

# 2024 BOND ELECTION STUDY

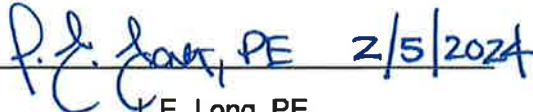
FOR:

LOWER VALLEY WATER DISTRICT




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## GATEWAY WEST

The project site is in El Paso County, approximately 3 miles Southeast of El Paso, Texas and on the North side of Gateway West Blvd. between Horizon Blvd. (FM 1281) and Nonap Road. The water line extension would help create redundancy in the Lower Valley Water District water system by providing secondary water feed to the Peyton Booster Station while providing water services for the properties on Gateway West Blvd.

Flint Development crossed a 12-inch water line under I-10 to provide services to their development while extending a water line to the end of the property. This will serve as the tie-in point for a future water line which will be extended to Horizon Blvd. The following side streets, Hardnose Drive and Grand River Drive are also included in this project, as shown in **Figure 1**.



Figure 1 - Gateway West Blvd (Site Location)

There are approximately 7 properties that will benefit from the water line extension. Information for this project is summarized in **Table 1**.

Table 1 - Gateway West Blvd (Site Information)

Concept	Quantity
Number of Services	7
Number of Yard Lines	7
Linear Footage of Waterline	9493
TxDOT Crossings	1
Water Improvement District No. 1's Crossings	0
Easements	6
Land Acquisition	0



**Description**

Approximately 7,373 liner feet of 12-inch waterline and 2,120 liner feet of 8-inch waterline, AWWA C900 PVC Pipe, will be constructed on the Northeast side parallel to Gateway West Blvd. The tie-in point for the proposed 12-inch water line will be on an existing 12-inch water line on Horizon Blvd. (FM1281) and into an existing 12-inch water line at the Flint Development, located at the intersection of Nonap Road and Gateway West Blvd. A new 12-inch waterline will provide a secondary feed to Sparks Booster Station located on Peyton Road. The project will also include the extension of an 8-inch waterline on Hardnose Drive and the replacement of an existing 2-inch waterline on Grand River Drive as shown in **Figure 2**.

Gate valves and air release valves will also be included to control flow and isolate any possible leaks in the system. Several fire hydrants will be installed along Gateway West Blvd., Hardnose Drive and Grand River Drive to provide adequate fire protection to the commercial properties.



Figure 2 - Gateway West Blvd Water (Site Plan)

**Alternative Discussion**

This location does not have any alternatives. The waterline extension will provide redundancy to the system while servicing new properties.

**Easement and Land Acquisition**

This alternative will require a 10-foot-wide easement access from each property owner for the proposed waterline along Gateway Blvd West within the project limits. Most of the construction will take place on a granted sewer easement access but there are additional property owners who would need to grant the contractor permission to enter their property for construction. An additional space of 10 feet by 100 feet in TxDOT right of way near Gateway West Blvd. and Horizon Blvd. intersection will need to be used for the proposed water line. A utility line on TxDOT Right of Way request form will need to be submitted and granted approval to build in the additional needed space. An application for plan review will need to be requested and granted approval from the El Paso County regarding the storm drain pollution control plan prior to commencement of construction.

**Permit Requirements**

The only permit required will be from TxDOT for the installation of the waterline on TxDOT Right of Way.

**Risk Considerations**

Temporary water service disruption when connecting to the existing system components can be a potential problem during construction. In addition, there could be access and traffic control issues due to the large equipment needed for construction and the proximity of it to the roadway. TxDOT Permit approval along with easement acquisition could change the project.

**Stakeholder Coordination**

Coordination with TxDOT and property owners will be a major factor for the successful completion of the project.

**Betterment Considerations**

The Gateway West Blvd. project does not have any betterment considerations. The site currently has paved roadways.

**Area of Planned Development and Growth**

There is no planned development in this area; the subdivisions have been fully developed.

**Design of Planned Development and Growth**

There is no design associated with planned development or area growth.

**Project Cost**

The construction cost is estimated to be \$3,691,002.00; cost includes all material and labor.

**LOWER VALLEY WATER DISTRICT  
GATEWAY WEST  
ENGINEERING'S OPINION OF PROBABLE CONSTRUCTION COSTS**

January 19, 2024

Item No.	Quantity	UOM	Brief Description of Item	Unit Price	Total Price
1	1	LS	Insurance, Bonds, Mobilization, Demobilization (5% of Items 2 through 23)	\$ 146,468.30	\$ 146,469.00
2	60	LF	Remove and Replace Chain-Link Fence	\$ 65.00	\$ 3,900.00
3	7,373	LF	Furnish and Install 12" PVC C-900 Waterline Pipe	\$ 210.00	\$ 1,548,330.00
4	2,120	LF	Furnish and Install 8" PVC C-900 Waterline Pipe	\$ 183.75	\$ 389,550.00
5	528	SY	Saw/Cut and Patch Pavement	\$ 150.00	\$ 79,200.00
6	163	SY	Saw/Cut and Patch Concrete	\$ 180.00	\$ 29,340.00
7	14	EA	Furnish and Install Fire Hydrant	\$ 11,500.00	\$ 161,000.00
8	2	EA	Furnish and Install 8" Gate Valve	\$ 4,550.00	\$ 9,100.00
9	17	FA	Furnish and Install 12" Gate Valve	\$ 6,000.00	\$ 102,000.00
10	2	EA	Furnish and Install 12"x12"x8" Tee	\$ 2,000.00	\$ 4,000.00
11	1	EA	Furnish and Install 6"x6"x6" Tee	\$ 1,500.00	\$ 1,500.00
12	3	EA	Furnish and Install 12" - 90 Degree Bend	\$ 1,500.00	\$ 4,500.00
13	4	EA	Furnish and Install 12" - 45 Degree Bend	\$ 1,500.00	\$ 6,000.00
14	2	EA	Furnish and Install 12" - 22.5 Degree Bend	\$ 1,500.00	\$ 3,000.00
15	1	EA	Furnish and Install 12"x8" Reducer	\$ 1,200.00	\$ 1,200.00
16	1	EA	Furnish and Install 12"x6" Reducer	\$ 1,100.00	\$ 1,100.00
17	38	EA	Furnish and Install Water Service Line	\$ 2,000.00	\$ 76,000.00
18	465	LF	Furnish and Install 24" Steel Casing	\$ 900.00	\$ 418,500.00
19	3	EA	Furnish and Install 12"x12"x12" Tee	\$ 2,000.00	\$ 6,000.00
20	7	EA	Furnish and Install 2" Combination Air Release Valve	\$ 10,818.00	\$ 75,726.00
21	1	EA	Furnish and Install 1" Combination Air Release Valve	\$ 6,420.00	\$ 6,420.00
22	2	EA	Furnish and Install 8" - 45 Degree Bend	\$ 1,250.00	\$ 2,500.00
23	1	EA	Furnish and Install 12" End Cap	\$ 500.00	\$ 500.00
<b>SUBTOTAL</b>					<b>\$ 3,075,835.00</b>
<b>CONTINGENCIES</b>				20%	<b>\$ 615,167.00</b>
<b>TOTAL BID PRICE</b>					<b>\$ 3,691,002.00</b>

THIS OPINION OF COST WAS PREPARED USING STANDARD COST AND/OR ESTIMATING PRACTICES. IT IS UNDERSTOOD THAT THIS IS ONLY AN OPINION, AND THAT THE ENGINEER WILL NOT BE LIABLE TO THE OWNER OR TO ANY THIRD PARTY FOR ANY FAILURE TO ACCURATELY ESTIMATE THE COST OF THE PROJECT, OR ANY PART THEREOF. THIS OPINION OF COST DOES NOT INCLUDE SALES TAX. QUANTITIES ARE NOT GUARANTEED.



## MESA VERDE

Located at the intersection of Passmore and Alameda Ave., this project will provide sewer services to residents along Paul Jason Drive, Sylvia Drive, and a segment of Passmore Road. The subdivision's infrastructure includes paving, with a public Right of Way of 60-feet, while a pavement structure of approximately 25 feet as shown in Figure 3.



Figure 3 - Mesa Verde Project (Site Location)

There are approximately 30 properties that will benefit from the wastewater line extensions. Information for this project is summarized in Table 2.

Table 2 - Mesa Verde (Site Information)

Concept	Quantity
Number of Services	30
Number of Yard Lines	30
Linear footage of Wastewater Line	1931
TxDOT Crossings	0
Water Improvement District No. 1's Crossings	0
Easements	0
Land Acquisition	0

**Description**

The Mesa Verde project encompasses a comprehensive gravity sewer system, featuring sanitary sewer manholes, sewer services, yard lines, and septic tank decommissioning. The gravity sewer system includes around 396 linear feet of 12-inch PVC SDR-35 piping, 1,535 linear feet of 8-inch PVC SDR-35 piping, 30 service connections, yard lines, and 8 manholes. Concrete caps, providing approximately two feet of cover, will be applied to the shallower sections of the project, strategically located at the Cul de Sacs of Paul Jason Drive and Sylvia Drive. This sewer system is designed to efficiently collect sanitary sewer flows from the subdivision. The sanitary sewer will then flow towards Passmore Road for further collection.

The Mesa Verde project has 30 residential properties. The estimated person per property is 3.5. The estimated per capita flows are 70 gallons per day per capita. The site's peak flow is 220 gallons per minute, using a calculated peak factor of 4. Based on these flow calculations, the minimum pipe diameter shall be 8-inch for most collector lines. This pipe diameter will have a velocity greater than 2 feet per second.

**Alternative Discussion**

This location does not have any alternatives.

**Easement and Land Acquisition**

The project incorporated all lines within City of Socorro Right of Way, eliminating the need for any additional easements.

**Permit Requirements**

The only permit required will be from the City of Socorro for the installation of the sanitary sewer line within the city right of way.

**Risk Considerations**

Providing adequate access and traffic control for the residents during construction.

**Stakeholder Coordination**

No major stakeholder coordination is required.

**Betterment Considerations**

The Mesa Verde site does not have any betterment considerations.

**Area of Planned Development and Growth**

There is no planned development in this area.

**Design of Planned Development and Growth**

There is no design associated with planned development or area growth.

**Project Cost**

The construction cost is estimated to be \$984,143.00; the cost includes all material and labor.

**LOWER VALLEY WATER DISTRICT  
MESA VERDE  
ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COSTS**

January 19, 2024

Item No.	Quantity	UOM	Brief Description of Item	Unit Price	Total Price
1	1	LS	Insurance, Bonds, Mobilization, Demobilization (5% of items 2 through 12)	\$ 46,863.95	\$ 46,864.00
2	1	LS	Preconstruction Video	\$ 5,000.00	\$ 5,000.00
3	1,931	LF	Trench Safety System	\$ 4.00	\$ 7,724.00
4	600	LF	4-inch PVC Forcemain DR-18	\$ 80.00	\$ 48,000.00
5	1,535	LF	8-inch PVC Sewer Pipe SDR-35	\$ 125.00	\$ 191,875.00
6	396	LF	12-inch PVC Sewer Pipe SDR-35	\$ 235.00	\$ 93,060.00
7	8	EA	48-inch Polymer Sanitary Sewer Manhole (0-6')	\$ 21,000.00	\$ 168,000.00
8	32	EA	4-inch Sanitary Sewer Service Connection (Main to ROW)	\$ 2,040.00	\$ 65,280.00
9	30	EA	4-inch Private Service (ROW to House)	\$ 3,605.00	\$ 108,150.00
10	30	EA	De-Septic, Pump, Haul, Sand, Permits	\$ 1,653.00	\$ 49,590.00
11	1,460	SY	Remove and Replace Pavement and Install 2-IN (Type D) HMAC	\$ 110.00	\$ 160,600.00
12	1	1	Traffic Control Plan	\$ 40,000.00	\$ 40,000.00
<b>SUBTOTAL</b>					<b>\$ 984,143.00</b>
CONTINGENCIES					0% \$ .00
<b>TOTAL BID PRICE</b>					<b>\$ 984,143.00</b>

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## LIFT STATION No. 18

Lift Station No.18 is located approximately 5,500 feet from the intersection of FM1110 and North Loop Drive. The project consists of a new lift station, gravity line, and a 4-inch force main discharging into an existing manhole located at Estate Road and Salitral Lateral Canal as shown in **Figure 4**.

Lift Station No.18 will provide services to the Angels Park Subdivision, Athena West Subdivision, Hacienda Real Subdivision, and Wildhorse Subdivision. It will also receive flows from FM-1110 and Fenter Road Sewer Lines. Residential development is also in the design phase by CEA Group. This development is considered a key stakeholder for the project and land acquisition as shown in **Figure 5**.



Figure 4 - Lift Station No.18 (Site Location)



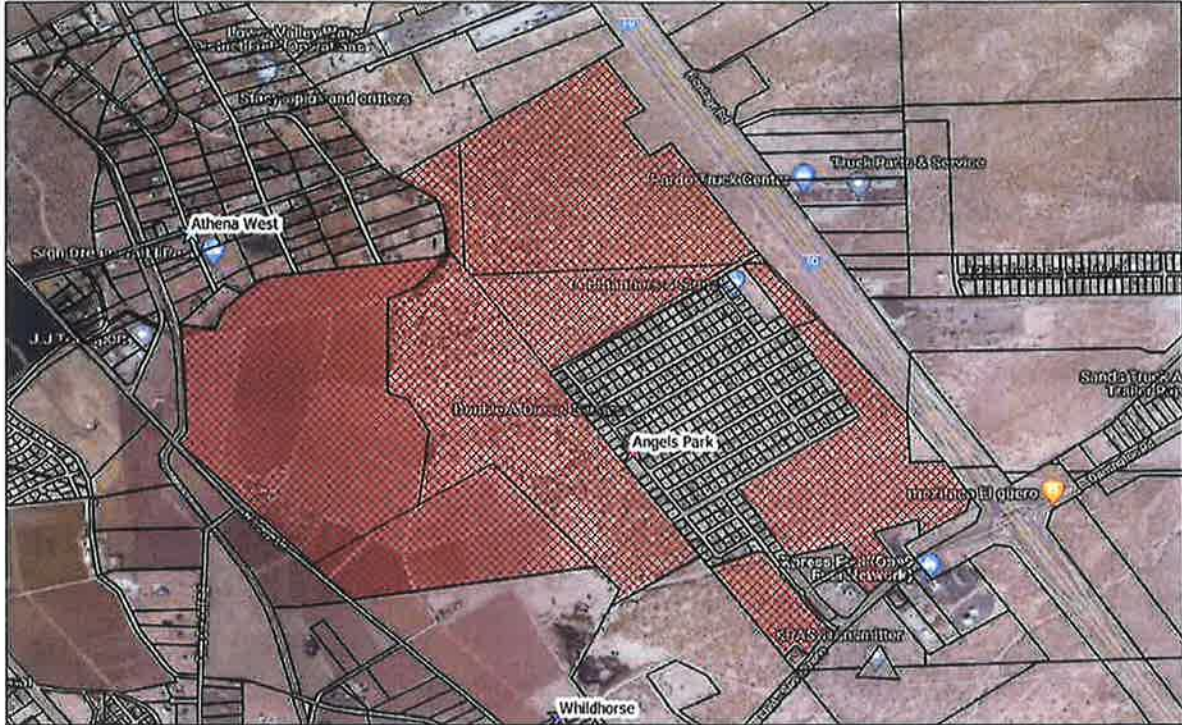


Figure 5 – Lift Station No. 18 (Proposed Development)

There are approximately 4 existing subdivisions and new residential development that will benefit from this Lift Station. Information for this project is summarized in **Table 3**

Table 3 - Lift Station No. 18 (Site Information)

Concept	Quantity
Number of Services	0
Number of Yard Lines	0
Linear Footage of Wastewater Line	9372
TxDOT Crossings	2
Water Improvement District No. 1's Crossings	3
Easements	3
Land Acquisition	1

**Description**

Lift Station No.18 Wastewater Project will capture flows from Angels Park, a portion of Athena West Hacienda Real and Wild Horse Subdivisions. The approximate depth of the proposed Lift Station is 24 feet deep with 6,659 linear feet of 4-inch force main PVC DR-18. The force main will head out of the Lift Station site, northwest on private property adjacent to North Loop Drive, towards Estate Road. At Estate Road, the force main will head southwest to discharge into an existing manhole. The project will also consist of a gravity line from Clint-Cut-Off to the proposed Lift Station site 2,713 linear feet of 15-inch PVC SDR-35 piping and a sewer crossing on North Loop Drive 120 linear feet of 12-inch PVC SDR-35 piping.



**Alternative Discussion**

This location does not have any alternatives.

**Easement and Land Acquisition**

Lift Station No.18 requires the acquisition of 3 easements from different property owners and a footprint of 120-feet by 170-feet to accommodate the proposed Lift Station, force main, and gravity mains. The proposed force main adjacent to North Loop Drive would be placed on 3 permanent easements.

**Permit Requirements**

The project requires three crossings on El Paso County Water Improvement District No. 1 Right of Way: Mesa Drain, Ysla Lateral Canal, and Salitral Lateral Canal and two crossings on TxDOT Right of Way: Clint Cut-Off Road and North Loop Drive.

**Risk Considerations**

The most important risks that will be tracked during the design phase are the TxDOT permit and El Paso County Water Improvement District No. 1 permits. Land Acquisition and easement acquisition will also play a significant role in the successful completion of the project. Multiple conversations with property owners have been established, and the successful acquisition of easements and lift station site has been completed.

**Stakeholder Coordination**

Coordination with property owners will be a major factor for the successful completion of the project.

**Betterment Considerations**

Lift Station No.18 will help relieve sewer needs around the area. Angels Park, Athena West, Wild Horse, and Hacienda Real Subdivisions will benefit from this project. Also, new residential, industrial, and commercial development is being considered as future growth.

**Area of Planned Development and Growth**

The planned development in this area includes residential and commercial growth. Through coordination with key stakeholders, particularly the site developer, the following section describes the expected area growth and design considerations associated with this planned growth. The residential population density factor used for this development, as discussed with El Paso County and Lower Valley Water District is 4.0 housing units per acre. The service area size is estimated at 548 acres.

**Design of Planned Development and Growth**

The expected average flow with the planned growth is 450 gallons per minute. The peak flow with the planned growth is 1,450 gallons per minute, using a calculated peak factor of 3.21. The proposed lift station would also require upgrades once the area built out is reached, probably to upsize the pumps to meet the changes in the area's demand.

**Project Cost**

The construction cost is estimated to be \$7,577,685.00; the cost includes all material and labor.

**LOWER VALLEY WATER DISTRICT  
LIFT STATION #16  
AS PER SMITHCO'S BID**

**January 19, 2024**

<b>Item No.</b>	<b>Quantity</b>	<b>UOM</b>	<b>Brief Description of Item</b>	<b>Unit Price</b>	<b>Total Price</b>
1	1	LS	Insurance, Bonds, Mobilization, Demobilization (5% of items 2 through 19)	\$ 380,842.10	\$ 380,843.00
2	1	LS	Preconstruction Video	\$ 2,500.00	\$ 2,500.00
3	9,417	LF	Trench Safety System	\$ 1.00	\$ 9,417.00
4	8,858	LF	6-inch PVC Forcemain DR-18	\$ 75.00	\$ 489,425.00
5	120	LF	12-inch PVC Sewer Pipe SDR-26	\$ 500.00	\$ 60,000.00
6	2,713	LF	15-inch PVC Sewer Pipe SDR-26	\$ 500.00	\$ 1,356,500.00
7	368	LF	12-inch Steel Casing	\$ 800.00	\$ 294,400.00
8	75	LF	30-inch Steel Casing	\$ 3,200.00	\$ 240,000.00
9	12	EA	72-inch Polymer Sanitary Sewer Manhole (0-6')	\$ 50,000.00	\$ 600,000.00
10	282	VF	72-inch Polymer Sanitary Sewer Additional Vertical Depth	\$ 800.00	\$ 225,800.00
11	420	SY	Remove and Replace Pavement and Install 2-IN (Type D) HMAC	\$ 200.00	\$ 84,000.00
12	1	LS	Traffic Control Plan	\$ 150,000.00	\$ 150,000.00
13	1	LS	Lift Station	\$ 1,800,000.00	\$ 1,800,000.00
14	1	LS	Dewatering	\$ 1,500,000.00	\$ 1,500,000.00
15	1	LS	Transformer	\$ 75,000.00	\$ 75,000.00
16	1	LS	Generator	\$ 85,000.00	\$ 85,000.00
17	1	LS	Odor Control System	\$ 180,000.00	\$ 180,000.00
18	1	EA	48-inch Polymer Sanitary Sewer Manhole (0-6')	\$ 50,000.00	\$ 50,000.00
19	10	VF	48-inch Polymer Sanitary Sewer Additional Vertical Depth	\$ 500.00	\$ 5,000.00
<b>SUBTOTAL</b>					<b>\$ 7,577,685.00</b>
<b>CONTINGENCIES</b>					<b>0%</b>
<b>TOTAL BID PRICE</b>					<b>\$ 7,577,685.00</b>

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## ATHENA WEST NORTH

Athena West is located about 2,000 feet from the intersection of North Loop Drive and Clint Cut-Off Road. This area will require close coordination with the El Paso County Water Improvement District No. 1 since it will have multiple crossings of laterals as shown in Figure 6 and Figure 7.



Figure 6 - Athena West (Site Location)

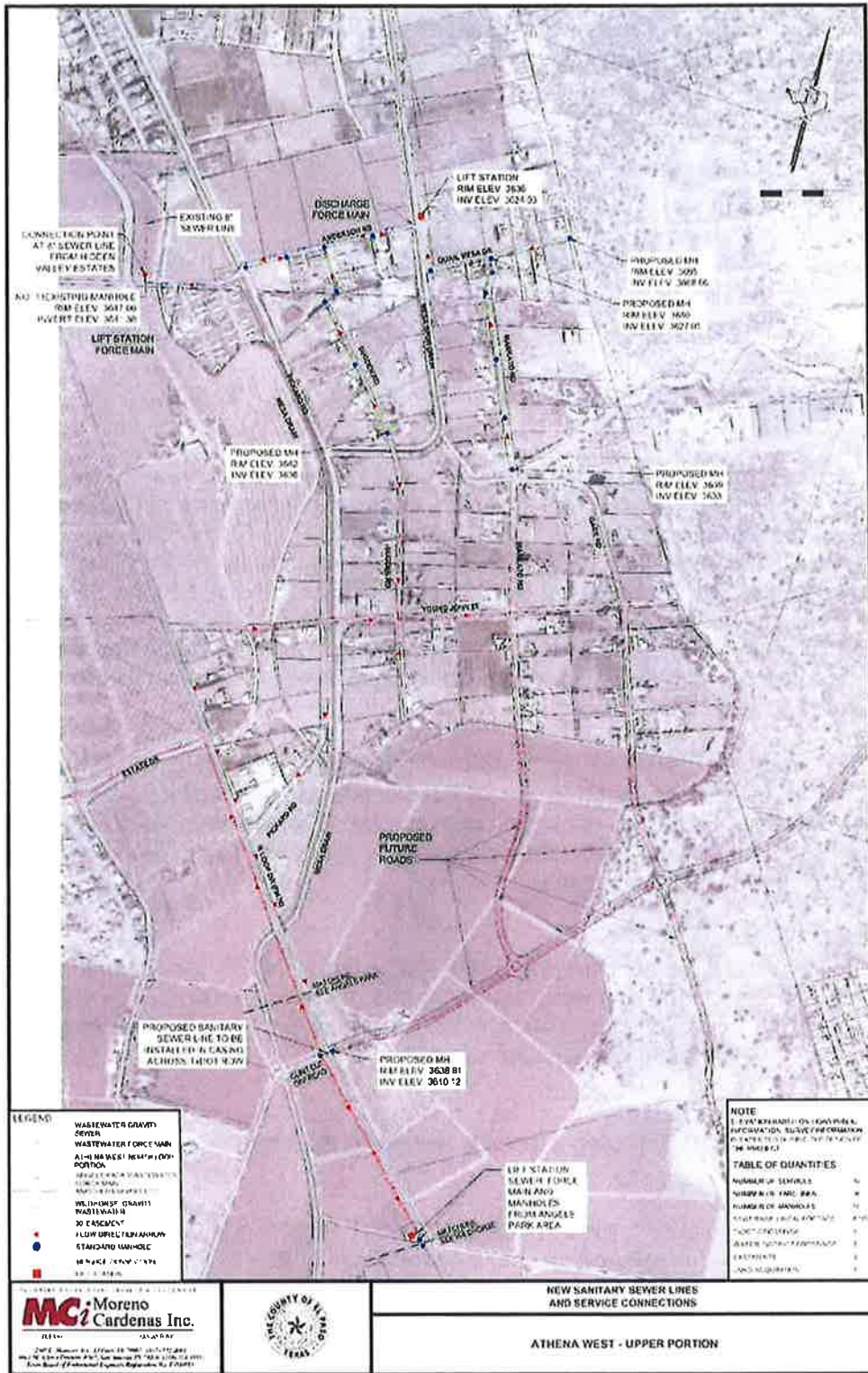


Figure 7 - Athena West North (Improvement Plan)



Approximately 50 properties in this area will benefit from the wastewater line extensions, providing service to existing residents. It is expected that around 44-yard lines will be connected. Information for this project is summarized in **Table 4**.

Table 4 - Athena West (Site Information)

Concept	Quantity
Number of Services	50
Number of Yard Lines	44
Linear footage of Wastewater Line	10,046
TxDOT Crossings	1
Water Improvement District No. 1's Crossings	4
Easements	0
Land Acquisition	0

**Description**

The Athena West North service area consists of a gravity sewer system, a lift station, force main, sanitary sewer manholes, sewer yard lines, and septic tank decommissioning. The gravity sewer system consists of approximately 7,391 linear feet of 8-inch PVC SDR-35 piping, 2,655 linear feet of 4-inch PVC DR-18 force main piping, 50 sewer lateral stub-outs, 44 yard lines, 25 manholes, pipeline easements. The Athena West North project will send its flows to the northeast, into the proposed Lift Station located northeast of the intersection of Anderson Road and Quail Mesa Drive. The Lift Station is approximately 20 feet in depth and will have approximately 2,655 feet of force main. The force main will connect to an existing manhole located at the intersection of Hidden Gardens and Anderson Road.

Overall, the Athena West site has 122 residential properties. The estimated person per property is 3.5. The estimated per capita flows are 70 gallons per day per capita. The site's peak flow is 220 gallons per minute, using a calculated peak factor of 4. Based on these flow calculations, the minimum pipe diameter shall be 8-inch for most collector lines. This pipe diameter will have a velocity greater than 2 feet per second.

**Alternative Discussion**

This site had several alignment options. From the initiation of this project, different alignment options were discussed. The proposed alignment and routes were found to be the most feasible given the site topography changes, drain and laterals in the area. The pipeline design will continue to be coordinated with the applicable stakeholders.

**Easement and Land Acquisition**

The land needed for this Lift Station is already owned by the Lower Valley Water District.

**Permit Requirements**

The gravity sewer construction, for properties off TxDOT Right of Way, requires a TxDOT permit, particularly in terms of the required Traffic Control System, due to it being directly adjacent to TxDOT Right of Way. There are no other permits expected for this site.

**Risk Considerations**

The primary challenge for this project revolved around potential delays in permits issuance by El Paso County Water Improvement District No. 1.



**Stakeholder Coordination**

The stakeholder with the most influence in this project is El Paso County Water Improvement District No. 1

**Betterment Considerations**

The Athena West North site betterment considerations include the potential subdivision buildout. Currently, the site has some properties developed, but there is a considerable number of properties that remain undeveloped and unoccupied. Additionally, there are some streets within this area that are not paved roadways, but instead just soil roads.

**Area of Planned Development and Growth**

The Athena West site has planned development which is part of the Angels Park planned development. The site’s planned development includes road extensions on Mankato Road and Gage Road connecting to existing roadways in the Athena West. Besides these roadway improvements, there does not seem to be any other planned development or area growth.

**Design of Planned Development and Growth**

There is no design associated with planned development or area growth.

**Project Cost**

The construction cost is estimated to be \$5,463,271.00; cost includes all material and labor.

**LOWER VALLEY WATER DISTRICT  
ATHENA WEST NORTH AND LIFT STATION 19  
ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COSTS**

January 19, 2024

Item No.	Quantity	UOM	Brief Description of Item	Unit Price	Total Price
1	1	LS	Insurance, Bonds, Mobilization, Demobilization (5% of items 2 through 15)	\$ 280,155.75	\$ 280,155.00
2	1	LS	Preconstruction Video	\$ 5,000.00	\$ 5,000.00
3	10,048	LF	Trench Safety System	\$ 4.00	\$ 40,184.00
4	2,655	LF	4-inch PVC Forcemain DR-18	\$ 73.00	\$ 193,815.00
5	7,391	LF	8-inch PVC Sewer Pipe SDR-35	\$ 108.00	\$ 783,448.00
6	130	LF	18-inch Steel Casing	\$ 1,070.00	\$ 139,100.00
7	25	EA	48-inch Polymer Sanitary Sewer Manhole (0-8')	\$ 21,000.00	\$ 525,000.00
8	111	VF	48-inch Polymer Sanitary Sewer Manhole (0-8')	\$ 1,000.00	\$ 111,000.00
9	50	EA	4-inch Sanitary Sewer Service Connection (Main to ROW)	\$ 2,040.00	\$ 102,000.00
10	44	EA	4-inch Private Service (ROW to House)	\$ 3,805.00	\$ 158,620.00
11	50	EA	De-Septic, Pump, Haul, Sand, Permits	\$ 1,853.00	\$ 82,650.00
12	1	LS	Dewatering	\$ 1,000,000.00	\$ 1,000,000.00
13	8,930	SY	Remove and Replace Pavement and Install 2-IN (Type D) HMAc	\$ 110.00	\$ 982,300.00
14	1	1	Traffic Control Plan	\$ 80,000.00	\$ 80,000.00
15	1	LS	Lift Station #19	\$ 1,000,000.00	\$ 1,000,000.00
<b>SUBTOTAL</b>					<b>\$ 5,463,271.00</b>
CONTINGENCIES				0%	\$ .00
<b>TOTAL BID PRICE</b>					<b>\$ 5,463,271.00</b>

## VALLE BONITO

Valle Bonito is located approximately 2,500 feet from the intersection of Alameda Ave. and Denton Road. This Project area consists of two subdivisions: Valle Bonito and Las Misiones. They are both across the street from each other and next to Clint High School, as shown in **Figure 8**.



Figure 8 - Valle Bonito (Site Location)

There are approximately 161 properties that will benefit from the wastewater line extensions to service existing residents within this area, with approximately 145 yard lines. Information for this project is summarized in **Table 5**.

Table 5 - Valle Bonito (Site Information)

Concept	Quantity
Number of Services	161
Number of Yard lines	145
Linear footage of wastewater line	14,603
TxDOT crossings	0
Water Improvement District No. 1's Crossings	2
Easements	1
Land Acquisition	1

**Description**

The Valle Bonito service area consists of a gravity sewer system, sanitary sewer manholes, sewer services, sewer yard lines, and septic tank decommissioning. The gravity sewer system consists of approximately 14,740 linear feet of 8-inch PVC SDR-35 piping, 161 sewer lateral stub-outs, 145 service connections and yard lines, and 18 manholes. The sanitary sewer lines will collect flows from the Valle Bonito subdivision and from Las Misiones subdivision. The flows from Valle Bonito will head southeast as the flows from Las Misiones subdivision will head northwest and then discharge into a main that goes north past the Middle Drain. The sewer main will then take the flows in the northwest direction adjacent to the Middle Drain and the Coffin Lateral. The sewer main will discharge into Lift Station No. 8, on Clint High School property, as shown in **Figure 9**.

The Valle Bonito and Las Misiones Subdivisions have 161 residential properties. The estimated person per property is 3.5. The estimated per capita flows are 70 gallons per day per capita. The site's peak flow is 220 gallons per minute, using a calculated peak factor of 4. Based on these flow calculations, the minimum pipe diameter shall be 8-inch for most collector lines. This pipe diameter will have a velocity greater than 2 feet per second.

**Alternative Discussion**

This location does not have any alternatives, except for the direction the sewer main will take the flows in various sections of the Valle Bonito Subdivision.

**Easement and Land Acquisition**

Valle Bonito may require the acquisition of 3 permanent easements on private property for the proposed sewer alignment. There is an option to place the proposed sewer main on El Paso County Water Improvement District No. 1 property, but this is still under coordination and confirmation.

**Permit Requirements**

The only permit required will be from El Paso County Water Improvement District No. 1 to cross the Middle Drain.

**Risk Considerations**

The most important risk being tracked is obtaining easement to be able to run the line along the Middle Drain within Sandra Bean's property. Shifting the collector line more towards the north may prevent the existing lift station from capturing the collector line.

**Stakeholder Coordination**

The stakeholder with the most influence over the Project is Sandra Bean, since the alignment depends on obtaining an easement through her property.

**Betterment Considerations**

The Valle Bonito and Las Misiones subdivisions do not have any betterment considerations, especially since the subdivisions seem to have been built out already. The site currently has paved roadways.

**Area of Planned Development and Growth**

There is no planned development in this area; the subdivisions have been fully developed.

**Design of Planned Development and Growth**

There is no design associated with planned development or area growth.





**Project Cost**

The construction cost is estimated to be \$6,451,627.00; the cost includes all material and labor.

**LOWER VALLEY WATER DISTRICT  
VALLE BONITO  
ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COSTS**

January 19, 2024

Item No.	Quantity	UOM	Brief Description of Item	Unit Price	Total Price
1	1	LS	Insurance, Bonds, Mobilization, Demobilization (5% of items 2 through 15)	\$ 307,220.30	\$ 307,221.00
2	1	LS	Preconstruction Video	\$ 5,000.00	\$ 5,000.00
3	14,603	LF	Trench Safety System	\$ 4.00	\$ 58,412.00
4	11,259	LF	8-inch PVC Sewer Pipe SDR-35	\$ 106.00	\$ 1,193,454.00
5	3,344	LF	12-inch PVC Sewer Pipe SDR-35	\$ 282.00	\$ 943,008.00
6	130	LF	16-inch Steel Casing	\$ 917.00	\$ 119,210.00
7	145	EA	24-inch Steel Casing	\$ 1,152.00	\$ 167,040.00
8	18	EA	48-inch Polymer Sanitary Sewer Manhole (0-6')	\$ 21,000.00	\$ 378,000.00
9	150	VF	48-inch Polymer Sanitary Sewer Manhole (Additional VF)	\$ 1,000.00	\$ 150,000.00
10	181	EA	4-inch Sanitary Sewer Service Connection (Main to ROW)	\$ 2,040.00	\$ 328,440.00
11	149	EA	4-inch Private Service (ROW to House)	\$ 3,605.00	\$ 537,145.00
12	149	EA	De-Septic, Pump, Haul, Sand, Permits	\$ 1,853.00	\$ 246,297.00
13	1	LS	Dewatering	\$ 900,000.00	\$ 900,000.00
14	12,980	SY	Remove and Replace Pavement and Install 2-IN (Type D) HMAC	\$ 80.00	\$ 1,038,400.00
15	1	1	Traffic Control Plan	\$ 80,000.00	\$ 80,000.00
<b>SUBTOTAL</b>					<b>\$ 6,451,627.00</b>
CONTINGENCIES					0% \$ .00
<b>TOTAL BID PRICE</b>					<b>\$ 6,451,627.00</b>

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## HACIENDA REAL

Hacienda Real is located approximately 2,774 feet southeast of the intersection of FM 1110 and North Loop Drive. The road within the subdivision Virrey Road is a 60-foot right of way with a 30-foot paved section. This will help the installation of the sewer line on the shoulder to minimize pavement replacement, as shown in **Figure 10**.

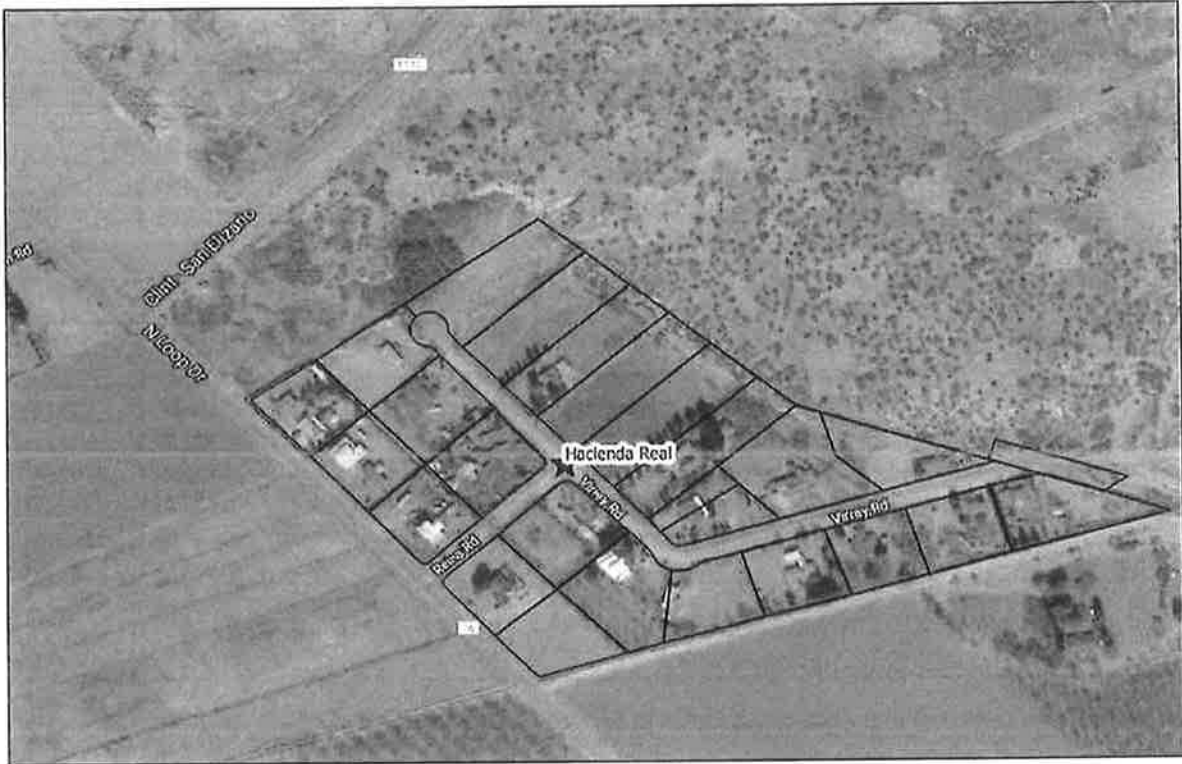


Figure 10 - Hacienda Real (Site Location)

There are approximately 21 properties that will benefit from the wastewater line extensions to be able to service existing residents within this area with 17-yard lines. Information for this project is summarized in **Table 6**.

Table 6 - Hacienda Real (Site Information)

Concept	Quantity
Number of Services	21
Number of Yard Lines	17
Linear footage of Wastewater Line	2,774
TxDOT Crossings	1
Water Improvement District No. 1's Crossings	0
Easements	4
Land Acquisition	0

**Description**

The Hacienda Real service area consists of a gravity sewer system, sanitary sewer manholes, sewer services, sewer yard lines, and septic tank decommissioning. The gravity sewer system consists of approximately 2,774 linear feet of 8-inch PVC SDR-35 piping, 21 sewer service stub-outs, 17 sewer service connections and yard lines, 8 manholes, and pipeline easements. The sewer system is designed to gather sanitary sewers from the subdivision. The Hacienda Real project will send its flows to the southwest, into the proposed Lift Station No.18 located on North Loop Drive.

The Hacienda Real site has 21 residential properties. The estimated person per property is 3.5. The estimated per capita flows are 70 gallons per day per capita. The site's peak flow is 220 gallons per minute, using a calculated peak factor of 4. Based on these flow calculations, the minimum pipe diameter shall be 8-inch for most collector lines. This pipe diameter will have a velocity greater than 2 feet per second.

**Alternative Discussion**

This location presents limited alternatives, primarily revolving around the decision to place the sewer alignment on easements (to be acquired) either to the northeast or northwest of North Loop Drive.

**Easement and Land Acquisition**

A small strip of easements across four lots was acquired to provide service to Lot 1 and Lot 2 of the subdivision.

**Permit Requirements**

The construction of the sewer main requires obtaining a TxDOT permit, specifically for the crossing at Reina Road. on North Loop Drive. Additionally, a Traffic Control system is essential, as the work will be conducted within the TxDOT Right of Way. No further permits are expected for this site.

**Risk Considerations**

No potential risks were identified with this project.

**Stakeholder Coordination**

No major stakeholder coordination was needed.

**Betterment Considerations**

The Hacienda Real Subdivision does not have any betterment considerations.

**Area of Planned Development and Growth**

The planned development in this area is potentially the land northeast and southeast of Clint-San Elizario (FM-1110) surrounding the Angels Park Subdivision.

**Design of Planned Development and Growth**

Currently, there is no design associated with planned development or area growth under the Hacienda Real Subdivision.

**Project Cost**

The construction cost is estimated to be \$592,290.62; cost includes all material and labor.

**HACIENDA REAL  
ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COSTS**

**January 19, 2024**

<b>Item No.</b>	<b>Quantity</b>	<b>UOM</b>	<b>Brief Description of Item</b>	<b>Unit Price</b>	<b>Total Price</b>
1	1	LS	Insurance / Mobilization/ Demobilization (5% of items 2 through 12)	\$ 28,204.28	\$ 28,205.00
2	1	LS	Pre and Post Construction Video	\$ 4,000.00	\$ 4,000.00
3	2,774	LF	Trench Safety System	\$ 4.00	\$ 11,096.52
4	2,774	LF	8-inch SDR-35	\$ 70.00	\$ 194,189.10
5	8	EA	48-inch Polymer Sanitary Sewer Manhole (0'-6')	\$ 21,000.00	\$ 168,000.00
6	10	VF	48-inch Polymer Sanitary Sewer Additional Vertical Depth	\$ 1,000.00	\$ 10,000.00
7	1	EA	8-inch Cleanout	\$ 500.00	\$ 500.00
8	21	EA	4-inch Sanitary Sewer Service Connection (Main to ROW)	\$ 2,000.00	\$ 42,000.00
9	17	EA	4-inch Private Service (ROW to House)	\$ 2,500.00	\$ 42,500.00
10	17	EA	De-Septic, Pump, Haul, Sand, Permits	\$ 3,000.00	\$ 51,000.00
11	210	SY	Remove and Replace Pavement and install 2-IN (Type D) HMAC	\$ 80.00	\$ 16,800.00
12	1	LS	Traffic Control	\$ 24,000.00	\$ 24,000.00
<b>SUBTOTAL</b>					<b>\$ 592,290.62</b>
CONTINGENCIES					0% \$ 00
<b>TOTAL BID PRICE</b>					<b>\$ 592,290.62</b>

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## WILDHORSE

Wildhorse is located approximately 1,800 feet northwest from the intersection of FM 1110 and North Loop Drive. The subdivision plat has a 10-foot irrigation easement towards the back of each property. The road that runs within the subdivision Wildhorse Road is a 50 foot right of way, with an existing paving width of approximately 40 feet. This will influence the paving cuts expected for this area, as shown in **Figure 11**.

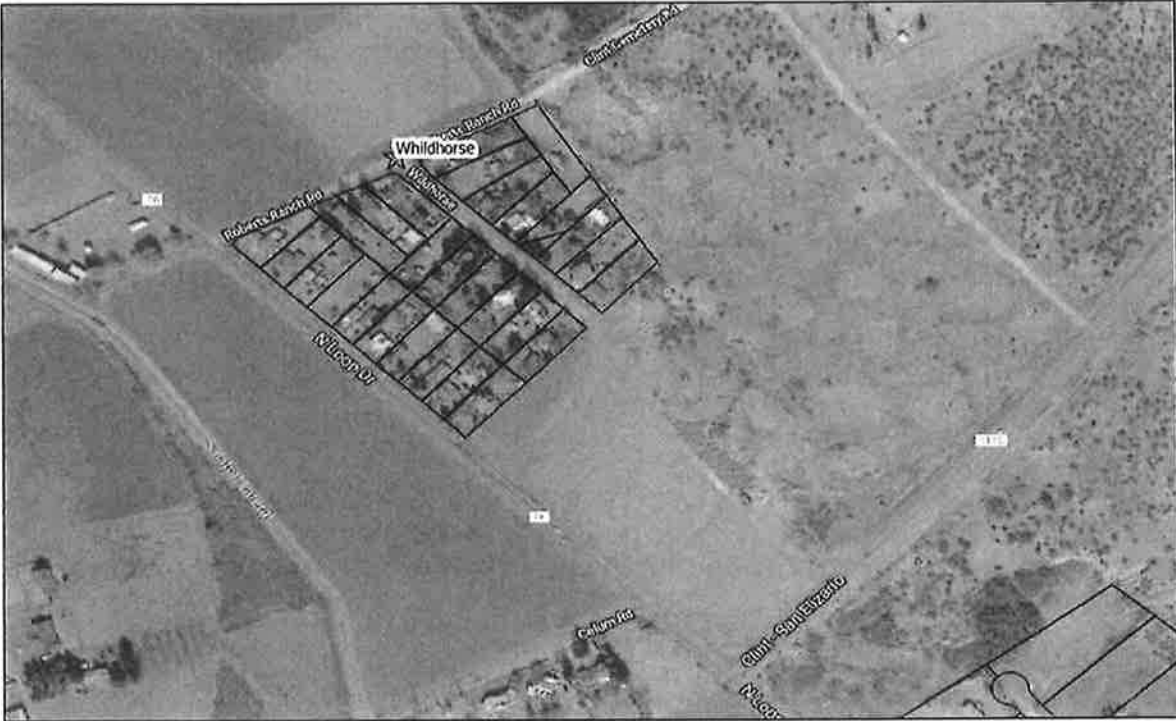


Figure 11 - Wild Horse (Site Location)

This subdivision has 27 properties currently occupied; information summarized in **Table 7**.

Table 7 - Wildhorse Village (Site Information)

Concept	Quantity
Number of Services	27
Number of Yard Lines	27
Linear footage of Wastewater Line	2,461
TxDOT Crossings	1
Water Improvement District No. 1's Crossings	0
Easements	18
Land Acquisition	0

**Description**

The Wildhorse service area consists of a gravity sewer system, sanitary sewer manholes, sewer services, sewer yard piping, and septic tank decommissioning. The gravity sewer system consists of approximately 2461 linear feet of 8-inch PVC SDR-35 piping, 27 sewer service stub-outs, 27 service connections and yard lines and 7 manholes. The sewer system will collect the sanitary sewer flows from the subdivision. The sanitary sewer will flow to the northwest to a proposed Lift Station No. 18 located on the southwest side of North Loop Drive.

The Wildhorse site has 30 residential properties. The estimated persons per property is estimated at 3.5. The estimated per capita flows are 70 gallons per day per capita. Given these parameters, the site's peak flow is 40 gallons per minute, using a calculated 4 peak factor. Based on these flow calculations, the minimum pipe diameter shall be 8-inch for the collector line. This pipe diameter will have a velocity greater than 2 feet per second.

**Alternative Discussion**

This location did not truly have any alternatives, except whether the sewer alignment is placed on private properties on easements to be acquired to the northeast or northwest of North Loop Drive.

**Easement and Land Acquisition**

A strip of easements, running perpendicular to Roberts Ranch Road, was obtained along the rear boundaries of the properties that face North Loop Drive.

**Permit Requirements**

The construction of the sewer main requires obtaining a TxDOT permit, specifically for the crossing at Roberts Ranch Road on North Loop Drive. Additionally, a Traffic Control system is essential, as the work will be conducted within the TxDOT Right of Way. No further permits are anticipated for this site.

**Risk Considerations**

The primary risk closely monitored during the design phase pertained to securing a permanent easement for the installation of the sewer line within private property.

**Stakeholder Coordination**

The central influencers in this project are the private property owners who will grant the necessary easement for the installation of the sewer line.

**Betterment Considerations**

The Wildhorse Subdivision does not have any betterment considerations.

**Area of Planned Development and Growth**

The planned development in this area is potentially the land north and northeast of Roberts Ranch Road to FM 1110.

**Design of Planned Development and Growth**

Currently, there is no design associated with planned development or area growth under the Wildhorse Subdivision.



**Project Cost**

The construction cost is estimated to be \$848,077.00; cost includes all material and labor.

**LOWER VALLEY WATER DISTRICT  
WILDHORSE  
ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COSTS**

January 19, 2024

Item No.	Quantity	UOM	Brief Description of Item	Unit Price	Total Price
1	1	LS	Insurance / Mobilization/ Demobilization (5% of items 1 through 20)	\$ 40,384.60	\$ 40,385.00
2	1	LS	Pre and Post Construction Video	\$ 4,000.00	\$ 4,000.00
3	2,461	LF	Trench Safety System	\$ 2.00	\$ 4,922.00
4	2,461	LF	8-inch SDR-35	\$ 70.00	\$ 172,270.00
5	7	EA	48-inch Polymer Sanitary Sewer Manhole (0'-6")	\$ 21,000.00	\$ 147,000.00
6	23	VF	48-inch Polymer Sanitary Sewer Additional Vertical Depth	\$ 1,000.00	\$ 23,000.00
7	1	EA	8-inch Cleanout	\$ 500.00	\$ 500.00
8	30	EA	4-inch Sanitary Sewer Service Connection (Main to ROW)	\$ 2,000.00	\$ 60,000.00
9	28	EA	4-inch Private Service (ROW to House)	\$ 2,500.00	\$ 70,000.00
10	28	EA	De-Septic, Pump, Haul, Sand, Permits	\$ 3,000.00	\$ 84,000.00
11	75	LF	16-inch steel casing by boring method	\$ 600.00	\$ 45,000.00
12	2,150	SY	Remove and Replace Pavement and Install 2-IN (Type D) HMAC	\$ 80.00	\$ 172,000.00
13	1	LS	Traffic Control	\$ 25,000.00	\$ 25,000.00
<b>SUBTOTAL</b>					<b>\$ 848,077.00</b>
CONTINGENCIES				0%	\$ 00
<b>TOTAL BID PRICE</b>					<b>\$ 848,077.00</b>

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## NORTH LOOP DRIVE SEWER LINE

The North Loop Drive Sewer Project will consist of a sewer main extension from the proposed Lift Station No. 18 located at North Loop Drive and Fenter Road to Reina Road. Approximately 5,892 linear feet of 12-inch PVC Pipe will be installed, including 2 TxDOT Crossing to serve Wild Horse Subdivision and Hacienda Real Subdivision as shown in **Figure 12**.



Figure 12 – North Loop Drive Sewer Line (Site Location)

This sewer line will capture flow from Wildhorse and Hacienda Real Subdivision information summarized in **Table 8**.

Table 8 - North Loop Drive Sewer Line (Site Information)

Concept	Quantity
Number of Services	0
Number of Yard Lines	0
Linear footage of Wastewater Line	2,461
TxDOT Crossings	2
Water Improvement District No. 1's Crossings	0
Easements	11
Land Acquisition	0

**Description**

The North Loop Drive Sewer Line Project will capture flows from Wildhorse and Hacienda Real Subdivision. A 12-inch wastewater main extension will divert flows the from existing subdivision to a proposed Lift Station No. 18 as shown in **Figure 12**. Easement acquisition 20 feet for 11 residents along the southside of North Loop have been acquired. The approximate depth of sewer main installation is 20-feet, dewatering operations are required for the successful completion of the project.

**Alternative Discussion**

This location does not have any alternatives.

**Easement and Land Acquisition**

The North Loop Drive Sewer Line Project requires the acquisition of 11 easements from different property owners. The line will be installed adjacent to North Loop Drive on a 20-foot easement. Easement acquisition will ensure the gravity line to be outside TxDOT Right of Way.

**Permit Requirements**

Project requires three crossings on TxDOT Right of Way on Roberts Road, FM 1110 Road, and Reina Road.

**Risk Considerations**

The most important risk that will be tracked during the design phase is the TxDOT permit and the easement acquisition. Multiple conversations with property owners have been conducted, and successful acquisition of the easement has been completed.

**Stakeholder Coordination**

Coordination with property owners will be a major factor for the successful completion of the project.

**Betterment Considerations**

This project does not have any betterment considerations.

**Area of Planned Development and Growth**

There is no planned development in this area.

**Design of Planned Development and Growth**

There is no design associated with planned development or area growth.

**Project Cost**

The construction cost is estimated to be \$4,789,396.04; cost includes all material and labor.

**LOWER VALLEY WATER DISTRICT  
NORTH LOOP SEWER LINE  
ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COSTS**

January 19, 2024

Item No.	Quantity	UOM	Brief Description of Item	Unit Price	Total Price
1	1	LS	Insurance, Bonds, Mobilization, Demobilization	\$ 228,066.45	\$ 228,067.00
2	1	LS	Preconstruction Video	\$ 2,000.00	\$ 2,000.00
3	5,912	LF	Trench Safety System	\$ 35.42	\$ 209,403.04
4	20	LF	8-inch PVC Sewer Pipe SDR-35	\$ 200.00	\$ 4,000.00
5	5,892	LF	12-inch PVC Sewer Pipe SDR-35	\$ 578.00	\$ 3,405,576.00
6	140	LF	24-inch Steel Casing	\$ 800.00	\$ 112,000.00
7	13	EA	48-inch Polymer Sanitary Sewer Manhole (0-6')	\$ 39,000.00	\$ 507,000.00
8	108	VF	48-inch Polymer Sanitary Sewer Additional Vertical Depth	\$ 200.00	\$ 21,600.00
9	4	EA	60-inch Polymer Sanitary Sewer Manhole (0-6')	\$ 63,000.00	\$ 252,000.00
10	69	VF	60-inch Polymer Sanitary Sewer Additional Vertical Depth	\$ 200.00	\$ 13,800.00
11	79	SY	Remove and Replace Pavement and Install 2-IN (Type D) HMAc	\$ 50.00	\$ 3,950.00
12	1	1	Traffic Control Plan	\$ 30,000.00	\$ 30,000.00
<b>SUBTOTAL</b>					<b>\$ 4,789,396.04</b>
CONTINGENCIES					0% \$ 00
<b>TOTAL BID PRICE</b>					<b>\$ 4,789,396.04</b>

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## SUMMARY OF 2024 BOND ELECTION PROJECTS

The following table summarizes all the Projects and Cost as shown in **Table 9**

Table 9 – Project List for 2024 Bond Election

<b>Project</b>	<b>Amount</b>
Gateway West	\$ 3,691,002.00
Mesa Verde	984,143.00
Lift Station 18	7,577,685.00
Athena West North	5,463,271.00
Valle Bonito	6,451,627.00
Hacienda Real	592,290.62
Wildhorse	848,077.00
North Loop	4,789,396.04
<b>Subtotal</b>	<b>\$ 30,397,491.66</b>
Contingency	3,902,508.34
Financial, Fiscal and Legal Closing Costs	700,000.00
<b>Total</b>	<b>\$ 35,000,000.00</b>
<b>Bond Election Amount</b>	<b>\$ 35,000,000.00</b>