City of Texas City

UPDATE FOR:

LAND USE ASSUMPTIONS AND CAPITAL IMPROVEMENTS PLAN

For

DEVELOPMENT IMPACT FEE ASSESSMENTS

August, 2022

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1 EXECUTIVE SUMMARY

ARKK Engineers LLC has been contracted by the City of Texas City to prepare an update to the City's Capital Recovery Fee study, which was most recently updated in 2017. The study was conducted in compliance with the State of Texas Local Government Code, Title 12, Planning and Development, Subtitle C, Chapter 395, "Financing Capital Improvements in Municipalities, Counties, and Certain Other Local Governments", herein referred to as "Chapter 395". Under Chapter 395 requirements, the City is required to adopt an ordinance, order, or resolution approving land use assumptions and capital improvements plan ("CIP") prior to considering adoption of a Capital Recovery Fee, also referred to herein as an "impact fee."

The objectives of this study are to:

a) Estimate the probable growth of the City; both in terms of population increases and geographical location.

b) Estimate the capital improvement costs that will be needed to provide water and wastewater utility service to this growth through the 10-year development horizon;

c) Calculate the maximum allowable impact fees that may be assessed to new development to defray the cost of the required water and wastewater improvements needed to support the development.

The updated study was developed as follows:

- Water and Wastewater Capital Improvements – Projected water and wastewater capital improvement plan components were updated. The cost estimates for each of the Capital Improvement Plan element were updated based on 2021-2022 construction and engineering costs (See Attachments).

- Calculation of Maximum Capital Recovery Fee - The maximum capital recovery fee was determined based on the updated study items such as land use, projected population, projected land use, the capital recovery plan, and the updated cost estimates. Maximum Capital Recovery Fees were calculated for both Zone 1 and Zone 2. The limits of each zone are shown on **Figure 1**. The Maximum Capital Recovery Fee is calculated on the basis of one (1) equivalent single family Unit ("**ESFC**" in this study), which is equal to one (1) equivalent service connection.

The maximum impact fee determination was made using the Chapter 395 prescription for use of funds collected. Existing qualifying capital improvements and future facilities that will be required by new development for the study period were identified and tabulated. The estimated construction costs for qualifying capital improvements include basic construction items plus appurtenances, as well as allowances for engineering design, construction management, borrowing costs, and contingencies.

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TABLE 1 - PROPOSED CAPITAL RECOVERY FEES

ZONE #		*Current Fee*	2022 Update Max Fee	**Proposed Fee**
1	Water	*$700*	$1,034	$1,000
	Wastewater	*$860*	$1,437	$1,435
		$1,560	$2,471	**$2,435**
2	Water	*$2,500*	$2,858	$2,800
	Wastewater	*$2,700*	$3,919	$3,875
		$5,200	$6,777	**$6,675**

MULTIPLYING FACTORS

Single Family Dwelling	= 1.0 ESFC (Single Family Equivalent Unit)
Apartment Complex	= 0.8 ESFC per living unit when units are billed by the City individually (no master meter). When a master meter is used, refer to table below.
Mobile Home	= 1.0 ESFC per unit or room

Commercial, Retail, Institutional, Light Industrial, Hotel, and all other non-residential development:

		Water and Wastewater Fee:	
Meter Size:	**Factor**	**Zone 1**	**Zone 2**
5/8" - 3/4"	1.00 ESFC's	$2,435	$6,675
1"	1.67 ESFC's	$4,058	$11,125
1.5"	3.33 ESFC's	$8,117	$22,250
2"	5.33 ESFC's	$12,987	$35,600
3"	10.67 ESFC's	$25,973	$71,200
4"	16.67 ESFC's	$40,583	$111,250
6"	33.33 ESFC's	$81,167	$222,500
8"	53.33 ESFC's	$129,867	$356,000
10"	76.67 ESFC's	$186,683	$511,750
12"	176.67 ESFC's	$430,183	$1,179,250

Note 1: When separate dedicated fire system meters and systems are installed, the fire system meters are not charged a separate capital recovery fee.

Note 2: When building fire flow systems are combined with other building water systems, the City Engineer shall determine the equivalency factor based on the meter size that would be required without the fire protection component of the flow.

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2. SERVICE AREA

For the City of Texas City, the current corporate boundaries are used as the service area for derivation of maximum capital recovery fees.

3. LAND USE ASSUMPTIONS

Service sub-areas were developed by ARKK Engineers for each Zone. The projection of growth within each sub-service area was defined on the basis of equivalent single family dwelling unit water Connections ("ESFC "). An ESFC is defined as a single-family residential service connection with a 5/8-inch water meter; a single-family residence is assumed to have 3.0 people per unit, in accordance with historical U.S. Census data for the City of Texas City. Historical water usage in the city was utilized to determine the ESFC. Projected future development densities were estimated by ARKK Engineers, based on factors such as floodplain limits, costal flood zones, wetland zones, detention requirements, and other related factors.

Table 2 on the following page presents a tabulation of the existing developed properties within Zone 2.

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TABLE 2 - TABULATION OF EXISTING WATER SERVICE CONNECTIONS IN IMPACT FEE ZONE 2

SINGLE FAMILY RESIDENTIAL

By Service Area:

Subdivision/Area Name	Connections	Lago Mar	Bucee's	Tanger	LS 29	Rainsong	Marlow	South Point	Del Papa	Far Northeast	48 Inch Gravity
Lago Mar As of Jan 2022	1803	1803									
Rainsong	244					244					
Park Place / I-45	265				265						
Lone Trail	205				205						
Paseo Lobo	27				27						
South Point	368							368			
Lakes of Marlow	174						174				
Pearlbrook	397										397
Twelve Oaks	119										119
Amburn Park	83										83
TOTAL SF RESIDENTIAL:	3,685	1,803	0	0	497	244	174	368	0	0	599

MULTI FAMILY RESIDENTIAL

By Service Area:

Name	Equiv Connections	Lago Mar	Bucee's	Tanger	LS 29	Rainsong	Marlow	South Point	Del Papa	Far Northeast	48 Inch Gravity
Boterra Apartments 348 units	166	166									
Hunterra Apartments 148 Units	70		70								
Catalon Apartments Phase 1 400 Units	190		190								
Catalon Apartments Phase 2 170 Units	81		81								
Smart Living Apartments 234 Units	114				114						
Windsor Apartments 400 Units	190				190						
Elmcroft Senior Living est 40 ESFU's	40										40
Gatsby Condos Est 70 Units	33										33
Retreat at Texas City 250 Units	119										119
TOTAL MULTIFAMILY:	1,003	166	341	0	304	0	0	0	0	0	192

COMMERCIAL TRACTS

By Service Area:

Name	Equiv. Connections	Lago Mar	Bucee's	Tanger	LS 29	Rainsong	Marlow	South Point	Del Papa	Far Northeast	48 Inch Gravity
Lago Mar Pool Facility	50	50									
Bucee's Gas Station	295		295								
Springfield Mariott Hotel 103 Rooms	78		78								
Bank	1		1								
Tanger Outlet Mall	140			140							
I-45 Auto Dealerships	20				20						
Woodspring Suites Hotel 124 Rooms	94				94						
Funeral Home	2				2						
Home2 Suites Hotel 90 Rooms	68				68						
La Quinta Inn Hotel 86 Rooms	65				65						
Holiday Inn Hotel 70 Rooms	53				53						
Quality Inn Hotel 63 Rooms	48				48						
Starbucks via Pvt Force Main EF Lowery	5				5						
Chinese Buffet Restaurant	10				10						
Comfort Inn Hotel Est. 63 Rooms	49				49						
Best Western Hotel 53 Rooms	36				36						
Misc. Small Commercial Bulldings FM 2004	5				5						
Jack in the Box FM 2004	5				5						
Bank FM 2004	1				1						
Mall of the Mainland (see breakdown)	126				126						
Beyond Burger	10				10						
Olive Garden	10				10						
Gringos	10				10						
Gas Station Century at Lowery	1				1						
Farmers Copper	5				5						
GCAD Offices	20				20						
Strip Center EF Lowery / Century	17				17						
Popeyes Century / EF Lowery	5				5						
Chamber of Commerce Century / EF Lowery	1				1						
Discount Tire Century / FM 2004	1				1						
Office Depot Century / FM 2004	1				1						
Storage EF Lowery / 12 Oaks	1										1
Wellness Center EF Lowery / 12 Oaks	1										1
Strip Center EF Lowery / Twelve Oaks	3										3
Dialysis Clinic EF Lowery / 12 Oaks	2										2
Linnas Donut Shop	3										3
Moody Bank	1										1
Insurance Office	2										2
City Engineering / Pub Works Offices	3										3
Dentist / Amburn Park	1										1
Dr Office Amburn Park	1										1
Neighborhood Pool	1										1
Del Papa Distributor	50								50		
UTMB Urget Care Center	10								10		
DISD Middle School	25									25	
TOTAL COMMERCIAL:	1,336	50	374	140	668	0	0	0	60	25	19
SUBTOTAL BY SERVICE AREA:		2,019	715	140	1,469	244	174	368	60	25	810
TOTAL ALL:		6,024									

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4. POPULATION PROJECTIONS

For future development in the City, it is assumed that each single family unit will have 2.6 residents on average. This is typical of the existing developed areas of the City. The following is a summary of the population projections for the City of Texas City:

Table 2 - Population Projections

	Sq. Miles	Year End 2021 Population Estimate	Estimated 10 Year Population	Estimated Full Build Out Population
Zone 1	26.88	37,784	39,673	45,704
Zone 2	44.13	12,189	31,546	62,351
TOTAL:	71.01	49,973	71,219	108,055

Detailed development projection tables are presented in the Appendix section of this report.

5. WATER DEMANDS

Water demand projections are derived directly from the land use projections in terms of ESFC 's. Based on recent historical usage by the residents of Texas City, one ESFC is equivalent to:

- 0.6 gallons per minute total water supply requirement per ESFC (TCEQ Rules);
- 329 gallons per day (actual 2020) of peak month surface water (purchased water supply) per ESFC; For planning, 400 gallons per day per ESFC is allocated.
- 219 gallons per day of average daily water use per ESFC was used in 2020.

Table 3 below shows the water demands experienced in the City in 2020.

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TABLE 3 - City Water Use Data and Connection Types

	# of Meters	Annual Water Use (Gal)	Daily Use Per Meter (Gal)	Conversion to ESFC (gal/day)	Equivalent Connections
Meter Count					
Residential, Single Family	15,668	820,031,000	2,246,660		15,668
Residential, Multi-Family	148	237,369,000	650,326	400	1,626
Institutional	195	148,075,000	405,685	400	1,014
Commercial	951	196,306,000	537,825	400	1,345
Industrial	55	317,223,000	869,104	400	2,173
Agricultural	35	1,089,000	2,984	400	7
Unmetered	1	58,500,000	160,274	400	401
Total =	17,053	1,778,593,000	4,872,857		22,233

Average Daily Water Use:	4,872,857 Gallons per Day
Average Daily Water Use:	219 Gal per Day per ESFC
Peak Month:	219,520,000 Gallons, all of July 2020
Peak Month Usage in Gallons Per Day:	7,317,333 Gallons per Day, July 2020
Peak Month Usage in Gallons Per Day per ESFC:	329 Gallons per Day per ESFC

TCEQ Requirements:	*Based on*	22,233 Equivalent Water Service Connections
Water Supply (Surface + Wells):		13340 GPM
Booster Pumps:		13340 GPM
Total Storage:		4,446,699 Gallons
Elevated Storage:		2,223,349 Gallons

In the 10-year planning period, it is projected that the City will add 726 connections in Zone 1 and 7,445 new connections in Zone 2, for a total of 8,171 new equivalent connections. This will bring the total number of connections to be served to 30,404 connections.

10 Year Plan Needs:	
Water Supply (Surface + Wells):	18243 GPM
Booster Pumps:	18243 GPM
Total Storage:	6,080,899 Gallons
Elevated Storage:	3,040,449 Gallons

Table 4 on the following page presents a summary of existing water supply facilities and proposed water supply needs.

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TABLE 4 - WATER SUPPLY AND STORAGE CAPACITY SUMMARY:

Number of Water Service Connections in Ten Years:	30,404 Connections

Part 1: Water Supply (Wells and Surface Water)

Surface Water Contract in Place (2022):	7,990 Gallons per Minute
Surface Water Supply Recommended for 2032 (0.25 gpm/Connection):	7,601 Gallons per Minute
**0.25 gpm/connection provides for peak month Average Use*	
Well Water Supplies in Place (2022):	7,545 Gallons per Minute
Surface Water Supply Recommended for 2032 (0.35 gpm/Connection):	10,642 Gallons per Minute
RESULT: Will need to Add Well Capacity of a Minimum of:	3,097 Gallons per Minute
Estimated Number of New Wells Needed:	3 New Wells *2 - Lago Mar* *1 - North Dickinson*

Part 2: Water Supply Booster Pumps

Booster Pump Facilities in Place (2022):	14,537 Gallons per Minute
Booster Pump Capacity Recommended for 2032 (0.6 gpm/Connection):	18,243 Gallons per Minute
RESULT: Will need to Add Booster Pump Capacity of a Minimum of:	3,706 Gallons per Minute
Estimated Pump Stations Needed @ 3,000 gpm per Station:	1 New Station (Lago Mar) 1 Improvement (North Dickinson Bayou)

Part 3 - Elevated and Pressurized Storage

Elevated Water Facilities in Place (2022)*:	2,850,000 Gallons Elevated Storage
**Figure Does not Include the New Lago Mar Tank*	
Elevated Tank Capacity Recommended for 2032 (100 gal/Connection):	3,040,449 Gallons Elevated Storage
RESULT: Will need to Add Elevated Tank Capacity of a Minimum of:	190,449 Gallons
- Proposed 1 MG EST at Lago Mar	1,000,000 Gallons
- Proposed hydrotank Improvements at North Dickinson Bayou:	20,000 Gallons

Part 4 - Total Water Storage

Total Water Storage Facilities in Place (2022):	7,097,000 Gallons Total Storage
Total Water Storage Recommended for 2032 (200 gpm/Connection):	6,080,899 Gallons Total Storage
RESULT: Recommended Ground Tank Additions as Follows:	
- Proposed 1 MG GST at Lago Mar	1,000,000 Gallons
- Proposed Ground Tank Improvements at North Dickinson Bayou	500,000 Gallons

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6. WASTEWATER FLOWS

Wastewater Treatment:

The average annual daily flow per ESFC is estimated to be 225 gallons per day. The existing wastewater treatment plant is permitted for an average daily flow of 12.400 million gallons per day. For the existing 22,233 connections in the City, the average daily wastewater flows are approximately 5.0 million gallons per day. Therefore, the full capacity of the wastewater treatment plant is 40% utilized.

The City's permit requires that when the wastewater treatment plant flow reaches 90% of capacity, construction on a plant expansion must commence. Thus, the estimated number of remaining connections in the plant is:

90% of plant capacity = 11.16 million gallons per day

One ESFC uses: 225 gallons per day

Remaining Capacity:

[90% Capacity minus Used Capacity] =

[11.16 MGD – 5.0 MGD] = 6.16 MGD

Remaining connections before a plant expansion begins construction is:

(6.16 million gallons per day capacity* / 225 gallons per day per ESFC) = 23,377 new connections available in the wastewater treatment plant

(8,171 new connections are projected in the 10-year planning period)

Lift Stations and Trunk Main:

Table 5 on the following page presents a summary of the recommended lift station, force main, and trunk main capacities and improvements. As part of this study, areas of growth were identified, and a plan was developed to extend wastewater service to each of the 10-year development areas. Provisions in the plan were also made to account for needed capacity in the wastewater collection system for the 10-30 year period.

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TABLE 5 - CAPACITY SUMMARY - LIFT STATIONS AND TRUNK MAINS

	LIFT STATIONS	Projected Required Firm Capacity - 10 Year Plan (GPM)	Projected Required Firm Capacity - Ultimate	Proposed Force Main Length - 10 Year Plan (FEET)	Proposed Force Main Length - Ultimate (FEET)	Design Velocity (FPS)	Target Size (INCHES)	Plan Year
EXISTING LIFT STATIONS	Lago Mar Lift Station	3,733	3,733	20,609	(See 10 Year)	3.5	24	**0 - 10**
	Bucee's Lift Station	497	497	(Exist 8")	(Exist)	n/a	(Use Exist)	11 - 30
	Tanger Lift Station	104	104	(Exist 6")	(Exist)	n/a	(Use Exist)	n/a
	Lift Station 29	2,141	3,058	(Exist 12")	8,700	3.5	16	11 - 30
	Rainsong Lift Station	286	286	(Exist 8")	(Exist)	n/a	(Use Exist)	n/a
	Marlow Lift Station	224	231	(Exist)	(Exist)	n/a	(Use Exist)	n/a
	South Point Lift Station	230	390	(Exist 8")	(Exist)	n/a	(Use Exist)	n/a
	Far Northeast Lift Station	751	1,763	(Exist 16")	(Exist)	n/a	(Use Exist)	n/a
	Attwater Lift Station	1,400	2,308	(Exist 12")	(Exist)	n/a	(Use Exist)	n/a
	Lift Station 10	17,779	25,515	(Exist 36")	19,350	3.5	Paralell 36	**0 - 10**
FUTURE LIFT STATIONS	Lago Clara Lift Station	699	699	3,590	(See 10 Year)	3.5	10	**0 - 10 (Developer)**
	MIG Development Lift Station	0	881	n/a	4,690	3.5	10	11 - 30
	MHI Lift Station	774	2,224	18,730	(See 10 Year)	3.5	16	**0 - 10**
	Holland Rd Lift Station	170	453	7,035	(See 10 Year)	3.5	8	**0 - 10 (Developer)**
	FM 2004 N. Canal Lift Station	0	168	n/a	11,290	3.5	6	11 - 30
	25th Ave LS 1 Lift Station	0	536	n/a	2,394	4	8	11 - 30
	25th Ave LS 2 Lift Station	0	349	n/a	2,755	4	8	11 - 30
	25th Ave LS 3 Lift Station	0	571	n/a	2,944	4	8	11 - 30
	Far NE Phase 2 Lift Station	0	2,406	n/a	Use Exist 16"	n/a	(Use Exist)	n/a
	Attwater Preserve Lift Station	0	908	n/a	10,650	3.5	10	11 - 30
	South Moses Lift Station	0	82	n/a	2,900	4	4	11 - 30
	San Leon Waterfront Lift Station	0	153	n/a	11,150	3.5	4	11 - 30

	TRUNK MAINS	Projected Required Firm Capacity - 10 Year Plan (GPM)	Projected Required Firm Capacity - Ultimate	Proposed Trunk Main Length - 10 Year Plan (FEET)	Proposed Trunk Main Length - Ultimate (FEET)	Design Velocity (FPS)	Target Size (INCHES)	Plan Year
EXISTING	48" Trunk Main Segment 1 - Amburn to Interurban	9,949	12,134	(Exist 48")	(Exist)	n/a	(Use Exist)	n/a
	48" Trunk Main Segment 2 - Interurban to Highway 3	12,723	16,358	(Exist 48")	(Exist)	n/a	(Use Exist)	n/a
	48" Trunk MainSegment 3 - Higway 3 to Attwater Inflow	13,474	18,764	(Exist 48")	(Exist)	n/a	(Use Exist)	n/a
	48" Trunk Main Segment 4 - Attwater Inflow to LS 10	14,874	22,610	(Exist 48")	(Exist)	n/a	(Use Exist)	n/a
FUTURE	FM 517 TRUNK MAIN - WEST	736	839	3,200	(See 10 Year)	2.3	12	**0 - 10**
	FM 517 TRUNK MAIN - EAST	0	153	n/a	1800	2.3	8	11 - 30
	FM 517 TRUNK MAIN - CENTRAL	0	948	n/a	1830	2.3	12	11 - 30

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7. PROPOSED FACILITIES

Utility demands for the service area were projected using the assumptions for development density and population projections. The demand per acre for each land use was applied to the projected land uses to determine water service demands. In order to deliver treated water and to treat and transport wastewater, several facilities and utility improvements have been planned. Each proposed improvement has been assigned a timetable and assigned cost estimate. Water system improvements are summarized on **Table 6 – Water Capital Recovery Fee Calculations**. **Figure 2** presents a map showing the general location of each planned Water capital improvement associated with this study update.

Wastewater system improvements are summarized on **Table 7 – Wastewater Capital Recovery Fee Calculations**. **Figure 3** presents a map showing the general location of each planned Wastewater capital improvement associated with this study update.

Changes from Previous Plan - Water

a) In Zone 2, water infrastructure planning has been updated to reflect current conditions and needs. The changes are related to water distribution in the far west end of the City, including the Lago Mar development and surrounds. Updates are also made in the North Dickinson Service Area.

Changes from Previous Plan - Wastewater

The following changes have been made to the Wastewater Capital Facilities Plan since the last Plan Update.

a) In Zone 2, wastewater collection system infrastructure planning has been updated to reflect current conditions and needs. The changes are related to the Lift Station 29 service area and the Lago Mar development in the far west side of the City
b) In Zone 2, in the North Dickinson Bayou area, updates are made to the wastewater collection system capital improvement planning
c) Lift Station No. 10 serves both Zone 1 and Zone 2. Current capacity of 14,300 gpm is not sufficient for the projected increase in flow within the next 10 years. A project to replace the four (4) 150 gpm pumps with four (4) 215 gpm pumps is included in the 10-year CIP at an estimated cost of $1.5 million

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TABLE 6 - WATER CAPITAL RECOVERY FEE CALCULATIONS

PART 1: Water Distribution System

		Estimated Construction Cost	Estimated Professional Services	Interest on Principal (1.5% Rate, 20 Year Term)	Total
1	West Side Water Well No. 2 @ Lago Mar (Serves 2850 Connections	$ 2,500,000	$ 375,000	$ 454,563	$ 3,329,563
2	West Side Water Well No. 3 @ Lago Mar (Serves 2850 Connections	$ 2,500,000	$ 375,000	$ 454,563	$ 3,329,563
3	West Side Ground Storage Tank @ Lago Mar (Serves 10,000 Connections)	$ 1,500,000	$ 165,000	$ 263,251	$ 1,928,251
4	West Side Booster Pump Station @ Lago Mar (Serves 10,000 Connections)	$ 1,000,000	$ 150,000	$ 181,825	$ 1,331,825
5	Northeast Service Area Water Plant Phase 2 - 500,000 Gal GST, Hydrotanks, Booster Improvements	$ 1,275,000	$ 158,650	$ 226,673	$ 1,660,323
6	Northeast Service Area Water Well No. 1 (Serves 2850 Connections	$ 2,500,000	$ 375,000	$ 454,563	$ 3,329,563
	TOTAL 10 YEAR CAPITAL IMPROVEMENT PLAN - WATER DISTRIBUTION:				**$ 14,909,088**
	NUMBER OF PROJECTED 10 YEAR CONNECTIONS:				8171
	COST PER CONNECTION - WATER DISTRIBUTION (Zone 2):				**$ 1,825**

PART 2: Surface Water Supply

Current Contracted Surface Water Supply Daily Flow From GCWA (MGD):	11.505
Existing Annual Average Daily Flow Average:	5.500
Existing Estimated Max Monthly Flow	8.000
Remaining Capacity (MGD)	3.505
Existing Equivalent Water Connections Currently Serviced (Based on 400 gal/day/connection):	20,000
Existing Summer Month Gallons per Connection (Gallons per Day per Connection):	400
Projected Additional Capacity Available @400 gal/day per connection (New Connections):	8,763
Cost of Remaining Water Treatment Capacity*:	$ 9,058,322

**Basis = COTC 2016 purchase of 1.09 MGD surface water capacity from NRG/GCWA contract of $2.5844 per gallon*

Subtotal Cost per Connection of Surface Water Treatment Capacity (Zone 1 & Zone 2): $ 1,034

MAXIMUM WATER CAPITAL RECOVERY FEE - ZONE 1:	$ 1,034
MAXIMUM WATER CAPITAL RECOVERY FEE - ZONE 2:	$ 2,858

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TABLE 7 - WASTEWATER CAPITAL RECOVERY FEE CALCULATIONS

	PART 1: Wastewater Collection System (Zone 2)	Estimated Construction Cost	Estimated Professional Services	Interest on Principal (1.5% Rate, 20 Year Term)	Total
1	Lago Mar Force Main Phase 1	$ 3,282,000	$ 492,300	$ 596,751	$ 4,371,051
2	Lago Mar Force Main Phase 2	$ 2,440,500	$ 366,080	$ 443,746	$ 3,250,326
3	MHI Development Regional Lift Station 2,200 gpm	$ 1,400,000	$ 210,000	$ 254,555	$ 1,864,555
4	MHI Development Regional Force Main	$ 3,918,250	$ 587,740	$ 712,437	$ 5,218,427
5	Northeast Service Area Regional Lift Station 1,800 gpm	$ 1,400,000	$ 210,000	$ 254,555	$ 1,864,555
6	FM 517 Wastewater Utility Extension to South Lake (Gravity Main and Force Force Main)	$ 1,327,500	$ 199,130	$ 241,374	$ 1,768,004
7	Lift Station 10 Pump Capacity Upgrades	$ 1,500,000	$ 180,000	$ 265,623	$ 1,945,623
	TOTAL 10 YEAR CAPITAL IMPROVEMENT PLAN - WASTEWATER COLLECTION:				**$ 20,282,541**
	NUMBER OF PROJECTED 10 YEAR CONNECTIONS (ZONE 2):				8171
	COST PER CONNECTION - Wastewater Collection (Zone 2):				**$ 2,482**

PART 2: Wastewater Treatment Capacity	
Current Annual Average Daily Flow (MGD):	5.000
Plant Average Daily Flow Capacity (MGD):	12.400
90% of Plant Average Daily Flow Capacity (MGD):	11.160
Remaining Capacity before 90% Capacity is Reached (MGD)	6.160
Wastewater Connections Currently Serviced:	22,222
Existing Average Daily WW flow per Connection (Gallons per Day per Connection):	225
Projected Additional Capacity Available @225 gal/day per connection (New Connections):	28,651
Value of Remaining Unused Wastewater Treatment Capacity:	$ 49,280,000
Basis = Plant Expansion Est. Cost of $8.00 per gallon daily treatment capacity	
Subtotal Cost per Connection of Unused Wastewater Treatment Capacity (Zone 1 & Zone2):	$ 1,720.00
Cost Per Connection with 50% Reduction for Ad Valorem Tax Credit (Zone 1 & Zone 2):	**$ 860.00**

	PART 3: 36" Force Main Serving LS 10 (Zone 1+2)	Estimated Construction Cost	Estimated Professional Services	Interest on Principal (1.5% Rate, 20 Year Term)	Total
8	Lift Station 10 Force Main Improvements (36")	$ 9,868,500	$ 1,480,280	$ 1,794,344	$ 13,143,124
	Number of New Tract Development Connections (30 year) to Be Served by 36" Force Main				19,293
	Number of Infill Development (30 year) to Be Served by 36" Force Main				3,500
	Subtotal Cost per Connection of 36" Force Main Serving Lift Station 10: (Zone 1 & Zone2):				$ 576.63
	MAXIMUM WASTEWATER CAPITAL RECOVERY FEE - ZONE 1:				$ 1,437
	MAXIMUM WASTEWATER CAPITAL RECOVERY FEE - ZONE 2:				$ 3,919

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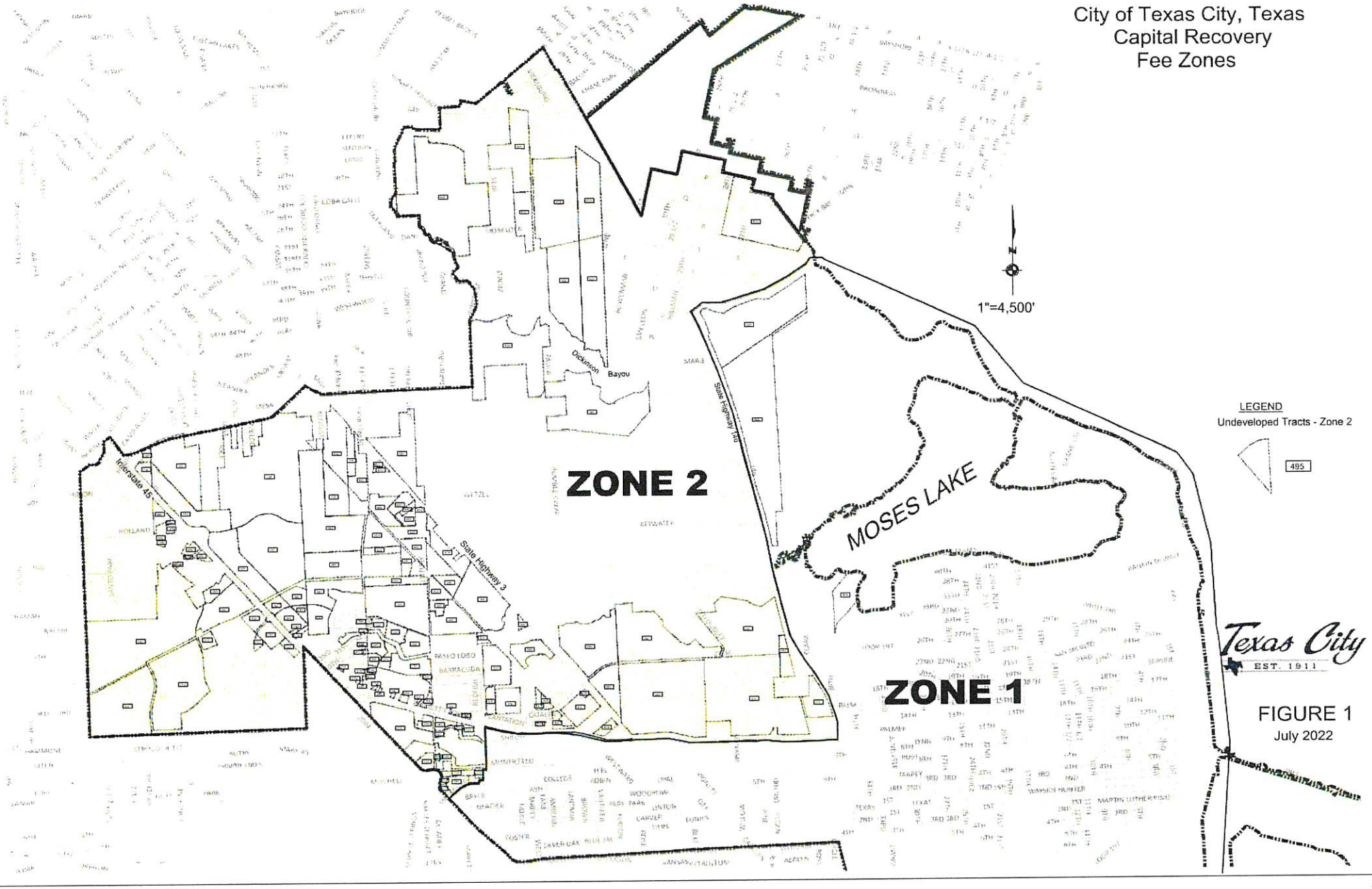
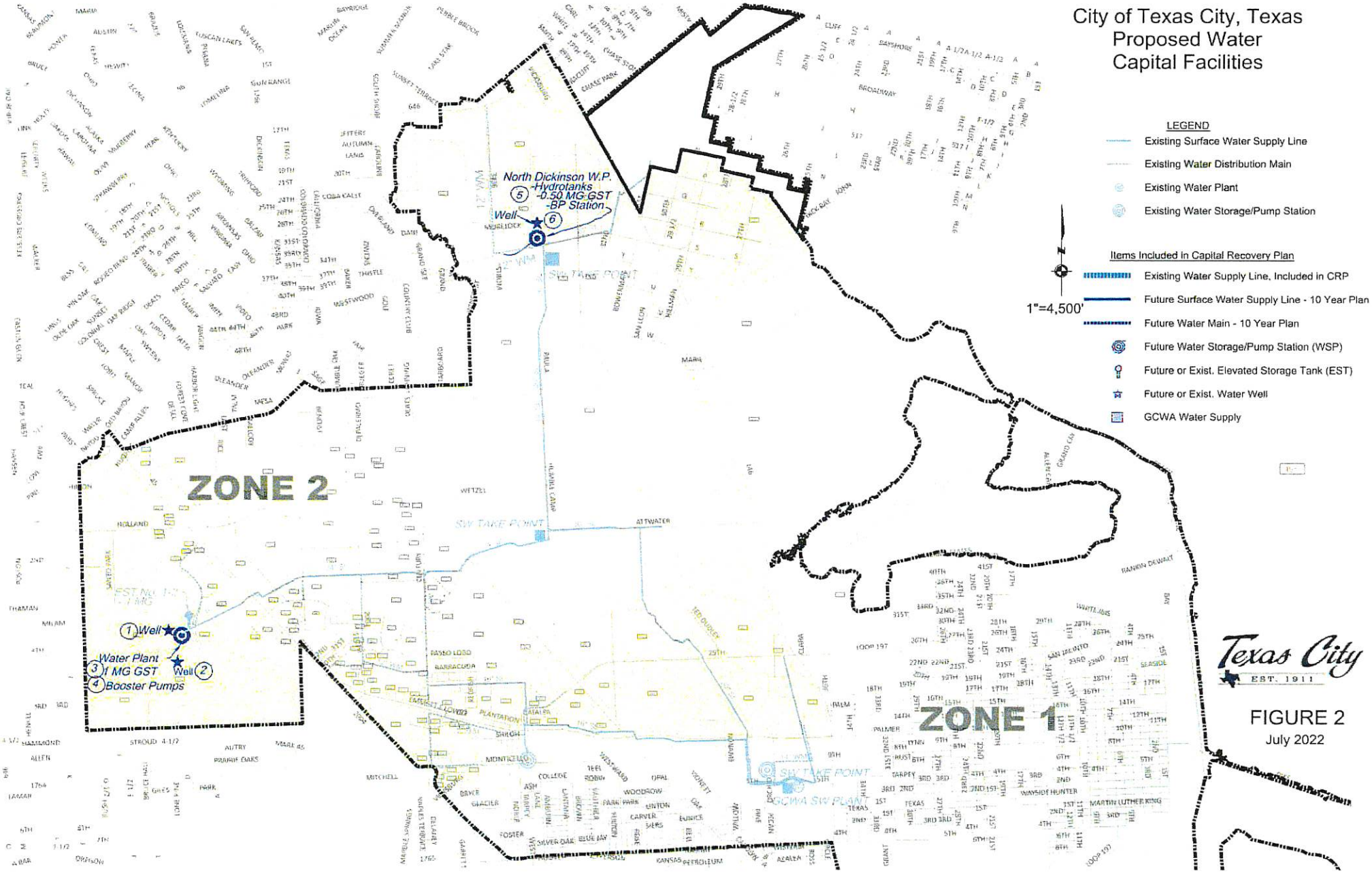

City of Texas City, Texas
Capital Recovery
Fee Zones
1"=4,500'
LEGEND
Undeveloped Tracts - Zone 2
495
ZONE 2
ZONE 1
MOSES LAKE
Dickinson Bayou
State Highway 146
State Highway 3
Interstate 45
Texas City
EST. 1911
FIGURE 1
July 2022


City of Texas City, Texas
Proposed Water
Capital Facilities
LEGEND
Existing Surface Water Supply Line
Existing Water Distribution Main
Existing Water Plant
Existing Water Storage/Pump Station
Items Included in Capital Recovery Plan
Existing Water Supply Line, Included in CRP
Future Surface Water Supply Line - 10 Year Plan
Future Water Main - 10 Year Plan
Future Water Storage/Pump Station (WSP)
Future or Exist. Elevated Storage Tank (EST)
Future or Exist. Water Well
GCWA Water Supply
1"=4,500'
ZONE 2
ZONE 1
North Dickinson W.P.
-Hydrotanks
-0.50 MG GST
-BP Station
Well
Water Plant
MG GST
Well
Booster Pumps
SW TAKE POINT
GCWA SW PLANT
Texas City
EST. 1911
FIGURE 2
July 2022

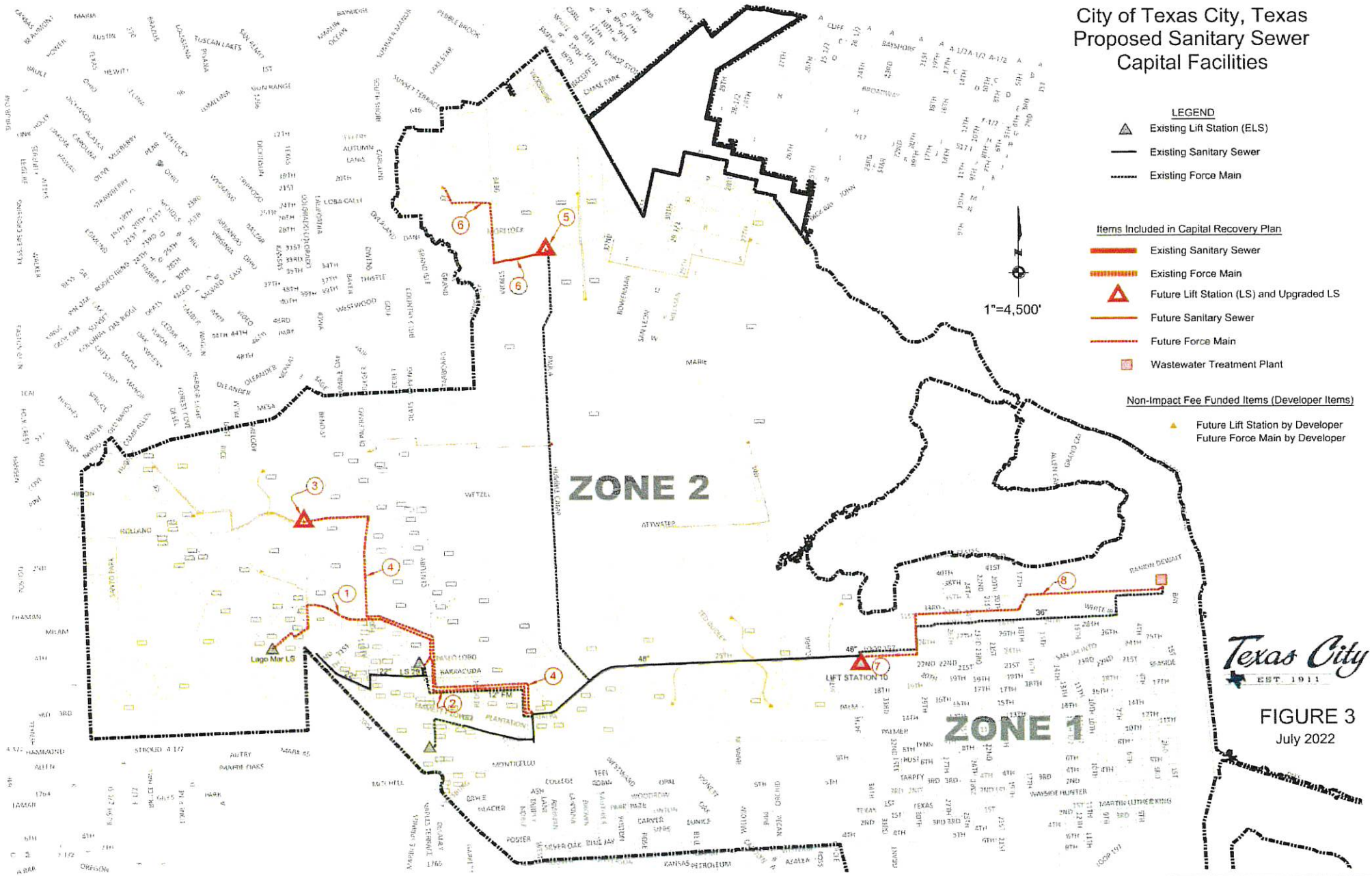


FIGURE 3
July 2022