

MOUNTAIN PEAK SPECIAL UTILITY DISTRICT



IMPACT FEE CAPITAL IMPROVEMENT PLAN



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SECTION 1

INTRODUCTION

1-1 ACKNOWLEDGEMENTS

Childress Engineers is pleased to have the continued opportunity to serve as the engineers for the Mountain Peak Special Utility District (Mountain Peak). We extend our thanks to Randy and your staff for their courtesy and cooperation in helping us prepare this report. We would like to present this water distribution system analysis and Impact Fee Capital Improvement Plan as an aid for future project planning.

1-2 SCOPE

This report is intended to compile information about the existing system, review the system for current regulation compliance, evaluate the system under future growth conditions and recommend improvements necessary to ensure compliance in the future.

A. Review of Existing System

In order to review the existing system, the following tasks must be performed:

1. Compile and review information about the distribution system infrastructure.
2. Compile and review the system water use records.
3. Compile and review the Standard System Operation Procedures.
4. Perform a capacity evaluation for the existing system.
5. Identify system shortcomings.
6. Recommend improvements.

B. Evaluation of Future System

1. Prepare population projections and predict future supply and distribution requirements using water usage records.
2. Make recommendations for future supply and distribution improvements.
3. Present results.

1-3 REFERENCES

The following sources were utilized in the preparation of this report.

- a. *Rules and Regulations for Public Water Systems* - Texas Commission on Environmental Quality, 2019.
- b. *2021 Brazos G Regional Water Plan, Volume I Executive Summary and Regional Water Plan* – Texas Water Development Board, Brazos G Water Planning Group, 2020.
- c. *2045 Demographic Forecasts* – North Central Texas Council of Governments, Regional Transportation Council, 2022.

SECTION 2

EXISTING FACILITIES

2-1 SERVICE AREA

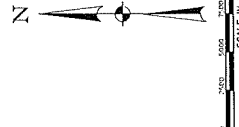
The Mountain Peak service area extends southeast from Midlothian to Lone Elm Road, then southwest past Maypearl to near the junction of Johnson, Ellis and Hill Counties. It then extends northwesterly to Alvarado and then northeasterly back to Midlothian, encompassing approximately 64,000 acres or 100 square miles as shown on Figure 2-1, Service Area. Mountain Peak also shares CCN borders with Sardis-Lone Elm W.S.C., Buena Vista-Bethel S.U.D., Files Valley W.S.C., Johnson County Special Utility District (JCSUD), the City of Venus and the City of Maypearl.

2-2 TREATED WATER SOURCES

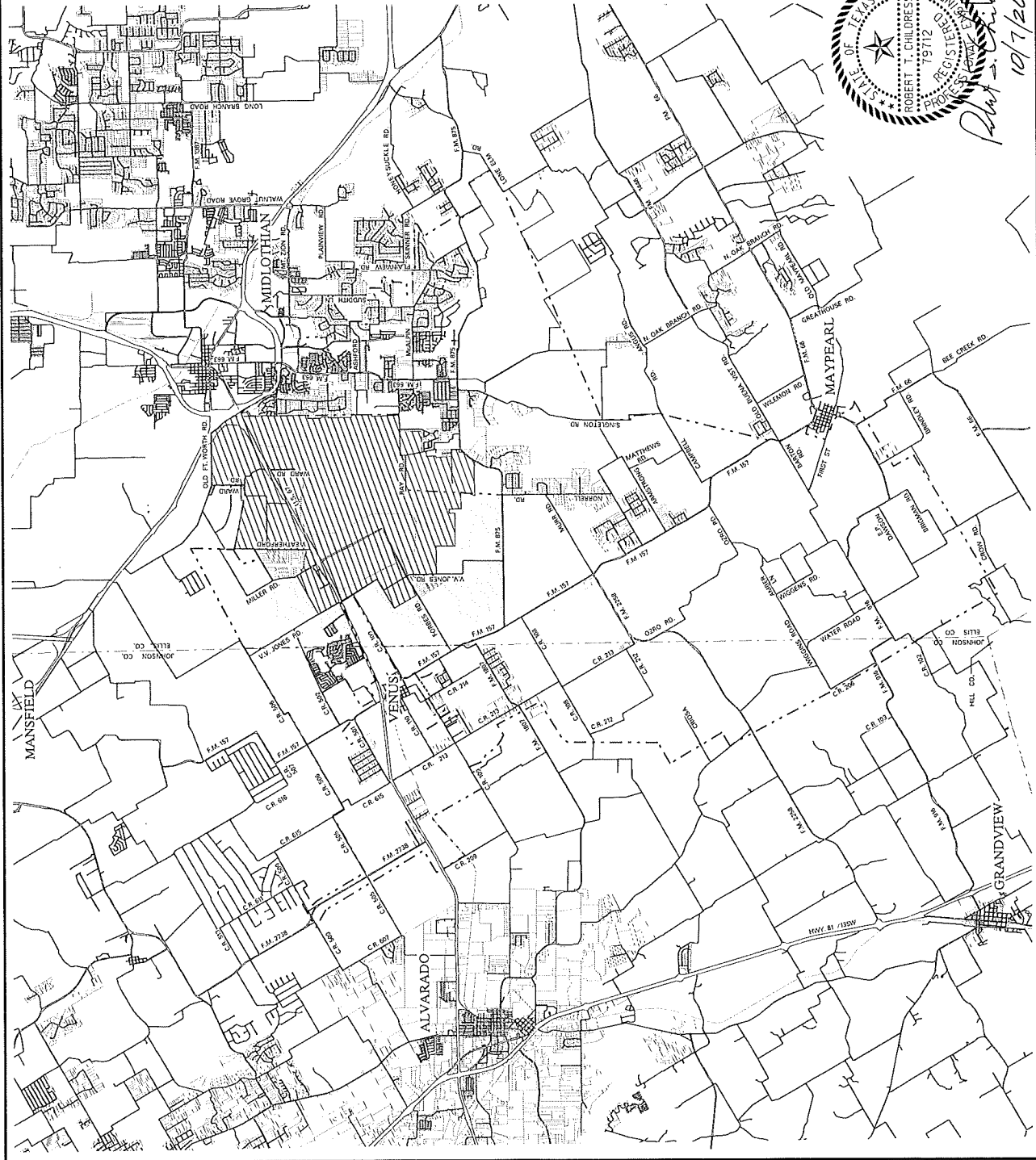
Mountain Peak currently can receive its water from three (3) sources: 1) Groundwater - six (6) existing Trinity deep wells and three (3) existing Woodbine deep wells 2) surface water from the City of Midlothian and 3) surface water from JCSUD. The existing wells produce approximately 4.13 MGD and surface water from the City of Midlothian provides a maximum take of 1.0 MGD until December of 2036, when the contract will be renegotiated. The contract with JCSUD is currently for up to 2.0 MGD. Mountain Peak plans to continue utilizing its wells for as long as possible and will drill more in the short term. However, in the long term, the District plans to transition to surface water. We have previously studied the feasibility of locating a water treatment plant along Baucum Road to treat surface water from the Tarrant Regional Water District's IPL supply line, but that option has been deferred to the future in lieu of more cost effective solutions.

LEGEND:

- C.C.N. BOUNDARY
- ▭ DUAL CERTIFIED SERVICE AREA WITH CITY OF MIDLOTHIAN
- ▨ INDUSTRIAL ZONING



MT. PEAK
SPECIAL UTILITY DISTRICT
IMPACT FEE ANALYSIS
FIGURE 2-1
SERVICE AREA
CHILDRESS & CONSULTANTS
241 N. Riverway Drive
Ft. Worth, TX 76102



2-3 WATER TREATMENT METHODS

Currently, Mountain Peak utilizes chloramines (monochloramine), which are produced by combining chlorine and ammonia, to treat its groundwater to be compatible with its treated water purchases.

2-4 RAW WATER

Currently, Mountain Peak does not have any raw water under contract.

2-5 DISTRIBUTION SYSTEM

The existing well, elevated tank, pump station and/or take point sites currently serving Mountain Peak include nine (9) locations: Plant Nos. 1-4, 7-9, the Harvest Hill Drive Midlothian Connection and the US 67 JCSUD connection. The plant sites are summarized in Table 2-1, Description of Facilities. The system has over 1,083,000 feet (205 miles) of distribution piping. A breakdown of pipe size can be seen in Figure 2-2, Pipe Sizes. Existing ground and elevated storage facilities total 4,105,000 gallons, while existing well capacity is about 4.13 MGD.

The standard service unit is considered to be a 5/8" x 3/4" meter. Due to the TCEQ's connection equivalency of 8 to 1 for RV spots versus standard residential usage and other commercial uses with variable water usage, we may refer to the equivalent connection count as living unit equivalents, or LUEs, throughout this report. However, the TCEQ rules are written using the "per connection" terminology, so we will often use the term connection as well. Both terms should be considered interchangeable in this report.

Mountain Peak's distribution system is divided into three (3) pressure planes which are shown on Figure 2-3, Pressure Planes.

Table 2-1
Mountain Peak S.U.D.
Description of Facilities

Plant No.	Plant Elev. (ft. msl)	Year Constr.	Serves Pressure Plane	Trinity Well Pump Cap (gpm)	Trinity Well Pump Size Hp	Woodbine Well Pump Cap (gpm)	Woodbine Well Pump Size Hp	Purchase Water Cap (gpm)	Ground Tank (gal)	Pressure Tank (gal)	Elevated Tank (gal)	Elevated Tank Operating Range Low Level (ft. msl)	Elevated Tank Operating Range High (ft. msl)	Pressure Tank Operating Range Low (psi)	Pressure Tank Operating Range High (psi)	Booster Pump Cap (gpm)	Booster Pump Motors (hp)	Chlor Type
1	841	1971	Mountain	350	290	100	100		210,000							2 - 300 gpm @ 150' TDH	2-15	NH2Cl
2	845	1976	Mountain	285	200	105	100		210,000							2 - 300 gpm @ 140' TDH	2-15	NH2Cl
3	560	1978	Maypearl	160	150				65,000 20,000	7,500				70	85	2 - 225 gpm @ 254' TDH	2-25	NH2Cl
4	862	1990	Mountain	385	290				500,000		300,000	979	989			2 - 400 gpm @ 130' TDH	2-20	NH2Cl
7	690	2003	Valley					1389 *			300,000	830	840					
8	818	2004	Mountain	800	600			694 **	1,000,000			819	847.5			2 - 650 @ 180' TDH	2-40	NH2Cl
9	865	2004	Mountain	585	350	100	100		500,000		1,000,000	979	989			2 - 550 @ 130' TDH	2-25	NH2Cl
Total				2,565		305		2,083	2,505,000	7,500	1,600,000					4,850		

SIZE LEGEND:	APPROXIMATE LENGTH
<= 2"	174,200 FT.
2.5" AND 3"	65,594 FT.
4"	106,987 FT.
5"	29,467 FT.
6"	152,611 FT.
8"	295,065 FT.
10"	120 FT.
12"	211,622 FT.
16"	6,754 FT.
20"	28,307 FT.

TOTAL 1,069,727 FT. (203 MILES)



SCALE IN FEET
0 1000 2000 3000 4000

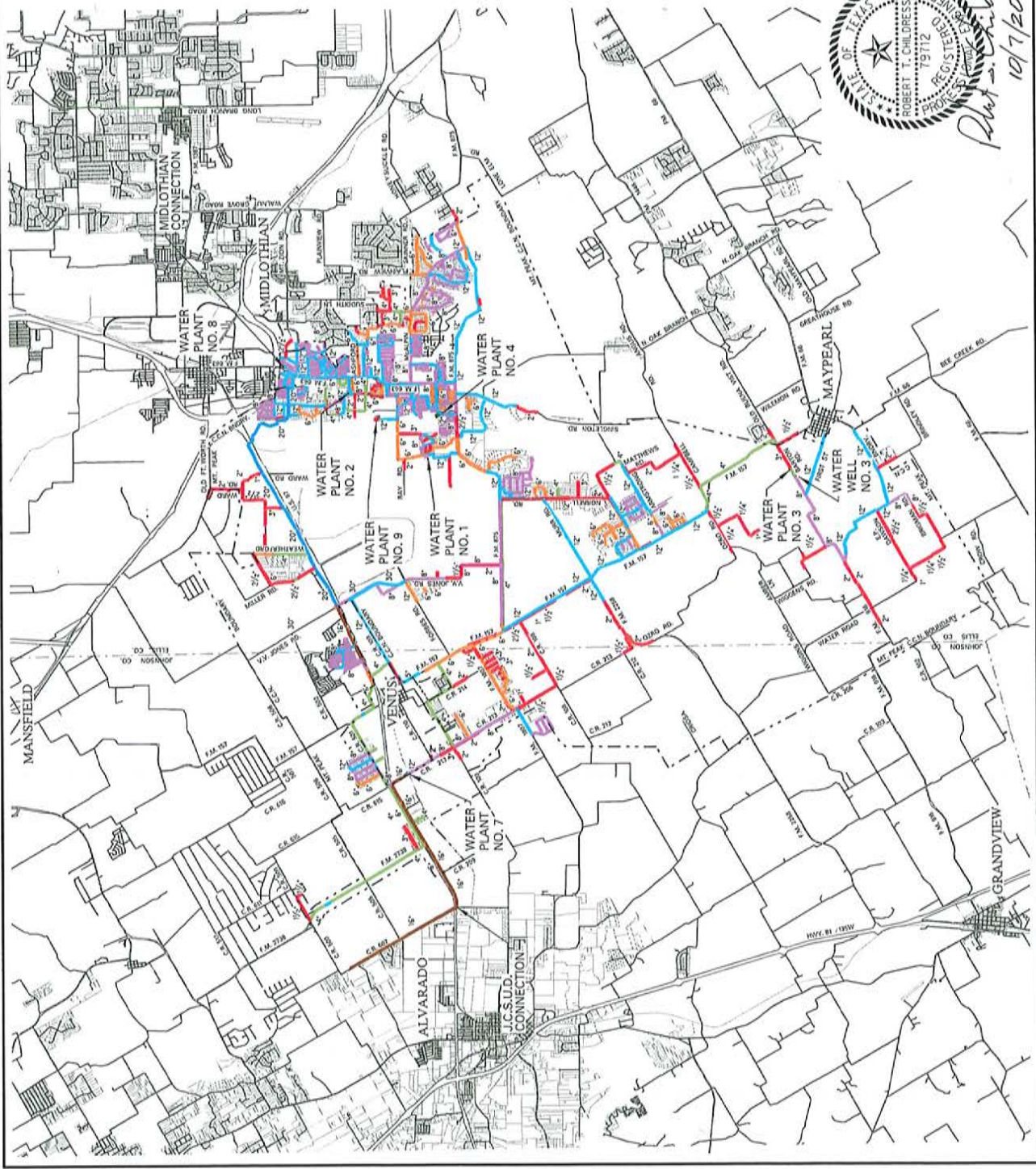
MT. PEAK
SPECIAL UTILITY DISTRICT
IMPACT FEE ANALYSIS

FIGURE 2-2
PIPE SIZES

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DALLAS, TEXAS 75207
(214) 750-1234



Robert T. Childress III
10/7/2024



- LEGEND:
- █ PRESSURE PLANE 1 (MOUNTAIN)
 - █ PRESSURE PLANE 2 (VALLEY)
 - █ PRESSURE PLANE 3 (MAYPEARL)

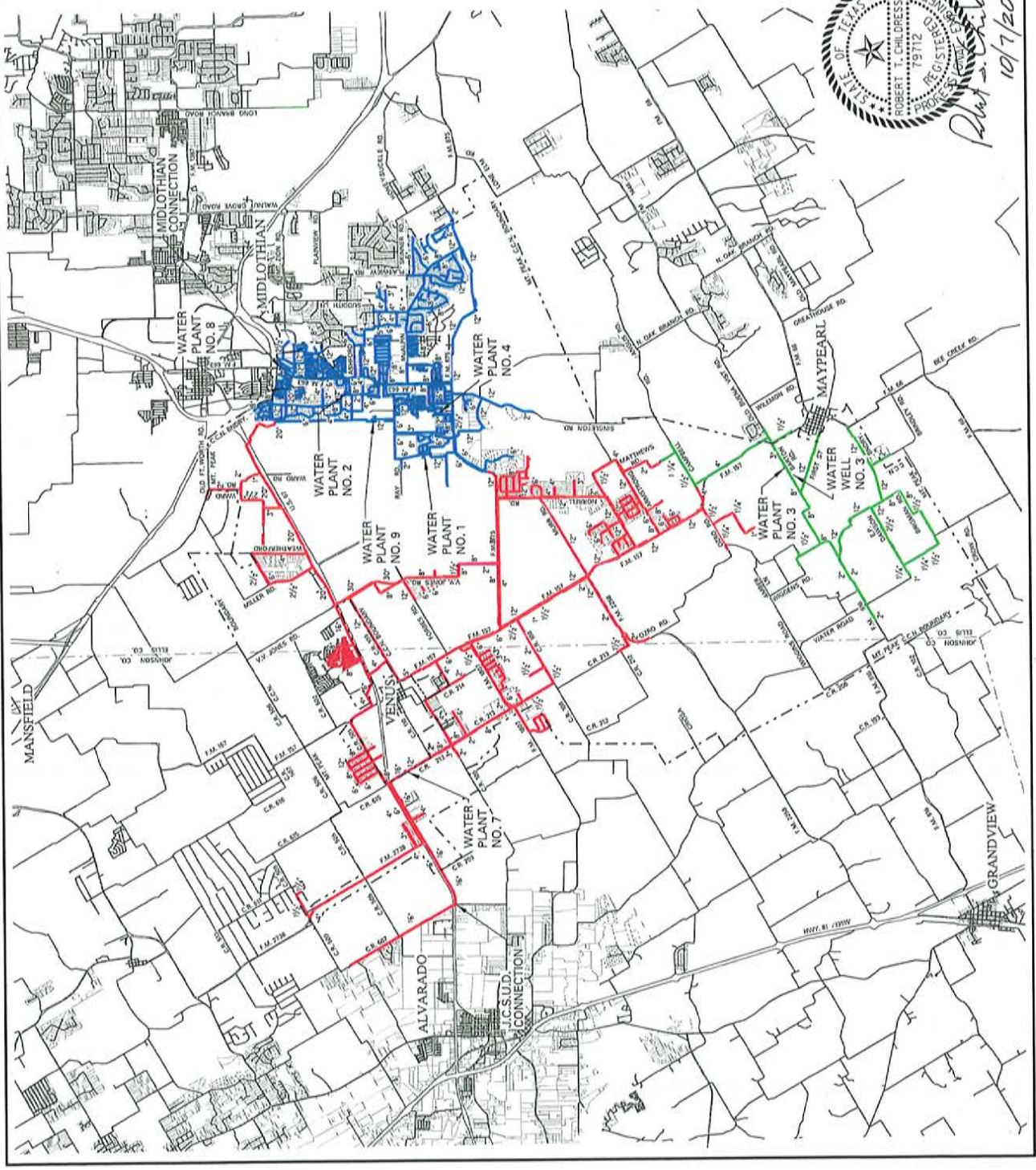


SCALE IN FEET
0 100 200 300 400 500 600 700 800 900 1000

MT. PEAK SPECIAL UTILITY DISTRICT
IMPACT FEE ANALYSIS
FIGURE 2-3 PRESSURE PLANES
CHILDRESS ENGINEERS 2118 Avenue 10th Street Cedar Rapids, IA 52401 Phone: 319.244.1200



Robert T. Childress III
10/7/2024



The following is a brief description of each service area and the plants which serve it.

PRESSURE PLANE 1 (PP1 or Mountain)

Pressure Plane 1 contains approximately 4,880 connections and is served by Water Plants Nos. 1, 2, 4, 8, 9 and the Midlothian Connection.

Plant No. 1

Plant No. 1 currently has one (1) 210,000 gallon ground storage tank, one (1) well which operates in the Trinity aquifer and has a maximum flow rate of 350 gallons per minute, one (1) well which operates in the Woodbine aquifer and has a maximum flow rate of 100 gallons per minute and two (2) 15 HP booster pumps. The plant pumps to the elevated storage tanks at Plant Nos. 4 & 9. In addition, Plant No. 1 has a 100 kw wind turbine that produces much of its energy needs. Therefore, at least one booster pump is kept running to maximize the energy produced.

Plant No. 2

Plant No. 2 currently has one (1) 210,000 gallon ground storage tank, and one (1) well which operates in the Trinity aquifer and has a maximum flow rate of 285 gallons per minute, one (1) well which operates in the Woodbine aquifer and has a maximum flow rate of 105 gallons per minute and two (2) 15 HP booster pumps. The plant pumps to the elevated storage tanks at Plant Nos. 4 & 9.

Plant No. 4

Plant No. 4 currently has one (1) 300,000 gallon elevated storage tank, one (1) 500,000 gallon ground storage tank, one (1) well which operates in the Trinity aquifer and has a maximum flow rate of 385 gallons per minute and two (2) 20 HP booster pumps. The plant pumps to the elevated storage tanks at Plant Nos. 4 & 9. The 300,000 gallon elevated storage tank is filled by all of the booster pumps at Plant Nos. 1, 2, 4, 8 and 9. The overflow elevation of the elevated storage tank is 989 feet.

Plant No. 8

Plant No. 8 currently has one (1) 1,000,000 gallon ground storage tank, one (1) well which operates in the Trinity aquifer and has a maximum flow rate of 800 gallons per minute, and two (2) 40 HP booster pumps. Plant No. 8 receives Midlothian water through the 12" supply line. It pumps to the elevated storage tanks at Plant Nos. 4 & 9.

Plant No. 9

Plant No. 9 currently has one (1) 1,000,000 gallon elevated storage tank, one (1) 500,000 gallon ground storage tank, one (1) well which operates in the Trinity aquifer and has a maximum flow rate of 585 gallons per minute, one (1) well which operates in the Woodbine aquifer and has a maximum flow rate of 100 gallon per minute and two (2) 25 HP booster pumps. The plant pumps to the elevated storage tanks at Plant Nos. 4 & 9. The 1,000,000 gallon elevated storage tank is filled by all of the booster pumps at Plant Nos. 1, 2, 4, 8 and 9. The overflow elevation of the elevated storage tank is 989 feet.

Harvest Hill Drive Midlothian Connection

The Harvest Hill Drive Midlothian Connection is an 8" meter and vault at the northeast corner of F.M. 663 and Harvest Hill Drive. The connection meters water entering the 12" supply line that conveys it to the ground storage tank at Plant No. 8. The water purchase contract with the City will allow the purchase of up to 1.0 MGD at that location through 2036.

PRESSURE PLANE 2 (PP2 or Valley)

Pressure Plane 2 contains approximately 2,790 connections and is served by the 20" line from Plant No. 8 through a 10" pressure reducing solenoid valve (PRV) located southwest of the intersection of Clearview Drive and Cedar Drive, a 12" line through a pressure reducing solenoid valve (PRV) located along F.M. 875 southwest of Jordan Lane and the 16" line from Johnson County Special Utility District Connection at US 67 and CR 207 along with the elevated tank at Water Plant No. 7.

Plant No. 7

Plant No. 7 currently consists of one (1) 300,000 gallon elevated storage tank. It is supplied with water from the 20" line from Plant No. 8, the F.M. 875 12" line and the 16" line from JCSUD. An altitude valve prevents the tank from overflowing and the solenoid controlled PRVs 1 & 2 allow it to cycle properly. No pumping facilities are currently present or required.

JCSUD Connection

Mountain Peak has recently completed a wholesale water take point near the intersection of US 67 & CR 207 along with a 16" transmission/distribution line to the Plant 7 elevated tank. The water purchase contract with Johnson County SUD will allow the purchase of up to 2.0 MGD at that location.

Mansfield Connection

Mountain Peak is also in the design phase of a 30" transmission main and pump station to purchase water directly from the City of Mansfield. It will bring water from near the intersection of Lone Star Road and Chambers Street to the intersection of US 67 and V.V. Jones Road where it will connect to the existing 20" line. The proposed contract is for up to 10.0 MGD of treated water although the initial take will only be 2.0 MGD.

PRESSURE PLANE 3 (PP3 or Maypearl)

Pressure Plane 3 contains approximately 230 connections and is served by Water Plant No. 3. It is also capable of receiving water from Pressure Plane 2 through a PRV near the intersection of Campbell Road and F.M. 157 and through a PRV along Matthews Road north of Campbell Road.

Plant No. 3

Plant No. 3 currently has one (1) 65,000 gallon ground storage tank, one (1) 20,000 gallon ground storage tank, one (1) well which operates in the Trinity Aquifer and has a maximum flow rate of 160 gpm, two (2) 25 HP booster pumps and pressure is maintained between 70 psi and 85 psi with the use of a 7,500 gallon hydropneumatic tank.

SECTION 3

LAND USE ASSUMPTIONS

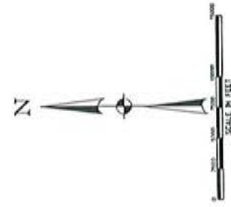
3-1 CERTIFICATE OF CONVENIENCE AND NECESSITY

As seen on Figure 2-1 Service Area, Mountain Peak has approximately 64,000 acres of service area. Approximately 13,000 acres of it is contained within a dual certified area with the City of Midlothian and around 8,350 acres of that is within properties that are, or are likely to be, industrial sites. The agreement in the dual certified area is that Mountain Peak will serve all of the residential and commercial connections and that the City will serve any industrial connections.

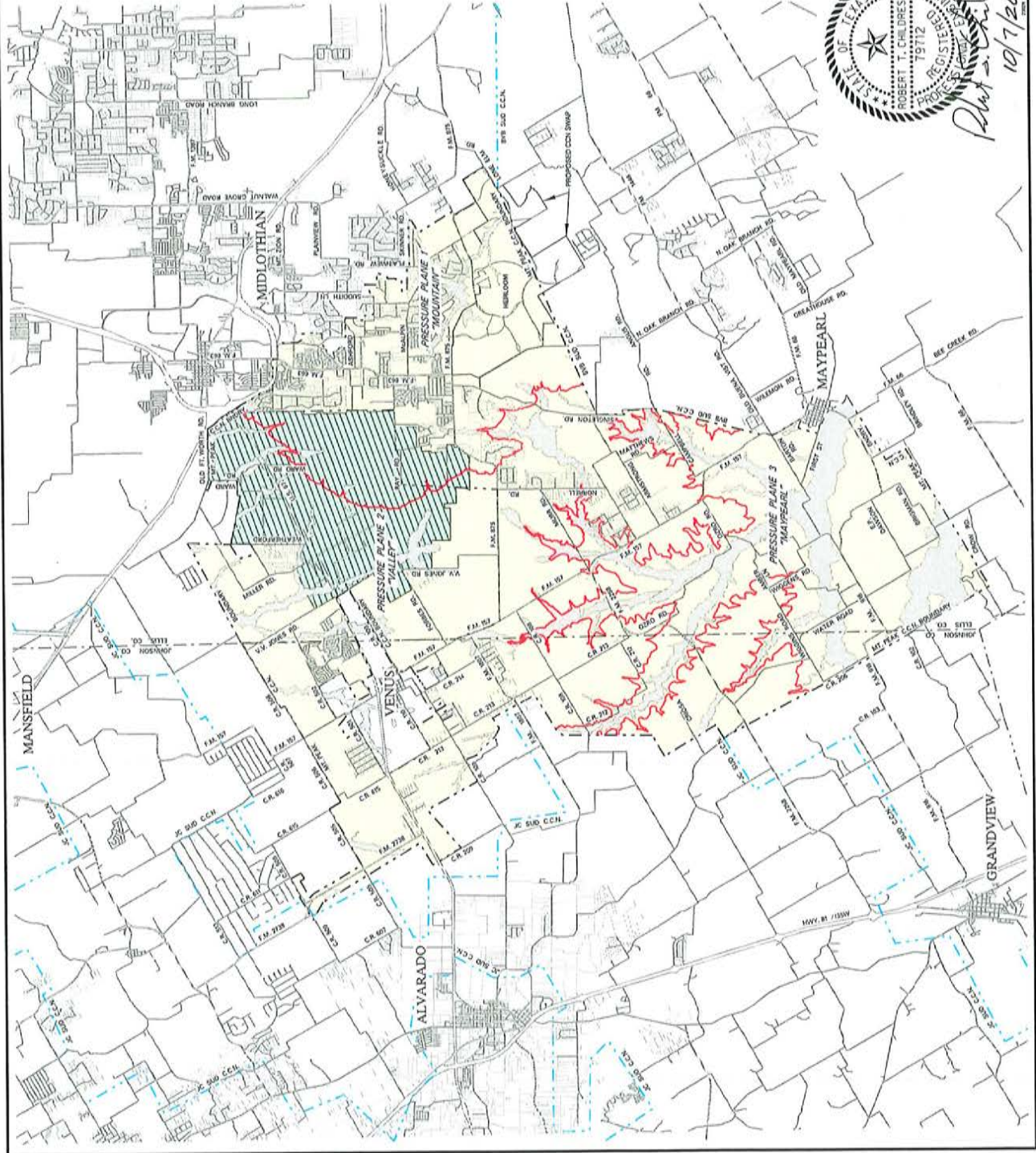
3-2 POTENTIAL LAND USES

Over ninety percent (90%) of Mountain Peak's existing customers are residential. With the exception of a few businesses along US 67, we anticipate the service area growth to remain residential. Any other uses will be converted to LUEs. For many years, growth in areas outside city limits and extraterritorial jurisdiction (ETJ) was primarily single meters on acreage. The most conservative planning numbers anticipated a maximum density of 1.0 acre lots due to the lack of sanitary sewer. However, in recent years, with lot costs increasing, large developers have formed entities such as municipal utility districts (MUDs) that allowed them to finance and recover costs for infrastructure including sanitary sewer expenses, making dense development an option. Currently, there are two extremely large developments in the planning process within the District's service area. Heirloom is 13,500 LUEs and located in the upper pressure plane. Its proposed lot density is 4.13 lots per acre. The second large (17,500 lot) development is on several tracts owned by Miskimon Management. The proposed density for those tracts is 4.65 lots per acre. Based on this new trend, future land use estimates will be based on 4.5 lots per acre. Figure 3-1 Land Use Assumptions shows the anticipated future land uses.

LEGEND:	
	PRESSURE PLANE BOUNDARY
	C.N. BOUNDARY
	INDUSTRIAL ZONING
	SINGLE FAMILY RESIDENTIAL
	FLOODPLAIN



MT. PEAK
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IMPACT FEE ANALYSIS
FIGURE 3-1
LAND USE ASSUMPTIONS
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1100 W. 10TH ST.
DALLAS, TEXAS 75207
TEL: 972.343.1100



SECTION 4

WATER USAGE

4-1 HISTORICAL USAGE

Historically, Mountain Peak's average rate of use per connection, including losses, is 0.31 gpm. This is typical for water systems similar in makeup to Mountain Peak. The average leak loss is 0.08 gpm per connection. Both of these figures are rounded up slightly. According to the TCEQ, the maximum daily demand is considered to be 2.4 times the average daily demand and the peak hourly demand is considered to be 1.25 times the maximum daily demand, if the system exceeds the minimum elevated storage requirements, or 1.85 times the maximum daily demand, if the system uses pressure tanks or fails to meet the minimum 200 gallon per connection elevated storage requirements. The District meets the 200 gallon per connection requirement of elevated storage. In order to calculate the required demands, we subtract the system loss so that it is not compounded, multiply by the required factors and then add the loss back into the demand. Therefore, the maximum daily demand for the system is 0.62 gpm per connection and the peak hourly demand is 0.75 gpm per connection.

4-2 POPULATION PROJECTIONS

The DFW area is currently experiencing unprecedented growth, which is reaching into portions of Mountain Peak's service area. Demographic population projections for Ellis County have been compiled by the Texas Water Development Board (TWDB), the North Central Texas Council of Governments (NCTCOG) and other agencies. Based on the 2021 TWDB projections and Region C report, the areas served by Mountain Peak will average a 2.32% growth rate for the 2020 through 2030 time frame and 0.91% from 2030 to 2040. According to the NCTCOG, Ellis County will grow 3.24% between 2030 and 2040 and Johnson will grow at a rate of 2.34%. Historically, the projections from these entities have been extremely low and are not suitable for future water planning in our

opinion. The actual growth for Johnson County between 2022 and 2023 was 4.1% and Ellis County was 5.1. However, the City of Alvarado saw 5.9%, Venus 5.4%, Midlothian 4.5% and Mansfield was 6.8%.

As previously stated, nearly all of the District's customers are residential and industrial users are supplied by the City of Midlothian. For our Land Use Assumptions, we anticipate those trends to continue. Therefore, no special provisions have been made for large water users and growth will be projected based on the anticipated growth rate of residential connections. As previously mentioned, Mountain Peak is in negotiations with the two very large developments. In addition, engineering plans for 2,155 lots have been submitted for review and another 1,200 lots are under preliminary consideration. There will definitely be a large amount of growth in the coming years, but how fast will it come? The developers think it will happen quickly, but what is the actual absorption rate? There is still a large amount of undeveloped land in the service area and Mountain Peak is nowhere near buildout. According to Mountain Peak's internal data over the past 4 years, the growth rate has been between 5.4% and 8.73% with an upward trend. For the purpose of this study, we will use a conservative growth rate of 6.0% for the next 10 years. To determine the growth multiplier for the year 2034, the equation $F = (1+R)^n$ is utilized. F is the future growth multiplier, R is the growth rate as a decimal number and n is the number of years. For our assumed growth rate of 6% the growth factor for 2034 is 1.79. This factor was used in the system capacity evaluation to help predict future capacity needs. Based on these numbers, the projected growth is from 7,900 LUEs at the end of 2023 to 15,000 LUEs in 2034.

SECTION 5

CAPACITY EVALUATION

5-1 GENERAL

The TCEQ not only mandates that distribution pressures meet minimum standards, but it also produces regulations for other aspects of the system. Minimum standards are established for water supply capacity, total system storage volume (both ground and elevated combined), elevated storage volume, pressure tank volumes and booster pump capacities. In this section, we will review Mountain Peak's existing facilities in respect to these items and identify any shortcomings. Then, based on the anticipated growth rate of six percent (6%), we will evaluate the system in the year 2034.

The minimum requirements for potable water supply, total storage, elevated storage, pressure tank volume and pumping capacity for public water systems are as follows:

- Potable Water Supply Requirement – 0.60 gpm/conn.
- Total Storage Requirement – 200 gal/conn.
- Elevated Storage Requirement – 100 gal/conn. (200 gal/conn. for reduced pumping requirements)
- Pressure Tank Capacity- 20 gal/conn. (however, TCEQ also states that a maximum capacity of 30,000 gallons is sufficient for up to 2,500 connections)
- Pumping Requirement –2.0 gpm/conn. (if 200 gal/conn. of elevated storage is provided, this reduces to 0.6 gpm/conn.)

5-2 POTABLE WATER SUPPLY

Mountain Peak's primary supply source has been the Trinity and Woodbine aquifers via ground water pumping facilities at six (6) plant locations. Additionally, surface water is available from the Harvest Hill Drive Midlothian Connection and the JCSUD connection near the intersection of US 67 & CR 207. The Mansfield Connection near the intersection of Lone Star Road and Chambers street should be online by the end of 2025. The TCEQ requires that a water supply of 0.6 gpm per connection be provided to each service area independently as well as to the system as a whole. It does not matter whether the supply is from a well on site, a dedicated transmission line, or through the distribution system as long as the system can meet the requirements. Prior to the addition of the JCSUD and Mansfield connections, all of Mountain Peak's system was supplied by PP1 which is at the highest elevation and can provide supply, storage and pumping for the other two pressure planes. Any water received into PP2 frees up capacity in PP1. PP2 receives its water primarily from the 20" line from Plant No. 8 and through the 12" line along F.M. 875 and the JCSUD connection. Although PP3 can be served from PP2 through two (2) PRVs, currently it is being served exclusively by Plant No. 3 in PP3.

In Table 5-1, Potable Water Supply Summary (2024), we have summarized the supply availability at each of the plants. Mountain Peak currently has excess capacity of 412 gpm (nearly 700 LUEs) but uses 92% percent of the supply capacity, exceeding the 85% threshold for planning required by TCEQ Tex. Admin Code Section 291.93. Based on the current growth rate, the available supply will only last another year or so.

**Table 5-1
Potable Water Supply Summary (2024)**

Requirement - 0.6 gpm/conn.

Pressure Plane	Plant	Existing Connections	Required Capacity (gpm)	Well Capacity (gpm)	Purchased Water (gpm)	Total Capacity (gpm)	Service Area Availability (gpm)	(conn.)
1	1			450		450		
1	2			390		390		
1	4			385		385		
1	8			1,000	694	1,694		
1	9			685		685		
2	JCSUD			0	1,388	1,388		
Subtotal		7,670	4,602	2,910	2,082	4,992	390	650
3	3			160	0	160		
Subtotal		230	138	160	0	160	22	37
Total		7,900	4,740	3,070	2,082	5,152	412	687

* Pressure Planes 1 & 2 are supplied by wells in Pressure Plane 1 and Midlothian Water. Pressure Plane 2 is also supplied by the JCSUD Connection. Plane 3 is supplied by Plant No. 3 and Pressure Plane 2.

Table 5-2, Projected Potable Water Supply Summary (2034) shows that the system will have a deficit of over 5,550 meters or 3,340 gpm (4.81 MGD.) Mountain Peak’s wells appear to be maintaining their current production rates at this time. We hope that they will continue to produce well into the future. The well at Plant 9 could produce more water with larger pump, but it would not be enough to make up this deficit. Currently, based its service area size and Prairielands Groundwater Conservation District rules, Mountain Peak has approximately 5,700 gpm of groundwater availability left.

**Table 5-2
Projected Potable Water Supply Summary (2034)**

*Requirement - 0.6 gpm/conn.
6% Growth Rate Assumed*

Pressure Plane	Plant	Projected Connections	Required Capacity (gpm)	**Well Capacity (gpm)	Purchased Water (gpm)	Total Capacity (gpm)	Service Area Availability (gpm) (conn.)	
1	1			450		450		
1	2			390		390		
1	4			385		385		
1	8			1,000	694	1,694		
1	9			685		685		
2	JCSUD			0	1,388	1,388		
Subtotal		13,736	8,241	2,910	2,082	4,992	-3,249	-5,416
3	3			160	0	160		
Subtotal		412	247	160	0	160	-87	-145
Total		14,148	8,489	3,070	2,082	5,152	-3,337	-5,561

* Pressure Planes 1 & 2 are supplied by wells in Pressure Plane 1 and Midlothian Water. Pressure Plane 2 is also supplied by the JCSUD Connection. Plane 3 is supplied by Plant No. 3 and Pressure Plane 2.

** Any decline in well production can be made up by increasing the pump size in Well 9.

5-3 TOTAL STORAGE

Mountain Peak is in exceptional shape as far as existing total storage is concerned. According to Table 5-3, Total Storage Summary (2024), the system greatly exceeds the TCEQ requirement of 200 gallons per connection by over 12,600 connections (2,525,000 gallons). Since the PP1 can serve PP2 which in turn can serve PP3, there is no requirement for Plant 3 to exist other than to be able to utilize the 160 gpm of groundwater generated at that site. Table 5-4, Projected Total Storage Summary (2034), continues to show that the system greatly exceeds the requirements in 10 years. We do not anticipate the addition of any new ground storage to meet TCEQ total storage requirements in the near future. However, ground storage may be required to support any new supply source.

**Table 5-3
Total Storage Summary (2024)**

Requirement - Total storage 200 gal/conn.

Pressure Plane	Plant	Existing Connections	Required Storage (gal)	Ground Storage (gal)	Elevated Storage (gal)	Total Storage (gal)	Service Area Availability	
							(gal)	(conn.)
1	1			210,000		210,000		
1	2			210,000		210,000		
1	4			500,000	300,000	800,000		
1	8			1,000,000		1,000,000		
1	9			500,000	1,000,000	1,500,000		
2	7			0	300,000	300,000		
Subtotal		7,670	1,534,000	2,420,000	1,600,000	4,020,000	2,486,000	12,430
3	3			85,000	0	85,000		
Subtotal		230	46,000	85,000	0	85,000	39,000	195
Total		7,900	1,580,000	2,505,000	1,600,000	4,105,000	2,525,000	12,625

**Table 5-4
Projected Total Storage Summary (2034)**

*Requirement - Total storage 200 gal/conn.
6% Growth Rate Assumed*

Pressure Plane	Plant	Projected Connections	Required Storage (gal)	Ground Storage (gal)	Elevated Storage (gal)	Total Storage (gal)	Service Area Availability	
							(gal)	(conn.)
1	1			210,000		210,000		
1	2			210,000		210,000		
1	4			500,000	300,000	800,000		
1	8			1,000,000		1,000,000		
1	9			500,000	1,000,000	1,500,000		
2	7			0	300,000	300,000		
Subtotal		13,736	2,747,160	2,420,000	1,600,000	4,020,000	1,272,840	6,364
3	3			85,000	0	85,000		
Subtotal		412	82,379	85,000	0	85,000	2,621	13
Total		14,148	2,829,539	2,505,000	1,600,000	4,105,000	1,275,461	6,377

5-4 ELEVATED STORAGE

Mountain Peak greatly exceeds the TCEQ requirement of 100 gallons per connection of elevated storage. However, we have evaluated the system based on 200 gallons per connection in order to reduce the booster pumping capacity requirement to 0.6 gpm per connection rather than the standard requirement of 2.0 gpm per connection. Table 5-5, Elevated Storage Summary (2024) shows a current excess capacity of nearly 20,000 gallons for the system or enough to support only 100 additional connections. However, since 99% percent of the supply capacity is consumed, the 85% planning threshold has been exceeded. Table 5-6, Projected Elevated Storage Summary (2034), shows that the system has a deficit of nearly 230,000 gallons.

**Table 5-5
Elevated Storage Summary (2024)**

Requirement - 100 gal/conn.

Pressure Plane	Plant	Existing Connections	Required Storage (gal)	Existing Storage (gal)	Availability	
					(gal)	(conn.)
1	1					
1	2					
1	4			300,000		
1	8					
1	9			1,000,000		
Subtotal		4,880	976,000	1,300,000	324,000	1,620
2 & 3	7			300,000		
*Subtotal		3,020	604,000	300,000	-304,000	-1,520
** Total		7,900	1,580,000	1,600,000	20,000	100

* Pressure Plane 1 must provide enough storage for its connections, however, Pressure Plane 2 can be served by the elevated tank at Plant No. 7 as well as the two in Pressure Plane 1. Pressure Plane 3 is served by a hydropneumatic tank, but can be served by Pressure Plane 2.

** Over 200 gal/conn. of elevated storage provided. Therefore, booster pumping requirement is reduced from 2.0 gpm/conn. to 0.6 gpm/conn.

**Table 5-6
Projected Elevated Storage Summary (2034)**

*Requirement - 100 gal/conn.
6% Growth Rate Assumed*

Pressure Plane	Plant	Projected Connections	Required Storage (gal)	Existing Storage (gal)	Availability	
					(gal)	(conn.)
1	1					
1	2					
1	4			300,000		
1	8			1,000,000		
1	9			1,000,000		
** Subtotal		8,739	1,747,867	2,300,000	552,133	5,521
2 & 3	7			300,000		
* Subtotal		5,408	1,081,672	300,000	-781,672	-7,817
Total		14,148	2,829,539	2,600,000	-229,539	-2,295

* Pressure Plane 1 must provide enough storage for its connections, however, Pressure Plane 2 can be served by the elevated tank at Plant No. 7 as well as the two in Pressure Plane 1. Pressure Plane 3 is served by a hydropneumatic tank, but can be served by Pressure Plane 2.

** Over 200 gal/conn. of elevated storage provided. Therefore, booster pumping requirement is reduced from 2.0 gpm/conn. to 0.6 gpm/conn.

5-5 BOOSTER PUMPS

According to the TCEQ, booster pump capacity of 2 gpm per connection must be provided. However, if there is at least 200 gallons per connection of elevated storage available, then the pumping requirement is reduced to 0.6 gpm per connection. The regulations also state that if only wells and elevated storage are provided, service pumps are not required. Table 5-7, Booster Pump Summary (2024), and Table 5-8, Booster Pump Summary (2034) provide summaries of the existing and future booster pump facilities. The system is in a deficit position in both time horizons.

**Table 5-7
Booster Pump Summary (2024)**

*Requirement - 2.0 gpm/conn. If 200 gal/conn. of elevated storage is provided,
requirement is reduced to 0.6 gpm/conn.*

Pressure Plane	Plant	Existing Connections	Required Capacity (gpm)	Approx. Pump Cap (gpm)	Service Area Availability	
					(gpm)	(conn.)
1	1			600		
1	2			600		
1	4			800		
1	8			1,300		
1	9			1,100		
* Subtotal		7,670	4,602	4,400	-202	-337
3	3			450		
Subtotal		230	138	450	312	156
Total		7,900	4,740	4,850	110	-181

* Over 200 gal/conn. of elevated storage provided. Therefore, booster pumping requirement is reduced from 2.0 gpm/conn. to 0.6 gpm/conn.

**Table 5-8
Projected Booster Pump Summary (2034)**

*Requirement - 2.0 gpm/conn. If 200 gal/conn. of elevated storage is provided,
requirement is reduced to 0.6 gpm/conn.*

6% Growth Rate Assumed

Pressure Plane	Plant	Projected Connections	Required Capacity (gpm)	Approx. Pump Cap (gpm)	Service Area Availability	
					(gpm)	(conn.)
1	1			600		
1	2			600		
1	4			800		
1	8			1,300		
1	9			1,100		
** Subtotal		13,736	8,241	4,400	-3,841	-6,402
3	3			450		
*** Subtotal		412	247	450	203	338
Total		14,148	8,489	4,850	-3,639	-6,064

* Over 200 gal/conn. of elevated storage provided. Therefore, booster pumping requirement is reduced from 2.0 gpm/conn. to 0.6 gpm/conn.

** Pressure Plane 1 provides all of the pumping for Pressure Planes 1 & 2.

*** Pressure Plane 3 can be served from the elevated storage tanks in Planes 1 & 2.

5-6 HYDROPNEUMATIC TANKS (PRESSURE)

According to the TCEQ, a pressure tank capacity of 20 gallons must be provided for every connection served by the tank. Currently, the Maypearl area is served by a 7,500 gallon hydropneumatic tank at Plant No. 3. Table 5-9, Pressure Tank Capacity Summary (2024), and Table 5-10, Pressure Tank Capacity Summary (2034) provide summaries of the current and future pressure tank capacity availability. The system exceed the requirements in 2024 only consuming 61% of its capacity, but by 2034 it will be running a deficit. However, this area can be served from elevated tanks in PP1 and PP2 and pressure tank capacity is not required. The only reason this plant is operational is to capture the 160 gpm of supply.

**Table 5-9
Pressure Tank Capacity Summary (2024)**

Requirement - 20 gal/conn.

Pressure Plane	Plant	Existing Connections	Required Capacity (gal)	Existing Cap (gal)	Service Area Availability	
					(gpm)	(conn.)
3	3			7,500		
Total		230	4,600	7,500	2,900	145

**Table 5-10
Projected Pressure Tank Capacity Summary (2034)**

*Requirement - 20 gal/conn.
6% Growth Rate Assumed*

Pressure Plane	Plant	Projected Connections	Required Capacity (gal)	Existing Cap (gal)	Service Area Availability	
					(gpm)	(conn.)
3	3			7,500		
Total		412	8,238	7,500	-738	-37

5-7 EMERGENCY POWER

Due to the large scale natural disasters in recent years such as hurricanes, floods and ice storms, the TCEQ has become very strict on the emergency backup power requirements. In the past, it was sufficient to show a good power outage record from your power provider. However, in light of these wide scale events, backup power is now viewed as essential. According to the TCEQ Chapter 290.45 (h), emergency power is required for systems which serve more than 250 connections and do not meet the elevated storage requirement. Mountain Peak exceeds the elevated storage requirements and therefore is exempt from this requirement. Mountain Peak currently has a wind turbine located at Plant No. 1 that, when operating, is capable of powering much of the water plant. Even though Mountain Peak is not required to provide emergency power, a 750 kW generator is online at Plant No. 8. With emergency power at that location, depending on the availability of water from the City of Midlothian, Mountain Peak could serve the entire system. Without Midlothian water, power at that location could still augment the water already in the elevated tanks and see the system through a short duration outage.

SECTION 6

RECOMMENDATIONS

6-1 GENERAL

We have reviewed the Mountain Peak facilities in order to verify their compliance with TCEQ regulations. Below, we will discuss the various components of this review. We have also listed specific project recommendations in Table 6-1, 2024 Proposed System Improvements. That table also includes the pressure plane of the project, construction time frame, the flow supplied by the project or tank volume and information about the supported LUEs. Please note that the LUEs cannot be added as independent services. For example, Projects 6 and 7, the Mansfield Line and Pump Station, refer to the same LUEs. The project locations are shown on Figure 6-1. These recommendations should remain flexible and should be updated as system operation conditions change. Project budgets are in today's dollars. Growth in the system may dictate that other improvements become greater priorities.

In this report, we have only recommended transmission lines to convey water being supplied via the other listed projects. There will also be improvements required based on the distribution system demands and capacity. However, those improvements will be addressed at a later time.

It should be noted that planning for the Mansfield pipeline and pump station began near the end of 2019 and has been delayed for numerous reasons. That project will make improvements to the supply, total storage, elevated storage and pumping capacities and can keep Mountain Peak well in compliance in all of these areas over the study period.

6-2 SUPPLY

As stated in Section 5, Mountain Peak currently has about 700 LUEs of supply available. The JCSUD connection was recently completed to provide for growth and may be expanded in the future. The

Mansfield project will be capable of providing the largest source of supply when it is completed, beginning with 2.0 MGD and then increasing up to 10 MGD under the current contract. The district has recently replaced the Well 5 at Plant 8 pump with a much larger pump to provide growth availability. The replacement of Well 6 at Plant 9 should follow shortly. While all of these projects will bring water to the system, the timing and location of the proposed large developments will require the construction of wells at those locations until additional surface water can be obtained and transmission lines constructed.

6-3 TOTAL STORAGE

Mountain Peak is in excellent shape as far as state requirements for total storage are concerned. No additional ground storage is recommended at this time other than those required to facilitate a well and pump station.

6-4 ELEVATED STORAGE AND BOOSTER PUMPS

As shown in Section 4, Mountain Peak has consumed 99% of its elevated storage capacity. The Mansfield project will involve converting the ground storage tank at Plant 8 to an elevated tank serving the Valley (PP2). Additionally, elevated tanks should be constructed at each of the proposed large developments. With the addition of these proposed elevated tanks, the system will continue to be able to utilize the 0.6 gpm/conn pumping requirement. The first phase of the Mansfield project will also add approximately 5,555 gpm of firm pumping capacity to the system which will bring it back into compliance. In addition, the wells being constructed for the proposed large developments will also require pump stations in order to boost the water into the elevated tanks, and will therefore provide more pumping capacity.

6-5 HYDROPNEUMATIC TANKS (PRESSURE)

Mountain Peak continues to operate one hydropneumatic tank in the system at Plant 3. Due to the elevated storage proposed in PP1 & PP2, no additional pressure tank capacity is required. The existing Plant 3 can continue to operate as is in order to utilize the water produced on site.

6-6 EMERGENCY POWER

We recommend that Mountain Peak install electric generators at each of its existing pump stations that are capable of running the entire pump station and include generators as a part of any new pump station. With the pump upgrades and power generation at both Plant Nos. 8 & 9 and the wind turbine at Plant 1, Mountain Peak could serve up to 0.30 gpm, which is basically an average day demand, to the entire system **without** Midlothian water.

Table 6-1
2024 Proposed System Improvements

Project Number	Pressure Plane	Construction Time Frame	Description	Total Project Capital Cost	Additional Future O&M Costs per Year	Flow Supplied MGD	Storage Tank Vol. MG	Total LUEs Supported By Project	% of Utilization (Total LUEs) from Existing Demand	% of Utilization (Total LUEs) from Growth in 10 Years	% of Utilization (Total LUEs) from Growth Beyond 10 Years
1	2	2023	JCSUD 16" Transmission Line US 67	\$3,053,585	\$50,000	2.0		2,315	74%	26%	0%
2	2	2023	JCSUD 16" Transmission Line (US 67 to JCSUD 30")	\$1,159,268	\$50,000	2.0		2,315	74%	26%	0%
3	1	2024	Upgrade Well Pump @ Plant 8	\$600,000	\$30,000	0.29		336	0%	100%	0%
4	1	2024	Upgrade Well Pump @ Plant 9	\$750,000	\$30,000	0.29		336	0%	100%	0%
5	2	2024	CR 109 12" Water Line	\$1,700,000	\$50,000	2.0		2,315	15%	85%	0%
6	1 & 2	2025	30" Mansfield Transmission Line	\$21,100,000	\$50,000	10.0		11,574	0%	100%	0%
7	1 & 2	2025	Mansfield 10.0 MGD Pump Station 10	\$28,160,000	\$200,000	10.0		11,574	0%	100%	0%
8	2	2025	V.V. Jones 30" Relocation	\$7,550,000	\$50,000	10.0		11,574	11%	39%	50%
9	2	2025	FM 157 to CR 213 12" Water Line	\$1,540,000	\$50,000	2.0		2,315	0%	100%	0%
10	2	2025	CR 501 & 502 20" Water Line	\$5,340,000	\$50,000	5.0		5,787	30%	70%	0%
11	1	2025	Trinity Well (Heirloom)	\$4,000,000	\$80,000	1.0		1,157	0%	100%	0%
12	1	2025	Trinity Well (Heirloom)	\$4,000,000	\$80,000	1.0		1,157	0%	100%	0%
13	1	2025	Trinity Well (Heirloom)	\$4,000,000	\$80,000	1.0		1,157	0%	100%	0%
14	1	2025	Trinity Well (Heirloom)	\$4,000,000	\$80,000	1.0		1,157	0%	100%	0%
15	1	2026	Trinity Well (Heirloom)	\$4,000,000	\$80,000	1.0		1,157	0%	100%	0%
16	1	2026	Trinity Well (Heirloom)	\$4,000,000	\$80,000	1.0		1,157	0%	100%	0%
17	1	2026	Trinity Well (Heirloom)	\$4,000,000	\$80,000	1.0		1,157	0%	100%	0%
18	1	2026	Trinity Well (Heirloom)	\$4,000,000	\$80,000	1.0		1,157	0%	100%	0%
19	1	2026	2.0 MG Heirloom Elevated Tank 1	\$12,080,000	\$60,000		2.0	10,000	0%	100%	0%
20	1	2026	2.0 MGD Pump Station (Heirloom)	\$7,560,000	\$150,000	2.0		2,315	0%	100%	0%
21	1	2026	Well Supply Line (Heirloom)	\$1,233,000	\$80,000	1.0		1,157	0%	100%	0%
22	1	2027	2.0 MGD Pump Station (Heirloom)	\$7,560,000	\$150,000	2.0		2,315	0%	100%	0%
23	1	2027	Well Supply Line (Heirloom)	\$1,233,000	\$80,000	1.0		1,157	0%	100%	0%
24	2	2026	Trinity Well (Blue Grass)	\$4,000,000	\$80,000	0.6		694	0%	100%	0%
25	2	2026	1.0 MGD Pump Station (Blue Grass)	\$4,890,000	\$120,000	0.6		694	0%	100%	0%
26	1	2027	Pump Station 8 - 4.3 MGD Upgrade	\$9,040,000	\$30,000	4.3		4,977	0%	100%	0%
27	1 & 2	2029	24" Mansfield Transmission Line, Ph 2	\$15,000,000	\$50,000	5.0		5,787	0%	50%	50%
28	1	2029	10.0 MGD Pump Station (Newton Cemetery)	\$19,250,000	\$200,000	10.0		11,574	0%	50%	50%
29	1	2029	Mountain 30" Transmission/Distribution Line	\$12,380,000	\$25,000	10.0		11,574	0%	50%	50%
30	1	2029	Heirloom 24" Transmission/Distribution Line	\$7,800,000	\$20,000	10.0		11,574	0%	50%	50%
31	2	2030	0.5 MG Elevated Tank (Heirloom)	\$4,674,000	\$60,000		0.5	2,500	0%	50%	50%
32	2	2030	2.0 MG Elevated Tank (Blue Grass)	\$12,080,000	\$60,000		2.0	10,000	0%	50%	50%
Total				\$221,732,853	\$2,415,000						

Appendix


CHILDRESS ENGINEERS
ENGINEERS & CONSULTANTS
 Texas Registered Engineering Firm F-702
 211 North Ridgeway Dr. Cleburne, Texas 76033
 817-645-1118 Fax 817-645-7235
 childress-engineers.com

Project Cost Summary
6/27/2024

PROJECT: US 67 JCSUD Connection	Contract Items			Total Price
	Quantity	Unit	Unit Price	
1 Project Photo and Video	1	LS	\$32,973.00	\$32,973.00
2 Clearing & Grubbing	1	LS	\$23,000.00	\$23,000.00
3 16" ASTM C900-16, DR 18 PVC Water Main to include pipe & fittings	15,723	LF	\$116.00	\$1,823,868.00
4 16" ASTM C900-16, DR 18 PVC Water Main by Bore	384	LF	\$220.00	\$84,480.00
5 16" Gate Valves with Boxes	6	EA	\$10,400.00	\$62,400.00
6 12" Gate Valve with Box	1	EA	\$3,620.00	\$3,620.00
7 8" Gate Valves with Boxes	4	EA	\$2,170.00	\$8,680.00
8 6" Gate Valve with Box	1	EA	\$1,484.00	\$1,484.00
9 4" Gate Valve with Box	1	EA	\$1,193.00	\$1,193.00
10 Fire Hydrant Assemblies	11	EA	\$7,587.00	\$83,457.00
11 2" Air & Vacuum Release Valve Assemblies	3	EA	\$5,551.00	\$16,653.00
12 24" Bore and Steel Encasement	165	LF	\$425.00	\$70,125.00
13 24" Steel Encasement by Open Cut	95	LF	\$285.00	\$27,075.00
14 Connect to Existing 16" Water Line	0	EA	\$8,000.00	\$0.00
15 Connect to Existing 12" Water Line	1	EA	\$4,250.00	\$4,250.00
16 Connect to Existing 8" Water Line	1	EA	\$4,350.00	\$4,350.00
17 Connect to Existing 6" Water Line	2	EA	\$3,532.00	\$7,064.00
18 Connect to Existing 4" Water Line	1	EA	\$2,812.00	\$2,812.00
19 Reconnect Existing Water Services	8	EA	\$950.00	\$7,600.00
20 Meter/Control Valve, including Vault, Bypass and Fittings	1	EA	\$45,000.00	\$45,000.00
21 SCADA Antenna and RTU Panel	1	EA	\$20,010.00	\$20,010.00
22 Electrical Wiring, Conduits and Equipment	1	EA	\$49,000.00	\$49,000.00
23 6' Tall Chain Link Fence with Gate	82	LF	\$153.00	\$12,546.00
24 16' Wide Stock Gates	7	EA	\$2,725.00	\$19,075.00
25 Trench Safety	15,558	LF	\$0.50	\$7,779.00
26 Hydrostatic and B.T. Testing	1	LS	\$12,000.00	\$12,000.00
27 Erosion Control	1	LS	\$33,000.00	\$33,000.00
28 SCADA Programming for JCSUD	1	LS	\$70,650.00	\$70,650.00
29 SCADA Programming for Mt. Peak SUD	1	LS	\$34,776.00	\$34,776.00
CO Change Order	1	LS	\$20,227.24	\$20,227.24
Professional Fees				\$464,437.78
Total Project Cost				\$3,053,585.02



 6/27/2024

Conceptual Engineer's Statement of Probable Cost
 6/12/24

1,000 GPM Deep Well and Pump Upgrade					
Item	Description	Unit	Quantity	UNIT PRICE	TOTAL PRICE
1	Pump, Motor, Starter & Pipe	LS	1	\$400,000.00	\$400,000.00
2	Electrical Service Upgrade	LS	1	\$150,000.00	\$150,000.00
Construction Subtotal					\$550,000.00
Contingency				20%	\$110,000.00
Construction Subtotal					\$660,000.00
Engineering & Special Services				14%	\$90,000.00
Project Total					\$750,000.00



Robert T. Childress III

6/12/2024

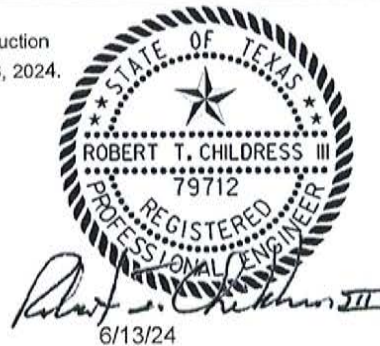
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CE CHILDRESS ENGINEERS
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Engineers Opinion of Probable Construction Cost
 Mt. Peak S.U.D.
 CR 109 12" Line
 V.V. Jones to FM 157
 6/13/2024

BASE BID		QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
1	Preconstruction Videos and Photos	1	LS	\$54,100.00	\$54,100.00
2	12" ASTM F1483 PVCO Water Main to include Pipe and Fittings	14,248	LF	\$67.75	\$965,302.00
3	4" ASTM F1483 PVCO Water Main to include Pipe and Fittings	60	LF	\$35.00	\$2,100.00
4	12" Gate Valves with Boxes	14	EA	\$3,742.00	\$52,388.00
5	8" Gate Valves with Boxes	2	EA	\$2,170.00	\$4,340.00
6	5" Gate Valve with Box	1	EA	\$1,590.00	\$1,590.00
7	4" Gate Valve with Box	1	EA	\$1,340.00	\$1,340.00
8	Fire Hydrant Assemblies	12	EA	\$7,160.00	\$85,920.00
9	1" Combination Air & Vacuum Release Valve	2	EA	\$1,780.00	\$3,560.00
10	12" Plug and Block	3	EA	\$550.00	\$1,650.00
11	18" Bore and Steel Encasement	316	LF	\$325.00	\$102,700.00
12	18" Encasement by Open Cut	80	LF	\$217.00	\$17,360.00
13	Concrete Encasement	30	LF	\$60.00	\$1,800.00
14	18" Bore Only	29	LF	\$181.00	\$5,249.00
15	Gravel Drive Repair	245	LF	\$15.00	\$3,675.00
16	Connect to Existing 12" Water Line	1	EA	\$3,500.00	\$3,500.00
17	Connect to Existing 8" Water Line	1	EA	\$3,350.00	\$3,350.00
18	Connect to Existing 6" Water Line	1	EA	\$2,500.00	\$2,500.00
19	Connect to Existing 5" Water Line	1	EA	\$2,590.00	\$2,590.00
20	Connect to Existing 4" Water Lines	2	EA	\$1,370.00	\$2,740.00
21	Connect to Existing 1" Water Line	1	EA	\$2,200.00	\$2,200.00
22	Reconnect Existing Water Services	9	EA	\$1,200.00	\$10,800.00
23	Reconnect Existing Longside Services	13	EA	\$2,432.00	\$31,616.00
24	Cut, Plug and Abandon Existing Lines	3	EA	\$862.00	\$2,586.00
25	Remove Air Release Valves	2	EA	\$1,500.00	\$3,000.00
26	Trench Safety	14,248	LS	\$0.50	\$7,124.00
27	Hydrostatic and B.T. Testing	1	LS	\$27,860.00	\$27,860.00
Construction Subtotal					\$1,402,940.00
Contingency					\$140,060.00
Construction Total					\$1,543,000.00
Surveying (Topo)					\$0.00
Right of Way Agent			0 tracts	\$3,500.00	\$0.00
Acquisition			0 Acre	\$15,000.00	\$0.00
Engineering					\$157,000.00
Project Total					\$1,700,000.00

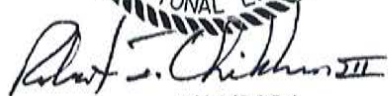
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Mt. Peak S.U.D.
Mansfield Connection
Preliminary Engineer's Statement of Probable Cost
6/13/2024

Transmission Line					
Item	Description	Unit	Quantity	UNIT PRICE	TOTAL PRICE
1	Install 30" Water Main	LF	38,500	\$300	\$11,550,000
2	42" Bore & Steel Encasement	LF	600	\$850	\$510,000
3	ROW	AC	26	\$75,000	\$1,950,000
Construction Subtotal					\$14,010,000
Contingency				30%	\$4,190,000
Construction Total					\$18,200,000
Engineering & Special Services				16%	\$2,900,000
Project Total					\$21,100,000





 6/13/2024

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Mt. Peak S.U.D.
 Mansfield Connection
 Preliminary Engineer's Statement of Probable Cost
 6/13/2023

10.0 MGD High Service Pump Station					
Item	Description	Unit	Quantity	UNIT PRICE	TOTAL PRICE
1	Pump Station	MGD	16	\$1,000,000	\$16,000,000
2	3.0 MG Prestressed GST (40')	LS	1	\$3,000,000	\$3,000,000
Construction Subtotal					\$19,000,000
Contingency				30%	\$5,700,000
Construction Total					\$24,700,000
Engineering & Special Services				14%	\$3,460,000
Project Total					\$28,160,000




 6/13/2024

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Mt. Peak S.U.D.
V.V. Jones 30" Relocation
Preliminary Engineer's Statement of Probable Cost
6/13/2024

Transmission Line					
Item	Description	Unit	Quantity	UNIT PRICE	TOTAL PRICE
1	Install 30" Water Main	LF	7,850	\$300	\$2,355,000
2	42" Bore & Steel Encasement	LF	1,000	\$850	\$850,000
3	ROW	AC	6	\$75,000	\$412,500
Construction Subtotal					\$3,617,500
Contingency				30%	\$1,032,500
Construction Total					\$4,650,000
Engineering & Special Services				16%	\$2,900,000
Project Total					\$7,550,000



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Mt. Peak S.U.D.
FM 157 to CR 213 12" Waterline
Preliminary Engineer's Statement of Probable Cost
6/13/2024

Transmission Line					
Item	Description	Unit	Quantity	UNIT PRICE	TOTAL PRICE
1	Install 12" Water Main	LF	7,000	\$120	\$840,000
2	18" Bore & Steel Encasement	LF	100	\$360	\$36,000
3	ROW	AC	2	\$75,000	\$150,000
Construction Subtotal					\$1,026,000
Contingency				30%	\$304,000
Construction Total					\$1,330,000
Engineering & Special Services				16%	\$210,000
Project Total					\$1,540,000





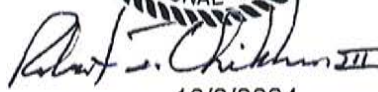
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Mt. Peak S.U.D.
 CR 501 & 502 20" Waterline
 Preliminary Engineer's Statement of Probable Cost
 10/2/2024

Transmission Line					
Item	Description	Unit	Quantity	UNIT PRICE	TOTAL PRICE
1	Install 20" Water Main	LF	13,500	\$200	\$2,700,000
2	30" Bore & Steel Encasement	LF	600	\$650	\$390,000
3	ROW	AC	6	\$75,000	\$450,000
Construction Subtotal					\$3,540,000
Contingency				30%	\$1,062,000
Construction Total					\$4,602,000
Engineering & Special Services				16%	\$738,000
Project Total					\$5,340,000




 10/2/2024

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CE CHILDRESS ENGINEERS
ENGINEERS & CONSULTANTS
 Texas Registered Engineering Firm F-702
 211 North Ridgeway Dr. Cleburne, Texas 76033
 817-645-1118 Fax 817-645-7235
 childress-engineers.com

Conceptual Engineer's Statement of Probable Cost
9/30/2024

700 GPM Deep Well and Pump					
Item	Description	Unit	Quantity	UNIT PRICE	TOTAL PRICE
1	2,500' 14"x8" Well and Pump	LS	1	\$2,700,000.00	\$2,700,000.00
	Contingency			30%	\$800,000.00
	Construction Total				\$3,500,000.00
	Engineering & Special Services			14%	\$500,000.00
	Project Total				\$4,000,000.00



9/30/2024

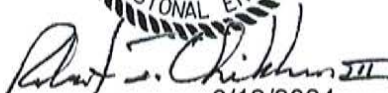
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Conceptual Engineer's Statement of Probable Cost

6/12/2024

2,000,000 Gallon Composite Elevated Tank					
Item	Description	Unit	Quantity	UNIT PRICE	TOTAL PRICE
1	2,000,000 Gallon Elevated Storage Tank (160' Composite)	LS	1	\$7,500,000	\$7,500,000
2	Sitework & Yard Piping	LS	1	\$250,000	\$250,000
3	Electrical	LS	1	\$250,000	\$250,000
4	SCADA System	LS	1	\$150,000	\$150,000
	Construction Subtotal				\$8,150,000
	Contingency			30%	\$2,450,000
	Construction Total				\$10,600,000
	Engineering & Special Services			14%	\$1,480,000
	Project Total				\$12,080,000





 6/12/2024

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Conceptual Engineer's Statement of Probable Cost
6/13/2024

2.0 MGD Pump Station					
Item	Description	Unit	Quantity	UNIT PRICE	TOTAL PRICE
1	Pump Station	MGD	2	\$1,300,000.00	\$2,600,000.00
2	1.0 MG Ground Storage Tank	LS	1	\$1,500,000.00	\$1,500,000.00
3	Generator	LS	1	\$700,000.00	\$700,000.00
4	Offsite Electric Extension	LS	1	\$300,000.00	\$300,000.00
Construction Subtotal					\$5,100,000.00
Contingency				30%	\$1,530,000.00
Construction Total					\$6,630,000.00
Engineering & Special Services				14%	\$930,000.00
Project Total					\$7,560,000.00




6/13/2024

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Conceptual Engineer's Statement of Probable Cost
10/2/2024

Well Transmission Line					
Item	Description	Unit	Quantity	UNIT PRICE	TOTAL PRICE
1	12" Water Main	LF	6,500	\$120.00	\$780,000.00
2	18" Steel Casing	LF	150	\$350.00	\$52,500.00
Construction Subtotal					\$832,500.00
Contingency				30%	\$249,500.00
Construction Total					\$1,082,000.00
Engineering & Special Services				14%	\$151,000.00
Project Total					\$1,233,000.00

10/2/2024

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Conceptual Engineer's Statement of Probable Cost

6/13/2024

1.0 MGD Pump Station					
Item	Description	Unit	Quantity	UNIT PRICE	TOTAL PRICE
1	Pump Station	MGD	1	\$1,300,000.00	\$1,300,000.00
2	0.5 MG Ground Storage Tank	LS	1	\$1,000,000.00	\$1,000,000.00
3	Generator	LS	1	\$700,000.00	\$700,000.00
4	Offsite Electric Extension	LS	1	\$300,000.00	\$300,000.00
Construction Subtotal					\$3,300,000.00
Contingency				30%	\$990,000.00
Construction Total					\$4,290,000.00
Engineering & Special Services				14%	\$600,000.00
Project Total					\$4,890,000.00



Robert T. Childress III

6/13/2024

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Conceptual Engineer's Statement of Probable Cost
6/13/2024

Plant 8 4.3 MGD Pump Station Upgrade					
Item	Description	Unit	Quantity	UNIT PRICE	TOTAL PRICE
1	Pump Station	MGD	4.3	\$1,000,000.00	\$4,300,000.00
2	1.0 MG Ground Storage Tank	LS	1	\$1,500,000.00	\$1,500,000.00
3	Offsite Electric Extension	LS	1	\$300,000.00	\$300,000.00
Construction Subtotal					\$6,100,000.00
Contingency				30%	\$1,830,000.00
Construction Total					\$7,930,000.00
Engineering & Special Services				14%	\$1,110,000.00
Project Total					\$9,040,000.00





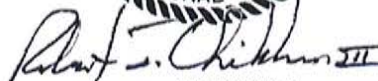
6/13/2024

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Mt. Peak S.U.D.
 Mansfield Connection, Ph 2
 Preliminary Engineer's Statement of Probable Cost
 6/13/2024

Transmission / Distribution Line					
Item	Description	Unit	Quantity	UNIT PRICE	TOTAL PRICE
1	Install 24" Water Main	LF	29,000	\$240	\$6,960,000
2	36" Bore & Steel Encasement	LF	900	\$750	\$675,000
3	ROW	AC	20.00	\$120,000	\$2,400,000
Construction Subtotal					\$10,035,000
Contingency				30%	\$3,015,000
Construction Total					\$13,050,000
Engineering & Special Services				15%	\$1,950,000
Project Total					\$15,000,000





 6/13/2024

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Mt. Peak S.U.D.
Mountain Pump Station 14
Preliminary Engineer's Statement of Probable Cost
6/14/2024

10.0 MGD High Service Pump Station					
Item	Description	Unit	Quantity	UNIT PRICE	TOTAL PRICE
1	Pump Station	MGD	10	\$1,000,000	\$10,000,000
2	3.0 MG Prestressed GST (40')	LS	1	\$3,000,000	\$3,000,000
3	Electrical	LS	1	\$250,000	\$250,000
4	SCADA System	LS	1	\$150,000	\$150,000
Construction Subtotal					\$13,000,000
Contingency					30% \$3,900,000
Construction Total					\$16,900,000
Engineering & Special Services					14% \$2,350,000
Project Total					\$19,250,000



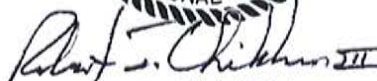

 6/14/2024

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Mt. Peak S.U.D.
Mountain Transmission / Distribution Line
Preliminary Engineer's Statement of Probable Cost
6/14/2024

Transmission Line					
Item	Description	Unit	Quantity	UNIT PRICE	TOTAL PRICE
1	Install 30" Water Main	LF	21,200	\$300	\$6,360,000
2	42" Bore & Steel Encasement	LF	200	\$850	\$170,000
3	ROW	AC	14.00	\$120,000	\$1,680,000
Construction Subtotal					\$8,210,000
Contingency				30%	\$2,460,000
Construction Total					\$10,670,000
Engineering & Special Services				16%	\$1,710,000
Project Total					\$12,380,000



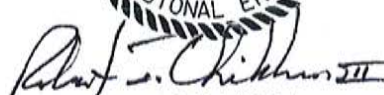

 6/14/2024

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Mt. Peak S.U.D.
Indian Creek / Baucum Road 24" Transmission / Distribution Main
Preliminary Engineer's Statement of Probable Cost
9/24/2024

Transmission / Distribution Line					
Item	Description	Unit	Quantity	UNIT PRICE	TOTAL PRICE
1	Install 24" Water Main	LF	18,200	\$240	\$4,368,000
2	36" Bore & Steel Encasement	LF	500	\$750	\$375,000
3	ROW	AC	8.50	\$50,000	\$425,000
Construction Subtotal					\$5,168,000
Contingency					30% \$1,532,000
Construction Total					\$6,700,000
Engineering & Special Services					16% \$1,100,000
Project Total					\$7,800,000

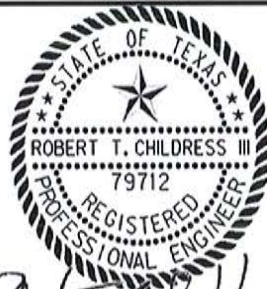


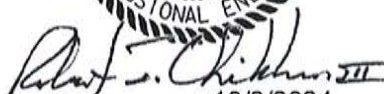

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Conceptual Engineer's Statement of Probable Cost
10/2/2024

500,000 Gallon Composite Elevated Tank					
Item	Description	Unit	Quantity	UNIT PRICE	TOTAL PRICE
1	500,000 Gallon Elevated Storage Tank (160' Composite)	LS	1	\$2,500,000	\$2,500,000
2	Sitework & Yard Piping	LS	1	\$250,000	\$250,000
3	Electrical	LS	1	\$250,000	\$250,000
4	SCADA System	LS	1	\$150,000	\$150,000
Construction Subtotal					\$3,150,000
Contingency					30% \$950,000
Construction Total					\$4,100,000
Engineering & Special Services					14% \$574,000
Project Total					\$4,674,000




 10/2/2024

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