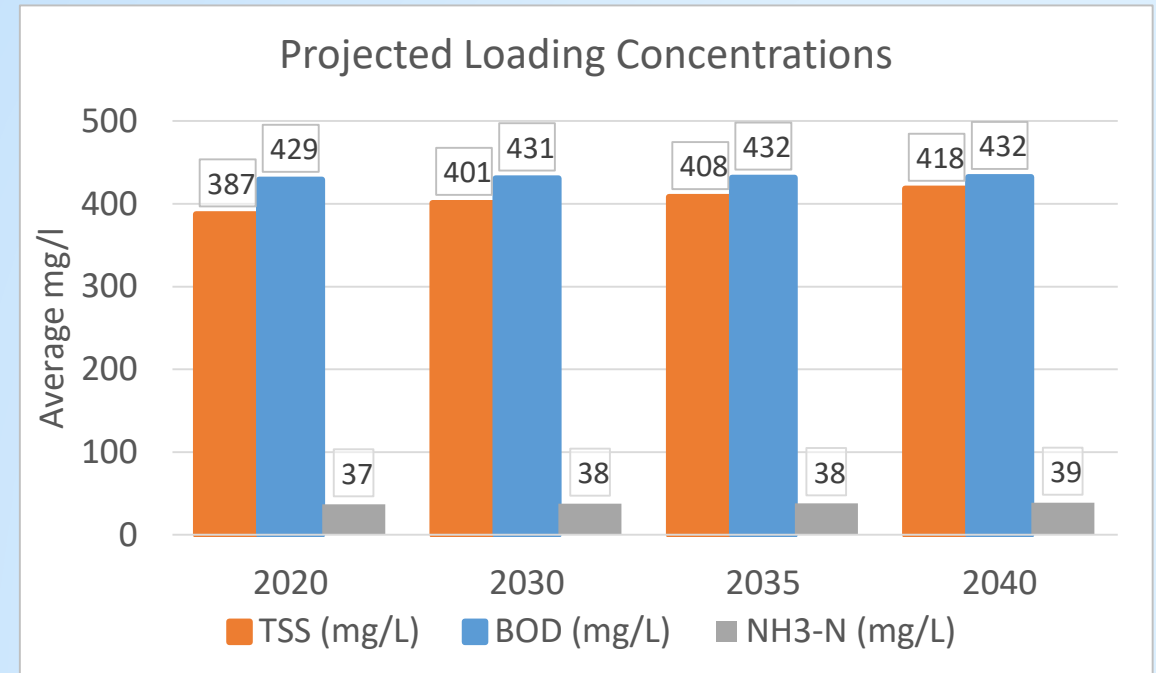
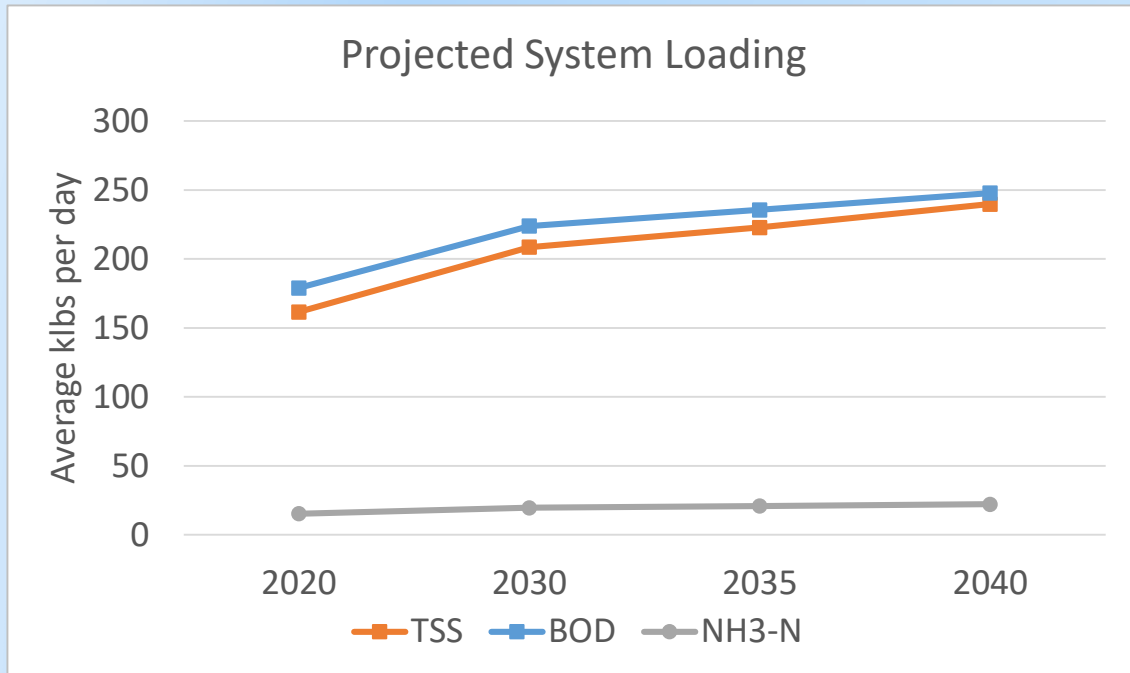
Flow Forecast: Projected flows are updated from the 2015 IRP to reflect actual flows in recent years.

- Flow increase through 2040
 - 18.7 MGD
- Projected flows represent a 10% reduction from the 2015 IRP
 - Impact of water use efficiency measures and ongoing plumbing code updates



Loading Forecast: System loadings are expected to be consistent with projections from the 2015 Wastewater Facilities Master Plan.

- Loading concentrations are expected to increase over time due to continued indoor water use efficiency improvements for new development as well as existing customers



Resulting Growth Forecast: Loadings are expected to increase slightly faster than flows.

Flow and Loading Projections				
	2020	2040	Future Users	
Flow (MGD)	50.0	68.7	18.7	27%
BOD (klbs/day)	179.0	247.9	68.8	28%
TSS (klbs/day)	161.6	239.8	78.2	33%

Note: Totals may not tie due to rounding.

EDU Definition: The EDU definition represents the expected flow and loading from a typical single family customer and accounts for IEUA's asset base.

- Updated flow assumption of 180 gpd based on 50 gpcd and projected persons per household
- Loading concentration assumptions may be refined as additional information becomes available (CASA Study, etc.)
 - Two options have been developed
 - Option A: Low Strength Concentrations: scaled loading assumptions based on current contract and updated gpd
 - Option B: High Strength Concentrations: assumes incrementally higher concentrations than Option A

EDU Definition: Continued

- Cost weighting factors are used to incorporate IEUAs asset base (physical system) into the EDU calculation
 - Weighting factors have been updated by allocating asset values to Flow, BOD, and TSS based on the function served by and sizing of each asset

EDU Assumptions

	Regional Contract	2015 Study	Updated Low Concentration		Updated High Concentration		Weighting Factor*
Flow	270 gpd	195 gpd	180 gpd	-	180 gpd	-	54%
BOD	230 mg/L	318 mg/L	345 mg/L	0.52 lbs/day	380 mg/L	0.57 lbs/day	31%
TSS	220 mg/L	304 mg/L	330 mg/L	0.50 lbs/day	365 mg/L	0.55 lbs/day	15%

*Weighting factors may change as the asset allocation is refined.

EDU Calculation: Determines the total number of EDUs based on flow and loading growth over the study period.

Option A: Low Loading Concentrations

Component	Future Users		Per EDU (Low Concentration)		Weighting Factor		EDU Components	
Flow	18.7 MGD	÷	180 gpd	x	54%	=	55,976	
BOD	69.0 klbs	÷	0.52 lb	x	31%	=	41,784	
TSS	78.2 klbs	÷	0.50 lb	x	15%	=	23,220	
							Future EDUs	120,980

Option B: High Loading Concentrations

Component	Future Users		Per EDU (High Concentration)		Weighting Factor		EDU Components	
Flow	18.7 MGD	÷	180 gpd	x	54%	=	55,976	
BOD	69.0 klbs	÷	0.57 lb	x	31%	=	37,935	
TSS	78.2 klbs	÷	0.55 lb	x	15%	=	20,993	
							Future EDUs	114,905

- Higher loading concentration assumptions result in lower future EDUs because overall loading projections are fixed

Note: Totals may not tie due to rounding.

Preliminary Wastewater Connection Fees

Component	Value (M)
RCNLD (Existing Physical System)	\$152.3
Construction in Progress	\$21.1
Reserves	\$48.9
Less: Property Tax Offset	(\$17.1)
Subtotal Buy-In Portion	\$205.3
Incremental Portion (Growth Related CIP)	\$730.8
Option A: Low Loading Concentrations Scenario	
Expected Future Users (EDUs)	120,980
Buy-In Fee (\$ per EDU)	\$1,700
Incremental Fee (\$ per EDU)	\$6,000
Total Connection Fee (\$ per EDU)	\$7,700
Option B: High Loading Concentrations Scenario	
Expected Future Users	114,905
Buy-In Fee (\$ per EDU)	\$1,800
Incremental Fee (\$ per EDU)	\$6,400
Total Connection Fee (\$ per EDU)	\$8,200

Note: Totals may not tie due to rounding.

- Results of the preliminary analyses suggest fees ranging from:
 - **\$7,700 per EDU** in the low loading concentration scenario
- to:
 - **\$8,200 per EDU** in the high loading concentration scenario
- *The adopted fee for FY 2019/20 is \$6,955 per EDU*



One-Water Connection Fees

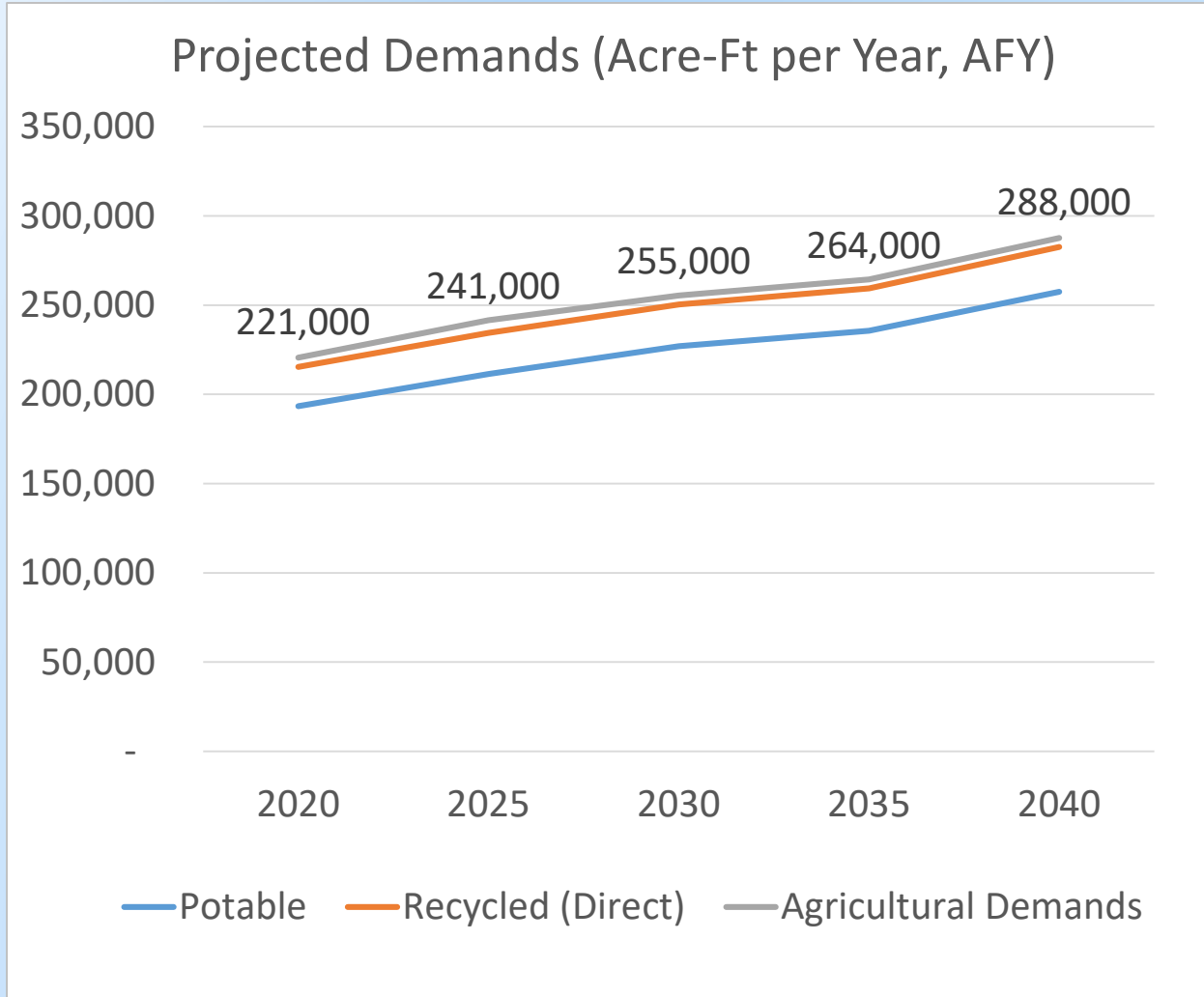
Customer Base: Determined based on water usage projections and demands per Meter Equivalent Unit (MEU).

Water Demand Forecast

Calculated Usage per Meter
Equivalent Unit (MEU)

Existing and Future Customer Base
(MEUs)

Water Usage Forecast: Based on 2015 UWMP or values provided by member agencies.



Water Usage Projection

	2020	2040	Future Users
Potable	193,327	257,543	64,216
Recycled (Direct)	22,000	25,000	3,000
Agricultural Demands	5,344	4,990	-354
Total	220,671	287,533	66,862
Percent for Future Users			23%

Note: Totals may not tie due to rounding.

MEU Calculations: Future MEUs are calculated based on the current usage per MEU and projected demands.

Current Connections and MEUs

Meter Size	MEU Ratio	Potable Connections	Recycled Connections
5/8"	1.0	83,869	
3/4"	1.0	56,733	
1"	2.5	43,528	122
1.5"	5.0	5,410	214
2"	8.0	8,244	458
3"	17.5	697	117
4"	31.5	356	36
6"	70.0	152	30
8"	120.0	266	11
10"	150.0	36	23
12"	175.0	2	
Total Connections		199,293	1,011
MEUs		414,146	15,091

MEU Calculation	
Current MEUs	
Potable	414,146
Recycled	15,091
Total	429,236
2020 Usage (AFY)	
AFY per MEU	0.514
2040 Usage	
2040 MEUs	559,292
New MEUs	
Percent	23%

Note: Totals may not tie due to rounding.

Existing System Assets: The future users' share of the RCNLD and Construction in Progress is 23% based on the expected MEU growth through 2040.

Water System Valuation*

	Original Value	Accumulated Depreciation	Book Value	RCNLD (Trended Book Value)	Future Users' Share
Total (M)	\$283.7	(\$71.5)	\$212.2	\$268.1	\$61.7

*Includes assets from the Recycled Water, Recharge Water, and Water Resources Funds

Water System Construction in Progress

Fund	Total Construction In Progress (M)	Future Users' Share (M)
Recycled Water	\$11.0	\$0.02
Recharge Water	\$3.4	\$0.8
Water Resources	<u>\$1.3</u>	<u>\$2.5</u>
Total	\$15.7	\$3.3

Note: Totals may not tie due to rounding.

Applicable Reserves: Approximately 23% of IEUA's reserves are included based on the total growth in MEUs.

- The reserve funds of the water system include:
 - Recycled Water (WC) Fund
 - Recharge Water (RW) Fund
 - Water Resources (WW) Fund
- Additionally, a share of the Administrative Services (GG) Fund proportional to the water assets' total RCNLD out of all Agency RCNLD was included.

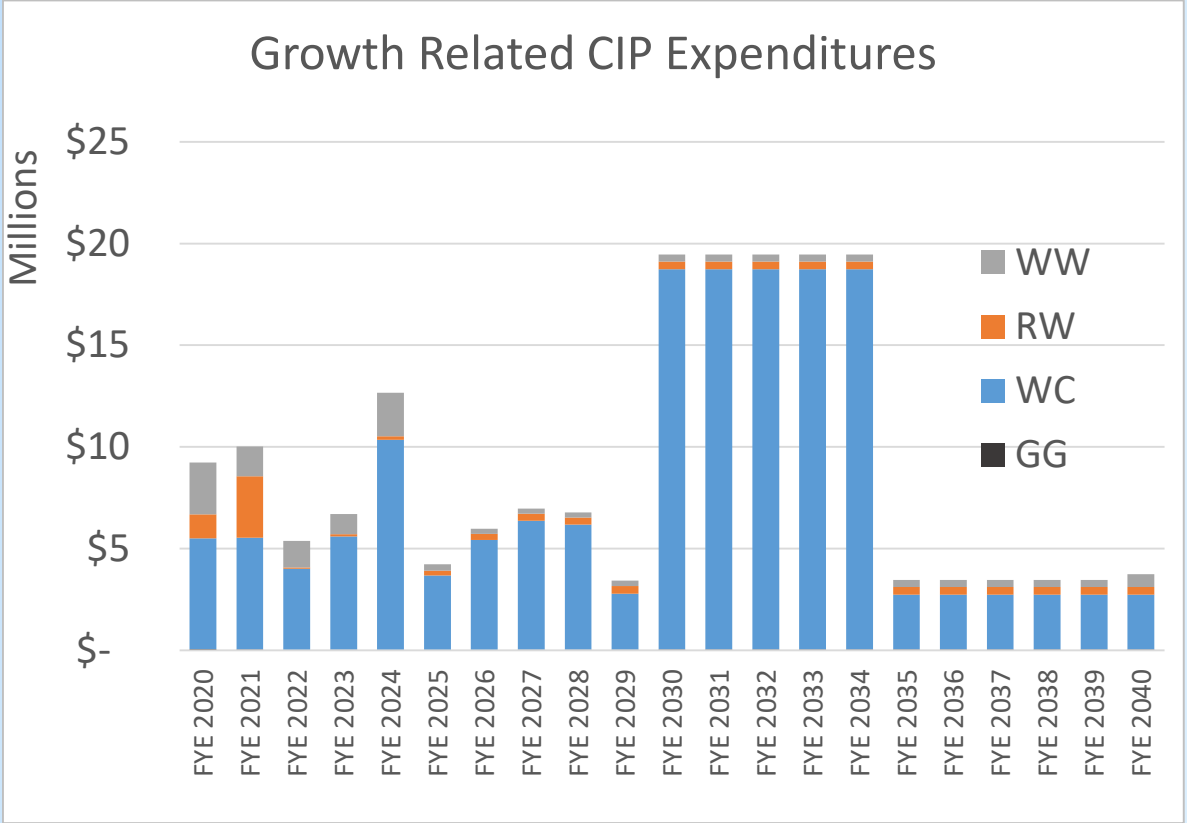
Water System Reserves		
Fund	Balance (M)	Future User's Share (M)
Recycled Water	\$35.1	\$8.1
Recharge Water	\$3.3	\$0.7
Water Resources	\$10.6	\$2.4
Administrative Services	<u>\$4.8</u>	<u>\$1.1</u>
Total	\$53.7	\$12.4

Note: Totals may not tie due to rounding.

Capital Improvement Plan: Approximately 28% of CIP costs through 2040 are considered to be growth related.

Water System Capital Improvement Plan

Fund	2020 - 2040 Project Costs (M)	Future Users' Share (M)
Recycled Water (WC)	\$421.3	\$164.8
Recharge Water (RW)	\$44.8	\$10.3
Water Resources (WW)	\$60.3	\$13.9
Administrative Services (GG)	<u>\$3.5</u>	<u>\$0.8</u>
Total	\$592.9	\$189.8



Note: Totals may not tie due to rounding.

Preliminary One-Water Connection Fees

Component	Value (M)
RCNLD (Existing Physical System)	\$61.7
Construction in Progress	\$3.3
Reserves	\$12.4
Less: Property Tax Offset	n/a
Subtotal Buy-In Portion	\$77.3
Incremental Portion (Growth Related CIP)	\$189.8
Expected Future Users (MEUs)	130,056
Buy-In Fee (\$ per MEU)	\$600
Incremental Fee (\$ per MEU)	\$1,500
Total Connection Fee per MEU	\$2,100

- Results of the preliminary analyses suggest fees of approximately **\$2,100 per MEU**
- Calculations will continue to be refined based on:
 - CIP Costs
 - Growth Projections
 - Growth Allocations
- *The adopted fee for FY 2019/20 is \$1,684 per MEU*

Note: Totals may not tie due to rounding.



Next Steps

Next Steps:

- Continue to refine connection fee analyses
- Develop analyses for service rates
 - Wastewater Monthly EDU Rate
 - Water Monthly MEU Rate
 - Recycled Water Volumetric Rates
 - Recharge Water Volumetric Rate
- Incorporate scenarios to assess the impact of the Chino Basin Program