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MEMORANDUM

To: City of Manor
From: GBA
Date: 11/5/2025
Subject: Amendment #2 Manor Commercial Park Wastewater Collection System and Carriage Hills Lift Station #5 Improvements.

This memorandum details the timing and progression of the different phases of the Manor Commercial Park Project and the associated scopes and Opinion of Probable Cost (OPC).

Original

In 2021, the original scope of this project outlined centralized wastewater collection system improvements to the existing Manor Commercial Park development. This included installing a wastewater collection system to Beltex Drive to service Manor Commercial Park and some eastern portions to Old Kimbro Road, as well as associated upgrades to the Carriage Hills Lift Station, and the decommissioning of septic tanks.

The city's objective was to annex this area and provide services to these tracts. Ample time has passed to receive commitments from these property owners to annex into the city. Currently, the city has not secured a sufficient number of customers to move forward with the original project scope.

The original service area was forecasted to service 256 LUEs and 256 Acres in Manor Commercial Park, and the Carriage Hills Lift Station is to serve 1,170 LUEs and 443 Acres. Appendix A shows the original service area in yellow.

Phase 1

While the design was in progress in 2023, the city provided information that expanded the proposed service area to include almost all the area east of Manor Commercial Park, extending to Old Kimbro Road, for commercial project development. This increase required the extension of a new wastewater line segment to go east on Racin Patty to US 290, and the installation of a secondary wet well to the Carriage Hills Lift Station. This increase in the service area raised the level of service to 1,781 LUEs and 616 Acres to be served. This was an **increase of 611 LUEs and 172 Acres to be serviced. The Carriage Hills Lift Station 1,781 LUEs and 615 Acres.**

This increase in the scope necessitated Amendment No. 1 to the statement of work.

This phase was completed and installed in August 2025. This included a secondary wet well and an installation of a 12" wastewater line from the Carriage Hills Lift Station to east of Racin Patty to US 290. Appendix B shows the increased service areas in blue.

The construction cost of completing this project was approximately **\$2.35 million.**

Phase 2

Phase two of this project includes the installation of the 8" gravity wastewater line along Beltex, Carriage Hills Lift Station Improvements, and upsizing portions of the existing gravity wastewater line. The Wastewater line along Beltex will service the commercial lots within Manor Commercial Park.

The Opinion of Probable Cost for the construction of **Phase 2 is approximately \$2.03 million.**

Below is the OPC breakdown.

ITEM	DESCRIPTION	QTY.	UNIT	Unit Price	CONTRACT TOTAL
Base Bid					
EROSION CONTROLS					
1	Silt Fence	4,800	LF	\$ 5.10	\$ 24,480.00
2	Revegetation	5.51	AC	\$ 7,350.00	\$ 40,495.87
3	Stabilized Construction Entrance	2	EA	\$ 2,500.00	\$ 5,000.00
4	SWPPP	1	LS	\$ 5,000.00	\$ 5,000.00
5	Mobilization	1	LS	\$ 77,500.00	\$ 77,500.00
6	Clearing/Grubbing	5.51	AC	\$ 4,750.00	\$ 26,170.80
LIFT STATION IMPROVEMENTS					
7	Demolition, Removal, and Salvage	1	LS	\$ 25,000.00	\$ 25,000.00
8	Asphalt Drive	2050	SF	\$ 15.20	\$ 31,160.00
9	Replace Genset Concrete Slab	11.11	SY	\$ 272.50	\$ 3,027.48
10	Replace Genset (125Kw)	1	LS	\$ 106,500.00	\$ 106,500.00
11	8' Tall Fencecrete Fencing (Including Gate)	230	LF	\$ 192.50	\$ 44,275.00
12	Surge Relief Valve installation including coring into the Wet Well and Slab repair	1	EA	\$ 34,000.00	\$ 34,000.00
13	Replace Pump, Piping and Railing System	1	LS	\$ 280,000.00	\$ 280,000.00
14	Wetwell coating	703	SF	\$ 63.00	\$ 44,289.00
15	Wetwell Piping, Valve vault, Air Relief Valve; Sandblast piping and recoating	1	LS	\$ 30,000.00	\$ 30,000.00
16	Replace Festoon System and hoist on JIB crane	1	EA	\$ 17,160.00	\$ 17,160.00
17	Sandblast and repaint Jib Crane	1	EA	\$ 10,000.00	\$ 10,000.00
18	Wet Well access hatch w/ Safety Grating	1	EA	\$ 12,500.00	\$ 12,500.00
19	Replace Existing Check Valve and install pipe supports	1	EA	\$ 7,294.00	\$ 7,294.00
20	GreaseKilla Odor Control System	1	EA	\$ 45,130.00	\$ 45,130.00
21	Wet Well Junction Box Terminal Stripping	1	EA	\$ 4,767.00	\$ 4,767.00
22	RADAR level Sensor	1	LS	\$ 4,873.00	\$ 4,873.00
23	Replace Control Panel	1	EA	\$ 54,580.00	\$ 54,580.00
24	SCADA Allowance	1	LS	\$ 24,000.00	\$ 24,000.00
25	Antenna for SCADA	1	LS	\$ 3,000.00	\$ 3,000.00
26	Ground Cover	1000	SF	\$ 15.20	\$ 15,200.00
27	Bypass pumping	1	LS	\$ 29,320.00	\$ 29,320.00
28	Stabilized Construction Entrance	1	EA	\$ 2,690.00	\$ 2,690.00
29	Wheel Stop	2	EA	\$ 399.00	\$ 798.00
30	Area LED Lighting	1	EA	\$ 8,660.00	\$ 8,660.00
31	4" plug valve	1	EA	\$ 3,310.00	\$ 3,310.00
32	Bollards	2	EA	400	\$ 800.00
33	sidewalk	18	LF	\$ 37.00	\$ 666.00
34	Replace 6" Discharge piping and concrete repair	1	LS	\$ 3,800.00	\$ 3,800.00
8" WASTEWATER LINE FROM BELTEX TO US 290					
35	Connection to an Existing Wastewater Line	1	EA	\$ 5,090.00	\$ 5,090.00
36	8" SDR-26 WW LINE (12-14') DEPTH	4,800	LF	\$ 90.00	\$ 432,000.00
37	4' WW Manhole (0-10') Standard Depth w/ Coating and joint seals	12	EA	\$ 10,580.00	\$ 126,960.00
38	Extra Vertical Feet 4' Manhole w/ Coating and Joint Seals	48	LF	\$ 620.00	\$ 29,760.00
39	Concrete Service connection w/ Concrete Diamond Encasing for Gravity Sewer Connection	2	EA	\$ 3,115.00	\$ 6,230.00
40	Trench Safety	4,800	LF	\$ 3.70	\$ 17,760.00
41	Short side double WW service	6	EA	\$ 3,000.00	\$ 18,000.00
42	Long side double WW service	5	EA	\$ 3,500.00	\$ 17,500.00
43	Short size single WW service	4	EA	\$ 2,000.00	\$ 8,000.00
44	Long side single WW service	3	LF	\$ 2,500.00	\$ 7,500.00
45	Asphalt Street Repair, includes the 12" flex base, 2" HMAC, and street markings	466	LF	\$ 198.00	\$ 92,268.00
46	Concrete Repair	450	LF	\$ 150.00	\$ 67,500.00
47	Septic Tank Decommissioning	13	EA	\$ 5,500.00	\$ 71,500.00
48	Storm drain repair	10	LF	\$ 150.00	\$ 1,500.00
GRAVITY LINE UPSIZING					
49	Pipe bursting	400	LF	\$ 200.00	\$ 80,000.00
MISC IMPROVEMENTS					
50	Traffic Control Plan	1	LS	\$ 20,000.00	\$ 20,000.00
EROSION CONTROLS SUBTOTAL					
					\$ 178,646.67
LIFT STATION IMPROVEMENTS SUBTOTAL					
					\$ 846,799.48
8" WWL SUBTOTAL					
					\$ 901,568.00
GRAVITY LINE UPSIZING SUBTOTAL					
					\$ 80,000.00
MISC IMPROVEMENTS					
					\$ 20,000.00
GRAND TOTAL					
					\$ 2,027,014.14

Phase 2 Expansion

In 2025, the city directed an increase in density and redistribution of LUEs within the collection system that included the portion west of the Manor Commercial Park tract. This was an **increase of 555 LUEs**.

Carriage Hills Lift Station: 2,336 LUEs and 615 Acres. The total increase from the original service area is 1,166 LUEs and 172 Acres.

Amendment No. 2 represents an additional increase from Amendment No. 1. This work included upgrades to the Bell Farms and Carriage Hills Lift Station Force Main, incremental upgrades to the Carriage Hills Lift Station, and gravity line upsizing.

In addition to the redesign and evaluation of the Viking Jack and Beltex wastewater gravity line to accommodate the increased density and redistribution of LUEs. Approximately 153 LUEs can be serviced through Manor Towns Square to the Viking Jack and Beltex Wastewater line.

The OPC for the construction and engineering fees of the **Phase 2 Expansion is approximately \$1.63 million**.

Appendix C shows the increase in Density service areas in Green.

Below is the OPC breakdown.

ITEM	DESCRIPTION	QTY.	UNIT	Unit Price	CONTRACT TOTAL
EROSION CONTROLS					
SILT FENCE	5000 LF	\$ 4.00	\$	20,000.00	
Revegetation and Temporary Irrigation of Revegetation	2.30 AC	\$ 4,000.00	\$	9,182.74	
Stabilized Construction Entrance	3 EA	\$ 3,000.00	\$	9,000.00	
SWPPP	1 LS	\$ 5,500.00	\$	5,500.00	
Mobilization	1 LS	\$ 51,000.00	\$	51,000.00	
Clearing/Grubbing	2.30 AC	\$ 3,000.00	\$	6,887.05	
Wastewater Line Improvements					
Connection to an Existing Wastewater Line	2 EA	\$ 5,000.00	\$	10,000.00	
Pipe bursting	3000 LF	\$ 200.00	\$	600,000.00	
Bypass Pumping for Pipe Bursting	1 LS	\$ 50,000.00	\$	50,000.00	
Parallel Force Main	5000 LF	\$ 86.00	\$	430,000.00	
Trench Safety	5000 LF	\$ 3.50	\$	17,500.00	
Carriage Hills Lift Station Improvements (Pumps/Electrical)					
Bypass	1 LS	\$ 15,000.00	\$	15,000.00	
Incremental Genset 125kW to 150kw?	1 LS	\$ 35,000.00	\$	35,000.00	
Replace Pumps 40HP to 50HP	1 LS	\$ 35,000.00	\$	35,000.00	
Associated Electrical	1 LS	\$ 25,000.00	\$	25,000.00	
			Erosion Control	\$	101,569.79
			Wastewater Line	\$	1,107,500.00
			Carriage Hills Lift Station Improvements (Pumps/Electrical)	\$	110,000.00
			Total	\$	1,319,069.79
			6% Contingency	\$	79,144.19
			Engineering	\$	228,900.00
			Grand Total	\$	1,627,113.98

Below is a high-level overview of all the phases.

Original Service Area

- The original service area was to service Beltex: **256 LUEs and 256 Acres**.

Amendment No. 1

- **An increase of 611 LUEs and 172 Acres from the original service area.**
- For a total of **867 Lues and 428 Acres**.

Phase 1

- Associated work:
 - o 12" Wastewater along Old Hwy 20 to US 290 (Approx. 9,000LF).
 - o Installation of the secondary wet well at the Carriage Hills Lift Station.
- Construction cost **\$2.35 million**.
- Engineering services **\$344,600.00**
- **Total Cost \$2.7 million**

Phase 2

- Associated work:
 - o 8" Gravity water line along Beltex (Approx. 5,000 LF).
 - o Carriage Hills Lift Station Improvement.
 - o Upsizing of gravity wastewater line (Approx. 400 LF).
- Construction cost approximately **\$2.03 million**.
- Engineering services **\$181,630.00**
- **Total Cost \$2.22 million**

Phase	LUEs	Acres
Original	256	256
Amendment No. 1 Increase: Phase 1 and 2	611	172
Total of Original + Amendment No. 1 =	867	428

Amendment No. 2

- **An increase in density of 555 LUEs.**
- The total increase from the original service area is **1,166 LUEs and 172 Acres**.

Phase 2 Expansion

- Amendment No. 2 represents an additional increase from Amendment No. 1 of 555 LUEs
- Associated work:
 - o Parallel force main for Bell Farms and the Carriage Hills Lift Station (Approx. 5,000LF).
 - o Gravity line upsizing between the Carriage Hills and Bell Farms via pipe bursting (Approx. 3,000 LF).
 - o Incremental Upgrades to Carriage Hills. (No upgrades necessary for Bell Farms)
 - o Redesign and re-evaluation of the Viking Jack and Beltex wastewater gravity line.
- Construction cost approximately **\$1.4 million**.
- Engineering services **\$228,900.00**
- **Total cost of \$1.63 million.**

Grand Total for All Phases

The total Cost for Phase 1, Phase 2, and Phase 2 Expansion is approximately **\$6.550 million**.

Table for LUE increase

Phase	LUEs	Acres
Original	256	256
Amendment No. 1 Increase: Phase 1 and 2	611	172
Total of Original + Amendment No. 1 =	867	428
Amendment No. 2 Increase: Phase 2 Expansion	555	0
Total Increase from Amendment No. 1 and No. 2 =	1,166	172
Total Scope: Original + Amendment No.1 and No. 2 =	1,422	428
Percent Increase =	455%	67%

City and Developer Cost Breakdown

City Contribution

- **Phase 1:**
 - o This phase is intended to extend city's wastewater service to the Manor Commercial Park area. Funded by the City of Manor. Total Cost of **\$2,700,000.00**
- **Phase 2: Total Construction cost \$2.03 Million, engineering cost \$181,630.00.**
 - o The city is responsible for the portion of the 8" wastewater line north of Viking Jack, all septic tank decommissioning, and all wastewater service connections: **\$539,976.50**
 - o Construction Cost total – North of Viking Jack Portion (City Portion) = **\$1,487,037.64**
 - 36% of LUEs in the Beltex line is contributed by the City service connections along Beltex Dr (86/239 = ~36%)
 - 36% pro-rata cost construction is **\$535,084.67**
 - 36% pro-rata cost of engineering is **\$65,356.40**
 - o **Total Phase 2 City contribution is \$1,140,417.58**

Developer Contribution

- **Phase 1: N/A**
- **Phase 2: Total Construction cost \$2.03 Million, engineering cost \$181,630.00**
 - o Construction Cost total – North of Viking Jack Portion (City Portion) = **\$1,487,037.64**
 - 64% of LUEs in the Beltex line is contributed by the Developer (Ginsel Tract) (153/239 = ~64%)
 - 64% pro-rata cost construction is **\$951,952.97**
 - 64% pro-rata cost of engineering is **\$116,273.60**
 - o **Total Phase 2 City contribution is \$1,068,226.56**
- **Phase 2 Expansion: Increase in density due to the developer. Fully Developer-funded.**
 - o Construction cost approximately **\$1.4 million**.
 - o Engineering services **\$228,900.00**
 - o **Total cost of \$1.63 million.**

Overview**Phase 1**

- City Portion: **\$2,700,000.00**

Phase 2:

- City Portion (36% pro rata): **\$1,140,417.58**
- Developer Portion (64% pro rata): **\$1,068,226.56**

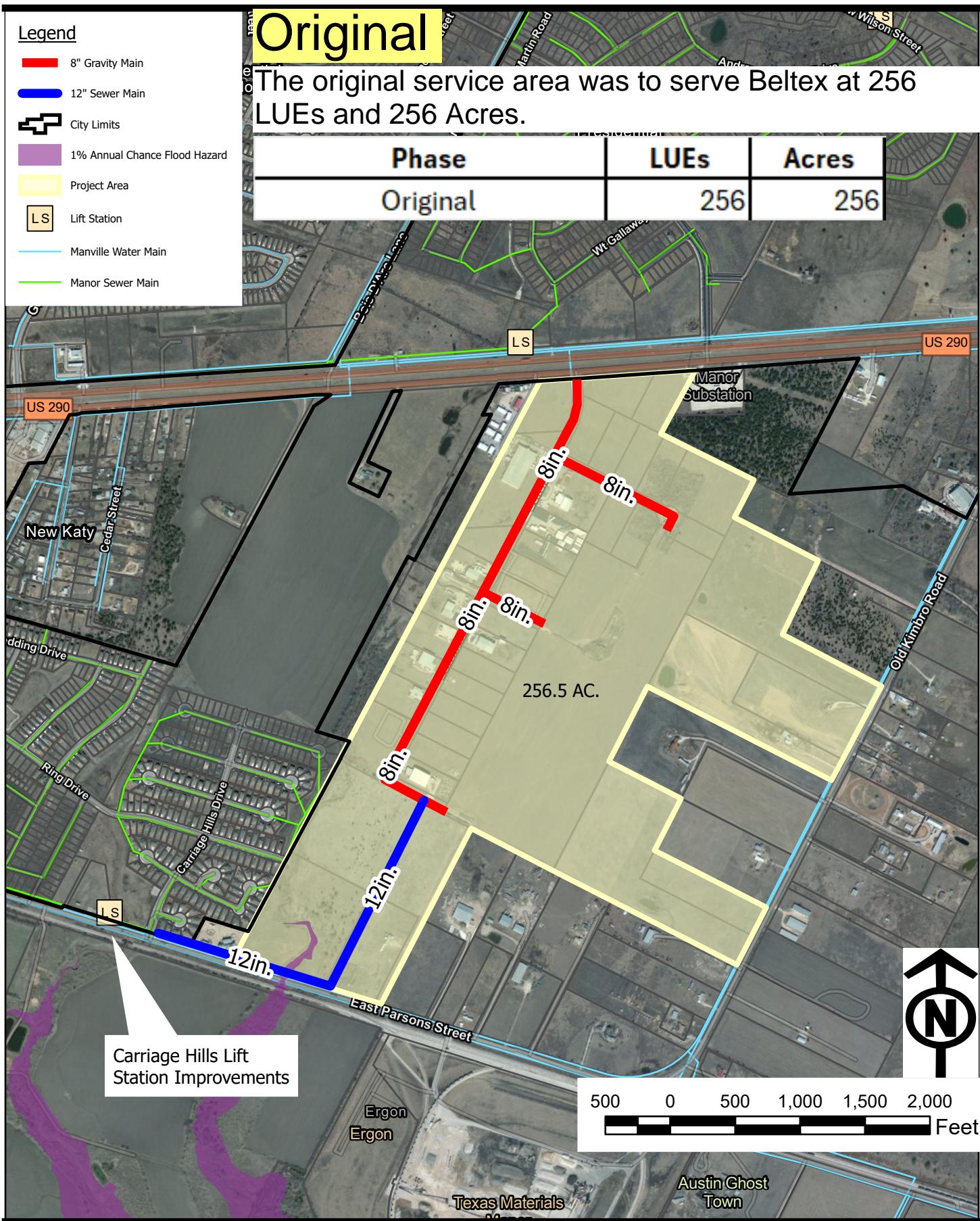
Phase 2 Expansion:

- Developer Portion: **\$1,630,000.00**

Total City Contribution: **\$3,840,417.58**

Total Developer Contribution: **\$2,698,226.56**

Phase	Number of Connections (LUEs)	Total Project Cost	Cost Per LUE	City Cost	Development Cost
Phase 1 Project	795	\$ 2,700,000.00	\$ 3,396.23	\$ 2,700,000.00	
Phase 2 Project	239	\$ 2,208,644.14	\$ 9,241.19	\$ 1,140,417.58	\$ 1,068,226.56
Phase 2 Expansion Project	555	\$ 1,630,000.00	\$ 2,936.94		\$ 1,630,000.00
Others: Phase 2 Expansion Offsite Trunk Main	747				
Total	2,336	\$ 6,538,644.14		\$ 3,840,417.58	\$ 2,698,226.56



Legend

- 8" Gravity Main
- 12" Sewer Main
- City Limits
- 1% Annual Chance Flood Hazard
- Project Area
- LS Lift Station
- Manville Water Main
- Manor Sewer Main

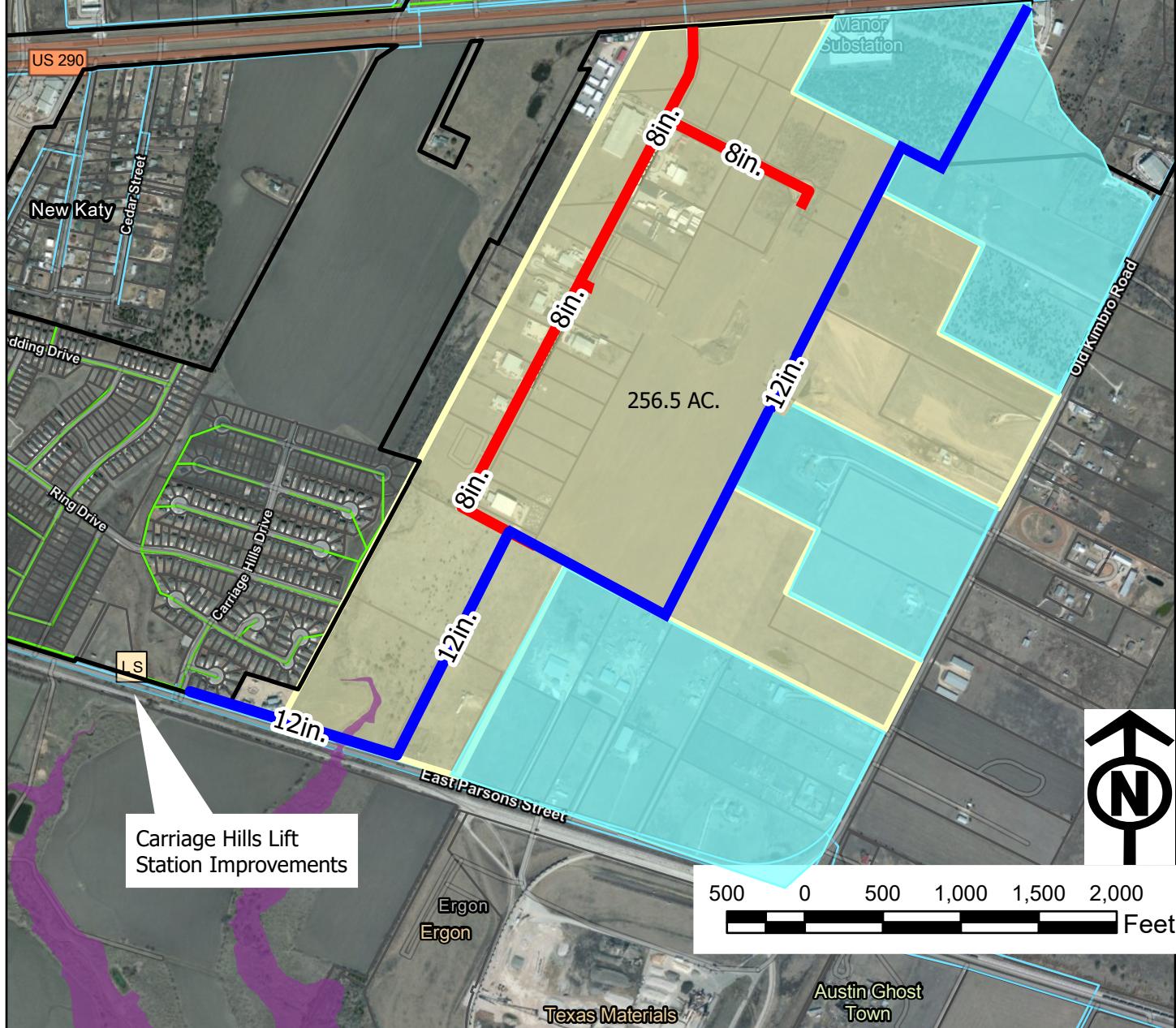
Amendment No .1

Additional Area: Increase of 611 LUEs and 172 Acres

Phase 1: 12" Installation and partial LS upgrades

Phase 2: 8" installation, LS upgrades, and gravity line upsizing

Phase	LUEs	Acres
Original	256	256
Amendment No. 1 Increase: Phase 1 and 2	611	172
Total of Original + Amendment No. 1 =	867	428



Amendment No .2

Additional Area: Increase density of 555 LUEs

- Parallel force main for the Bell Farms and Carriage Hills Lift Station
- Gravity line upsizing
- Incremental upgrades for the Carriage Hills Lift Station

Phase	LUEs	Acres
Original	256	256
Amendment No. 1 Increase: Phase 1 and 2	611	172
Total of Original + Amendment No. 1 =	867	428
Amendment No. 2 Increase: Phase 2 Expansion	555	0
Total Increase from Amendment No. 1 and No. 2 =	1,166	172
Total Scope: Original + Amendment No.1 and No. 2 =	1,422	428
Percent Increase =	455%	67%

