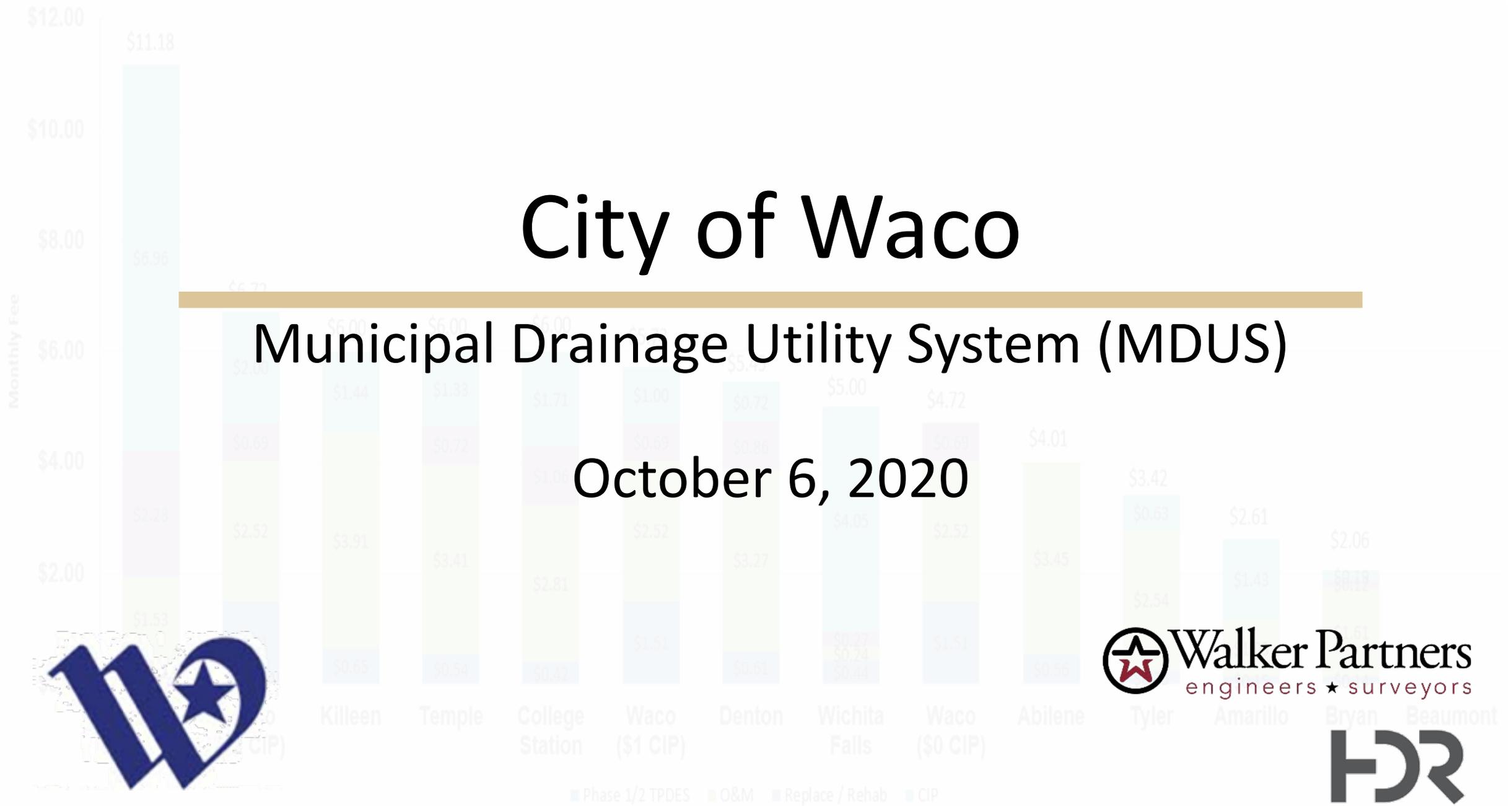


# City of Waco

## Municipal Drainage Utility System (MDUS)

October 6, 2020



# Why a Municipal Drainage Utility System?

---

## Past

- Historically, storm water service was reactive and provided through General Fund as needed (no dedicated revenue source).
  - Phase 1 MS4 Permit (regulates discharges from the storm sewer system)
  - Necessary repairs
  - Operations & Maintenance (O&M) of entire system
- Water, wastewater, and solid waste are utilities that have a revenue source for O&M and capital improvements.

## Present

- Stormwater Master Plan studied flooding conditions of the major water courses.
  - Developed list of Capital Improvement Projects (CIP) for flood mitigation
- Per discussions with staff – routine and periodic maintenance is needed.
- Federal and State Mandates
  - Phase 1 MS4 Permit – TCEQ might require Waco to do more
- Maintenance and Capital demands are greater than the General Fund can satisfy.

# What is a Municipal Drainage Utility System?

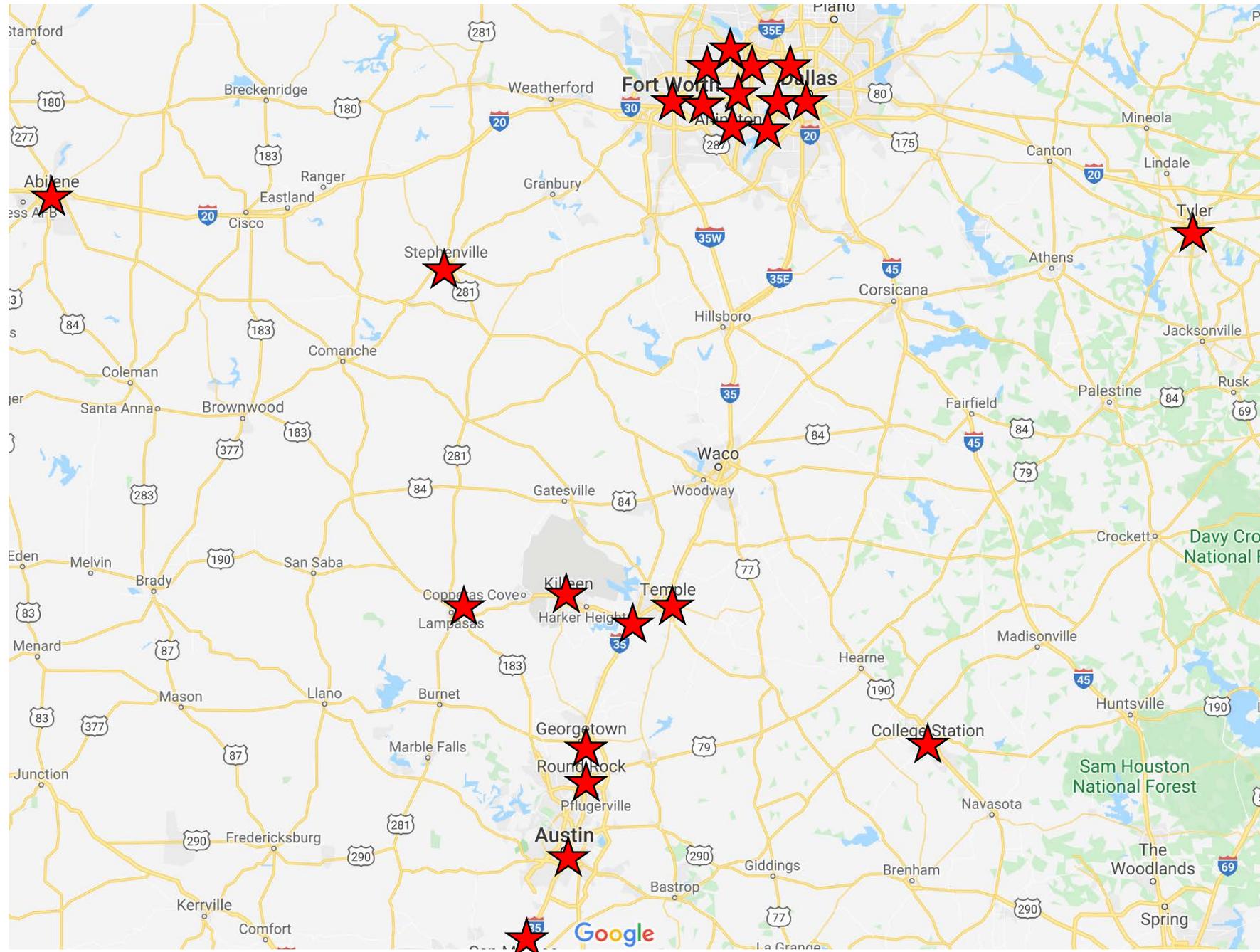
---

- A dedicated revenue source for maintenance and improvements to the drainage system and other stormwater program activities
- Equitable monthly user fee - users pay costs proportional to burden placed on system
  - Based on property stormwater run-off via amount of impervious cover (i.e. rooftops, driveways/walkways, parking)
- Established by State Law (1989)
  - Higher education and state facilities are exempt
  - Undeveloped parcels are exempt
  - State Law prevents basing the drainage fee on property value
- Drainage Utility Fee is collected on City utility bill

# Drainage Utilities in Texas

47 D/FW cities

- Hewitt
- Stephenville
- Austin
- Round Rock
- Georgetown
- Kyle
- Corpus Christi
- San Angelo
- Abilene
- Wichita Falls
- Amarillo
- Tyler
- Lubbock
- Denton
- Copperas Cove
- Belton
- Killeen
- Temple
- College Station
- San Marcos
- San Antonio
- El Paso
- Houston



# Drainage System Inventory & Replacement Cost

Type	Quantity	Replacement Cost
<b>Channels</b>		
Improved, Concrete Lined	56.3 miles	\$ 33,264,000
Improved, Earthen Trapezoidal Channels	16.3 miles	
Unimproved, Natural Channels	94.0 miles	
<b>Storm Drains</b>		
Total Pipe Length	300.6 miles	\$621,296,493
Inlets	10,032 inlets	
Other Structures (manholes, headwalls, etc.)	1,542	\$111,570,700
<b>Curb and Gutter (Streets)</b>		
Downtown Streets	400 miles	
All other streets	2,000 miles	
<b>Detention Ponds</b>	32 ponds	
<b>TOTAL</b>		<b>\$766,131,193</b>

# Capital Improvement Projects (CIP) List

Rank	Project ID	Project Name	Score	Estimated Cost
1	FCR005	Chapel Road Detention	85	\$ 6,901,250
2	WAC001	Mary Avenue Diversion Engineering/Surveying	83	\$ 4,102,234
2	WAC001	Mary Avenue Diversion Construction Costs	83	\$ 46,719,900
3	PMR004	Hay Avenue to Columbia Street Channel & Culvert Improvements	78	\$ 2,521,830
4	NWC003	New Road to Homan Avenue Channel & Culvert Improvements	77	\$ 4,562,800
5	MAR001	S. M.L.K. Jr Boulevard Channel Improvements	76	\$ 2,164,485
6	PMR001	Oakwood Channel & Bridge Imp. Engineering/Surveying	69	\$ 3,761,250
6	PMR001	Oakwood Channel & Bridge Imp. Construction Costs	69	\$ 26,990,833
7	PMR003	Richter Street Channel & Culvert Improvements	64	\$ 854,380
8	DEL001	Sharondale Drainage Improvements	63	\$ 3,261,910
9	PMR002	IH-35 Betterments	62	\$ 3,605,535
10	WAC002	Floyd Casey Stream Restoration & Culvert Improvements	62	\$ 1,256,260
11	NWC001	N. 31st Street Buyouts	59	\$ 3,169,971
12	BRN002B	N. 15th Street Buyouts	58	\$ 1,346,703
13	WAC003	Grice Drive Buyouts	58	\$ 3,403,080
14	COT003	Beverly Drive Culvert Improvements	51	\$ 623,415
15	NWC002	N. 33rd Street Buyouts	49	\$ 644,994
16	BRN001B	N. 10th Street Buyouts	48	\$ 771,621
17	COT001	Loop 340 Berm & Frontage Road Improvements	47	\$ 6,209,860
18	HRS001	Cross Creek Road Low Water Crossing Removal	35	\$ 1,013,946
		<b>TOTAL ESTIMATED CIP COST</b>		<b>\$ 123,886,257</b>

# Programs Funded by Proposed Drainage Utility

Category of Service	Description	Proposed Program
Phase 1 TPDES MS4 Permit	<ul style="list-style-type: none"> <li>• Illicit Discharge Detection/Elimination</li> <li>• Wet Weather Monitoring/Stormwater Sampling</li> <li>• Floatables Removal</li> <li>• Development Plan Review</li> <li>• Construction Site Inspections</li> </ul>	<ul style="list-style-type: none"> <li>• \$1.6M annually</li> </ul>
Operations & Maintenance	<ul style="list-style-type: none"> <li>• Channel Maintenance</li> <li>• Drains &amp; Inlet Cleaning</li> <li>• Street Sweeping</li> </ul>	<ul style="list-style-type: none"> <li>• channels once / 5 years</li> <li>• Inlets &amp; drains once / 15 years</li> <li>• Sweeping PID -1x per month</li> <li>• \$2.7M annually</li> </ul>
Rehabilitate / Replace CIP	<ul style="list-style-type: none"> <li>• Existing Infrastructure</li> <li>• No New Capacity</li> </ul>	<ul style="list-style-type: none"> <li>• \$750,000 annually</li> </ul>
New Capital Improvement Projects	<ul style="list-style-type: none"> <li>• New Capacity</li> <li>• Flood Prone Areas</li> <li>• 18 Projects</li> <li>• \$123.9M</li> </ul>	<ul style="list-style-type: none"> <li>• 40-year program</li> <li>• \$1.18M annually (debt service on \$15.5M)</li> </ul>

# Monthly Rate Determination

---

$$\text{Monthly Bill} = \frac{\text{Annual Cost of Service}}{\text{Total \# Billing Units}} \times \frac{1 \text{ year}}{12 \text{ months}}$$

## Equitable user fee basis

- Based on property stormwater run-off burden on drainage system
- Impervious cover (i.e. rooftops, driveways/walkways, parking)

## Residential

1. Measure impervious cover of average residential lot

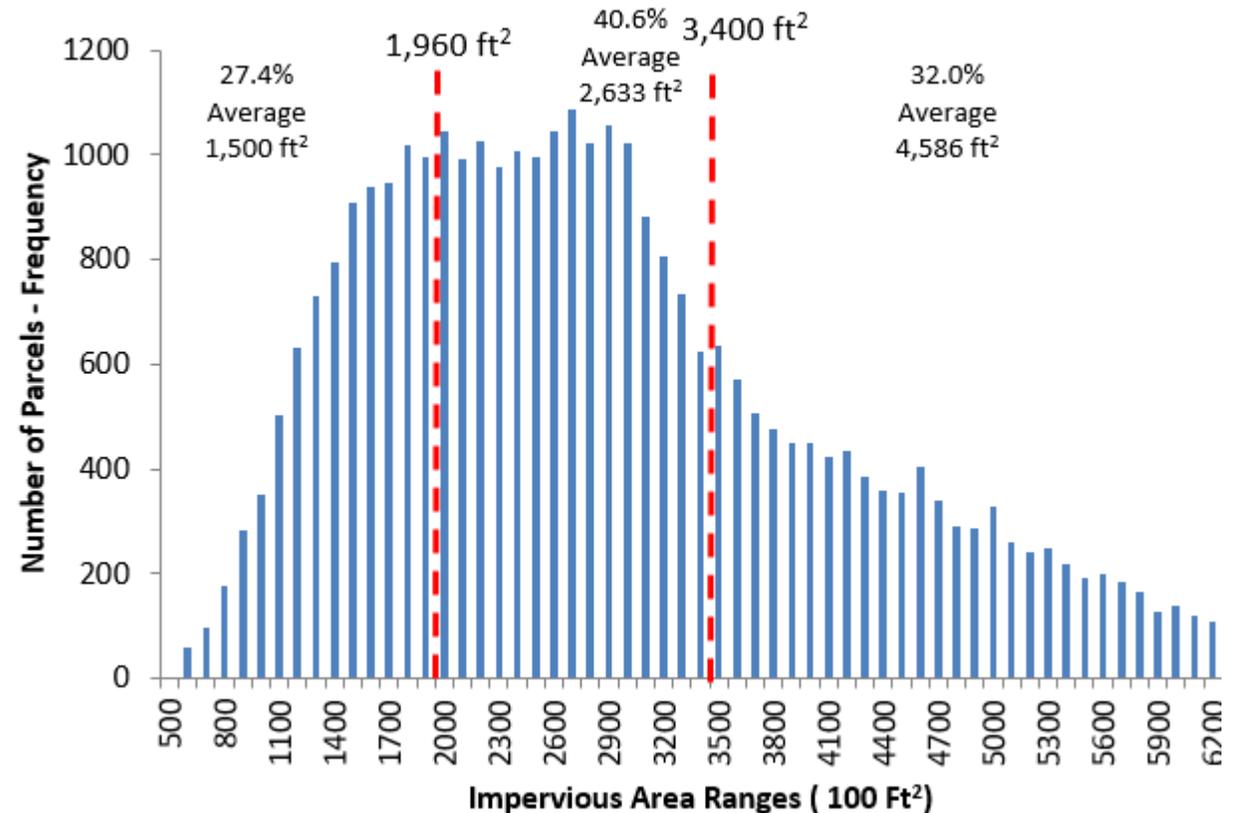
## Commercial / Industrial / Multi-Family / Governmental

1. Measure impervious cover of each parcel
2. Divide by average residential to get number of Equivalent Residential Units (ERUs)
3. Divide total monthly bill by number of units or water accounts

# Billing Unit Analysis – Residential Categories

- Residential (Small)
  - 500 ft<sup>2</sup> to 1,960 ft<sup>2</sup>
  - Average = 1,500 ft<sup>2</sup> (57% of 1 ERU)
  
- Residential (Mid)
  - 1,961 ft<sup>2</sup> to 3,400 ft<sup>2</sup>
  - Average = 2,633 ft<sup>2</sup> (1 ERU)
  
- Residential (Large)
  - 3,401 ft<sup>2</sup> to 17,000 ft<sup>2</sup>
  - Average = 4,586 ft<sup>2</sup> (174% of 1 ERU)

**Waco - Single Family Residential**



Parcel Type	Parcel Count	Total Impervious	Billable Units
Residential (Small)	9,237	13,247,504	5,261
Residential (Mid)	13,709	36,191,399	13,709
Residential (Large)	10,799	55,956,353	18,805

# Examples Residential Categories



Tier 1-Small



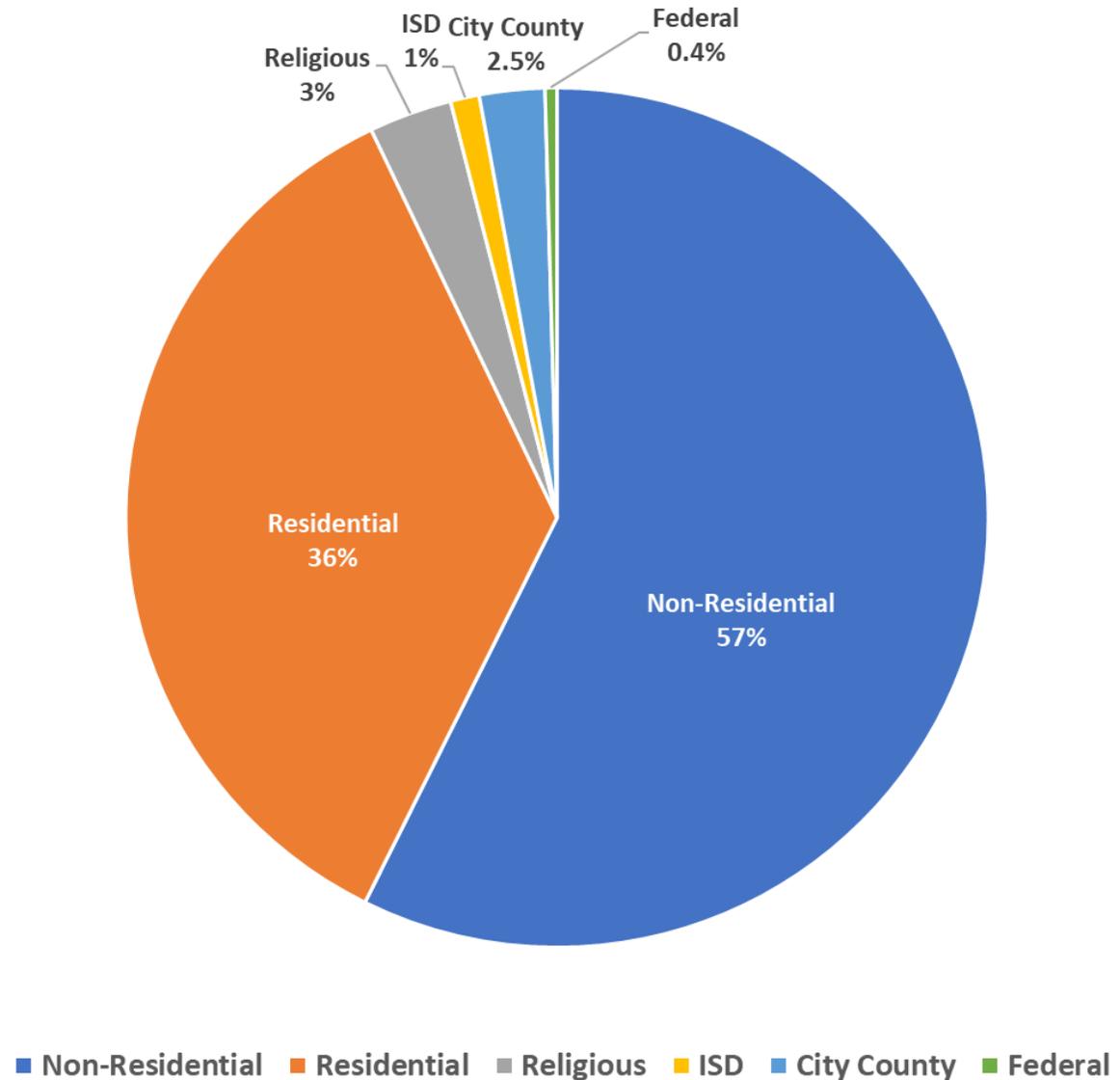
Tier 2-Medium



Tier 3- Large

# Billing Unit Analysis – Total Equivalent Residential Units

**Excludes State government  
and higher education which  
are exempt by statute**



# Proposed Rate

Funded Programs	Annual Budget
Phase 1 MS4 Permit	\$1,640,490
Drainage Operations & Maintenance	\$2,738,766
Rehab and Replace Storm Drain	\$750,000
Capital Improvement Projects	\$1,178,709
<b>Total Annual Budget</b>	<b>\$6,307,965</b>

## Debt Capacity

\$15,460,954

	<u>Residential</u>		
	<u>Small</u>	<u>Medium</u>	<u>Large</u>
% of Residential	27.4%	40.6%	32.0%
ERUs	0.57	1.00	1.74

	<u>ERUs</u>	<u>Cost/ERU/Month</u>	<u>\$/Month</u>	<u>\$/Month</u>	<u>\$/Month</u>
No Exemptions	106,248	\$4.95	\$2.82	\$4.95	\$8.61
Only ISDs Exempted	105,102	\$5.00	\$2.85	\$5.00	\$8.70
ISDs & Religious Exempt	101,404	\$5.18	\$2.95	\$5.18	\$9.02
ISDs, Religious & City/County Exempt	98,326	\$5.35	\$3.05	\$5.35	\$9.30

# Typical Monthly Fees for Industrial and Commercial Users

---

	<u>Impervious</u>	<u>ERUs</u>	<u>Monthly Fee</u>
Big Box Retail (Large)	748,222	284.2	\$1,521
Convenience Store	60,143	22.8	\$122
Bank with Drive-In	37,407	14.2	\$76
Fast Food	36,133	13.7	\$73
Manufacturer (Large)	1,249,199	474.4	\$2,539

- These rates do not include any credits in exchange for installing and maintaining features that reduce the contribution to the storm drain system.
- Opportunity to promote green infrastructure elements such as bio-retention facilities, wetlands, bioswales, pervious pavements, rainwater harvesting, etc.

# Fee Cap for Large Industrial & Commercial Users

---

Pros	Cons
Benefits large industrial/commercial users	Reduces revenue
Reduces cost to do business in Waco	Residential users subsidize large industrial/commercial users
	Primarily benefits large corporations
	Ceiling amount arbitrary
	Increases financial pressure on General Fund

Credits may be a more equitable approach based on best management practices on a case-by-case basis.

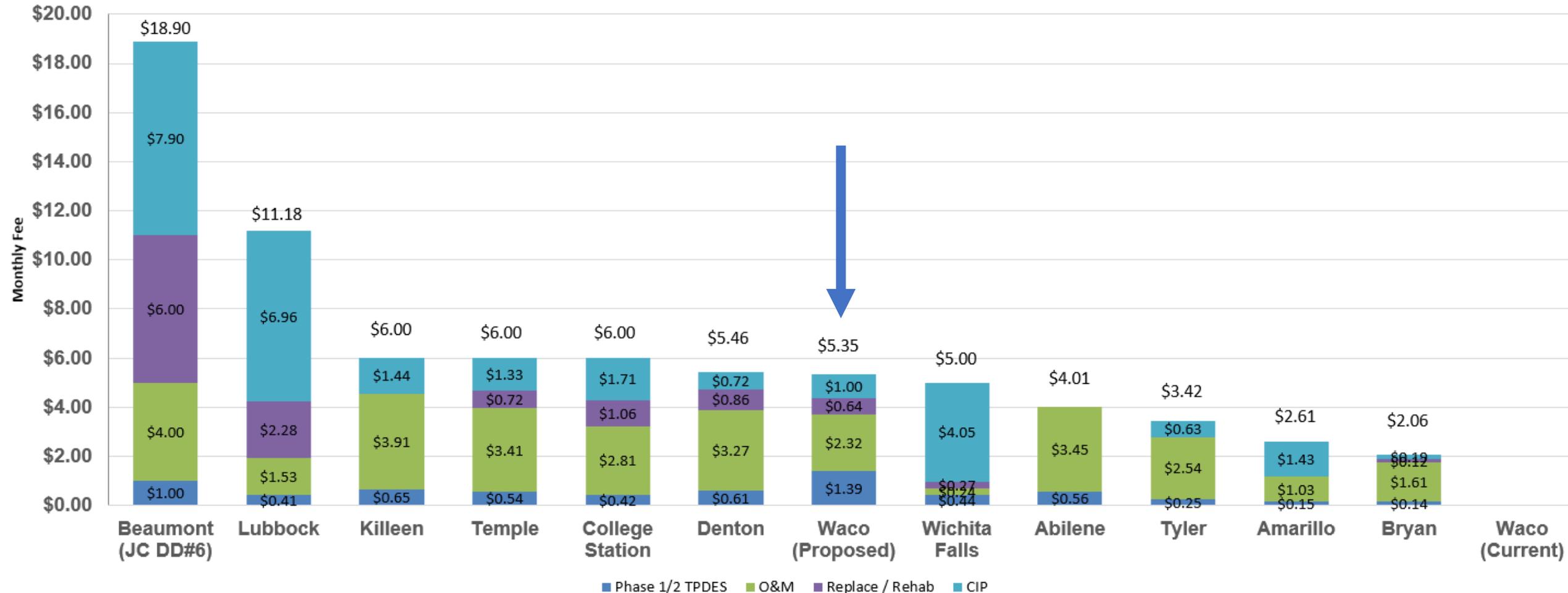
# Proposed Schedule of Charges

<u>Adopted</u> <u>Date</u>	<u>Effective</u> <u>Date</u>	<u>ERU Fee</u> <u>Amount*</u>	<u>Tier 1</u> <u>Residential</u> <u>(&lt;1,960 sq ft</u> <u>or less; .57</u> <u>of ERU)</u>	<u>Tier 2</u> <u>Residential</u> <u>(1961-3399</u> <u>sq ft; 1 ERU)</u>	<u>Tier 3</u> <u>Residential</u> <u>(&gt; 3,400 sq</u> <u>ft or more;</u> <u>1.74 ERU)</u>
11/3/2020	11/3/2020	\$5.35	\$0.00	\$0.00	\$0.00
11/3/2020	10/1/2021	\$5.46	\$3.11	\$5.46	\$9.50
11/3/2020	10/1/2022	\$5.57	\$3.17	\$5.57	\$9.69
11/3/2020	10/1/2023	\$5.68	\$3.24	\$5.68	\$9.88
11/3/2020	10/1/2024	\$5.79	\$3.30	\$5.79	\$10.08
11/3/2020	10/1/2025	\$5.91	\$3.37	\$5.91	\$10.28

\*Based on 2% annual inflation rate

# Monthly Bill – Comparison to Sister Cities

Average Residential Monthly Fee



# Summary & Timeline

---

- Exempt ISDs, Religious Organizations, and City/County Entities
- \$5.46 per ERU rate recommended
  - Equitable apportionment of cost based on burden created on stormwater system
  - Within market rate of comparable cities
  - Establishes the first comprehensive drainage program in Waco's history
  - Provides dedicated funding source for Federal and State mandates
  - Creates annual CIP of \$15M to address pressing need for capital improvements without reducing Streets, Parks and Facilities CIP
  - Transfers operating expense (estimated at \$4.0-\$4.5M) from General Fund
  - 10/1/21 implementation provides opportunity to test billing system and prepare complete budget
- Timeline
  - October 20, 2020
    - Public Hearing
    - First reading of Ordinance creating MDUS
  - November 3, 2020
    - 2<sup>nd</sup> reading of Ordinance creating MDUS
    - Public Hearing on schedule of charges
    - Resolution adopting schedule of charges