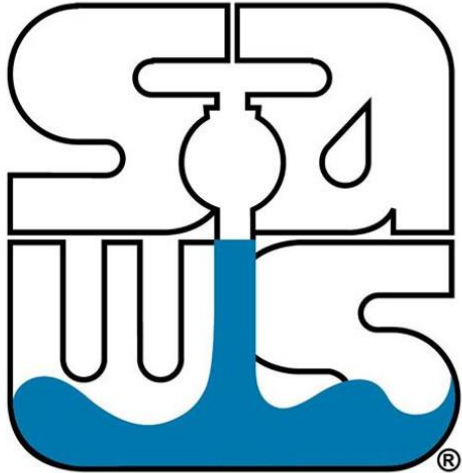# Capital Improvement Plan (CIP) Water Supply

Capital Improvements Advisory Committee

January 17, 2024

Agenda

- Service Area
- Existing and Future Water Supplies
- Calculation
- Eligible Cost

Impact Fee Components

Water Supply

Water Delivery
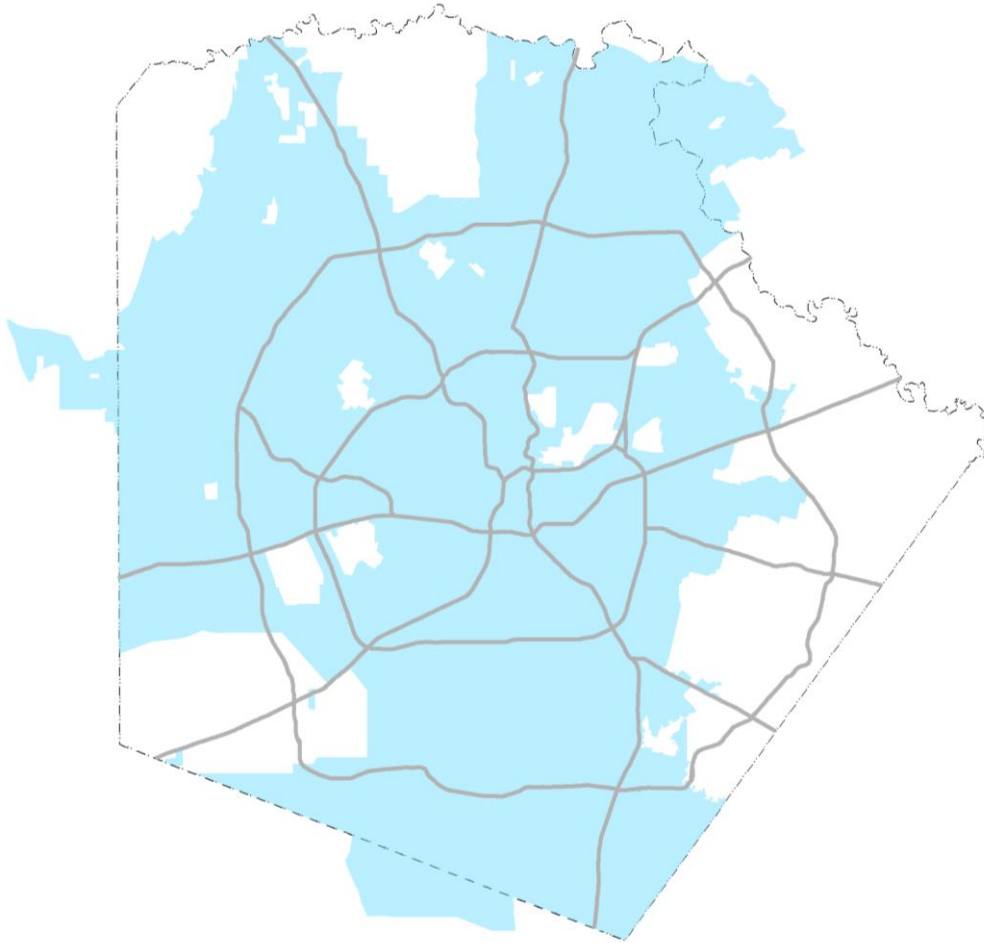System Development

Water Delivery
Flow

Wastewater Collection

Wastewater Treatment

Water Supply Service Area

Changes to the service area since 2019:
- Swap with Yancey WSC
- Eliminated Kendall County

Water Supply CIP Based on 2024 Water Management Plan

Existing Supplies:

- Edwards
- Aquifer Storage & Recovery
- Local Carrizo
- Regional Carrizo (through SSLGC)
- Trinity
- GBRA (Canyon Lake)
- Desalination
- Vista Ridge Integration
- Canyon Regional Water Authority

CIP – 2024 to 2033:

- ASR Treatment Plant Expansion (30 MGD)
- New Edwards Purchase
- Expanded Local Carrizo Phase 1 & Phase 2

2024
San Antonio Water System
water management plan
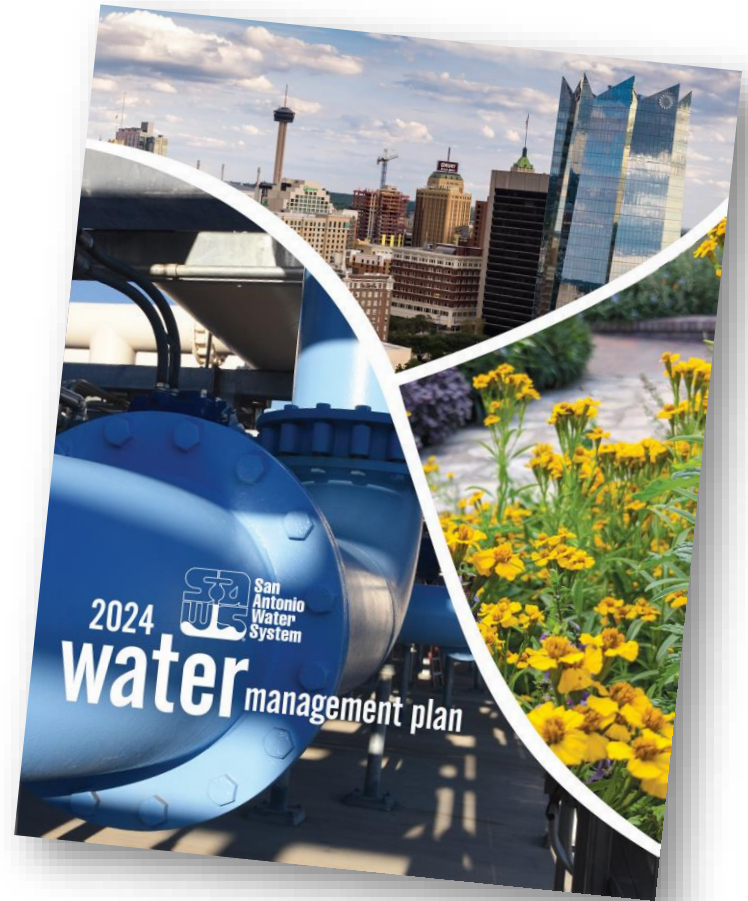
Impact Fee Calculation

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

- LUAP provides number of added EDUs
- CIP provides cost of eligible capital improvements
  - Extensions and expansions
  - Facilities and wellfields
- Study period for LUAP and CIP is 10 years
  - EDUs existing projects can serve in 10-year study period: **117,926**
  - EDUs future projects can serve in 10-year study period: **43,103**
  - What is the cost of the capacity required to serve these **161,029** EDUs?

Water Supply Equity Value

Existing water supply system value is $2,242,150,435

- Valuation method is Original Cost (OC)
- Value is not depreciated
- Value <u>excludes</u> infrastructure (tanks, wells, etc.) for Edwards water (already included in System Development CIP)
- Includes Vista Ridge *approx. $1.15 billion*

Allocation of Water Supply Equity to Impact Fee

Allocation is based on annual demand

$$1 \ Acre \ Foot \ (AF) = \mathbf{325,851} \ \boldsymbol{gallons}$$
$$1 \ EDU = \mathbf{290} \ \boldsymbol{gal/day} = \ \mathbf{0.3248} \ \boldsymbol{AF/year}$$

- $2024 \ Population = \mathbf{2,080,450}$

- $2033 \ Population = \mathbf{2,465,309}$

- $2024 \ Annual \ Demand = \mathbf{870,481} \ \boldsymbol{EDUs} * 0.3248 \frac{AF}{EDU} = \mathbf{282,732} \ \boldsymbol{AF}$

- $2033 \ Annual \ Demand = \mathbf{1,031,510} \ \boldsymbol{EDUs} * 0.3248 \frac{AF}{EDU} = \mathbf{335,034} \ \boldsymbol{AF}$

Allocation of Water Supply Equity to Impact Fee

Average available supplies assumes a drought of record occurs between 2024 and 2033

- 2024 $Average\ Day\ Demand\ (ADD)\ = \mathbf{282,769\ AF}$
- 2024 $Capacity = \mathbf{321,076\ AF}$

Unused portion of Water Supply assets is eligible for impact fee calculation

- $Allocation = \dfrac{2024\ Capacity - 2024\ ADD}{2024\ Capacity}$

- $Allocation = \dfrac{321,076\ AF - 282,769\ AF}{321,076\ AF} = \mathbf{11.9\%}$

Water Supply CIP Value

Water Supply 2024 to 2033 CIP is Approximately $101,067,751

- ASR Treatment Plant Expansion (30 MGD): $35 million

- New Edwards Purchase: $24 million

- Expanded Local Carrizo Phases 1 & 2: $42 million

Allocation of Water Supply CIP to Impact Fee

Average available supplies assumes a drought of record occurs between 2024 and 2033

- $2024\ Available\ Existing\ Capacity = \mathbf{117,926\ EDUs}$
- $Capacity\ Added\ in\ CIP = \mathbf{113,902\ EDUs}$
- $2033\ Total\ Available\ Capacity = \mathbf{231,828\ EDUs}$

Capacity required to serve 2033 ADD:

- $Allocation = \dfrac{2033\ Total\ EDUs - Existing\ System\ Available\ EDUs}{2024-2033\ Added\ Capacity\ EDUs}$

- $Allocation = \dfrac{161{,}029\ EDUs - 117{,}926\ EDUs}{113{,}902\ EDUs} = \dfrac{43{,}103\ EDUs}{113{,}902\ EDUs} = \mathbf{37.8\%}$

Water Supply CIP – Eligible Value

Description	Total Cost	Eligible %	Eligible Cost*
Existing Assets	$ 2,242,150,435	11.9%	$ 267,508,794
CIP Projects	$ 101,067,751	37.8%	$ 38,246,240
TOTAL	**$ 2,343,218,186**	**13.05%**	**$ 305,755,035**

* Costs shown do not include financing charges

Questions?

carollo 90 YEARS

Maximum Allowable Fees

Capital Improvements Advisory Committee
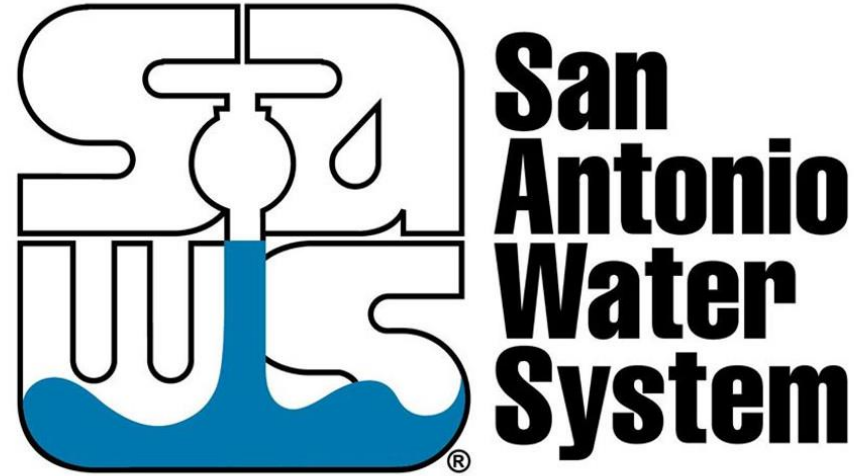
Agenda

- Impact Fee Formula
- Assumptions
- Financing Charge
- Rate Credit
- Maximum Allowable Impact Fees

Impact Fee Calculation

$$Maximum\ Allowable\ Impact\ Fee = \frac{Cost\ of\ Eligible\ CIP}{Added\ EDUs} - Rate\ Credit$$

- LUAP provides number of added EDUs
- CIP provides cost of eligible capital improvements
- Cost of Eligible CIP includes financing charges
- Study period for LUAP and CIP is 10 years
- Rate credit subtracts those costs included in the impact fee calculation that may also be recovered through water and wastewater service charges (rates)

Financial Assumptions

- Existing infrastructure
  - »40% cash funded (Water Supply is 15%)
  - »60% debt funded (Water Supply is 85%)
  - »Interest expense is included in impact fee calculation
- Future infrastructure
  - »40% cash funded
  - »60% debt funded
  - »Interest expense is NOT included in impact fee calculation
  - »Debt service is calculated assuming equal annual payments, 30-year term, 5.0% interest rate, and 1.5% issuance costs

Financing Charge Calculation

Total Outstanding Debt → Categorize Existing Debt Interest Payments → Eligible Equity → Eligible Existing Interest Payment → Sum eligible annual interest payments for study period (10 years)

Example Calculation:
Water Delivery Impact Fee – Financing Charge

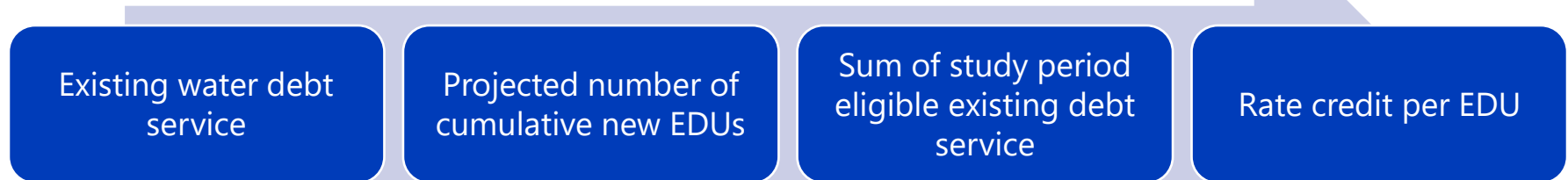| Line	Description	Value
a	Total Outstanding Water Delivery Debt[1,2]	$ 847,842,576
b	2024 Existing Water Delivery Interest Payment[1,2]	$ 35,867,097
c	Total Eligible Water Delivery Capacity (Equity)	$ 139,059,123
d	2024 Eligible Existing Water Delivery Interest Payment (60%*c*b/a)	$ 3,529,651
Complete calculation above for each year in 10-year study period.		
e	Sum of Study Period Eligible Existing Water Delivery Interest Payments	$ 43,022,245

[1] Provided by SAWS staff
[2] Commercial paper excluded

Rate Credit Calculation

EQUITY:

Existing water debt service	Projected number of cumulative new EDUs	Sum of study period eligible existing debt service	Rate credit per EDU

CIP:

CIP debt funding	Bond proceeds	Annual debt service	Sum future debt service from EDUs	Rate credit per EDU

Water Delivery Impact Fee – Flow

Line	Description	Value
A	Total Eligible Water Delivery Capacity - Flow (Equity)	$ 81,925,407
B	Total Eligible Water Delivery Capacity – Flow (CIP)	$ 130,991,492
C	Water Delivery – Flow Financing Cost (e*A/c)	$ 25,244,992
D	Number of EDUs added 2024-2032	161,029
E	Calculated Maximum Impact Fee per EDU ((A+B+C)/D)	**$1,480**

Example Calculation:
Water Delivery Impact Fee – Flow – Rate Credit (Equity)

Line	Description	Value
F	2024 Existing Water Delivery Debt Service[1,2]	$ 68,164,211
G	2024 Eligible Existing Water Delivery Debt Service (60%*c*F/a)	$ 6,707,983
H	2024 Beginning Water Delivery EDUs	870,481
I	Projected Cumulative New Study Period EDUs	14,901
J	2024 Projected Year-End Water Delivery EDUs (H+I)	885,382
K	2024 Eligible Existing Water Delivery Debt Service per EDU (G/J)	$ 7.58
L	2024 Eligible Existing Water Delivery Debt Service from Study Period EDUs (I*K)	$ 112,896
Complete calculation above for each year in life of outstanding debt.		
M	Sum of Eligible Existing Water Delivery Debt Service from Study Period EDUs	$ 14,198,602
N	Eligible Existing Water Delivery – Flow Debt Service (M*A/c)	$ 8,364,976
O	Rate Credit per EDU for Water Delivery - Flow Equity (N/D)	**$ 52**

[1] Provided by SAWS staff
[2] Commercial paper excluded

Example Calculation:
Water Delivery Impact Fee – Flow – Rate Credit (CIP)

Line	Description	Value
P	Amount of Annual Water Delivery – Flow CIP Debt Funding (60%*B/10)	$ 7,859,490
Q	Issuance Costs (1.5%*P)	$ 117,892
R	Annual Water Delivery - Flow Bond Proceeds (rounded up to nearest $5,000) (P+Q)	$ 7,980,000
S	Annual Debt Service Payment per Bond Issue	$ 519,110
T	2024 Principal Payment (S-5.0%*R)	$ 120,110
U	2024 Principal Payment per EDU (T/J)	$ 0.14
V	2024 Eligible Future Water Delivery - Flow Debt Service from Study Period EDUs (I*U)	$ 2,021
Complete calculation above for each year in life of projected debt.		
W	Sum of Eligible Future Water Delivery - Flow Debt Service from Study Period EDUs	$ 9,623,637
X	Rate Credit per EDU from Water Delivery - Flow CIP (W/D)	**$ 60**

Water Delivery Impact Fee - Flow

Line	Description	Value
E	Calculated Maximum Impact Fee per EDU ((A+B+C)/D)	$ 1,480
O	Rate Credit per EDU from Water Delivery - Flow Equity (N/D)	$ 52
X	Rate Credit per EDU from Water Delivery - Flow CIP (W/D)	$ 60
Y	Maximum Allowable Impact Fee per EDU (E-O-X)	**$ 1,368**

Maximum Allowable Impact Fee Summary

Impact Fee	Service Area	Calculated Fee ($/EDU)	Rate Credit ($/EDU)	Proposed Fee ($/EDU)	Current Fee ($/EDU)	$ Change	% Change
Water Supply	All	$ 2,891	$ 299	$ 2,592	$ 2,706	($114)	(4%)
Water Delivery – Flow	All	1,480	112	1,368	1,188	180	15%
Water Delivery - System Development	High	2,082	55	2,027	1,203	824	68%
	Middle	1,821	77	1,744	1,014	730	72%
	Low	1,594	84	1,510	855	655	77%
Wastewater Treatment	Medio Creek	1,630	103	1,527	1,222	305	25%
	Clouse/ Leon Creek	1,191	86	1,105	651	454	70%
Wastewater Collection	Medio Creek	1,909	73	1,836	861	975	113%
	Upper Medina	1,826	124	1,702	1,422	280	20%
	Lower Medina	829	61	768	520	248	48%
	Upper Collection	4,669	233	4,436	2,800	1,636	58%
	Middle Collection	2,950	158	2,792	2,013	779	39%
	Lower Collection	1,218	80	1,138	902	236	26%

Maximum Fee and % Increase

IH-10 West
High/Upper Collection
Was $8,548, Now **$11,528**
34.9% increase

Hwy 281 N, IH-10/1604
Middle/Upper Collection
Was $8,359, Now $11,245
34.5% increase

410/Nacogdoches
Low/Middle Collection
Was $7,413, Now $9,367
26.4% increase

Medina County
High/Medio Creek
Was $7,180, Now $9,350
30.2% increase

1604/Potranco Rd
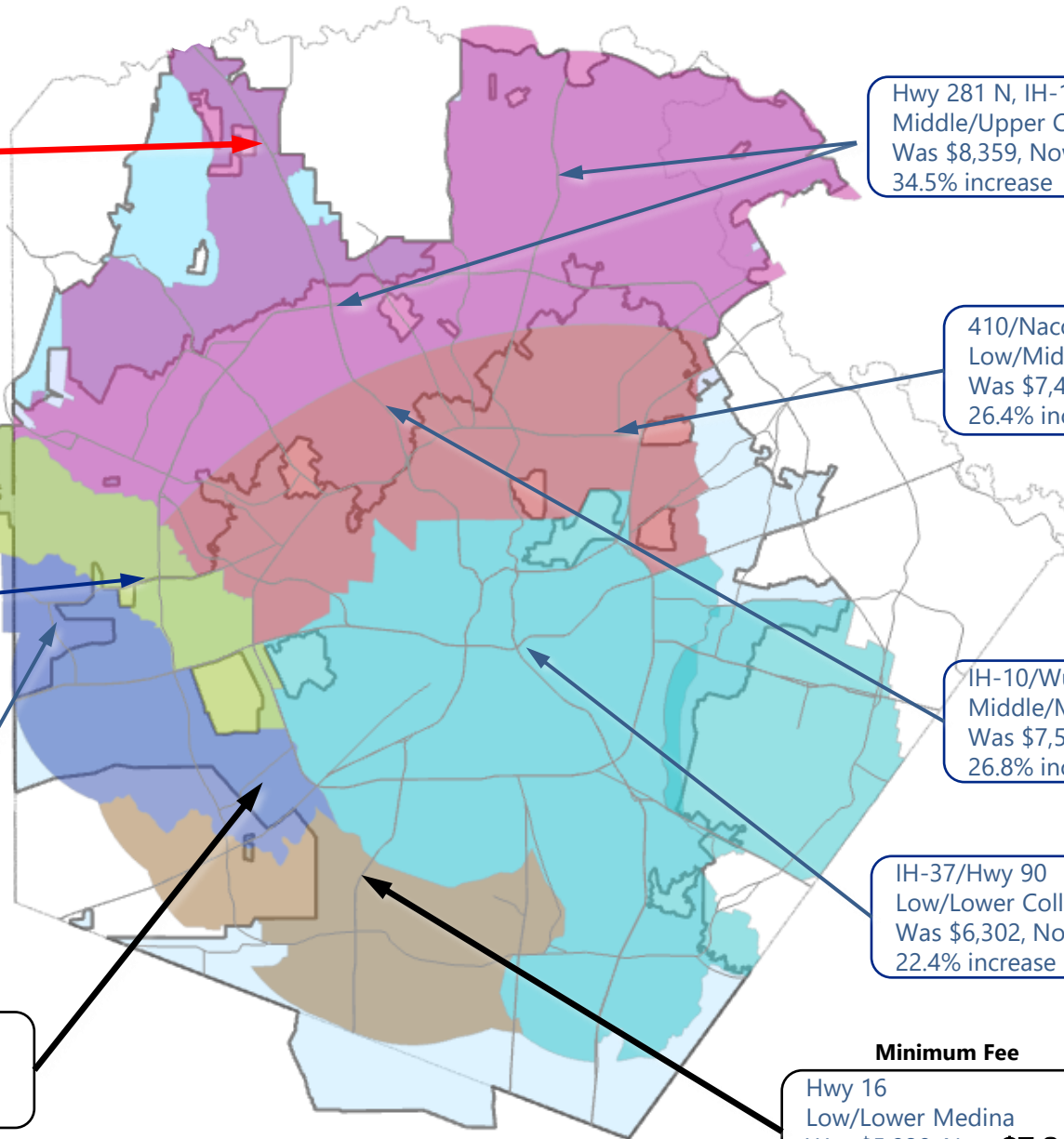Middle/Medio Creek
Was $6,991, Now $9,067
39.7% increase

Hwy 211/Potranco Rd
Middle/Upper Medina
Was $6,981, Now $8,511
21.9% increase

IH-10/Wurzbach
Middle/Middle Collection
Was $7,572, Now $9,601
26.8% increase

IH-37/Hwy 90
Low/Lower Collection
Was $6,302, Now $7,713
22.4% increase

Minimum % Increase

Old Pearsall Rd
Low/Upper Medina
Was $6,822, Now $8,277
21.3% increase

Minimum Fee

Hwy 16
Low/Lower Medina
Was $5,920, Now **$7,343**
24.0% increase

Questions?