

ENGINEERING REPORT
FOR

**CITY OF MANOR
2020 COMMUNITY IMPACT FEE UPDATE**



CITY OF
MANOR

EST.  1872

TEXAS

JANUARY 2021

Prepared By:

Jaeco

JAY ENGINEERING, A DIVISION OF GBA

Texas Engineering Firm #4242

CITY OF MANOR

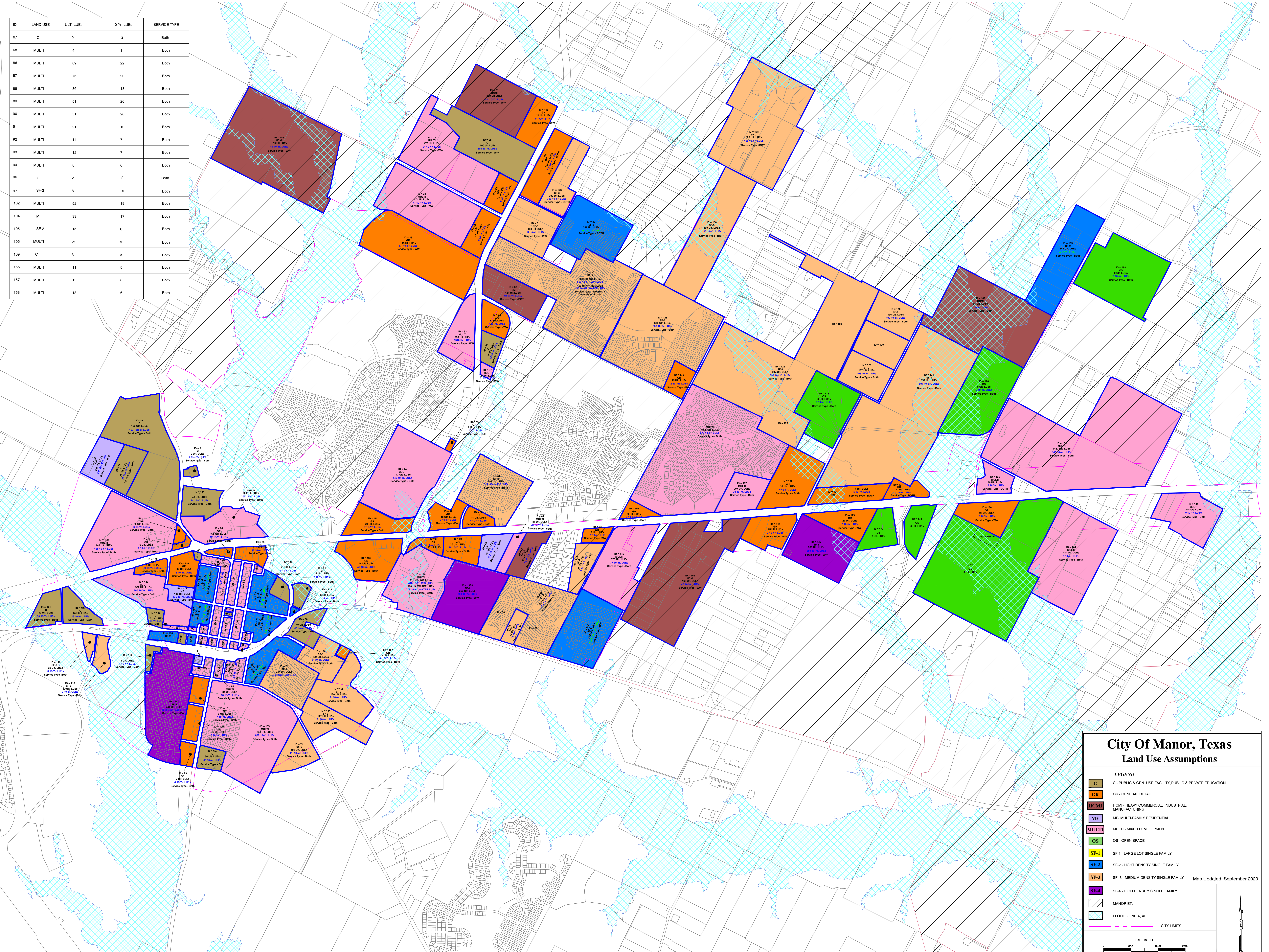
2020 COMMUNITY IMPACT FEE UPDATE

EXHIBITS

TABLE OF CONTENTS

1. LAND USE ASSUMPTIONS MAP
2. EXHIBIT A-1: 10-YEAR WATER CAPITAL IMPROVEMENTS PLAN MAP
3. EXHIBIT A-2: 10-YEAR CAPITAL IMPROVEMENTS PLAN (ESTIMATED COSTS)
4. EXHIBIT A-3: 10-YEAR WASTEWATER CAPITAL IMPROVEMENTS PLAN MAP
5. EXHIBIT A-4: 10-YEAR WASTEWATER CAPITAL IMPROVEMENTS PLAN (ESTIMATED COSTS)
6. EXHIBIT B-1: PLANNING AND DESIGN CRITERIA
7. EXHIBIT B-2: 10-YEAR WATER CAPITAL IMPROVEMENTS PLAN PRO RATA CALCULATIONS
8. EXHIBIT B-3: MISCELLANEOUS PROJECT COSTS – WATER
9. EXHIBIT B-4: WATER IMPACT FEE CALCULATION
10. EXHIBIT B-5: 10-YEAR WASTEWATER CAPITAL IMPROVEMENTS PLAN PRO RATA CALCULATIONS
11. EXHIBIT B-6: MISCELLANEOUS PROJECT COSTS – WASTEWATER
12. EXHIBIT B-7: WASTEWATER IMPACT FEE CALCULATION
13. EXHIBIT B-8: WATER AND WASTEWATER IMPACT FEE FACTORS
14. WATER AND WASTEWATER IMPACT FEE COMPARISON CHART

ID	LAND USE	ULT. LUEs	10-Yr. LUEs	SERVICE TYPE
67	C	2	2	Both
68	MULTI	4	1	Both
86	MULTI	89	22	Both
87	MULTI	76	20	Both
88	MULTI	36	18	Both
89	MULTI	51	26	Both
90	MULTI	51	26	Both
91	MULTI	21	10	Both
92	MULTI	14	7	Both
93	MULTI	12	7	Both
94	MULTI	8	6	Both
96	C	2	2	Both
97	SF-2	8	6	Both
102	MULTI	52	18	Both
104	MF	33	17	Both
105	SF-2	15	6	Both
108	MULTI	21	9	Both
109	C	3	3	Both
156	MULTI	11	5	Both
157	MULTI	15	8	Both
158	MULTI	13	6	Both












City of Manor, Texas Land Use Assumptions

LEGEND

- C - PUBLIC & GEN. USE FACILITY, PUBLIC & PRIVATE EDUCATION
- GR - GENERAL RETAIL
- HCM - HEAVY COMMERCIAL, INDUSTRIAL, MANUFACTURING
- MF - MULTI-FAMILY RESIDENTIAL
- MULTI - MIXED DEVELOPMENT
- OS - OPEN SPACE
- SF-1 - LARGE LOT SINGLE FAMILY
- SF-2 - LIGHT DENSITY SINGLE FAMILY
- SF-3 - MEDIUM DENSITY SINGLE FAMILY
- SF-4 - HIGH DENSITY SINGLE FAMILY
- MANOR ETJ
- FLOOD ZONE A, AE
- CITY LIMITS

Map Updated: September 2020

SCALE IN FEET
0 500 1000 2000

LEGEND	
	PROPOSED WATER TANK
	EXISTING WATER TANK
	MANOR ROADS
	10-YR. WATER SERVICE AREA
	MANOR ETJ
	EXISTING OR NON-CIP WATERLINES
	PROPOSED 8-INCH WATERLINES
	PROPOSED 12-INCH WATERLINES
	PROPOSED 16-INCH WATERLINES

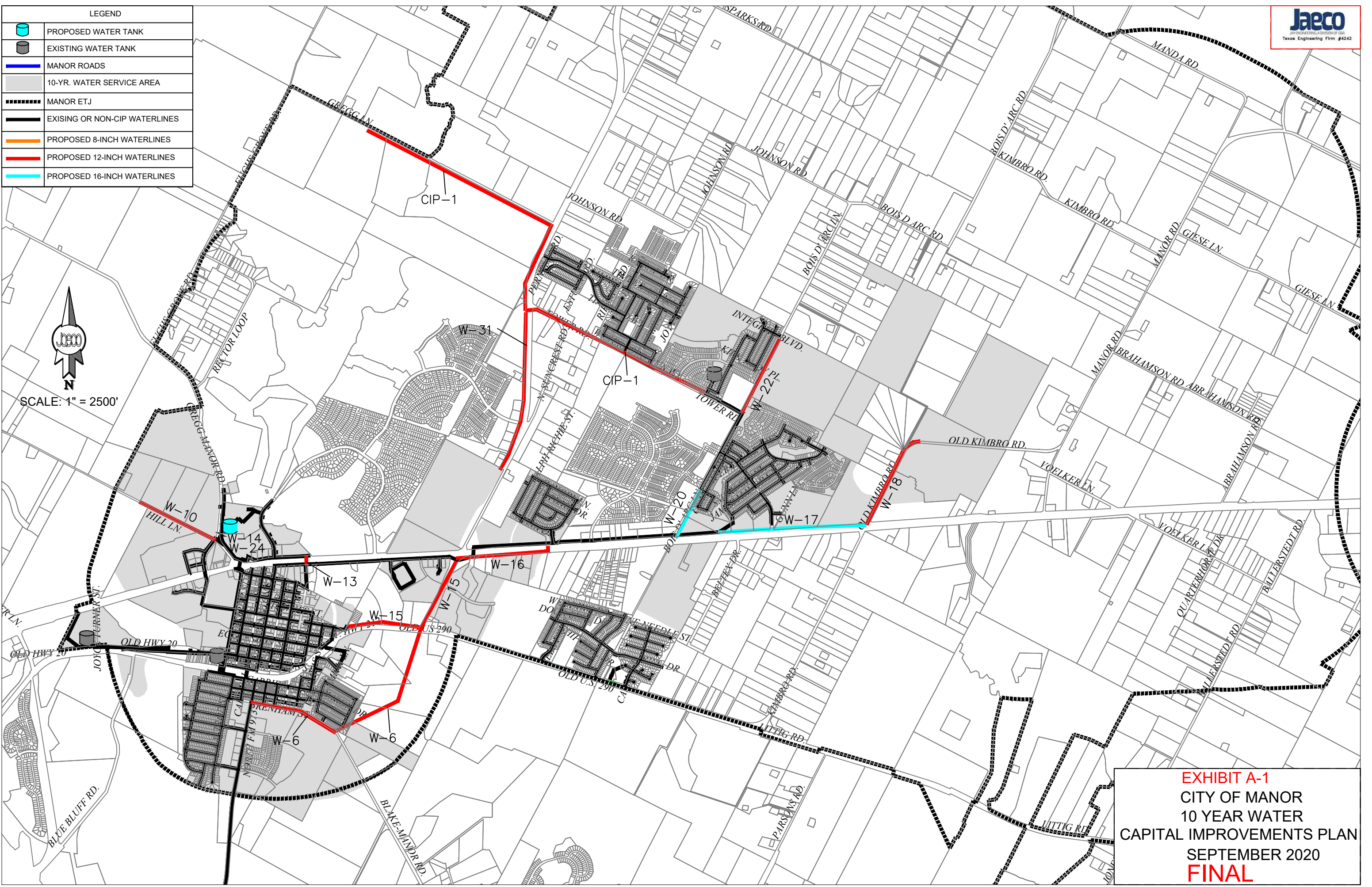


EXHIBIT A-1
 CITY OF MANOR
 10 YEAR WATER
 CAPITAL IMPROVEMENTS PLAN
 SEPTEMBER 2020
FINAL

EXHIBIT A-2
CITY OF MANOR WATER IMPROVEMENTS
10-YEAR CAPITAL IMPROVEMENTS PLAN
SEPTEMBER 2020

The following projects have been identified as required to serve new growth within the service area, in accordance with approved land use assumptions and as part of the 10-year Capital Improvements Plan

Project No.	Year	Description	Size	Unit	Length (ft)	Construction Cost (2020 Dollars)	Annual Interest	Period (yr)	Construction Cost (adjusted for Inflation @ 5% per annum)	Soft Costs	Contingency (10% + 1% per annum)	Financing Cost (5% over 20 Years)	Total Project Costs	Detailed Description
W-6	2021	Blake Manor Road Water Line	12	inch	3,200	\$ 268,800.00	0.050	20	\$ 322,560.00	\$ 48,400.00	\$ 48,200.00	\$ 253,529.66	\$ 673,000.00	Transmission main from downtown along Blake Manor Road to future FM 973. Includes replacing 400 LF of 6" pipe in Downtown Plant
W-10	2020	Hill Lane Water Line	12	inch	3,450	\$ 289,800.00	0.050	20	\$ 333,270.00	\$ 50,000.00	\$ 46,000.00	\$ 259,644.71	\$ 689,000.00	Water Distribution main along Hill Lane to serve new growth
W-13	2025	US 290 Crossing at Golf Course	12	inch	250	\$ 100,000.00	0.050	20	\$ 140,000.00	\$ 21,000.00	\$ 27,400.00	\$ 113,954.07	\$ 302,000.00	Connect 12" water lines on north and south sides of US 290
W-14	2021	Gregg Manor Road Water Supply - Ground Storage Tank and Pumps	250,000	gallon		\$ 2,000,000.00	0.050	20	\$ 2,400,000.00	\$ 360,000.00	\$ 358,800.00	\$ 1,886,411.62	\$ 5,005,000.00	250,000 gal Ground Storage Tank and 1,400 gpm expandable pump station for wholesale water supply connection
W-15	2021	FM 973 Water Line	12	inch	4000	\$ 336,000.00	0.050	20	\$ 403,200.00	\$ 60,500.00	\$ 60,300.00	\$ 316,942.31	\$ 841,000.00	Transmission main from US 290 to serve new growth on the east and west sides of FM 973
W-16	2021	US 290 Water Line	12	inch	2900	\$ 243,600.00	0.050	20	\$ 292,320.00	\$ 43,800.00	\$ 43,700.00	\$ 229,734.79	\$ 610,000.00	Parallel 12" waterline to increase US 290 capacity
W-17	2020	US 290 Water Line	16	inch	4400	\$ 540,000.00	0.050	20	\$ 621,000.00	\$ 93,200.00	\$ 85,700.00	\$ 483,820.91	\$ 1,284,000.00	Extend transmission main from Presidential Glen to Old Kimbro Road
W-18	2020	Old Kimbro Road Water Line	12	inch	3000	\$ 474,000.00	0.050	20	\$ 545,100.00	\$ 81,800.00	\$ 75,200.00	\$ 424,666.41	\$ 1,127,000.00	Transmission main to serve new growth north of US 290
W-20	2025	Bois D'Arc Lane Water Line	16	inch	2700	\$ 302,400.00	0.050	20	\$ 423,360.00	\$ 63,500.00	\$ 82,800.00	\$ 344,559.84	\$ 914,000.00	Transmission main to improve delivery of water from East EST
W-22	2025	Bois D'Arc Lane Water Line	12	inch	2500	\$ 210,000.00	0.050	20	\$ 294,000.00	\$ 44,100.00	\$ 57,500.00	\$ 239,279.35	\$ 635,000.00	Transmission main to serve new growth north of Tower Rd
W-24	2025	Gregg Manor Road Pump Improvements	1200	gpm		\$ 200,000.00	0.050	20	\$ 280,000.00	\$ 42,000.00	\$ 54,700.00	\$ 227,847.65	\$ 605,000.00	Increase Pump Capacity (and contracted supply) at wholesale water connection
W-31	2021	FM 973 Water Line	12	inch	5200	\$ 436,800.00	0.050	20	\$ 524,160.00	\$ 78,600.00	\$ 78,400.00	\$ 412,000.81	\$ 1,093,000.00	Transmission main along FM 973 from Tower Road to Canopy Lane to serve new growth.
Water CIP-1	2020	Gregg Lane to Tower Road Waterline	12	inch	3400	\$ 1,560,000.00	0.050	20	\$ 1,794,000.00	\$ 269,100.00	\$ 247,600.00	\$ 1,397,630.92	\$ 3,708,000.00	Transmission main from Manville WSC Booster Station to East Elevated Storage Tank
Water CIP-2	2017	AMR Water Meters				\$ 300,000.00	0.05	20	\$ 300,000.00	\$ 45,000.00	\$ 31,100.00	\$ 227,484.74	\$ 604,000.00	1350 Meter bodies and AMR registers, 810 replacement meter box lids, software, two vehicle transmitter units, two laptops.
Water CIP-3	2018	AMR Water Meters				\$ 400,000.00	0.05	20	\$ 420,000.00	\$ 63,000.00	\$ 48,300.00	\$ 321,357.73	\$ 853,000.00	1350 Meter bodies and AMR registers, 810 replacement meter box lids, software, two vehicle transmitter units, two laptops.
Total												\$ 18,943,000.00		

Notes:
Water LUEs are defined as requiring 451 gallons of water per day per single family residence as determined in the the City of Manor Water Master Plan.

LEGEND	
LS	PROPOSED LIFT STATION/LIFT STATION EXPANSION
●	WWTP
	MANOR ROADS
	10-YR. WASTEWATER SERVICE AREA
	MANOR ETJ
	EXISTING WASTEWATER LINES
	PROPOSED GRAVITY MAIN
	PROPOSED FORCE MAIN
	FLOODPLAIN

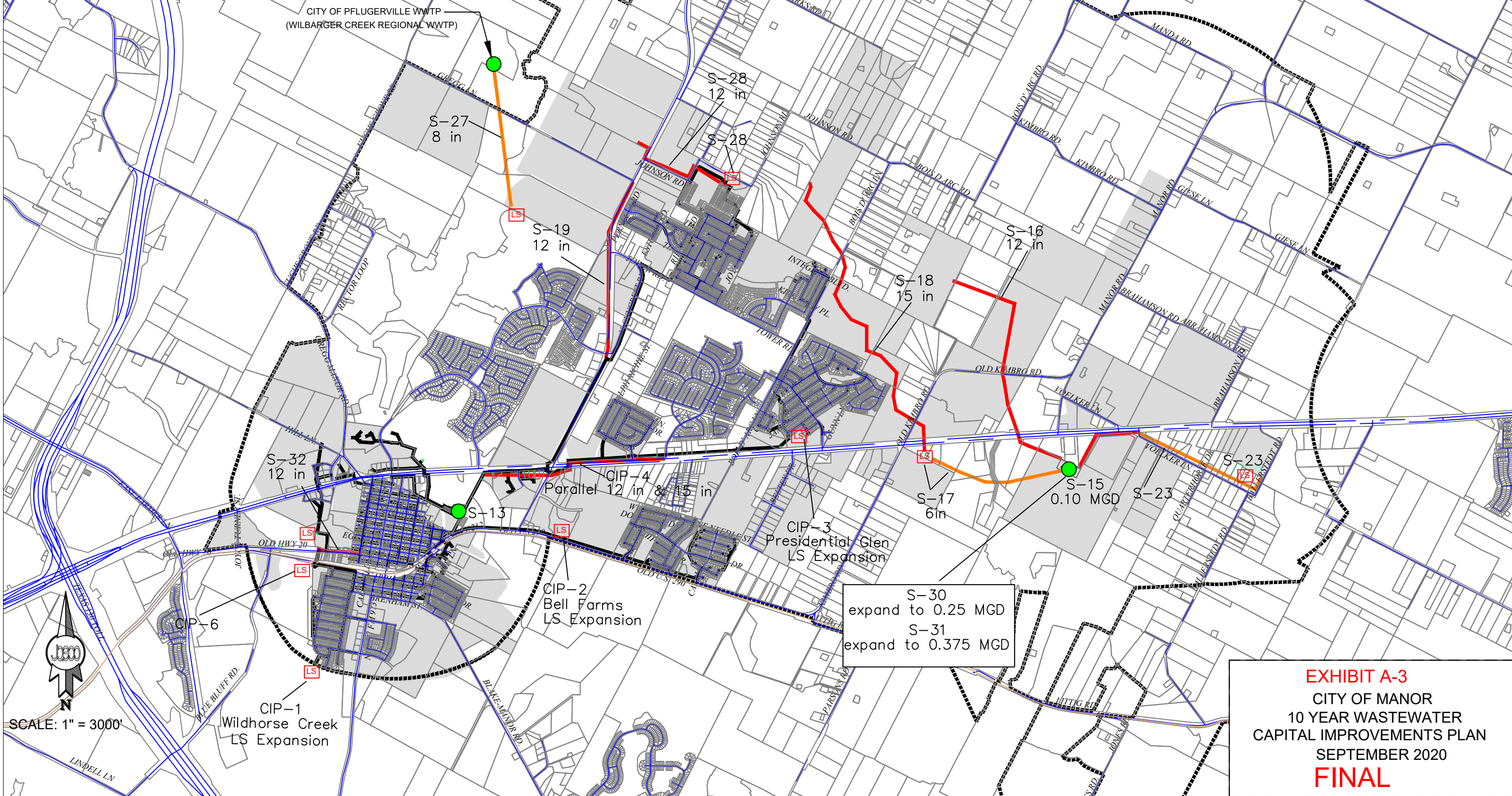


EXHIBIT A-3
 CITY OF MANOR
 10 YEAR WASTEWATER
 CAPITAL IMPROVEMENTS PLAN
 SEPTEMBER 2020
FINAL

EXHIBIT A-4
CITY OF MANOR WASTEWATER IMPROVEMENTS
10-YEAR CAPITAL IMPROVEMENTS PLAN
SEPTEMBER 2020

The following projects have been identified as required to serve new growth within the service area, in accordance with approved land use assumptions and as part of the 10-year Capital Improvements Plan

Project No.	Year	Description	Construction Cost (2019 Dollars)	Interest	Period (months)	Payment	Total Payment	Size	Length	Construction Cost (adjusted for inflation @ 5% per annum)	Soft Costs	Contingency (10% + 1% per annum)	Financing Cost (5.1% over 20 Years)	Total Project Costs	Detailed Description
S-13	2020	Addl. Wilbarger WWTP Capacity	\$ 16,825,000.00	0.00425	240	\$ 145,667.98	\$ 34,960,314.38	1.33 MGD		\$ 19,348,750.00	\$ 2,140,000.00	\$ 400,000.00	\$ 13,071,564.38	\$ 34,960,000.00	New Treatment Plant Capacity to Serve Addl Growth
S-15	2021	Cottonwood WWTP, Phase 1, 0.20 MGD	\$ 4,191,000.00	0.00425	240	\$ 40,812.65	\$ 9,795,037.18	0.20 MGD		\$ 5,029,200.00	\$ 398,000.00	\$ 705,500.00	\$ 3,662,337.18	\$ 9,795,000.00	Build plant at Regional Site, road and electrical improvements add \$500,000
S-16	2021	East Cottonwood Gravity Line	\$ 750,000.00	0.00425	240	\$ 6,788.02	\$ 1,629,125.49	12"	3,200	\$ 900,000.00	\$ 51,000.00	\$ 69,000.00	\$ 609,125.49	\$ 1,629,000.00	Extend East Cottonwood gravity ww to Regional Site, sized for 10-year capacity
S-17	2021	West Cottonwood LS and FM	\$ 849,000.00	0.00425	240	\$ 7,631.87	\$ 1,831,648.15	6" FM and 350 gpm LS	3,700	\$ 1,018,800.00	\$ 79,000.00	\$ 49,000.00	\$ 684,848.15	\$ 1,832,000.00	Extend 27" and 30" gravity ww from confluence with East Cottonwood to US 290, ultimate capacity
S-18	2022	West Cottonwood Gravity Line, Phase 2	\$ 464,000.00	0.00425	240	\$ 4,591.90	\$ 1,102,055.48	15"	8,200	\$ 580,000.00	\$ 64,000.00	\$ 46,000.00	\$ 412,055.48	\$ 1,102,000.00	Serves West Cottonwood Sub-Basin up to Bois D'Arc Ln, 21" and 24" gravity ww sized for ultimate capacity
S-19	2021	FM 973 Gravity Wastewater Line	\$ 591,600.00	0.00425	240	\$ 6,139.30	\$ 1,473,432.21	12"	5,800	\$ 709,920.00	\$ 106,500.00	\$ 106,100.00	\$ 550,912.21	\$ 1,473,000.00	Serves FM 973 Corridor up to Wilbarger Basin divide (approx. Gregg Ln)
S-23	2024	Willow Lift Station and Force Main	\$ 466,320.00	0.00425	240	\$ 5,588.35	\$ 1,341,204.72	200 gpm		\$ 629,532.00	\$ 94,400.00	\$ 115,800.00	\$ 501,472.72	\$ 1,341,000.00	Lift Station and Force Main to serve 220 LUEs in Willow Basin along US 290. 10-Yr ADF approx. 60,000 gpd, PWWF approx 200 gpm
S-27	2026	Wilbarger Lift Station and Force Main to CoP WWTP	\$ 700,000.00	0.00425	240	\$ 9,166.49	\$ 2,199,958.29	8"	5,100	\$ 1,015,000.00	\$ 152,300.00	\$ 210,100.00	\$ 822,558.29	\$ 2,200,000.00	Lift Station and Force Main to serve area north of Shadowglen in Wilbarger Basin
S-28	2018	High School gravity line to Stonewater Lift Station; Stonewater Lift Station Upgrades	\$ 26,271.96	0.00425	240	\$ 202.10	\$ 48,503.92	12"	3,100	\$ 26,271.96	\$ 4,096.48	\$ -	\$ 18,135.48	\$ 49,000.00	Gravity main to serve new high school; upgrades to existing Stonewater Lift Station.
S-30	2022	Expand Cottonwood WWTP to 0.40 MGD Capacity	\$ 2,000,000.00	0.00425	240	\$ 21,811.51	\$ 5,234,763.54	0.40 MGD		\$ 2,500,000.00	\$ 375,000.00	\$ 402,500.00	\$ 1,957,263.54	\$ 5,235,000.00	New Treatment Plant Capacity to Serve Addl Growth
S-31	2025	Expand Cottonwood WWTP to 0.50 MGD Capacity	\$ 2,500,000.00	0.00425	240	\$ 31,340.04	\$ 7,521,608.52	0.50 MGD		\$ 3,500,000.00	\$ 525,000.00	\$ 684,300.00	\$ 2,812,308.52	\$ 7,522,000.00	New Treatment Plant Capacity to Serve Addl Growth
S-32	2021	Bastrop-Parsons WW Improvements	\$ 390,000.00	0.00425	240	\$ 4,047.53	\$ 971,406.01	12"		\$ 468,000.00	\$ 70,200.00	\$ 70,000.00	\$ 363,206.01	\$ 971,000.00	Replacement of existing wastewater line in Bastrop and Parsons; to correct current capacity issues and serve additional growth
CIP-1	2021	Wildhorse Creek Lift Station Expansion	\$ 750,000.00	0.00425	240	\$ 7,520.06	\$ 1,804,815.50	1,075 gpm, 2nd WW		\$ 900,000.00	\$ 135,000.00	\$ 95,000.00	\$ 75,900.00	\$ 1,206,000.00	Change in discharge point increased Phase 1 capacity from 440 to 1026 LUEs, currently at about 706 LUEs. Will need to expand LS when Lagos develops to ultimate 1586 LUE capacity.
CIP-2	2021	Bell Farms Lift Station Expansion	\$ 300,000.00	0.00425	240	\$ 2,894.89	\$ 694,774.11	1,400 gpm, 2nd WW		\$ 360,000.00	\$ 45,000.00	\$ 30,000.00	\$ 259,774.11	\$ 695,000.00	Presently at approximately 730 LUES. Current phase 1 capacity is 1264 LUES. Ultimate Capacity at phase 2 is 2172.
CIP-3	2021	Presidential Glen Lift Station Expansion	\$ 300,000.00	0.00425	240	\$ 2,894.89	\$ 694,774.11	2,275 gpm, 2nd WW		\$ 360,000.00	\$ 45,000.00	\$ 30,000.00	\$ 259,774.11	\$ 695,000.00	Presently at approximately 1281 LUES. Actual phase 1 capacity with current wastewater flows is in excess of 1500 LUES. Ultimate Capacity at phase 2 is 3517.
CIP-4	2022	US 290 WW Line Expansion	\$ 603,378.00	0.00425	240	\$ 6,579.87	\$ 1,579,169.64	12" & 15"	1,566 & 2,760	\$ 754,222.50	\$ 113,100.00	\$ 121,400.00	\$ 590,447.14	\$ 1,579,000.00	Presently at approximately 264 PG+308 SW = 572 LUEs out of 1800 LUE capacity, expansion will double capacity.
CIP-6	2020	Travis County Rural Center Lift Station, force main	\$ 1,931,000.00	0.00425	240	\$ 16,288.93	\$ 3,909,342.17	500 gpm	500	\$ 2,220,650.00	\$ 127,000.00	\$ 100,000.00	\$ 1,461,692.17	\$ 3,909,000.00	Lift Station and Force Main from Rural Center to existing wastewater line
Total:														\$ 76,193,000.00	

Notes:
Wastewater LUEs are defined as producing 275 gallons of wastewater per day per single family residence as determined in the the City of Manor Wastewater Master Plan.



EXHIBIT B-1
CITY OF MANOR
PLANNING AND DESIGN CRITERIA
APRIL 2020

Water Infrastructure

Criterion	Value	Unit
People per LUE	3.2	
Average Day Water Demand	232	gpd/LUE
Maximum Day Water Demand	464	gpd/LUE
Peak Hour Water Demand	1.5	gpm/LUE
Total Water Storage	200	gal/LUE
Minimum Water Elevated Storage	100	gal/LUE
Minimum Water Pump Capacity	0.6	gpm/LUE
Minimum Water System Pressure (Normal Conditions)	35	psi
Minimum Water System Pressure (Fire Flow Conditions)	20	psi
Maximum Water Line Velocity (Peak Hour/Fire Flow Conditions)	5	fps

Wastewater Infrastructure

Criterion	Value	Unit
People per LUE	3.2	
Average Wastewater Flow	200	gpd/LUE
Peak Wastewater Flow	800	gpd/LUE
Minimum Wastewater Line Velocity	2	fps
Maximum Wastewater Line Velocity	8	fps

Notes:

Water demands and wastewater flows from the City of Manor Adopted Water and Wastewater Master Plans.

System capacities and other design criteria from 30 TAC Chapters 217 and 290.

EXHIBIT B-2
CITY OF MANOR WATER IMPROVEMENTS
10-YEAR CAPITAL IMPROVEMENTS PLAN
PRO RATA CALCULATIONS
SEPTEMBER 2020

Project No.	Year	Description	Size	Total LUE Capacity	10-Year LUE Demand	Total Project Cost in 2020 Dollars	Pro Rata Share	Pro Rata Project Cost in 2020 Dollars
W-6	2021	Blake Manor Road Water Line	12"	1667	763	\$ 673,000.00	46%	\$ 308,037.79
W-10	2020	Hill Lane Water Line	12"	91	45	\$ 689,000.00	49%	\$ 340,714.29
W-13	2025	US 290 Crossing at Golf Course	12"	1667	1667	\$ 302,000.00	100%	\$ 302,000.00
W-14	2021	Gregg Manor Road Water Supply - Ground Storage Tank and Pumps	250000	2500	2500	\$ 5,005,000.00	100%	\$ 5,005,000.00
W-15	2021	FM 973 Water Line	12"	1667	625	\$ 841,000.00	37%	\$ 315,311.94
W-16	2021	US 290 Water Line	12"	1667	1667	\$ 610,000.00	100%	\$ 610,000.00
W-17	2020	US 290 Water Line	16"	2400	900	\$ 1,284,000.00	38%	\$ 481,500.00
W-18	2020	Old Kimbro Road Water Line	12"	1667	700	\$ 1,127,000.00	42%	\$ 473,245.35
W-20	2025	Bois D'Arc Lane Water Line	16"	2400	2400	\$ 914,000.00	100%	\$ 914,000.00
W-22	2025	Bois D'Arc Lane Water Line	12"	1667	1100	\$ 635,000.00	66%	\$ 419,016.20
W-24	2025	Gregg Manor Road Pump Improvements	1200	2000	2000	\$ 605,000.00	100%	\$ 605,000.00
W-31	2021	FM 973 Water Line	12	2400	725	\$ 1,093,000.00	30%	\$ 330,177.08
Water CIP-1	2020	Gregg Lane to Tower Road Waterline	12	2400	725	\$ 3,708,000.00	30%	\$ 1,120,125.00
Water CIP-3	2018	AMR Water Meters		2400	2400	\$ 853,000.00	100%	\$ 853,000.00
								\$ 12,077,127.65

Previously Completed Projects

Year	Total LUE Capacity	Name	Description	Project Cost	LUEs Used	10-Year LUE Demand	Pro Rata Share	Pro Rata Project Cost
2002	1667	Creekside Offsite Utilities	12"	\$ 175,000.00	405	300	18%	\$ 31,000.00
2005	1667	Greenbury Offsite Utilities	12"	\$ 407,816.64	308	1200	72%	\$ 294,000.00
2007	5,600	Water Supply Main From City of Austin to West Elevated Storage Tank and Downtown	16"	\$ 1,057,675.36	1550	2650	47%	\$ 501,000.00
2008	5,000	West Elevated Storage Tank	500,000	\$ 2,138,083.58	1550	2650	53%	\$ 1,133,000.00
2010	2,400	Presidential Glen Water Lines	16"	\$ 465,054.06	8	1300	54%	\$ 252,000.00
2009	5,000	East Manor Elevated Storage Tank	500,000	\$ 1,880,381.34	1550	2650	53%	\$ 997,000.00
Totals				\$ 6,124,000.00				\$ 3,208,000.00

CIF Ineligible Projects

EXHIBIT B-3
CITY OF MANOR WATER IMPROVEMENTS
MISCELLANEOUS PROJECT COSTS
SEPTEMBER 2020

Description	Amount
CIF Studies	\$ 13,450.00
Study Cost for Water, Mapping, Modeling	\$ 40,000.00
Total Water-Related Costs	\$ 53,450.00

EXHIBIT B-4
CITY OF MANOR WATER
IMPACT FEE CALCULATION
SEPTEMBER 2020

CATEGORY	AMOUNT
Total CIP Eligible Project Cost :	\$ 15,338,577.65
Number of LUEs added:	\$ 5,782.00
Maximum Water CIF:	\$ 2,653.00
50% Credit:	\$ (1,326.50)
MAXIMUM ASSESSABLE CIF:	\$ 1,325.00

EXHIBIT B-5
CITY OF MANOR WASTEWATER IMPROVEMENTS
10-YEAR CAPITAL IMPROVEMENTS PLAN
PRO RATA CALCULATIONS
SEPTEMBER 2020

Project No.	Year	Description	Size	Total LUE Capacity	10-Year LUE Demand	Total Project Cost in 2015 Dollars	Pro Rata Share	Pro Rata Project Cost in 2020 Dollars
S-13	2020	Addl. Wilbarger WWTP Capacity	1.33 MGD	5354	4200	\$34,960,000.00	78.45%	\$ 27,425,000.00
		Cottonwood WWTP, Phase 1, 0.20						
S-15	2021	MGD	0.1 MGD	363	363	\$ 9,795,000.00	100.00%	\$ 9,795,000.00
S-16	2021	East Cottonwood Gravity Line	12"	1000	375	\$ 1,629,000.00	37.50%	\$ 611,000.00
S-17	2021	West Cottonwood LS and FM	12"	1200	540	\$ 1,832,000.00	45.00%	\$ 824,000.00
		West Cottonwood Gravity Line,						
S-18	2022	Phase 2	15"	1200	540	\$ 1,102,000.00	45.00%	\$ 496,000.00
S-19	2021	FM 973 Gravity Wastewater Line	12"	754	75	\$ 1,473,000.00	9.95%	\$ 147,000.00
S-23	2024	Willow Lift Station and Force Main	200 gpm	210	100	\$ 1,341,000.00	47.62%	\$ 639,000.00
		Wilbarger Lift Station and Force						
S-27	2026	Main to CoP WWTP	8"	1000	100	\$ 2,200,000.00	10.00%	\$ 220,000.00
		High School gravity line to						
		Stonewater Lift Station; Stonewater						
S-28	2018	Lift Station Upgrades	12"	1000	500	\$ 49,000.00	50.00%	\$ 25,000.00
		Expand Cottonwood WWTP to 0.40						
S-30	2022	MGD Capacity	0.40 MGD	909	909	\$ 5,235,000.00	100.00%	\$ 5,235,000.00
		Expand Cottonwood WWTP to 0.50						
S-31	2025	MGD Capacity	0.50 MGD	1272	1272	\$ 7,522,000.00	100.00%	\$ 7,522,000.00
S-32	2021	Bastrop-Parsons WW Improvements	12"	1272	1272	\$ 971,000.00	100.00%	\$ 971,000.00
		Wildhorse Creek Lift Station						
CIP-1	2021	Expansion	1,075 gpm, 2nd WW	1586	1586	\$ 1,206,000.00	100.00%	\$ 1,206,000.00
CIP-2	2021	Bell Farms Lift Station Expansion	1,400 gpm, 2nd WW	2172	2172	\$ 695,000.00	100.00%	\$ 695,000.00
		Presidential Glen Lift Station						
CIP-3	2021	Expansion	2,275 gpm, 2nd WW	3517	1119	\$ 695,000.00	31.82%	\$ 221,000.00
CIP-4	2022	US 290 WW Line Expansion	12" & 15"	3600	2300	\$ 1,579,000.00	63.89%	\$ 1,009,000.00
		Travis County Rural Center Lift						
CIP-6	2020	Station, force main	500 gpm	679	340	\$ 3,909,000.00	50.07%	\$ 1,957,000.00
								\$ 58,998,000.00

Previously Completed Projects

Year	Total LUE Capacity	Name	Description	Project Cost	LUEs Used	10-Year LUE Demand	Pro Rata Share	Pro Rata Project Cost
2001	300	Hamilton Point Sewer Main	Gravity Sewer Line to Serve Hamilton Point Sub	\$ 128,000.00	300	0	0%	\$ -
2003	1091	Creekside Offsite/Onsite and Wilbarger WWTP	Lift Station, Forced Main and WWTP	\$ 1,033,000.00	726	375	34%	\$ 355,000.00
2004	1264	East Old Highway 20 Gravity Line, Lift Station, Forced Main (Bell Farms FM)	Gravity Line Lift Station and Forced Main to Serve new growth along Old Highway 20	\$ 1,034,873.04	616	650	51%	\$ 532,000.00
2005	1885	Greenbury Gravity Line	Gravity Line Along US 290 to Serve Greenbury Sub	\$ 619,007.39	308	682	36%	\$ 224,000.00
2008	888	Carriage Hills Lift Station and Forced Main	Lift Station and Forced Main to Serve Carriage Hills Sub	\$ 680,972.01	165	175	20%	\$ 134,000.00
Totals				\$ 3,495,852.45				\$ 1,245,000.00

CIF Ineligible Projects

2009	727	Wilbarger WWTP Capacity Buyback						
		Creekside Lift Station Forced Main						
	2005	Adjustment						

EXHIBIT B-6
CITY OF MANOR WASTEWATER IMPROVEMENTS
10-YEAR CAPITAL IMPROVEMENTS PLAN
MISCELLANEOUS PROJECT COSTS
SEPTEMBER 2020

Description	Total Cost
CIF Studies	\$ 13,450.00
Gilleland Creek COA Impact Fee (34 LUEs @ \$1,400)	\$ 47,600.00
Study Cost for Wastewater, Mapping, Modeling	\$ 40,000.00
<hr/>	
Total Sewer-Related Costs	\$ 101,050.00

EXHIBIT B-7
CITY OF MANOR WASTEWATER
IMPACT FEE CALCULATION
SEPTEMBER 2020

CATEGORY	AMOUNT
Total CIP Eligible Project Cost :	\$ 60,344,000.00
Number of LUEs added:	7,455.00
Maximum Wastewater CIF:	\$ 8,094.00
50% Credit:	\$ (4,047.00)
MAXIMUM ASSESSABLE CIF:	\$ 4,047.00

EXHIBIT B-8
CITY OF MANOR WATER AND WASTEWATER IMPACT
FEE FACTORS
SEPTEMBER 2020

1. RESIDENTIAL DEVELOPMENT

Community Impact Fees for residential development shall be assessed based upon the number of dwelling units proposed for development times the appropriate LUE Factor for water as shown below.

Dwelling Type	Units	LUE Factor
Single Family Residential	Per Housing Unit	1
Two-Family Residential	Per Residential Unit	0.7
Three-Family Residential	Per Residential Unit	0.7
Multi-Family Residential	Per Residential Unit	0.5

2. NON-RESIDENTIAL DEVELOPMENT

Community Impact Fees for all non-residential development shall be assessed based upon the water meter size and type installed to serve the proposed development water, as shown below.

Meter Size (Inch)	Type	LUE Factor
5/8	Positive	1
	Displacement	
3/4	Positive	1.5
	Displacement	
1	Positive	2.5
	Displacement	
1-1/2	Positive	5
	Displacement	
2	Positive	8
	Displacement	
2	Compound	8
2	Turbine	10
3	Compound	16
3	Turbine	24
4	Compound	25
4	Turbine	42
6	Compound	50
6	Turbine	92
8	Compound	80
8	Turbine	160
10	Compound	115
10	Turbine	250
12	Turbine	330

**City of Manor
Water and Wastewater
Impact/Tap Fee Comparison Chart**

City	Water Impact Fee ¹	Wastewater Impact Fee ¹	Water Tap Fee ¹	Wastewater Tap Fee ¹	Total
Bastrop	\$ 1,785.00	\$ 5,020.00	\$ 350.00	\$ 300.00	\$ 7,455.00
Bartlett - 11	Vary	Vary	\$ 1,000.00	\$ 1,000.00	\$ 2,000.00
Belton ³			\$ 800.00	\$ 775.00	\$ 1,575.00
Elgin	\$ 3,790.00	\$ 2,348.00	\$ 2,000.00	\$ 2,000.00	\$ 10,138.00
Florence ³	\$ 2,527.00	\$ 1,144.00	\$ 1,000.00	\$ 800.00	\$ 5,471.00
Georgetown ⁷	\$ 6,921.00	\$ 2,500.00	\$ 850.00	\$ 800.00	\$ 11,071.00
Harker Heights ⁶	No CIF Program	No CIF Program	\$ 275.00	\$ 275.00	\$ 550.00
Holland	\$ 1,000.00	\$ 1,000.00	\$ 600.00	\$ 600.00	\$ 3,200.00
Jarrell ²	\$ 3,700.00	\$ -	\$ 750.00	\$ -	\$ 4,450.00
Jarrell - 10	\$ 1,600.00	\$ 1,600.00	\$ 650.00	\$ 650.00	\$ 4,500.00
Liberty Hill ⁸	\$ 5,500.00	\$ 4,000.00	\$ 3,500.00	\$ 600.00	\$ 13,600.00
Leander	\$ 4,309.00	\$ 2,820.00	\$ 840.00	\$ 750.00	\$ 8,719.00
Manor	\$ 1,530.00	\$ 3,200.00	\$ 750.00	\$ 750.00	\$ 6,230.00
Manor - proposed	\$ 1,325.00	\$ 4,047.00	\$ 750.00	\$ 750.00	\$ 6,872.00
Pflugerville	\$ 4,241.00	\$ 2,725.00	\$ 250.00	\$ 250.00	\$ 7,466.00
Pflugerville - proposed	\$ 7,897.56	\$ 8,184.82	\$ 250.00	\$ 250.00	\$ 16,582.38
Round Rock - 12	\$ 4,025.00	\$ 2,099.00	Vary	Vary	\$ 6,124.00
Salado ^{4,5}	Vary	\$ 5,152.00	\$ 3,400.00	\$ 4,000.00	\$ 12,552.00
Taylor -13	\$ 1,770.00	\$ 1,230.00	\$ 1,375.00	\$ 1,340.00	\$ 5,715.00
Temple ³	No CIF Program	No CIF Program	Varies	Varies	\$ -
Troy	No CIF Program	No CIF Program	\$ 900.00	\$ 725.00	\$ 1,625.00
Waco ⁹	No CIF Program	No CIF Program	quoted on per cost basis	quoted on per cost basis	\$ -
Average	\$ 3,461.37	\$ 2,941.86	\$ 1,067.89	\$ 874.47	\$ 6,177.06
Average CIF Program Cities	\$ 3,506.45	\$ 2,674.50	\$ 1,297.08	\$ 1,009.58	\$ 7,574.17

Notes:

- 1 - Fees for a standard single family residential house (1 LUE) with a standard 5/8" x 3/4" meter and 4" ww service
- 2 - Jarrell water supplied by Jarrell Schwertner Water Supply Corporation, Impact Fee includes Capital Recovery and Tap Fee; City of Jarrell provides water service to portions of City
- 3 - prices based on project; no set amount available
- 4 - Tap fee includes: \$100 membership fee, \$300 tap fee and \$700 installation fee
- 5 - Salado does not have a sewer system, \$6,300 represents low price for a septic system; Salado Water Supply Corporation supplies water
- 6 - Harker Heights charges for water and sewer connections on a cost basis, fees range from minimum of \$200 to over \$1,000; flat fee to connect to utility system, connection fee \$275.00
- 7 - Georgetown water and sewer tap fees include a \$500 each engineering and inspection fee; Impact fee effective October 2018
- 8 - Liberty Hill charges \$6,000 fee for gravity section of City
Liberty Hill WSC charges \$100 membership fee, plus average of \$400-\$700 for tap
- 9 - Waco quotes on an individual basis