Capital Improvement Plan (CIP) Water

Capital Improvements Advisory Committee

San Antonio Water System

December 13, 2023

carollo 90 YEARS

Water Delivery – Flow

Impact Fee Components

Water Supply

Water Delivery
System Development

Water Delivery
Flow

Wastewater Collection

Wastewater Treatment

Impact Fee Calculation

$$Calculated\ Impact\ Fee = \frac{Cost\ of\ Eligible\ CIP}{Added\ EDUs}$$

- LUAP provides number of added EDUs
- CIP provides cost of eligible capital improvements
  - Extensions and expansions
  - Pipeline upsizing
- Study period for LUAP and CIP is 10 years
  - How many EDUs are expected to be added in 10-year study period?
  - What is the cost of the capacity that is required to serve these added EDUs?

Water Delivery / Flow Equity Value

Existing distribution system value is $819,254,069

- Valuation method is Original Cost (OC)
- Value is not depreciated
- Value excludes contributed assets and water mains less than or equal to 8”
- 16% increase from 2018 study

Allocation of Water Delivery / Flow Equity to Impact Fee

Allocation is based on maximum hour demand (MHD):

- 2024 EDUs is 870,480; projected 2033 EDUs is 1,031,510
- Average day demand (ADD) is 290 gpd per EDU
- Maximum hour peaking factor (MHPF) is 3.02
- $MHD = ADD * MHPF * EDUs$
- 2024 $MHD = 290\ gpd * 3.02 * 870{,}480 = \mathbf{762.4\ mgd}$
- 2033 $MHD = 290\ gpd * 3.02 * 1{,}031{,}510 = \mathbf{903.4\ mgd}$

Allocation of Water Delivery / Flow Equity to Impact Fee

Water distribution system is assumed to be maintained at 90% capacity

- $2024\ MHD = 762.4\ mgd$
- $2024\ Capacity = \frac{762.4\ mgd}{90\%} = \mathbf{847.1\ mgd}$

Unused portion of Water Delivery / Flow assets is allocated to impact fee calculation

- $Allocation = \frac{2024\ Capacity - 2024\ MHD}{2024\ Capacity}$
- $Allocation = \frac{847.1\ mgd - 762.4\ mgd}{847.1\ mgd} = \mathbf{10\%}$

Allocation of Water Delivery / Flow CIP to Impact Fee

Water distribution system is assumed to be maintained at 90% capacity

- $2024\ Capacity = 847.1\ mgd$
- $2033\ MHD = 903.4\ mgd$
- $2033\ Capacity = \frac{903.4\ mgd}{90\%} = \mathbf{1,003.8\ mgd}$

Capacity required to serve 2033 MHD:

- $Allocation = \frac{2033\ MHD - 2024\ Capacity}{2033\ Capacity - 2024\ Capacity}$
- $Allocation = \frac{903.4\ mgd - 847.1\ mgd}{1{,}003.8\ mgd - 847.1 mgd} = \mathbf{36\%}$

Water Delivery / Flow CIP – Eligible Value

Description	Total Cost	Eligible %	Eligible Cost*
Existing Assets	$ 819,254,069	10.0%	$ 81,925,407
CIP Projects	$ 381,538,778	35.9%	$ 137,134,935
TOTAL	**$ 1,200,792,847**	**18.2%**	**$ 219,060,342**

* Costs shown do not include financing charges.

Questions?

Water Delivery – System Development

Impact Fee Components

Water Supply

Water Delivery
System Development

Water Delivery
Flow

Wastewater Collection

Wastewater Treatment

Allocation of Water Delivery / System Development / Pump Stations Value to Impact Fee

Total available capacity for Low Service Area is 122.4 mgd

- $2024\ Capacity = \mathbf{554.8\ mgd}$
- $Existing\ Available\ Capacity = 2024\ Capacity - 2024\ MHD$
- $Existing\ Available\ Capacity = 554.8\ mgd - 470.5\ mgd = 84.3\ mgd$
- $Future\ CIP\ Capacity = 38.1\ mgd$
- $Total\ Available\ Capacity = Existing\ Available\ Capacity + Future\ CIP\ Capacity$
- $Total\ Available\ Capacity = 84.3\ mgd + 38.1\ mgd = \mathbf{122.4\ mgd}$

Impact fee eligible allocation for Low Service Area is 65%

- $Allocation = \frac{Study\ Period\ Demand}{Total\ Available\ Capacity}$
- $Allocation = \frac{79.3\ mgd}{122.4\ mgd} = \mathbf{64.8\%}$

Allocation of Water Delivery / System Development / Elevated Storage Tanks Value to Impact Fee

Allocation is based on TCEQ requirements

- TCEQ requires minimum 100 gallons per connection of EST capacity, but WIP may recommend a higher minimum for each service area
- $1\ connection = \mathbf{1.54\ EDUs}$
- $EST\ Capacity\ Requirement = Minimum\ gal/conn * \frac{No.\ EDUs}{1.54}$
- $Study\ Period\ Requirement =$
  $2033\ EST\ Capacity\ Requirement -$
  $2024\ EST\ Capacity\ Requirement$

Allocation of Water Delivery / System Development / Elevated Storage Tanks Value to Impact Fee

High Service Area Study Period Requirement

- $2024\ EST\ Capacity\ Requirement = \mathbf{298}\frac{gal}{conn} * \frac{30{,}602\ EDU}{1.54} = \mathbf{5.9\ MG}$
- $2033\ EST\ Capacity\ Requirement = \mathbf{298}\frac{gal}{conn} * \frac{42{,}566\ EDU}{1.54} = \mathbf{8.2\ MG}$
- $Study\ Period\ Requirement = 8.2\ MG - 5.9\ MG = \mathbf{2.3\ MG}$

Allocation of Water Delivery / System Development / Elevated Storage Tanks Value to Impact Fee

Total available capacity for High Service Area is 11.0 MG

- $2024\ Capacity = 16.9\ MG$
- $Existing\ Available\ Capacity = 2024\ Capacity - 2024\ EST\ Capacity\ Requirement$
- $Existing\ Available\ Capacity = 16.9\ MG - 5.9\ MG = \mathbf{11.0\ MG}$
- $Future\ CIP\ Capacity = 0.0\ MG$
- $Total\ Available\ Capacity = Existing\ Available\ Capacity + Future\ CIP\ Capacity$
- $Total\ Available\ Capacity = 11.0\ MG + 0.0\ MG = \mathbf{11.0\ MG}$

Impact fee eligible allocation for High Service Area is 21%

- $Allocation = \frac{Study\ Period\ Requirement}{Total\ Available\ Capacity}$
- $Allocation = \frac{2.3\ MG}{11.0\ MG} = \mathbf{21.1\%}$

Allocation of Water Delivery / System Development / Elevated Storage Tanks Value to Impact Fee

Middle Service Area Study Period Requirement

- 2024 $EST\ Capacity\ Requirement = \mathbf{196}\frac{gal}{conn} * \frac{302{,}617\ EDU}{1.54} = \mathbf{38.5\ MG}$
- 2033 $EST\ Capacity\ Requirement = \mathbf{196}\frac{gal}{conn} * \frac{361{,}209\ EDU}{1.54} = \mathbf{46.0\ MG}$
- $Study\ Period\ Requirement = 46.0\ MG - 38.5\ MG = \mathbf{7.5\ MG}$

Allocation of Water Delivery / System Development / Elevated Storage Tanks Value to Impact Fee

Total available capacity for Middle Service Area is 35.3 MG

- $2024\ Capacity = 59.3\ MG$
- $Existing\ Available\ Capacity = 2024\ Capacity - 2024\ EST\ Capacity\ Requirement$
- $Existing\ Available\ Capacity = 59.3\ MG - 38.5\ MG = \mathbf{20.8\ MG}$
- $Future\ CIP\ Capacity = 14.5\ MG$
- $Total\ Available\ Capacity = Existing\ Available\ Capacity + Future\ CIP\ Capacity$
- $Total\ Available\ Capacity = 20.8\ MG + 14.5\ MG = \mathbf{35.3\ MG}$

Impact fee eligible allocation for Middle Service Area is 21%

- $Allocation = \frac{Study\ Period\ Requirement}{Total\ Available\ Capacity}$
- $Allocation = \frac{7.5\ MG}{35.3\ MG} = \mathbf{21.1\%}$

Allocation of Water Delivery / System Development / Elevated Storage Tanks Value to Impact Fee

Low Service Area Study Period Requirement

- $2024\ EST\ Capacity\ Requirement = \mathbf{142}\ \frac{gal}{conn} * \frac{537{,}262\ EDU}{1.54} = \mathbf{49.5\ MG}$
- $2033\ EST\ Capacity\ Requirement = \mathbf{142}\ \frac{gal}{conn} * \frac{627{,}735\ EDU}{1.54} = \mathbf{57.9\ MG}$
- $Study\ Period\ Requirement = 57.9\ MG - 49.5\ MG = \mathbf{8.4\ MG}$

Allocation of Water Delivery / System Development / Elevated Storage Tanks Value to Impact Fee

Total available capacity for Low Service Area is 12.7 MG

- $2024\ Capacity = 54.7\ MG$
- $Existing\ Available\ Capacity = 2024\ Capacity - 2024\ EST\ Capacity\ Requirement$
- $Existing\ Available\ Capacity = 54.7\ MG - 49.5\ MG = \mathbf{5.2\ MG}$
- $Future\ CIP\ Capacity = 7.5\ MG$
- $Total\ Available\ Capacity = Existing\ Available\ Capacity + Future\ CIP\ Capacity$
- $Total\ Available\ Capacity = 5.2\ MG + 7.5\ MG = \mathbf{12.7\ MG}$

Impact fee eligible allocation for Low Service Area is 66%

- $Allocation = \frac{Study\ Period\ Requirement}{Total\ Available\ Capacity}$
- $Allocation = \frac{8.4\ MG}{12.7\ MG} = \mathbf{65.9\%}$

Allocation of Water Delivery / System Development / Ground Storage Tanks Value to Impact Fee

Allocation is based on TCEQ requirements

- TCEQ requires minimum 200 gallons per connection of total storage capacity, but WIP may recommend a higher minimum for each service area
- $1\ connection = \mathbf{1.54\ EDUs}$
- $GST\ Capacity\ Requirement = Minimum\ gal/conn * \frac{No.\ EDUs}{1.54}$
- $Study\ Period\ Requirement =$
  $2033\ GST\ Capacity\ Requirement -$
  $2024\ GST\ Capacity\ Requirement$

Allocation of Water Delivery / System Development / Ground Storage Tanks Value to Impact Fee

High Service Area Study Period Requirement

- $2024\ GST\ Capacity\ Requirement = \mathbf{4}\frac{gal}{conn} * \frac{30{,}602\ EDU}{1.54} = \mathbf{0.08\ MG}$
- $2033\ GST\ Capacity\ Requirement = \mathbf{4}\frac{gal}{conn} * \frac{42{,}566\ EDU}{1.54} = \mathbf{0.11\ MG}$
- $Study\ Period\ Requirement = 0.11\ MG - 0.08\ MG = \mathbf{0.03\ MG}$

Allocation of Water Delivery / System Development / Ground Storage Tanks Value to Impact Fee

Total available capacity for High Service Area is 21.3 MG

- $2024\ Capacity = 17.4\ MG$
- $Existing\ Available\ Capacity = 2024\ Capacity - 2024\ GST\ Capacity\ Requirement$
- $Existing\ Available\ Capacity = 17.4\ MG - 0.08\ MG = \mathbf{17.3\ MG}$
- $Future\ CIP\ Capacity = 4.0\ MG$
- $Total\ Available\ Capacity = Existing\ Available\ Capacity + Future\ CIP\ Capacity$
- $Total\ Available\ Capacity = 17.3\ MG + 4.0\ MG = \mathbf{21.3\ MG}$

Impact fee eligible allocation for High Service Area is 0.1%

- $Allocation = \frac{Study\ Period\ Requirement}{Total\ Available\ Capacity}$
- $Allocation = \frac{0.03\ MG}{21.3\ MG} = \mathbf{0.1\%}$

Allocation of Water Delivery / System Development / Ground Storage Tanks Value to Impact Fee

Middle Service Area Study Period Requirement

- $2024\ GST\ Capacity\ Requirement = \mathbf{4}\frac{gal}{conn} * \frac{302{,}617\ EDU}{1.54} = \mathbf{0.8\ MG}$
- $2033\ GST\ Capacity\ Requirement = \mathbf{4}\frac{gal}{conn} * \frac{361{,}209\ EDU}{1.54} = \mathbf{0.9\ MG}$
- $Study\ Period\ Requirement = 0.9\ MG - 0.8\ MG = \mathbf{0.1\ MG}$

Allocation of Water Delivery / System Development / Ground Storage Tanks Value to Impact Fee

Total available capacity for Middle Service Area is 140.3 MG

- $2024\ Capacity = 130.1\ MG$
- $Existing\ Available\ Capacity = 2024\ Capacity - 2024\ GST\ Capacity\ Requirement$
- $Existing\ Available\ Capacity = 130.1\ MG - 0.8\ MG = \mathbf{129.3\ MG}$
- $Future\ CIP\ Capacity = 11.0\ MG$
- $Total\ Available\ Capacity = Existing\ Available\ Capacity + Future\ CIP\ Capacity$
- $Total\ Available\ Capacity = 129.3\ MG + 11.0\ MG = \mathbf{140.3\ MG}$

Impact fee eligible allocation for Middle Service Area is 0.1%

- $Allocation = \frac{Study\ Period\ Requirement}{Total\ Available\ Capacity}$
- $Allocation = \frac{0.1\ MG}{140.3\ MG} = \mathbf{0.1\%}$

Allocation of Water Delivery / System Development / Ground Storage Tanks Value to Impact Fee

Low Service Area Study Period Requirement

- $2024\ GST\ Capacity\ Requirement = \mathbf{58}\ \frac{gal}{conn} * \frac{537{,}262\ EDU}{1.54} = \mathbf{20.2\ MG}$
- $2033\ GST\ Capacity\ Requirement = \mathbf{58}\ \frac{gal}{conn} * \frac{627{,}735\ EDU}{1.54} = \mathbf{23.6\ MG}$
- $Study\ Period\ Requirement = 23.6\ MG - 20.2\ MG = \mathbf{3.4\ MG}$

Allocation of Water Delivery / System Development / Ground Storage Tanks Value to Impact Fee

Total available capacity for Low Service Area is 125.5 MG

- $2024\ Capacity = 139.2\ MG$
- $Existing\ Available\ Capacity = 2024\ Capacity - 2024\ GST\ Capacity\ Requirement$
- $Existing\ Available\ Capacity = 139.2\ MG - 20.2\ MG = \mathbf{119.0\ MG}$
- $Future\ CIP\ Capacity = 6.5\ MG$
- $Total\ Available\ Capacity = Existing\ Available\ Capacity + Future\ CIP\ Capacity$
- $Total\ Available\ Capacity = 119.0\ MG + 6.5\ MG = \mathbf{125.5\ MG}$

Impact fee eligible allocation for Low Service Area is 3%

- $Allocation = \frac{Study\ Period\ Requirement}{Total\ Available\ Capacity}$
- $Allocation = \frac{3.4\ MG}{125.5\ MG} = \mathbf{2.7\%}$

Allocation of Water Delivery / System Development / Well Pumps Value to Impact Fee

Total available capacity for Service Area is 497.4 mgd

- $2024\ Capacity = 879.4\ \text{mgd}$
- $Existing\ Available\ Capacity = 2024\ Capacity - 2024\ MDD$
- $Existing\ Available\ Capacity = 879.4\ mgd - 414.0\ mgd = \mathbf{465.4\ mgd}$
- $Future\ CIP\ Capacity = 32.0\ mgd$
- $Total\ Available\ Capacity = Existing\ Available\ Capacity + Future\ CIP\ Capacity$
- $Total\ Available\ Capacity = 465.4\ mgd + 32.0\ mgd = \mathbf{497.4\ mgd}$

Impact fee eligible allocation for Service Area is 15%

- $Allocation = \frac{Study\ Period\ Demand}{Total\ Available\ Capacity}$
- $Allocation = \frac{76.6\ mgd}{497.4\ mgd} = \mathbf{15.4\%}$

Water Delivery / System Development CIP – Eligible Value

Component	Service Area	Total Cost	Eligible %	Eligible Cost*
Pump Stations	High	$ 68,291,890	17.9%	$ 12,209,219
	Middle	208,499,032	18.6%	38,853,826
	Low	97,033,569	64.8%	62,848,060
Ground Storage	High	20,578,191	0.1%	30,036
	Middle	90,711,225	0.1%	98,359
	Low	72,948,505	2.7%	1,980,792
Elevated Storage	High	9,977,215	21.1%	2,101,626
	Middle	103,385,279	21.1%	21,821,641
	Low	49,586,409	65.9%	32,674,334
Well Pumps	All	158,663,891	15.4%	24,432,201
Transmission	High	41,785,984	17.9%	7,470,495
	Middle	238,767,528	18.6%	44,494,364
	Low	48,910,103	64.8%	31,678,780
TOTAL		**$ 1,209,138,820**		**$ 280,693,731**

*Costs shown do not include financing charges

Questions?

Capital Improvement Plan (CIP) Wastewater Treatment

Capital Improvements Advisory Committee

December 13, 2023

Impact Fee Calculation

$$Calculated\ Impact\ Fee = \frac{Cost\ of\ Eligible\ CIP}{Added\ EDUs}$$

- LUAP provides number of added EDUs
- CIP provides cost of eligible capital improvements
  - Extensions and expansions
  - Pipeline upsizing
- Study period for LUAP and CIP is 10 years
  - How many EDUs are expected to be added in 10-year study period?
  - What is the cost of the capacity that is required to serve these added EDUs?

Impact Fee Components

Water Supply

Water Delivery
System Development

Water Delivery
Flow

Wastewater Collection

Wastewater Treatment

Wastewater Treatment Value

Existing value of treatment facilities is **$515,911,413**

- Valuation method is Original Cost (OC)
- Value is not depreciated
- Value excludes contributed assets
- 10% increase from 2018 study

Value of treatment CIP projects is **$538,523,997**

- Value is in 2023 dollars
- Value does not include financing costs

Allocation of Wastewater Treatment Value to Impact Fee

Allocation is based on average daily flow (ADF)

- $1\ WW\ EDU\ (2033) = 200\ gpd$
- $ADF = No.\ of\ EDUs * 200\ gpd$
- $Study\ Period\ Demand = 2033\ ADF - 2024\ ADF$

Allocation of Wastewater Treatment Value to Impact Fee

Medio Creek Service Area Study Period Requirement

- 2024 $ADF = \mathbf{10.2\ mgd}$
- 2033 $ADF = \mathbf{15.1\ mgd}$
- $Study\ Period\ Demand = 15.1\ mgd - 10.2\ mgd = \mathbf{4.9\ mgd}$

Allocation of Wastewater Treatment Value to Impact Fee

Impact fee eligible allocation for Medio Creek Service Area equity is 30.9%

- $2024\ Capacity = 16.0\ mgd$
- $Existing\ Available\ Capacity = 2024\ capacity - 2024\ ADF$
- $Existing\ Available\ Capacity = 16.0\ mgd - 10.2\ mgd = 5.8\ mgd$
- Is existing available capacity greater than study period demand? ***Yes***
  - $5.8\ mgd > 4.9\ mgd$
- $Allocation = \frac{Study\ Period\ Demand}{2024\ Capacity}$
- $Allocation = \frac{4.9\ mgd}{16.0\ mgd} = \mathbf{30.9\%}$

Impact fee eligible allocation for Medio Creek Service Area CIP is 30.9%

- $Future\ CIP\ Cost = \$35{,}072{,}267$
- Eligibility of CIP is determined for each project based on portion of project that will be used by study period growth
- $Eligible\ CIP\ Cost = \$\mathbf{10,841,715}\ or\ \mathbf{30.9\%}$

Allocation of Wastewater Treatment Value to Impact Fee

Leon Creek / SM Clouse Service Area Study Period Requirement

- 2024 $ADF = \mathbf{134.0\ mgd}$
- 2033 $ADF = \mathbf{158.6\ mgd}$
- $Study\ Period\ Demand = 158.6\ mgd - 134.0\ mgd = \mathbf{24.6\ mgd}$

Allocation of Wastewater Treatment Value to Impact Fee

Impact fee eligible allocation for Leon Creek / SM Clouse Service Area equity is 14.4%

- $2024\ Capacity = 171.0\ mgd$
- $Existing\ Available\ Capacity = 2024\ Capacity - 2024\ ADF$
- $Existing\ Available\ Capacity = 171.0\ mgd - 134.0\ mgd = 37.0\ mgd$
- Is existing available capacity greater than study period demand? ***Yes***
  - $37.0\ mg > 24.6\ mgd$
- $Allocation = \frac{\text{Study Period Demand}}{2024\ Capacity}$
- $Allocation = \frac{24.6\ mgd}{171.0\ mgd} = \mathbf{14.4\%}$

Impact fee eligible allocation for Leon Creek / SM Clouse Service Area CIP is 14.4%

- $Future\ CIP\ Cost = \$503{,}451{,}730$
- Eligibility of CIP is determined for each project based on portion of project that will be used by study period growth
- $Eligible\ CIP\ Cost = \$\mathbf{72,660,745}\ or\ \mathbf{14.4\%}$

Wastewater Treatment CIP – Eligible Value

Service Area	Equity Value	Equity Eligible %	CIP Value	CIP Eligible %	Eligible Cost*
Medio Creek	$ 70,381,144	30.9%	$ 35,072,267	30.9%	$ 32,598,286
Leon Creek / Clouse	445,530,269	14.4%	503,451,730	14.4%	136,961,966
TOTAL	**$ 515,911,413**	**16.7%**	**$ 538,523,997**	**15.5%**	**$ 169,560,252**

* Costs shown do not include financing charges.

Questions?

Impact Fee Components

Water Supply

Water Delivery
System Development

Water Delivery
Flow

Wastewater Collection

Wastewater Treatment

Wastewater Collection Value

Existing value of collection system is $1,043,737,858

- Valuation method is Original Cost (OC)
- Value is not depreciated
- Value excludes contributed assets
- 48% increase from 2018 study

Value of collection system CIP projects is $477,894,506

- Value is in 2023 dollars
- Value does not include financing costs

Allocation of Wastewater Collection Value to Impact Fee

Allocation is based on wet weather peak flow (WWPF)

- $1\ WW\ EDU = 650\ gpd$
- $PWWF = No.of\ EDUs * 650\ gpd$
- $Study\ Period\ Demand = 2033\ PWWF - 2024\ PWWF$

Allocation of Wastewater Collection Value to Impact Fee

Medio Creek Service Area Study Period Requirement

- $2024\ PWWF = 56{,}533\ EDUs * 650\ gpd = \mathbf{36.7\ mgd}$
- $2033\ PWWF = 81{,}263\ EDUs * 650\ gpd = \mathbf{52.8\ mgd}$
- $Study\ Period\ Demand = 52.8\ mgd - 36.7\ mgd = \mathbf{16.1\ mgd}$

Allocation of Wastewater Collection Value to Impact Fee

Impact fee eligible allocation for Medio Creek Service Area equity is 29.6 %

- 2024 $Capacity$ = 56,533 EDUs or 54.3 mgd
- $Existing\ Available\ Capacity$ = 2024 $Capacity$ − 2023 PWWF
- $Existing\ Available\ Capacity = 54.3\ mgd - 36.7\ mgd = 17.5\ mgd$
- Is existing available capacity greater than study period demand? ***Yes***
  - $17.5\ mgd > 16.1\ mgd$
- $Allocation = \frac{Study\ Period\ Demand}{2024\ Capacity}$
- $Allocation = \frac{16.1\ mgd}{54.3\ mgd} = \mathbf{29.6\%}$

Impact fee eligible allocation for Medio Creek Service Area CIP is 44.7%

- $Future\ CIP\ Cost$ = $65,921,781
- Eligibility of CIP is determined for each project based on modeled demands
- $Eligible\ CIP\ Cost = \mathbf{\$29,434,371}$ *or* $\mathbf{44.7\%}$

Allocation of Wastewater Collection Value to Impact Fee

Upper Medina Service Area Study Period Requirement

- $2024\ PWWF = 33{,}231\ EDUs * 650\ gpd = \mathbf{21.6\ mgd}$
- $2033\ PWWF = 59{,}225\ EDUs * 650\ gpd = \mathbf{38.5\ mgd}$
- $Study\ Period\ Demand = 38.5\ mgd - 21.6\ mgd = \mathbf{16.9\ mgd}$

Allocation of Wastewater Collection Value to Impact Fee

Impact fee eligible allocation for Upper Medina Service Area equity is 36.1%

- $2024\ Capacity = 46.8\ mgd$
- $Existing\ Available\ Capacity = 2024\ Capacity - 2024\ PWWF$
- $Existing\ Available\ Capacity = 46.8\ mgd - 21.6\ mgd = 25.2\ mgd$
- Is existing available capacity greater than study period demand? ***Yes***
  - $25.2\ mgd > 16.9\ mgd$
- $Allocation = \frac{Study\ Period\ Demand}{2024\ Capacity}$
- $Allocation = \frac{16.9\ mgd}{46.8\ mgd} = \mathbf{36.1\%}$

Impact fee eligible allocation for Upper Medina Service Area CIP is 33.2%

- $Future\ CIP\ Cost = \$21{,}827{,}278$
- Eligibility of CIP is determined for each project based on modeled demands
- $Eligible\ CIP\ Cost = \mathbf{\$7{,}237{,}488}\ or\ \mathbf{33.2\%}$

Allocation of Wastewater Collection Value to Impact Fee

Lower Medina Service Area Study Period Requirement

- $2024\ PWWF = 8{,}429\ EDUs * 650\ gpd = \mathbf{27.1\ mgd}$
- $2033\ PWWF = 16{,}437\ EDUs * 650\ gpd = \mathbf{49.2\ mgd}$
- $Study\ Period\ Demand = 49.2\ mgd - 27.1\ mgd = \mathbf{22.1\ mgd}$

* Number of EDUs includes Upper Medina service area EDUs because they flow through the Lower Medina service area.

Allocation of Wastewater Collection Value to Impact Fee

Impact fee eligible allocation for Lower Medina Service Area equity is 31.8%

- $2024\ Capacity = 69.5\ mgd$
- $Existing\ Available\ Capacity = 2024\ Capacity - 2024\ PWWF$
- $Existing\ Available\ Capacity = 69.5\ mgd - 27.1\ mgd = 42.4\ mgd$
- Is existing available capacity greater than study period demand? ***Yes***
  - $42.4\ mgd > 22.1\ mgd$
- $Allocation = \frac{Study\ Period\ Demand}{2024\ Capacity}$
- $Allocation = \frac{22.1\ mgd}{69.5\ mgd} = \mathbf{31.8\%}$

Impact fee eligible allocation for Lower Medina Service Area CIP is 15.4%

- $Future\ CIP\ Cost = \$24{,}188{,}969$
- Eligibility of CIP is determined for each project based on modeled demands
- $Eligible\ CIP\ Cost = \mathbf{\$3{,}723{,}471}\ or\ \mathbf{15.4\%}$

Allocation of Wastewater Collection Value to Impact Fee

Upper Collection Service Area Study Period Requirement

- $2024\ PWWF = 205{,}757\ EDUs * 650\ gpd = \mathbf{133.7\ mgd}$
- $2033\ PWWF = 239{,}304\ EDUs * 650\ gpd = \mathbf{155.5\ mgd}$
- $Study\ Period\ Demand = 155.5\ mgd - 133.7\ mgd = \mathbf{21.8\ mgd}$

Allocation of Wastewater Collection Value to Impact Fee

Impact fee eligible allocation for Upper Collection Service Area equity is 11.1%

- $2024\ Capacity = 195.8\ mgd$
- $Existing\ Available\ Capacity = 2024\ Capacity - 2024\ \mathrm{PWW}F$
- $Existing\ Available\ Capacity = 195.8\ mgd - 133.7\ mgd = 62.1\ mgd$
- Is existing available capacity greater than study period demand? ***Yes***
  - $62.1\ mgd > 21.8\ mgd$
- $Allocation = \frac{Study\ Period\ Demand}{2024\ Capacity}$
- $Allocation = \frac{21.8\ mgd}{195.8\ mgd} = \mathbf{11.1}\%$

Impact fee eligible allocation for Upper Collection Service Area CIP is 33.8%

- $Future\ CIP\ Cost = \$99{,}106{,}923$
- Eligibility of CIP is determined for each project based on modeled demands
- $Eligible\ CIP\ Cost = \$\mathbf{33{,}536{,}316}\ or\ \mathbf{33.8}\%$

Allocation of Wastewater Collection Value to Impact Fee

Middle Collection Service Area Study Period Requirement

- $2024\ PWWF = 253{,}500\ EDUs * 650\ gpd = \mathbf{298.5\ mgd}$
- $2033\ PWWF = 259{,}781\ EDUs * 650\ gpd = \mathbf{324.4\ mgd}$
- $Study\ Period\ Demand = 324.4\ mgd - 298.5\ mgd = \mathbf{25.9\ mgd}$

* Number of EDUs includes Upper Collection service area EDUs because they flow through the Middle Collection service area.

Allocation of Wastewater Collection Value to Impact Fee

Impact fee eligible allocation for Middle Collection Service Area equity is 7.1%

- $2024\ Capacity = 363.5\ mgd$
- $Existing\ Available\ Capacity = 2024\ Capacity - 2024\ \mathrm{PWW}F$
- $Existing\ Available\ Capacity = 363.5\ mgd - 298.5\ mgd = 65.0\ mgd$
- Is existing available capacity greater than study period demand? ***Yes***
  - $65.0\ mgd > 25.9\ mgd$
- $Allocation = \frac{Study\ Period\ Demand}{2024\ Capacity}$
- $Allocation = \frac{25.9\ \mathrm{mgd}}{363.5\ \mathrm{mgd}} = \mathbf{7.1}\%$

Impact fee eligible allocation for Middle Collection Service Area CIP is 26.5%

- $Future\ CIP\ Cost = \$152{,}309{,}178$
- Eligibility of CIP is determined for each project based on modeled demands
- $Eligible\ CIP\ Cost = \$\mathbf{40{,}334{,}946}\ or\ \mathbf{26.5}\%$

Allocation of Wastewater Collection Value to Impact Fee

Lower Collection Service Area Study Period Requirement

- $2024\ PWWF = 243{,}296\ EDUs * 650\ gpd = \mathbf{456.7\ mgd}$
- $2033\ PWWF = 292{,}864\ EDUs * 650\ gpd = \mathbf{514.8\ mgd}$
- $Study\ Period\ Demand = 514.8\ mgd - 456.7\ mgd = \mathbf{58.1\ mgd}$

* Number of EDUs includes Upper Collection and Middle Collection service areas EDUs because they flow through the Lower Collection service area.

Allocation of Wastewater Collection Value to Impact Fee

Impact fee eligible allocation for Lower Collection Service Area equity is 10.6%

- $2024\ Capacity = 547.8\ mgd$
- $Existing\ Available\ Capacity = 2024\ Capacity - 2024\ \mathrm{PWWF}$
- $Existing\ Available\ Capacity = 547.8\ mgd - 456.7\ mgd = 91.2\ mgd$
- Is existing available capacity greater than study period demand? ***Yes***
  - $91.2\ mgd > 58.1\ mgd$
- $Allocation = \frac{Study\ Period\ Demand}{2024\ Capacity}$
- $Allocation = \frac{58.1\ mgd}{547.8\ mgd} = \mathbf{10.6\%}$

Impact fee eligible allocation for Lower Collection Service Area CIP is 54.3%

- $Future\ CIP\ Cost = \$114{,}540{,}377$
- Eligibility of CIP is determined for each project based on modeled demands
- $Eligible\ CIP\ Cost = \mathbf{\$62,198,700}\ or\ \mathbf{54.3\%}$

Wastewater Collection CIP – Eligible Value

Service Area	Equity Value	Equity Eligible %	Future CIP Value	CIP Eligible %	Eligible Cost*
Medio Creek	$ 44,329,810	29.6%	$ 65,921,781	44.7%	$ 42,565,393
Upper Medina	38,230,047	36.1%	21,827,278	33.2%	21,039,663
Lower Medina	56,793,948	31.8%	24,188,969	15.4%	21,777,697
Upper Collection	159,946,135	11.1%	99,106,923	33.8%	51,348,948
Middle Collection	296,937,794	7.1%	152,309,178	26.5%	61,482,635
Lower Collection	447,500,124	10.6%	114,540,377	54.3%	109,665,779
TOTAL	**$ 1,043,737,858**	**12.6%**	**$ 477,894,506**	**36.9%**	**$ 307,880,115**

* Costs shown do not include financing charges.
** Lower Medina eligible cost is divided by sum of Upper Medina and Lower Medina EDUs to determine unit cost.
*** Middle Collection eligible cost is divided by sum of Upper Collection and Middle Collection EDUs to determine unit cost.
**** Lower Collection is divided by sum of Upper Collection, Middle Collection, and Lower Collection EDUs to determine unit cost.

Questions?