Innovative approaches
Practical results
Outstanding service

DRAFT

WATER UTILITY MASTER PLAN

Prepared for:

City of Roswell

October 9, 2026

Prepared by:

FREESE AND NICHOLS, INC.
10431 Morado Circle, Suite 300
Austin, Texas 78759
512-617-3100

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FNI Project Number: RNM24817

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EXECUTIVE SUMMARY

1.0 INTRODUCTION

The City of Roswell (Roswell) contracted with Freese and Nichols, Inc. (FNI) in 2024 to provide an update to the Water Utility Master Plan. The goals of this study were to evaluate the capacity of the existing water distribution system and to recommend water infrastructure capital improvement plans. Growth projections were developed based on the 2025 Comprehensive Plan and in coordination with Roswell staff. The growth projections were utilized to project future water demand. The water distribution system hydraulic model was updated using geographic information system (GIS) data. The recommended improvements will serve as a basis for the design, construction, and financing of facilities required to meet Roswell's water capacity needs as a result of the projected growth and development.

2.0 GROWTH PROJECTIONS

For this study, growth in population was determined by evaluating the historical population trend and estimating a reasonable yet conservative growth rate for future planning years. Four planning periods are identified for the purposes of this study: existing (2025), 5-year (2030), 15-year (2040) and buildout. **Table ES-1** summarizes the projected population through the planning periods. The anticipated annual growth rate of the residential population is 0.75%

Table ES-1: Projected Population

Year	Population
2025	47,886
2030	49,709
2040	53,566
Buildout	81,180

Roswell serves both residential and non-residential customers. Non-residential growth was projected within the service area, measured by the acreage of land covered. The buildout acreage was estimated based on the 2016 Comprehensive Plan future land plan and accounting for commercial, institutional, and industrial land use. With an estimated buildout year of 2096, the average annual growth rate of non-residential development is approximately 0.45%. Using this growth rate, the non-residential acreage in

the 2030 and 2040 projection phases were interpolated. The projected future non-residential acreage in Roswell is shown in **Table ES-2**.

Tables ES-2: Projected Non-Residential Acreage

Year	Non-Residential Land (Acres)
2025	7,310
2030	7,476
2040	7,819
Buildout	10,039

3.0 EXISTING WATER SYSTEM

The existing water distribution system consists of a network of water lines, 22 groundwater wells, two booster pump stations (PS), two elevated storage tanks (EST), and five ground storage tanks (GST), three of which act as elevated storage. **Tables ES-3** through **ES-5** show the pump station, ground storage tank, and elevated storage tank information.

Table ES-3: Pump Station Summary

Pump Station	Pump No.	Pump Capacity (gpm)	TDH (ft)	Firm Pumping Capacity (gpm)
RIAC Booster Pumping Station	RIAC BPS #1	1,500	145	2,500
	RIAC BPS #2	1,500	145	
	RIAC BPS #3	1,000	145	
Kerr Booster Pumping Station	Kerr BPS #1	4,000	1,000	18,500
	Kerr BPS #2	4,000	1,000	
	Kerr BPS #3	6,000	1,000	
	Kerr BPS #4	4,500	1,000	
	Kerr BPS #5	6,000	1,000	

Table ES-4: Ground Storage Summary

Tank	Diameter (ft)	Base Elevation (ft)	Overflow Elevation (ft)	Height (ft)	Capacity (MGD)
Trigg Reservoir	25	3,786	3,814	28	0.10
Kerr Reservoir	158	3,650	3,678	28	3.52
Third St Reservoir	188	3,720	3,744	24	4.98
Country Club Reservoir (N)	231	3,720	3,744	24	7.52
Country Club Reservoir (S)	231	3,720	3,744	24	7.52

Table ES-5: Elevated Storage Summary

Tank	Pressure Zone	Diameter (ft)	Base Elevation (ft)	Overflow Elevation (ft)	Height (ft)	Capacity (MGD)
RIAC West Elevated Storage	RIAC	60	3,631	3,802	40	0.75
RIAC East Elevated Storage	RIAC	60	3,631	3,802	40	0.75

4.0 WATER DEMAND

Reviewing historical water demands provides insight into selecting design criteria used to project future water demands. The water usage parameters consist of the average per-capita water use, maximum day peaking factor, and peak hour peaking factor**. Table ES-6** summarizes the total projected water demands for the City of Roswell.

Table ES-6: Projected Total Water Demands

Year	Average Day Demand (MGD)	Maximum Day Demand (MGD)	Peak Hour Demand (MGD)
2025	11.40	20.51	35.90
2030	11.78	21.21	37.12
2040	12.60	22.68	39.69
Buildout	18.53	33.36	58.37

5.0 HYDRAULIC MODEL UPDATE AND VALIDATION

As part of this study, the City's existing GIS data was used to update a water model in Bentley's WaterGEMS© software package. Temporary pressure testing was conducted to collect data for use in

model validation. Temporary pressure recorder locations were selected with the intention of capturing pressure fluctuations during high demand days. During the extended period simulation (EPS) validation, adjustments were made to the model in order to match the known pressure conditions of August 6, 2025. FNI utilized EPS modeling to evaluate the range of pressures, the turnover of tanks, and cycling of pumps over a 24-hour period. Generally, the model predicted pressures are similar to those observed.

6.0 WATER SYSTEM HYDRAULIC ANALYSIS

The water system was evaluated utilizing the hydraulic water model to identify any deficiencies and to establish a capital improvements plan to meet projected water demands through buildout. Parameters used in developing the capital improvements plan included increasing system reliability, simplifying system operations, meeting required fire flows, and maintaining proper residual pressures.

This analysis is performed to determine if there are any existing or future system deficiencies and to provide a baseline for the current level of service. The results of the analysis are summarized below:

- The City's infrastructure meets recommended planning criteria for storage, production, and pumping capacity through the planning year 2040.
- A review of existing pressures throughout the system revealed most pressures are above 35 pounds per square inch (psi) range. Minimum pressures remain above 35 psi through the buildout system analysis.
- The majority of the water system can meet a fire flow demand of at least 1,500 gpm while maintaining a residual pressure of 20 psi. This is a typical residential fire flow demand. Available fire flows below 1,500 gpm are due to small diameter lines in isolated areas.

7.0 WATER SYSTEM CONDITION ASSESSMENT

In March 2024, FNI and City staff conducted field assessments of every facility in the existing water system, with the exception of the RIAC #4 Well. The assessment included site visits and visual inspections of the facilities to determine the overall condition of the station and specific condition of major components including pumps and motors, tank coating, electrical equipment, instrumentation, piping and valves, structure, and site. The results of the facility condition assessment were incorporated into recommended improvements that help mitigate the risk of asset failure and proactively manage system degradation.

FNI subcontracted with ASTERRA to perform a leak detection analysis. ASTERRA's satellite leak detection technology has the capability to identify areas having a high probability of subsurface leakage. Points of

interest throughout the system were identified, then ASTERRA performed two field inspections to identify specific locations of leaks and estimate the quantity of water loss. This data was incorporated into recommended pipeline replacement projects that help mitigate the risk of water loss through the distribution system.

8.0 CAPITAL IMPROVEMENT PLANS

FNI developed a phased water system capital improvements plan for the City of Roswell. The recommended improvements will provide the required capacity and reliability to meet projected water demands through buildout. It is recommended that these projects be constructed generally in the order listed; however, development patterns may make it necessary to construct some projects sooner or later than anticipated. **Table ES-7** summarizes the costs of the recommended water system capital improvements plan for the City of Roswell.

Table ES-7: Summary of Water Capital Improvement Costs

Project Number	Project Name	Cost
Short Term Projects		
1	SCADA System Update	$312,000
2	Kerr #6 Well Rehabilitation	$23,400
3	Kerr #1 Well Rehabilitation	$85,800
4	Kerr #2 Well Rehabilitation	$85,800
5	RIAC Booster Pump Station Rehabilitation	$358,800
6	8-inch Montana Avenue Pipeline Replacement	$5,833,500
7	8-inch Kelly Place Pipeline Replacement	$3,384,600
8	12-inch North Main Street Pipeline Replacement	$3,260,000
9	10-inch Hobbs Street Pipeline Replacement	$7,590,200
	Short Term Total	**$20,934,100**
Intermediate Projects		
10	Trigg Reservoir Rehabilitation	$156,000
11	Third Street Reservoir Rehabilitation	$546,000
12	RIAC #5 Well Rehabilitation	$62,400
13	8-inch Union Avenue Pipeline Replacement	$1,533,800
14	8-inch Vista Parkway Pipeline Replacement	$4,648,700
15	8-inch Garden Avenue Pipeline Replacement	$7,236,600
16	8-inch S Grand Avenue Pipeline Replacement	$4,936,200
	Intermediate Total	**$19,119,700**
Long Term Projects		
17	8-inch Chrysler Place Pipeline Replacement	$916,700
18	8-inch College Boulevard Pipeline Replacement	$988,500
19	8-inch Petro Drive Pipeline Replacement	$1,665,500
20	8-inch W 8th Street Pipeline Replacement	$6,475,800
21	8-inch Hendricks Street Pipeline Replacement	$1,875,200
23	Trigg Reservoir Demolition	$117,000
	Long Term Total	**$12,038,700**
	CIP Total	**$52,092,500**

1.0 INTRODUCTION

The City of Roswell (City) contracted with Freese and Nichols, Inc. (FNI) to provide an update to the Water Utility Master Plan. The goals of this study were to evaluate the capacity of the existing water distribution system and to recommend a water infrastructure capital improvement plan. Growth projections were developed based on the City's 2016 Comprehensive Plan and in coordination with Roswell staff. The growth projects were utilized to estimate future water demand. The water distribution system hydraulic model was updated using geographic information system (GIS) data. The recommended improvements will serve as a basis for the design, construction, and financing of facilities required to meet Roswell's water capacity needs as a result of the projected growth and development.

1.1 SCOPE OF WORK

The major elements of the scope of this project include:

- Data Collection and System Inventory
- Evaluating Water Requirements
- Model Update and Calibration
- Current System Evaluation and Critical Needs
- Buildout System Evaluation
- Cost Estimates and Improvements Phasing
- Satellite Leak Detection

1.2 ACRONYMS

Table 1-1 presents a list of acronyms that appear throughout the report.

Table 1-1: List of Abbreviations

Abbreviation	Full Nomenclature
AD	Average Day
BPS	Booster Pump Station
CIP	Capital Improvements Plan
EPS	Extended Period Simulation
ETJ	Extra-territorial Jurisdiction
FNI	Freese and Nichols, Inc.
gpm	gallons per minute
GST	Ground Storage Tank
HGL	Hydraulic Grade Line
MD	Maximum Day
MG	Million Gallons
MGD	million gallons per day
NRW	Non-revenue Water
PH	Peak Hour Demand
PRV	Pressure Reducing Valve
PS	Pump Station
psi	pounds per square inch
PZ	Pressure Zone
SCADA	Supervisory Control and Data Acquisition
TDH	Total Dynamic Head

1.3 KEY DEFINITIONS

The following is a list of key definitions utilized in the Report.

- Average Day Demand – the total annual water use divided by the number of days in the year.
- Capacity Improvement – general project to improve the ability of the water system to convey projected water demands.
- Maximum Day Demand – the maximum quantity of water used system-wide on any one day of the year.
- Diurnal Pattern – a typical pattern of water demand that occurs every 24 hours, dependent on the demographics of the area.

- Elevated Storage Tank – a water storage tank that sets the hydraulic grade of the pressure zone in which it operates. Tank can be either a true elevated tank (i.e., raised on a structure, typically 50-200 feet in the air) or a ground tank located at an elevation high enough to provide adequate pressure.
- Firm Pumping Capacity – the pumping capacity of a pump station or lift station with the largest pump offline and all other pumps running, based on recorded flows at the best efficiency point or rated capacity of each pump.
- Peak Hour Demand – the water system's maximum hourly usage rate at any point in the year, or during a maximum day demand.
- Pressure – a measure of energy at a given location and time in the water/wastewater system, typically measured in pounds per square inch (psi).
- Pressure Zone – an area of the water system that operates at a particular hydraulic grade.
- Hydraulic Grade Line (HGL) – Energy of water or wastewater flow expressed in feet above mean sea level (i.e., head). Wastewater surface elevation in a partially full pipe or manhole. Under pressure (full pipe) conditions the HGL is what the water surface elevation would be if unconfined.
- Risk Based Analysis – An analysis method utilizing results of condition assessments to score water facilities and linear assets. Data from facility site visits and recorded linear asset maintenance history are used to determine condition.

2.0 GROWTH PROJECTIONS

Growth projections are an important component of the water and wastewater master planning process. The magnitude and distribution of the growth in population and non-residential development will dictate where future infrastructure is required. FNI coordinated with Roswell staff and reviewed historical data to determine anticipated growth rates for the water system. Proposed developments were identified and phased through the buildout planning period. The following sections describe the process used to develop population and non-residential growth projections.

2.1 SERVICE AREA

Roswell is a community located in southeastern New Mexico, within Chaves County. The City currently provides water service to over 47,000 people. A future water service area boundary was identified as the existing Roswell city limits and potential annexation areas identified in the 2016 Comprehensive Plan. For this study, the water service area boundary was used when projecting future growth through the buildout planning period. **Figure 2-1** shows the extents of the water service area.

2.2 HISTORICAL POPULATION

Historical population was evaluated to identify recent growth rates for Roswell. An analysis of recent growth trends provides a basis for determining expected growth. **Table 2-1** shows the historical population of the City of Roswell from 2010 through 2023, sourced from the American Community Survey, conducted by the United States Census Bureau. The population over the last 12 years has remained steady, with years of modest negative and positive growth, resulting in an average annual growth rate of less than 1%.

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DRAFT FIGURE 2-1

CITY OF ROSWELL

WATER SERVICE AREA

LEGEND

- Ground Storage Tank
- Elevated Storage Tank
- Booster Pump Station (PS)
- Well
- 10" and Smaller Water Line
- 12" and Larger Water Line
- Road
- City Limit
- Extra Territorial Zone
- Water Service Area

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ROSWELL New Mexico

0 6,000
SCALE IN FEET

Table 2-1: Historical City of Roswell Population

Year	Census Population	Annual Growth Rate
2010	47,414	--
2011	47,881	0.98%
2012	48,167	0.60%
2013	48,423	0.53%
2014	48,568	0.30%
2015	48,553	-0.03%
2016	48,407	-0.30%
2017	48,163	-0.50%
2018	48,186	0.05%
2019	47,941	-0.51%
2020	47,751	-0.40%
2021	48,347	1.25%
2022	48,035	-0.65%
2023	47,823	-0.44%
Average		**0.07%**

2.3 GROWTH PROJECTIONS

FNI met with the Roswell Community Development team and the Comprehensive Plan Update team to discuss future growth assumptions. At the time that FNI met with the City to discuss future growth assumptions, the 2025 Comprehensive Plan was in the process of being updated. Therefore, FNI utilized the 2016 Comprehensive Plan future land use assumptions to help project future growth. The future land use from the 2016 Comprehensive Plan is shown on **Figure 2-2**. The City staff also provided information on currently proposed or planned developments to be incorporated into future projections. There is currently one planned development in the city, the Oaks Subdivision, which is expected to add approximately 700 housing units to the City.

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DRAFT FIGURE 2-2
CITY OF ROSWELL
FUTURE LAND USE

LEGEND

Future Land Use

- Commercial
- Downtown
- High Density Residential
- Industrial
- Institutional
- Light Industrial
- Low Density Residential/ Agriculture
- Mixed Use
- Parks and Open Space
- Residential

- City Limit
- Extra Territorial Zone
- Road

FREESE AND NICHOLS

ROSWELL New Mexico

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Four planning periods are identified for the purposes of this study: existing (2025), 5-year (2030), 15-year (2040) and buildout. FNI projected both residential and non-residential growth within the service area across these four planning periods.

2.3.1 Residential Population

While the population in Roswell has remained relatively constant since 2010, a small amount of annual growth is included in this study to provide a conservative estimate of potential future water demands. An average annual growth rate of 0.75% was selected to project future population. The projected future population in Roswell is shown in **Table 2-2**. The future population growth was spatially allocated across the service area based on known developments, the future land use plan, and potential annexation areas. The anticipated growth is illustrated by Census block group on **Figure 2-3**. To determine the buildout population, the 2016 Comprehensive Plan future land use was used to identify the land use type across the service area. Densities associated with each of the land uses were then applied to the total area, to estimate the number of dwelling units and population. The dwelling units associated with the low density residential and residential land use types were converted to population using a ratio of 2.7 people per household, based on data from the Roswell-Chaves County Economic Development Corporation. Low density residential and residential dwellings are anticipated to house primarily single families. The dwelling units associated with the high density residential, downtown, and mixed use land use types were converted to population using a ratio of 1.3 people per household, anticipating that these dwelling units will be primarily single-resident households. The land uses, respective densities, and resulting buildout population are shown in **Table 2-3**. Based on the projected future population and selected average annual growth rate, buildout of the City is anticipated to occur in the year 2096.

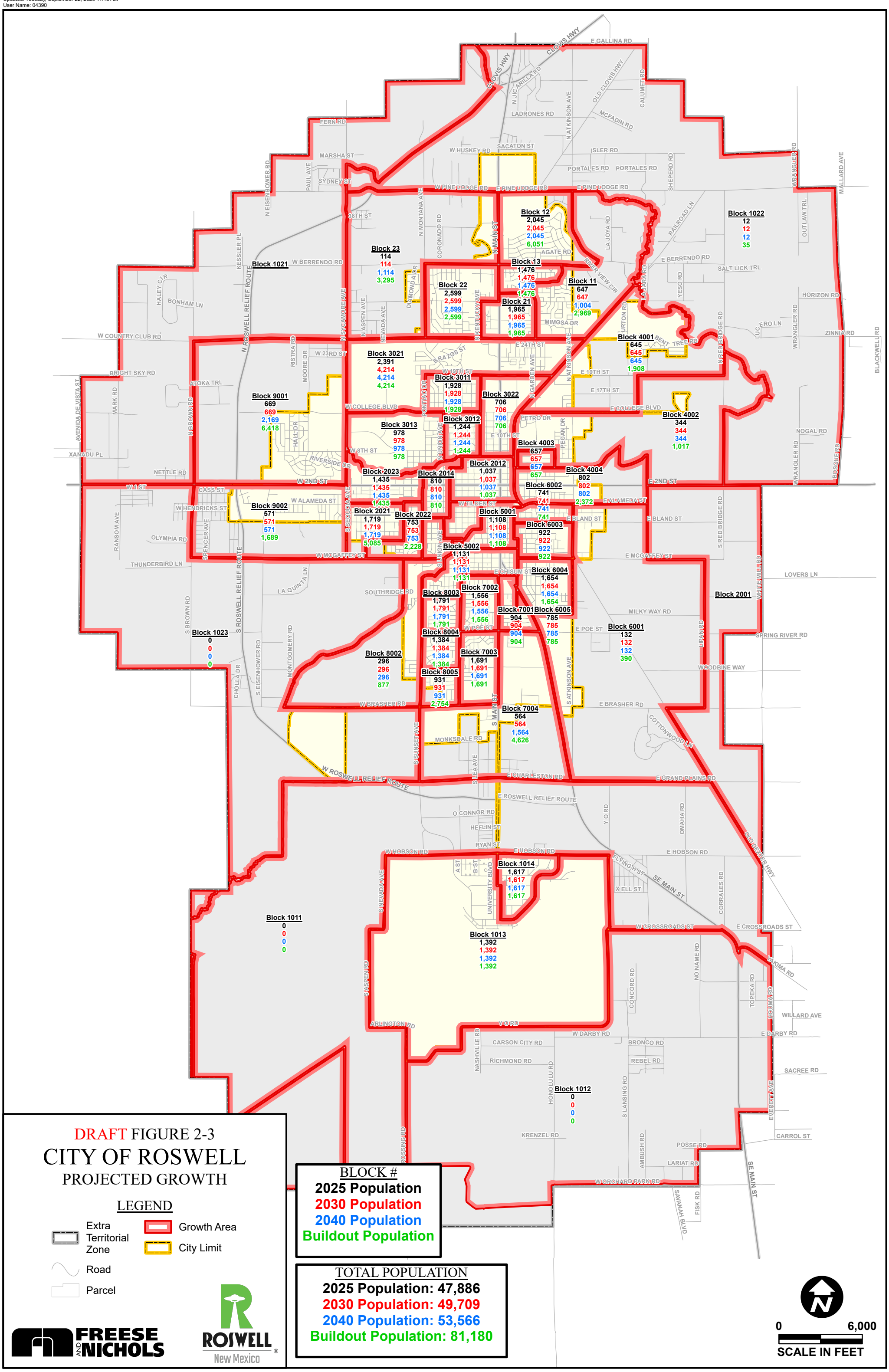
Table 2-2: Projected Population

Year	Population
2025	47,886
2030	49,709
2040	53,566
Buildout	81,180

Table 2-3: Buildout Residential Land Use and Population

Land Use	Density (Dwelling Unit/Acre)	Total Area (Acres)	Number of Dwelling Units	Buildout Population
Low Density Residential/Agricultural	0.4	5,027	2,011	5,430
Residential	4	1,632	6,528	17,626
High Density Residential	20	1,511	30,212	39,276
Downtown	10	122	1,221	1,587
Mixed Use	15	885	13,278	17,261
Total	**-**	**9,177**	**53,250**	**81,180**

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2.3.2 Non-Residential Land Use

Roswell serves both residential and non-residential customers. Non-residential growth was projected within the service area, measured by the acreage of land covered. The existing non-residential acreage was estimated to be approximately 7,310 acres, based on existing zoning data. The buildout acreage was estimated to be approximately 10,039 acres, based on the 2016 Comprehensive Plan future land plan and accounting for commercial, institutional, and industrial land use. With an estimated buildout year of 2096, the average annual growth rate of non-residential development is approximately 0.45%. Using this growth rate, the non-residential acreage in the 2030 and 2040 projection phases were interpolated. The projected future non-residential acreage in Roswell is shown in **Table 2-4.**

Table 2-4: Projected Non-Residential Acreage

Year	Non-Residential Land (Acres)
2025	7,310
2030	7,476
2040	7,819
Buildout	10,039

3.0 EXISTING WATER SYSTEM

The existing water system consists of a network of lines ranging in size from 1 inch to 48 inches in diameter, 22 groundwater wells, two booster pump stations (PS), two elevated storage tanks (EST), and five ground storage tanks (GST), three of which act as elevated storage. The existing water distribution system is shown on **Figure 3-1. Figure 3-2** shows the water system in schematic form.

3.1 PRESSURE ZONES

The water system is separated into three main pressure zones (PZ): Trigg/Kerr, Roswell, and RIAC. The Trigg/Kerr PZ serves no customers but rather transfers groundwater from the Trigg and Kerr well fields into the main distribution system. The Roswell PZ serves the main portion of the City with the boundary consisting of Hobson Road to the south, West Huskey Road to the north, Wooldridge-Margaret Road to the west, and Roswell Wastewater Treatment Plant at the furthest point to the east. Ground elevations generally range from 3,531 feet to 3,661 feet. The Roswell PZ is the largest pressure zone, accounting for approximately 78% of the City's total water usage. The RIAC PZ serves the southern portion of the City, with the boundary consisting of Y O Road to the south and east, Hobson Road to the north, and South Aspen Road to the west. Ground elevations generally range from 3,610 to 3,660.

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Country Club Reservoirs
Third St Reservoir
Trigg Reservoir
Kerr Reservoir
Mathis Reservoir / Elevated Storage
RIAC Elevated Storage

DRAFT FIGURE 3-1

CITY OF ROSWELL

EXISTING WATER SYSTEM

LEGEND

- Ground Storage Tank
- Elevated Storage Tank
- Pump Station
- Well
- 10" and Smaller Water Line
- 12" and Larger Water Line
- Road
- Parcel
- City Limit
- Extra Territorial Zone

PRESSURE ZONES

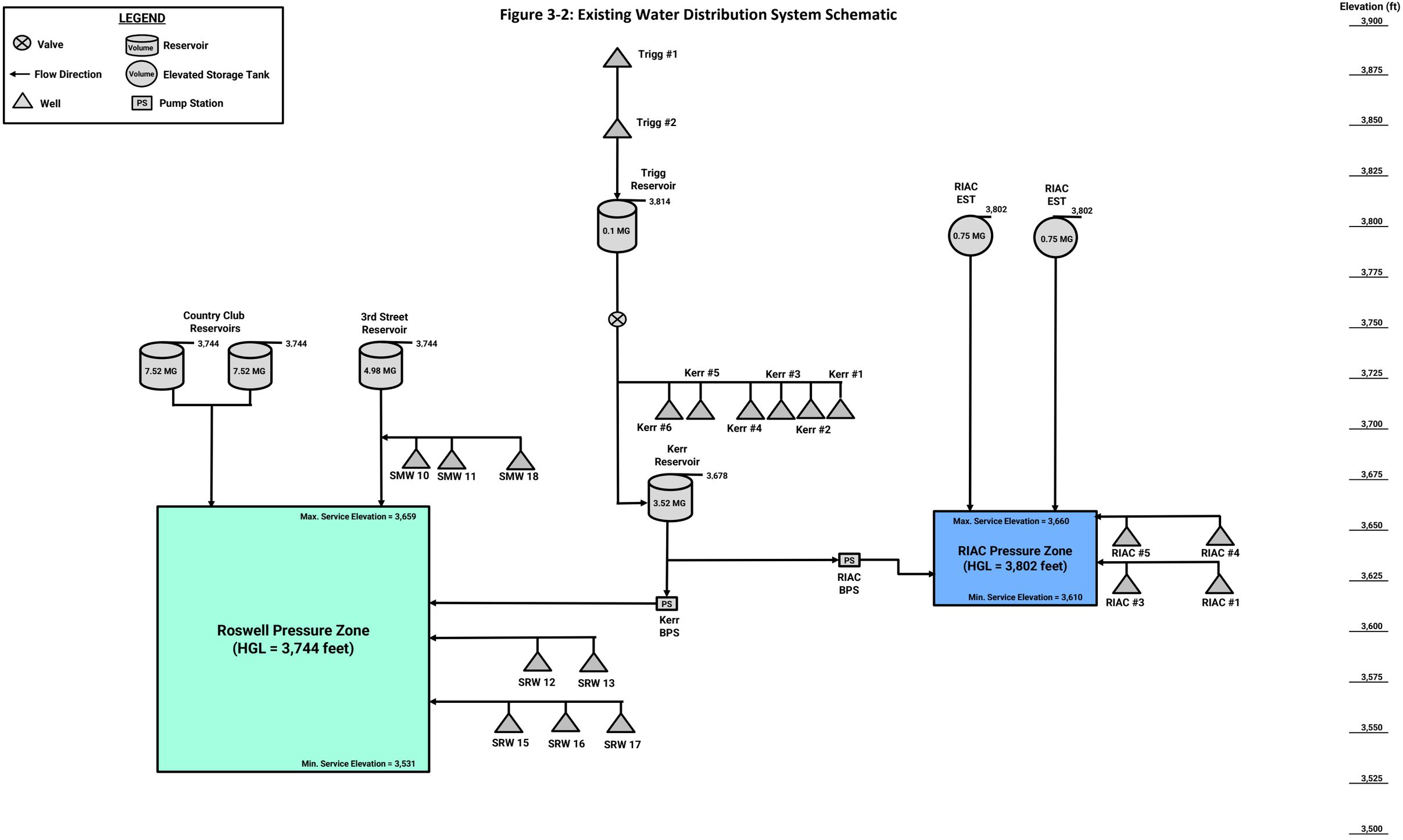
- RIAC
- Roswell
- Trigg/Kerr

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ROSWELL New Mexico

0 6,000
SCALE IN FEET

Figure 3-2: Existing Water Distribution System Schematic



3.2 DISTRIBUTION PUMPING FACILITIES

There are two booster pump stations (BPS), the RIAC BPS and the Kerr BPS. The RIAC BPS serves the RIAC PZ and the Kerr BPS serves the Roswell PZ. Both BPS are supplied by the Kerr Reservoir and the firm pumping capacity of each facility is shown in **Table 3-1**.

Table 3-1: Summary of Booster Pump Station Facilities

Pump Station	Pump No.	Pump Capacity (gpm)	TDH (ft)	Firm Pumping Capacity (gpm)
RIAC Booster Pumping Station	RIAC BPS #1	1,500	145	2,500
	RIAC BPS #2	1,500	145	
	RIAC BPS #3	1,000	145	
Kerr Booster Pumping Station	Kerr BPS #1	4,000	1,000	18,500
	Kerr BPS #2	4,000	1,000	
	Kerr BPS #3	6,000	1,000	
	Kerr BPS #4	4,500	1,000	
	Kerr BPS #5	6,000	1,000	

3.3 STORAGE TANKS

There are a total of seven storage tanks in the system. Two elevated storage tanks, the RIAC West EST and the RIAC East EST, are located in the RIAC PZ. There are five ground storage tanks across the water system. The Trigg reservoir is located in the Trigg PZ and it is primarily used to store water from the Trigg wellfield. The Kerr Reservoir is located in the Kerr PZ and stores groundwater that is pumped to the water distribution system through the Kerr BPS. The Third Street, Country Club North, and Country Club South reservoirs are ground storage tanks that act as elevated storage in the Roswell PZ. **Table 3-2** and **Table 3-3** summarize the facility information of the seven storage tanks.

Table 3-2: Summary of Ground Storage Facilities

Tank	Diameter (ft)	Base Elevation (ft)	Overflow Elevation (ft)	Height (ft)	Capacity (MG)
Trigg Reservoir	25	3,786	3,814	28	0.10
Kerr Reservoir	158	3,650	3,678	28	3.52

Table 3-3: Summary of Elevated Storage Facilities

Tank	Pressure Zone	Diameter (ft)	Base Elevation (ft)	Overflow Elevation (ft)	Height (ft)	Capacity (MG)
RIAC West Elevated Storage	RIAC	60	3,631	3,802	40	0.75
RIAC East Elevated Storage	RIAC	60	3,631	3,802	40	0.75
Third St Reservoir	Roswell	188	3,720	3,744	24	4.98
Country Club Reservoir (N)	Roswell	231	3,720	3,744	24	7.52
Country Club Reservoirs (S)	Roswell	231	3,720	3,744	24	7.52

3.4 PRODUCTION FACILITIES

There are a total of five well fields throughout the system. The Six Mile Hill and South Roswell Well Fields supply the Roswell PZ. The RIAC Well Field supplies the RIAC PZ. The Trigg and Kerr Well Fields supply the Kerr Reservoir, which supplies both the Kerr BPS and the RIAC BPS to serve the Roswell PZ and the RIAC PZ, respectively. **Table 3-4** provides a summary of the existing groundwater rights, overseen by the New Mexico Office of the State Engineer, and **Table 3-5** provides a summary of the well capacities at each well field.

Table 3-4: Summary of Existing Groundwater Rights

Well Field	Capacity	
	(Acre-Ft/Yr)	(MGD)
Kerr	4,909	4.4
Trigg	1,974	1.8
Six Mile Hill	8,065	7.2
South of Roswell	9,400	8.4
RIAC	2,500	2.2
Total	**26,848**	**24.0**

Table 3-5: Existing Well Capacities

Well Name	Well Capacity (gpm)
Kerr #1	1,700
Kerr #2	1,325
Kerr #3	1,025
Kerr #4	1,600
Kerr #5	1,900
Kerr #6	1,900
Trigg #1	1,350
Trigg #2	1,275
Six Mile Hill No. 10	1,750
Six Mile Hill No. 11	1,550
Six Mile Hill No. 18	1,000
South Roswell No. 4*	1,350
South Roswell No. 8*	2,000
South Roswell No. 12	600
South Roswell No. 13	1,550
South Roswell No. 15	1,650
South Roswell No. 16	2,500
South Roswell No. 17	2,475
RIAC 1	1,350
RIAC 3	875
RIAC 4	800
RIAC 5	900

*Used for irrigation only

3.5 WATER DISTRIBUTION SYSTEM

The City of Roswell's water system consists of 377 miles of water lines. Pipelines range in size from 1 to 48 inches in diameter. **Figure 3-3** illustrates the percentage of pipe length by diameter. The City's water distribution system is mostly comprised of cast iron (38%), steel (16%), and PVC (16%) water mains. Almost 20% of the water lines are not labeled in Roswell's GIS system and are listed as unknown. **Figure 3-4** shows a summary of the recorded pipe material.

Figure 3-3: Percentage of Pipe Length by Diameter

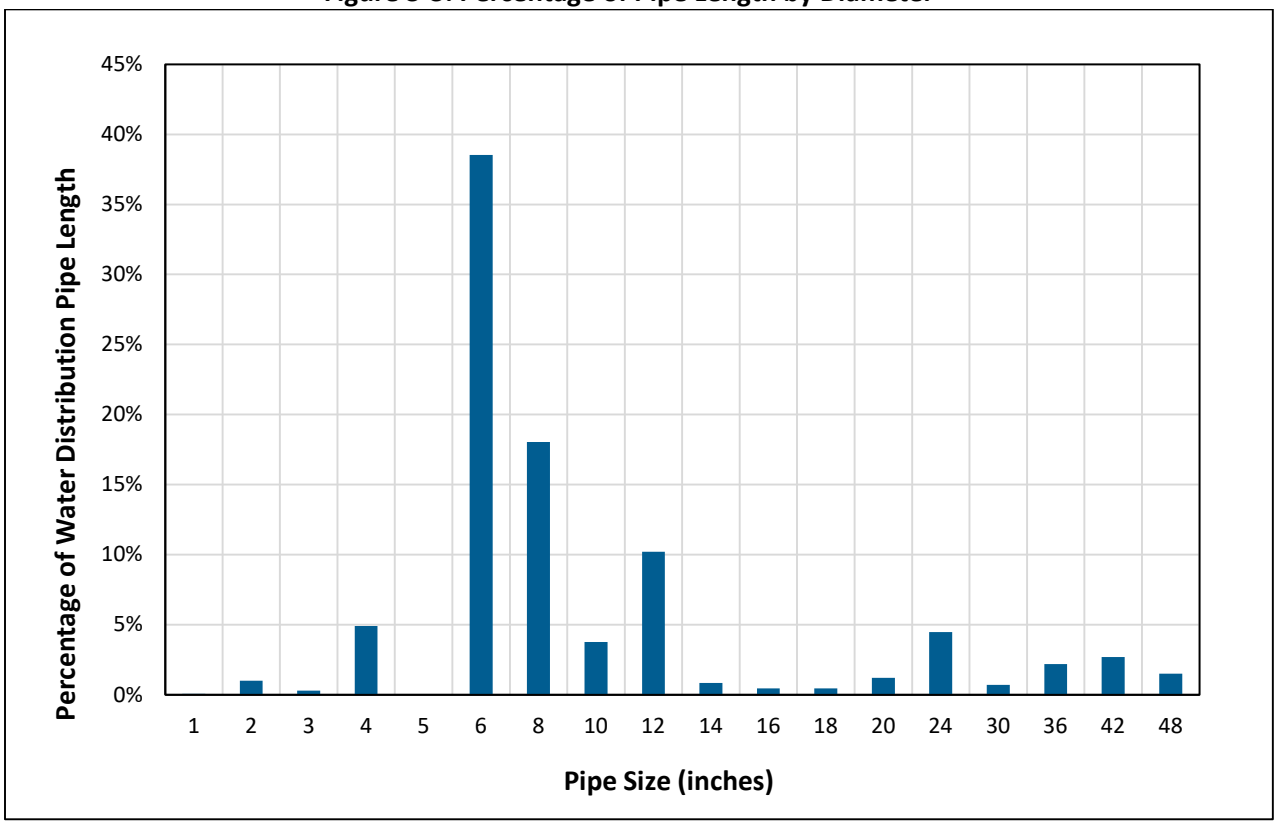
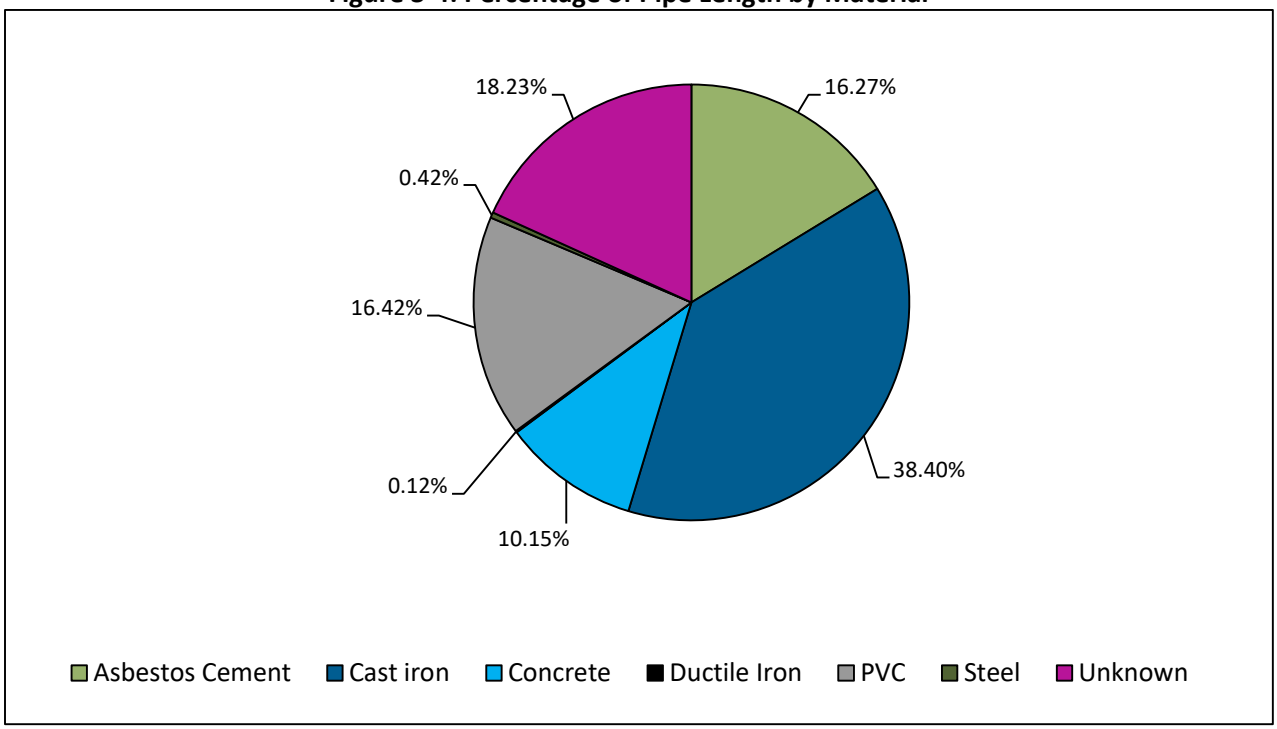


Figure 3-4: Percentage of Pipe Length by Material



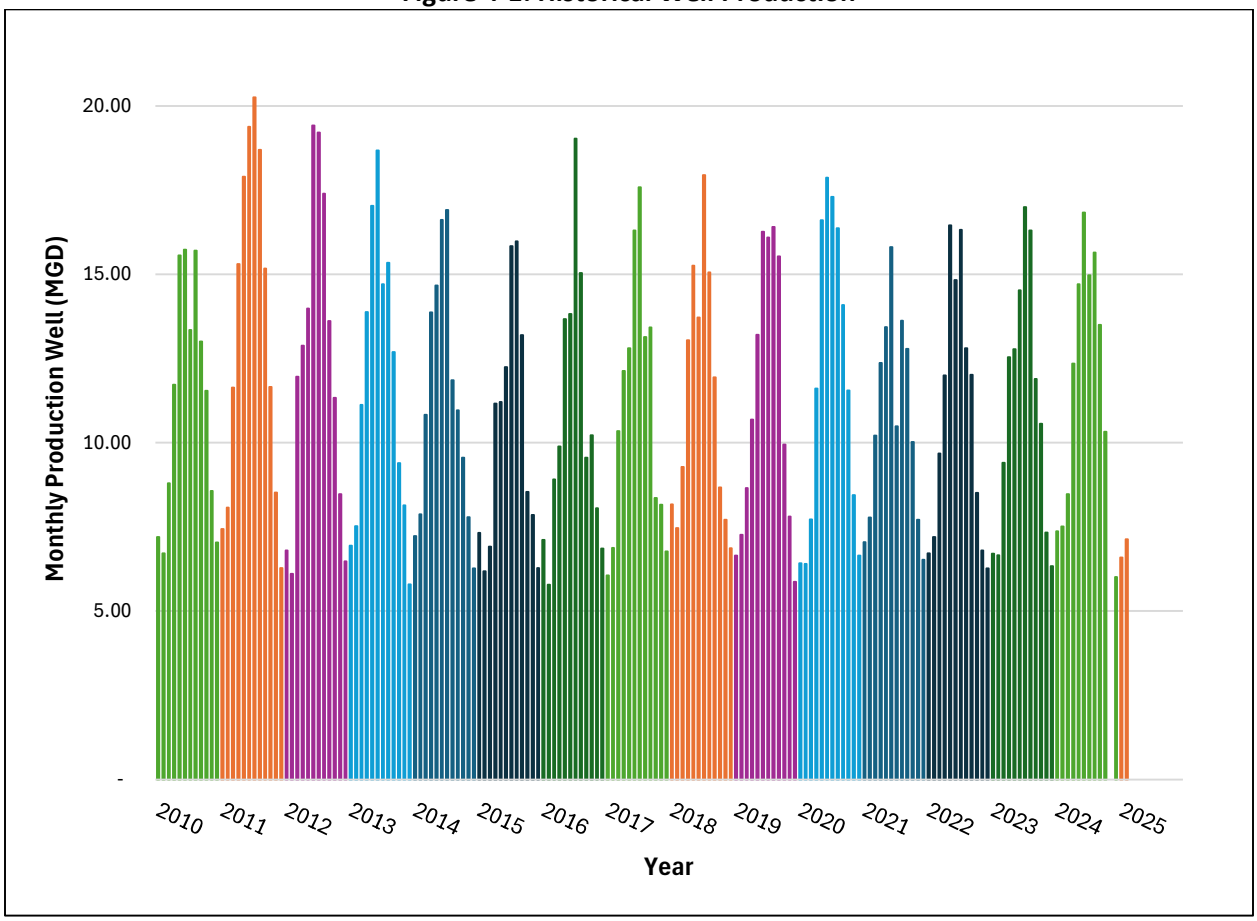
4.0 WATER DEMAND

A water utility must be able to supply water at rates that fluctuate over time. Yearly, monthly, daily, and hourly variations in water use occur, with higher use during dry years and in hot months. Water use also typically follows a diurnal pattern, being low at night and peaking in the early morning and late afternoon. Demand rates most important to the hydraulic design and operation of a water system are average day, maximum day, and peak hour demands. Average day demand is the total annual water use divided by the number of days in the year and is typically used in water supply planning. Maximum day demand is the maximum quantity of water used on any one day of the year. Water production facilities are typically designed based on the maximum day demand. Peak hour demand is the peak rate at which water is required during any one hour of the year. Since minimum distribution pressures are usually experienced during peak hour, the sizes and locations of distribution facilities are generally determined based on this condition.

4.1 HISTORICAL WATER DEMANDS

Well production data was available for the years 2010 through February 2025 and is illustrated on **Figure 4-1.** Monthly well production is reported in million gallons per day (MGD). Overall, water production rates have remained fairly consistent across the past 14 years.

Figure 4-1: Historical Well Production



Billing data from 2022 and 2023 was available to determine the average daily water per capita of the Roswell residents. Per-capita water use, expressed in gallons per capita per day (gpcd), is the average daily water use divided by the population. Available data included the monthly residential consumption and monthly non-residential consumption. Data from 2024 was not available due to billing system changes. The recorded average day residential consumption and resulting average daily per capita are shown in **Table 4-1**.

Table 4-1: Historical Residential Consumption

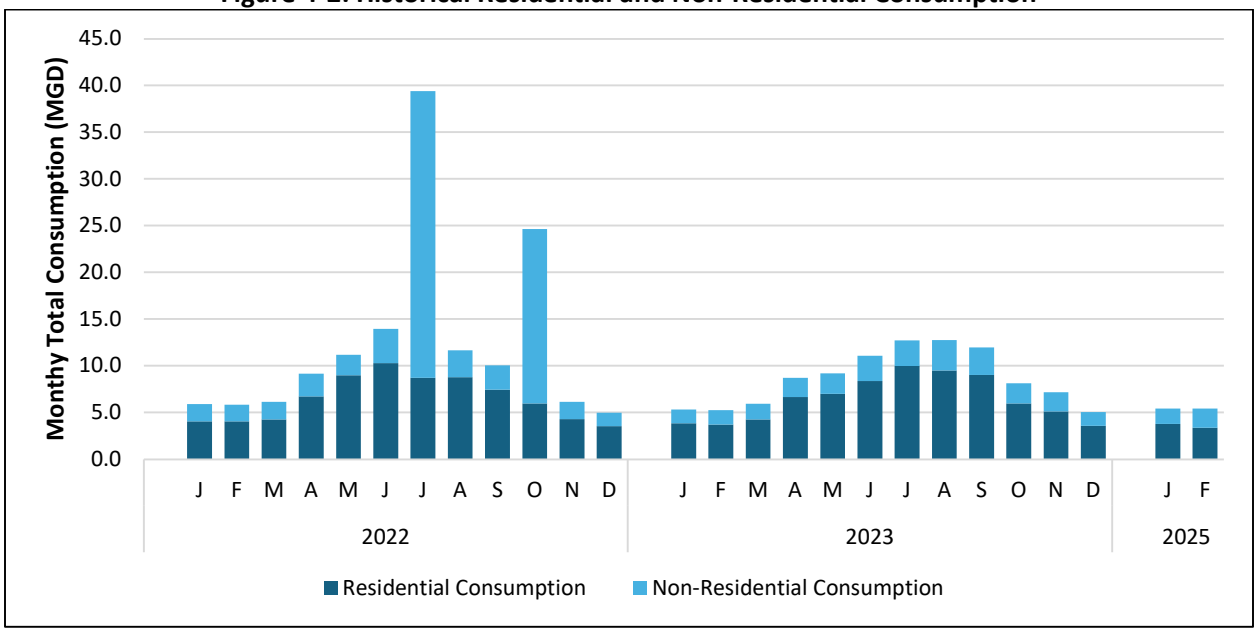
Year	Population	Average Day Residential Consumption (MGD)	Average Daily Demand per Person (gpcd)
2022	47,389	6.43	136
2023	47,109	6.42	136

The recorded average day non-residential consumption and resulting average daily demand rates, expressed in gallons per acre per day (gpAd), are shown in **Table 4-2**. The historical consumption data for non-residential land varied significantly, primarily due to large spikes in non-residential consumption in July 2022 and October 2022. Removing those outliers, the average day non-residential demand in 2022 is 2.3 MGD (315 gpAd). The total historical residential and non-residential consumption through 2022 and 2023 are shown on **Figure 4-2**.

Table 4-2: Historical Non-Residential Consumption

Year	Non-Residential Acreage	Average Day Non-Residential Consumption (MGD)	Average Daily Demand per Acre (gpAd)
2022	7,310	6.06	829
2023	7,310	2.19	300

Figure 4-2: Historical Residential and Non-Residential Consumption



Non-revenue water (NRW) is generally defined as the difference between the amount of water that is produced versus the amount of water that reaches customers. NRW can occur through leaking and broken pipes, inaccurate customer meter readings, or theft through illegal connections. Production and billing data from 2022 and 2023 were available to determine the NRW recently experienced by the City. The 2021 Roswell Water Conservation Plan reported an average annual loss of about 13%, but in recent years

that percentage of NRW has increased, likely due to aging infrastructure. **Table 4-3** summarizes the available NRW data from billing records and the 2021 Water Conservation Plan.

Table 4-3: Historical Non-Revenue Water

Year	Water Billed (MG)	Water Produced (MG)	Non-Revenue Water (MG)	Non-Revenue Water (%)
2018	1,744	1,971	227	12%
2019	3,295	3,819	524	14%
2020	3,431	3,957	526	13%
2021*	--	--	--	--
2022	3,181	4,064	883	22%
2023	3,142	4,227	1,084	26%

*data was not available for year 2021

4.2 PROJECTED WATER DEMANDS

In order to estimate future water demands for the City, a set of water usage parameters were developed and then applied to the projected residential and non-residential growth. The water usage parameters consist of the average daily water use, maximum day peaking factor, and peak hour peaking factor. A residential per-capita rate of 140 gpcd and a non-residential rate of 330 gpAd was selected based on recent billing data.

No information was available to evaluate the maximum day to average day peaking factor, as historical water production and consumption data was only available in monthly totals. The average month to maximum month peaking factor across 2022 and 2023 ranged from 1.54 to 1.62. A 1.8 peaking factor was selected for maximum day demand projections to account for additional daily spikes in demand within the higher demand months. No information was available to evaluate hourly demand data, as the Roswell SCADA system was inoperable during this study. Industry standard hourly peaking factors typically range from 1.2 to 2.0, with higher factors in heavily irrigated areas and/or when systems have large water users with specific time of day demands. Since Roswell has both agricultural and industrial customers, a 1.75 peaking factor was selected for water system planning. **Table 4-4** shows the resulting residential water demand projections for each planning period, **Table 4-5** shows the resulting non-residential water demand projections for each planning period.

Table 4-4: Projected Residential Water Demands

Year	Population	Average Day Demand (MGD)	Maximum Day Demand (MGD)	Peak Hour Demand (MGD)
2025	47,886	6.70	12.07	21.12
2030	49,709	6.96	12.53	21.92
2040	53,566	7.50	13.50	23.62
Buildout	82,227	11.51	20.72	36.26

Table 4-5: Projected Non-Residential Water Demands

Year	Acres	Average Day Demand (MGD)	Maximum Day Demand (MGD)	Peak Hour Demand (MGD)
2025	7,310	2.41	4.34	7.60
2030	7,476	2.47	4.44	7.77
2040	7,819	2.58	4.64	8.13
Buildout	10,039	3.31	5.96	10.44

Table 4-6: Projected Total Water Demands

Year	Average Day Demand (MGD)	Maximum Day Demand (MGD)	Peak Hour Demand (MGD)
2025	11.40	20.51	35.90
2030	11.78	21.21	37.12
2040	12.60	22.68	39.69
Buildout	18.53	33.36	58.37

A NRW rate was applied to the total projected water demands, to account for the water lost in the system. A NRW rate of 20% was selected, based on the recent reported NRW rates. The total average day demand and corresponding NRW for each planning phase is shown in **Table 4-7.**

Table 4-7: Projected Non-Revenue Water Demands

Year	Average Day Demand (MGD)	Non-Revenue Water (MGD)	Total Average Day Demand (MGD)
2025	9.12	2.28	11.40
2030	9.43	2.36	11.78
2040	10.08	2.52	12.60
Buildout	14.82	3.71	18.53

5.0 HYDRAULIC MODEL UPDATE AND VALIDATION

FNI updated and validated the existing Roswell hydraulic model to digitally represent and assess real world infrastructure. Model validation involves the process of rectifying parameters within the hydraulic model until the model generates results in a similar manner as observed in the existing system. The project team also conducted temporary pressure testing to observe water system operations and as the basis for validation. This section details the pressure testing analysis, model development, and validation of the City's water system.

5.1 PRESSURE TESTING

Temporary pressure testing was conducted to collect data for use in model validation. Sixteen pressure recorders were installed throughout Roswell's service area in the Roswell and RIAC PZs from July 31, 2025 to August 18, 2025**.** The pressure recorder installation locations are shown on **Figure 5-1**. Temporary pressure recorder locations were selected with the intention of capturing pressure fluctuations during high demand days in each pressure zone that serves customers. A summary of the pressure recording data is shown on **Figure 5-2** and **Figure 5-3** for the Roswell and RIAC PZs, respectively. Pressures are shown in pound per square inch (psi). Most of the pressures are within the 30-psi to 90-psi range, and daily pressures were steady throughout the Roswell and RIAC PZs.

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HYD# 1832

PR# 4
HYD# 200

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PR# 8
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PR# 9
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HYD# 674

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PR# 12
HYD# 1350

PR# 13
HYD# 1126

PR# 14
HYD# 1369

PR# 15
HYD# 1181

PR# 16
HYD# 1264

DRAFT FIGURE 5-1
CITY OF ROSWELL
PRESSURE RECORDERS

LEGEND

- Ground Storage Tank
- Elevated Storage Tank
- Pump Station
- Well
- 10" and Smaller Water Line
- 12" and Larger Water Line
- Pressure Recorder
- Road
- Parcel
- City Limit
- Extra Territorial Zone

PRESSURE ZONES

- RIAC
- Roswell
- Trigg/Kerr

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ROSWELL New Mexico

0 5,000
SCALE IN FEET

Figure 5-2: Pressure Recording Data for Roswell Pressure Zone

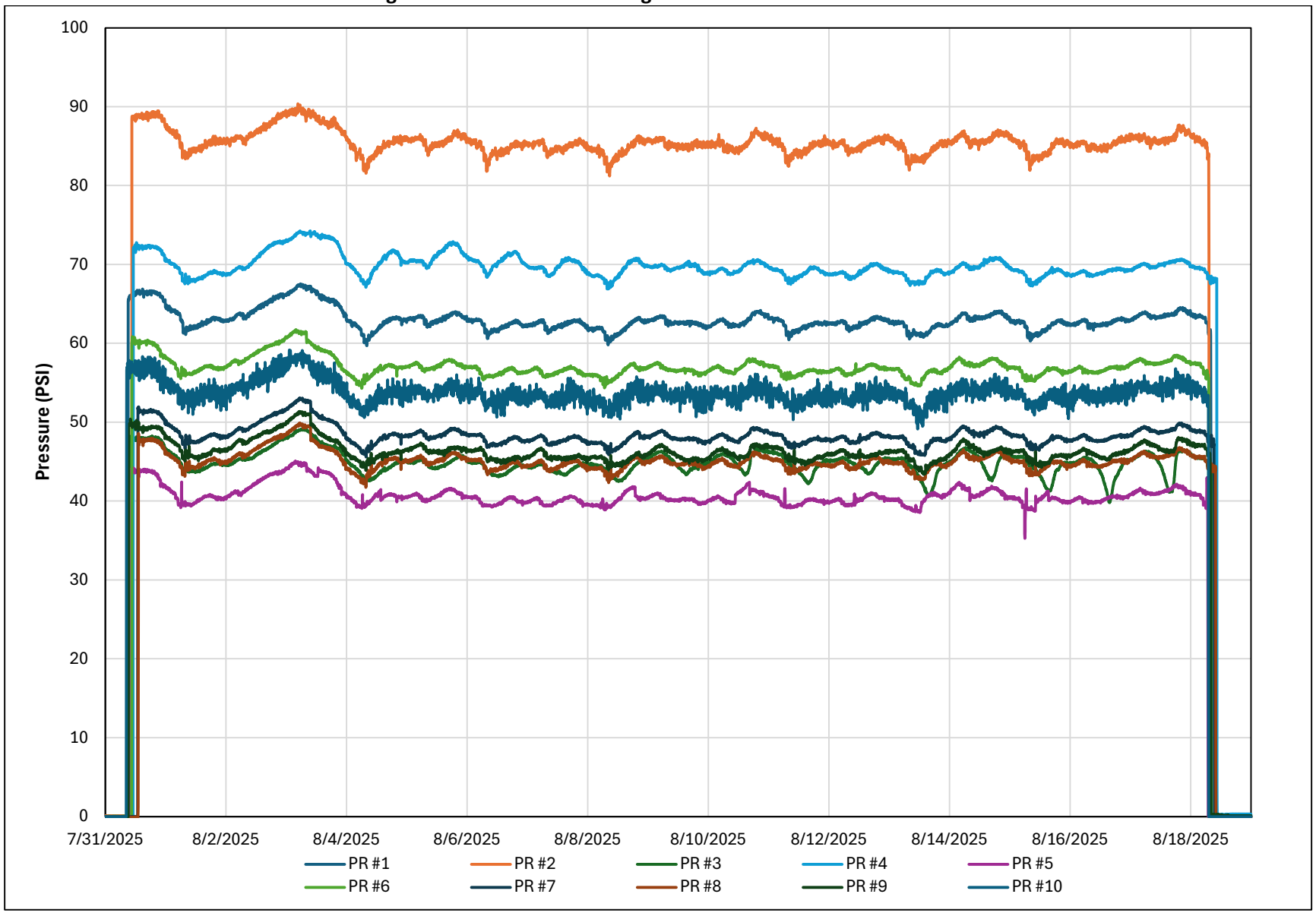
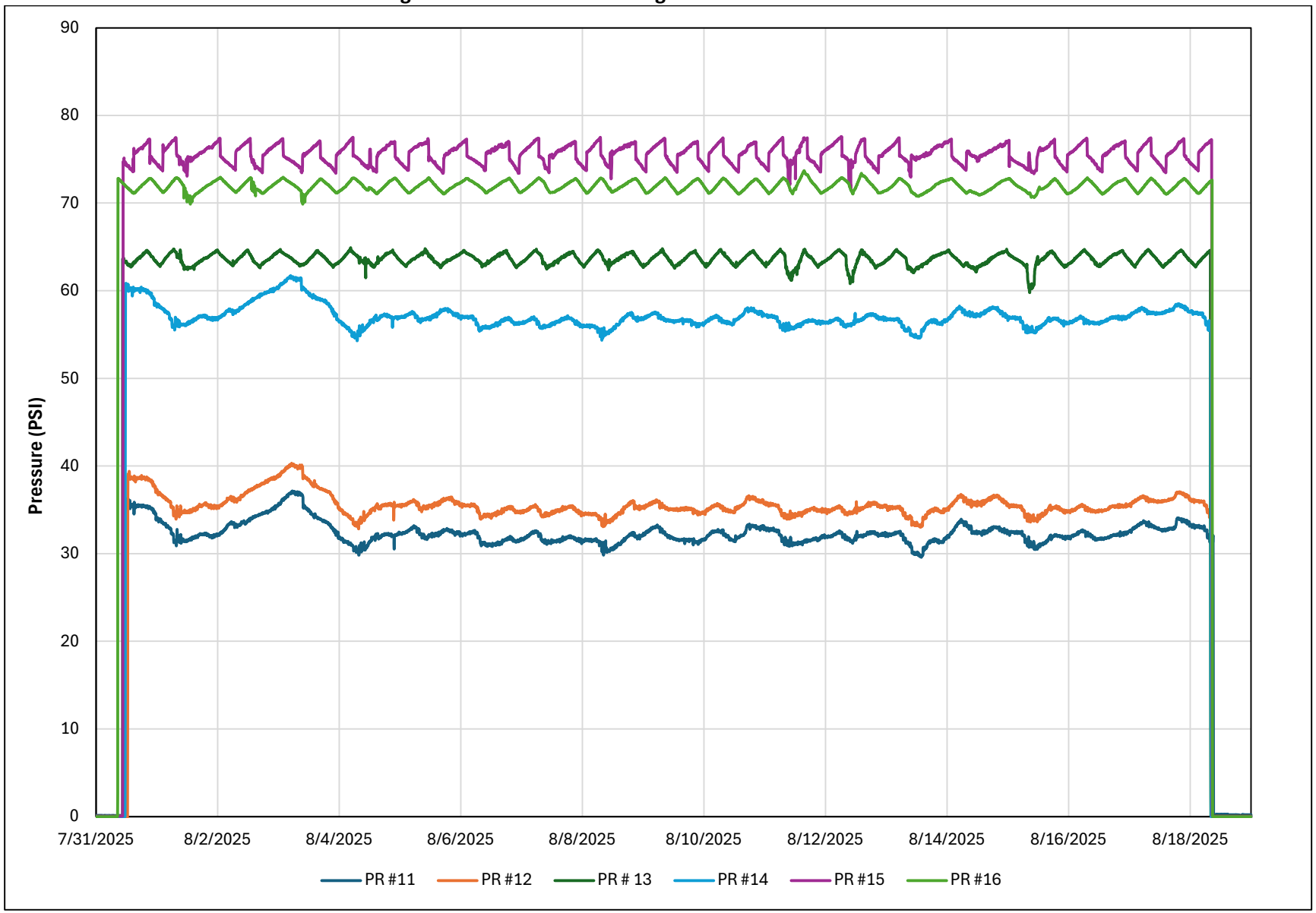


Figure 5-3: Pressure Recording Data for RIAC Pressure Zone



5.2 WATER MODEL DEVELOPMENT

As part of the City's previous Water Master Plan, a water model was developed by HDR in Bentley's WaterGEMS© software package. FNI received this model and the City's current GIS data was used to update the water model. As-built drawings and operational data provided by the City were reviewed and input into the model to accurately represent distribution system assets. Attribute data, including pipe diameter, pump capacity, tank geometry, elevations, etc. were assigned based on the available information provided by the City. FNI inferred data based on best engineering judgement when data could not be collected or did not exist. The model includes all distribution pipes, pump stations, elevated storage tanks, and ground storage tanks. Wells were modeled using fixed-head reservoirs to simulate the aquifer with pumps that supply water to the system.

The City provided a summary of water produced, water billed, and number of customers. No customer addresses were available to geocode the meter data or update the spatial allocation of demand, so the previous model spatial demand allocation was utilized.

5.3 WATER MODEL VALIDATION

In order to verify that the existing hydraulic model accurately represented the actual distribution system, a model validation was performed. The validation process involves adjusting system operation, demand allocation, and diurnal patterns to match observed conditions. Validation is an important component of updating and using a hydraulic model to confirm that the model still produces results similar to the observed condition of the water system.

The City provided hourly historical tank records taken during the pressure recording period that FNI utilized to estimate tank levels in the model. No historical pump records were available. The previous model diurnal patterns were used as a base, edited to reflect updated peak hour demand factors, and applied in the model for the 24-hour period occurring on August 6, 2025, which was selected for validation.

During the extended period simulation (EPS) validation, adjustments were made to the model in order to match the known conditions of August 6, 2025. FNI utilized EPS modeling to evaluate the range of pressures, the turnover of tanks, and cycling of pumps over a 24-hour period. Generally, the model-predicted pressures are similar to those observed.

Full validation results, found in **Appendix A**, include graphs showing the relationship between modeled data points versus pressure recorder data points. The results demonstrate a good correlation between recorded and modeled values and provide confidence in the accuracy of the model for master planning purposes.

6.0 WATER SYSTEM HYDRAULIC ANALYSIS

Hydraulic analyses were conducted utilizing a hydraulic water model of the City's water distribution system. The water system was evaluated to identify any existing deficiencies and to establish capacity improvements to meet projected water demands through buildout. Various combinations of improvements and system modifications were investigated to determine the most appropriate approach for meeting projected demands. Parameters used in developing the improvements included increasing system reliability, simplifying system operations, meeting required fire flows, and maintaining proper residual pressures.

6.1 EXISTING WATER SYSTEM ANALYSIS

The calibrated water model was utilized to evaluate the existing water system to determine if there are any existing system deficiencies and to provide a baseline for the current level of service. A 24-hour EPS run was performed with 2025 maximum day demands. EPS modeling provides a means to evaluate the system over time to assess response to hourly changes in demand, pump cycling, and tanks filling or draining. During a maximum day EPS analysis, the peak hour demand is also simulated using hourly peaking factors based on the typical diurnal demand pattern. Peak hour simulations are used to assess the ability of the distribution system to maintain residual pressures because the highest demand period typically induces the lowest pressure due to increased headloss throughout the system. **Figure 6-1** shows the minimum pressures observed in the model under existing demand conditions. The New Mexico Administrative Code requires water systems to maintain at least 30 psi under normal conditions, which includes expected peak demands. Recommended standards for Water Facilities by the New Mexico Engineering Department states "minimum working pressures in the distribution system should be at least 35 psi". Generally, modeled pressure within the system ranged from 40 psi to 80 psi, performing above the minimum requirements recommended by New Mexico guidelines.

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Country Club Reservoirs
Third St Reservoir
Kerr Reservoir
Mathis Elevated Storage
RIAC Elevated Storage

DRAFT FIGURE 6-1

CITY OF ROSWELL

2025 MINIMUM PRESSURES

LEGEND

- Ground Storage Tank
- Elevated Storage Tank
- Booster Pump Station
- Well
- 10" and Smaller Water Line
- 12" and Larger Water Line
- Road
- Parcel
- City Limit
- Extra Territorial Zone

MINIMUM PRESSURES

- Less than 35 psi
- 35 - 50 psi
- 50 - 80 psi
- 80 - 100 psi
- Greater than 100 psi

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ROSWELL New Mexico

0 3,500
SCALE IN FEET

To evaluate the fire fighting capabilities of the system, a fire flow analysis was conducted under existing maximum day demand conditions. For this analysis, a steady-state model run was utilized to calculate the available fire flow at each node in the system at a pressure of 20 psi. **Figure 6-2** shows the results of the fire flow simulation. The majority of the water system can provide at least 1,500 gpm, which is a typical residential fire flow demand. Available fire flows below 1,500 gpm are due to small diameter lines in isolated areas. Upsizing of smaller lines and creating looped water lines are two methods to improve low fire flow. Available fire flow for commercial, multi-family, and industrial land use should be evaluated on a case by case basis.

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Country Club Reservoirs
Third St Reservoir
Kerr Reservoir
Mathis Elevated Storage
RIAC Elevated Storage

DRAFT FIGURE 6-2

CITY OF ROSWELL

2025 AVAILABLE FIREFLOW

LEGEND

- Ground Storage Tank
- Elevated Storage Tank
- Booster Pump Station
- Well
- 10" and Smaller Water Line
- 12" and Larger Water Line
- City Limit
- Highway
- Road
- Parcel
- Extra Territorial Zone

AVAILABLE FIREFLOW

- Less than 500 gpm
- 500 - 1,500 gpm
- 1,500 - 2,500 gpm
- 2,500 - 3,500 gpm
- Greater than 3,500 gpm

FREESE AND NICHOLS

ROSWELL New Mexico

0 3,500
SCALE IN FEET

6.2 FUTURE WATER SYSTEM ANALYSIS

Hydraulic analyses were performed on the distribution system under future demand conditions. Model simulations were performed for maximum day and peak hour demand conditions for each planning period to understand the impact of growth on the existing system. Water system improvements were developed to accommodate the growth anticipated in 2030, 2040 and buildout years, including additional production capacity, storage capacity, and distribution capacity. Key observations and recommendations resulting from evaluation of the distribution system are discussed in the following sections. Modeling results documenting system pressure and available fire flow are included in **Appendix C**.

Water Production

Daily water production capacity is recommended to meet or exceed maximum day demand projections in order for the water system to adequately supply water to customers. To evaluate the City's production capacity, the projected maximum day demand in each planning year was compared to the sustainable groundwater well capacity available to the system. It is not feasible to assume that all wells can pump 24 hours per day, 7 days per week during peak demand periods, so through discussions with City staff, it was determined that the sustainable well capacity would consider the largest well pump off at each well field. **Table 6-1** shows the recommended production capacity, equal to the projected maximum day demand, and the sustainable well capacity for the system. There is adequate sustainable well capacity through the 2040 planning scenario. In the buildout planning scenario, the maximum day demand exceeds the sustainable well capacity, so FNI recommends monitoring water demands in the future and make continuous updates to the master plan to evaluate when a new well may be needed.

Table 6-1: Recommended Water Production Capacity

Year	Existing Sustainable Well Capacity (MGD)	Recommended Production Capacity (MGD)
2025	29.12	20.51
2030	29.12	21.21
2040	29.12	22.68
Buildout	29.12	33.03

Distribution Pumping

Not only does the system need sufficient well capacity to produce enough water to meet the projected maximum day demand, but the pump stations also need to have sufficient capacity to pump the water into the distribution system. 125% of the projected maximum day demand in each planning year was compared to the firm pumping capacity in each pressure zone, to assure that the pumping facilities could provide reliable service. Firm capacity is defined as the total pumping capacity with the largest pump out of service in each pressure zone. **Table 6-2** display the results of the pumping analysis in each pressure zone. Both pressure zones have adequate firm capacity to meet the maximum day demand in each planning year.

Table 6-2: Recommended Distribution Pumping Capacity

Pressure Zone	Existing Firm Capacity (MGD)	Recommended Capacity (MGD)			
		2025	2030	2040	Buildout
RIAC	7.31	5.45	5.45	5.45	5.70
Roswell	39.35	20.18	21.06	22.90	35.58

Elevated Storage Capacity

ESTs serve several functions in a water system, including:

- *Pressure Maintenance*: Elevated tanks use gravity to maintain consistent water pressure throughout the distribution system. The overflow elevation of ESTs establish the hydraulic grade line of a pressure zone and therefore determine system pressure.
- *Emergency Supply*: ESTs provide a reserve of water that can be used during emergencies, such as power outages or fires.
- *Demand Management*: ESTs help manage fluctuations in water demand. During periods of low demand, water is stored in the tank, and during peak demand, the stored water is released to meet the demands in the system.

To determine the elevated storage volume needed, the emergency supply and demand management, or equalization storage, is evaluated. It is generally recommended that the equalization volume is stored in the top half of the tank and the emergency volume is stored in the bottom half. This allows the equalization volume to be utilized during normal operation to influence system pressures. During emergency conditions, the system pressure is allowed to drop to 20 psi so the lower volume of water can be utilized. Therefore, the recommended elevated storage capacity is the greater of either twice the equalization storage or the equalization storage plus emergency volume. The equalization storage volume is equivalent to four hours of peak demand. Emergency volume is the maximum fire flow of 3,500 gpm for 3 hours. **Table 6-3** shows the recommended elevated storage capacity for each pressure zones.

Table 6-3: Recommended Elevated Storage Capacity

Pressure Zone	Existing Capacity (MG)	Recommended Capacity (MG)			
		2025	2030	2040	Buildout
RIAC	1.50	1.18	1.18	1.18	1.20
Roswell	20.03	4.04	4.21	4.58	7.12

Ground Storage Capacity

Ground storage tanks provide consistent suction pressure for pump stations and also function as a buffer between the groundwater being pumped by wells and the pump stations pumping the water into the distribution system. Having stored water can be beneficial if there is an interruption in water being supplied to the pump station and helps maintain consistent operations of pumps by not having to exactly match pumping rates of wells and booster pumps. FNI recommends that system wide there is approximately eight hours of storage based on the firm pumping capacity of the booster pump stations. This allows some response time if there is an issue with the water being supplied to the tank and also provides sufficient storage to limit pump cycling. The existing ground storage at the Kerr Reservoir does not provide a storage volume equivalent to 8 hours of firm pumping capacity. However, the water system has a surplus of elevated storage, resulting in a total storage volume greater than the equivalent of 24 hours of maximum day demand through the 2040 planning phase. Due to this additional elevated storage volume, no ground storage expansion projects were recommended.

7.0 WATER SYSTEM CONDITION ASSESSMENT

In March 2024, FNI and City staff conducted field assessments of every facility in the existing water system, with the exception of the RIAC #4 Well. The well was undergoing rehab and construction and was not available to visit. The assessment included site visits and visual inspections of the facilities to determine the overall condition of the station and specific condition of major components including pumps and motors, tank coating, electrical equipment, instrumentation, piping and valves, structure, and site. Condition scoring parameters and weighting for pump stations and well sites are shown in **Table 7-1**. Condition scoring parameters and weighting for tank sites are shown in **Table 7-2**. Notes and photographs were taken for each inspection site to document existing condition and develop a condition score for all major components on a scale of 1 to 5, as shown in **Table 7-3**. A score of 1 is considered "new" condition with no steps recommended to maintain condition, while a score of 5 is considered "very poor" condition and the asset has probable or eminent failure unless rehabilitation steps are taken. General facility information was also noted as well as any comments from City staff. Inspection sheets for all inspected facilities can be found in **Appendix B**. The results of the facility condition assessment were incorporated into recommended improvements that help mitigate the risk of asset failure and proactively manage system degradation.

Table 7-1: Pump Station Facility Inspection Scoring Parameters

Component Group	Weight Factor
Pumps and Motors	20%
Electrical – MCC, Back-up Power, Cables	25%
Instrumentation - SCADA, Alarms, Controls	15%
Structure - Hatches, Corrosion, Cracks, Leaking	15%
Piping and Valves	15%
Site - Drainage, Access Drive, Security, Fencing	10%

Table 7-2: Tank Facility Inspection Scoring Parameters

Component Group	Weight Factor
Coating	25%
Electrical – MCC, Back-up Power, Cables	10%
Instrumentation - SCADA, Alarms, Controls	10%
Structure - Hatches, Corrosion, Cracks, Leaking	25%
Piping and Valves	20%
Site - Drainage, Access Drive, Security, Fencing	10%

Table 7-3: Facility Inspection Scoring Guidelines

Score	Guidelines
1	New condition, no improvements recommended to maintain function
2	Good condition, minor improvements recommended to enhance performance
3	Fair condition, improvements recommended to improve performance or efficiency
4	Poor condition, improvements recommended to maintain reliability
5	Very poor condition, rehabilitation or replacement required

The results of the water system field assessment were compiled, and the major component scores were weighted to generate an overall condition score for each facility. A summary of the inspection results is shown in **Table 7-4.** The majority of inspected pump stations and wells were found to be in "good" to "fair" condition with scores ranging from 1.10 to 4.0. Trigg Reservoir was determined to be in the worst condition of the water facilities due to interior lining corrosion. Higher condition scores typically resulted from corroded valves and pipes, lack of electrical equipment protection, and site conditions. Detailed recommendations for rehabilitation are discussed in detail in **Section 8.0**. General recommendations include replacing gaseous chlorine with liquid bleach, constructing appropriate buildings to protect production well pumps and piping, provide lighted canopies over exposed electrical boxes, conducting electrical power system study, and re-coating exposed piping and valves.

Table 7-4: Water Facility Scoring Results

Facility Name	Pumps and Motors/ Tank Coating	Electrical	Instrumentation	Structure	Piping and Valves	Site	Condition Rating
Trigg Reservoir	5	2	2	5	4	3	**4.00**
Trigg #1	3	3	2	2	3	3	**2.70**
Trigg #2	3	3	2	2	3	3	**2.70**
Kerr #6	3	4	2	3	3	3	**3.10**
Kerr #5	3	3	2	2	3	3	**2.70**
Kerr #1	4	4	3	4	3	3	**3.60**
Kerr #2	5	5	3	4	3	2	**3.95**
Kerr #3	3	3	2	4	2	2	**2.75**
Kerr #4	2	3	2	4	2	2	**2.55**
Kerr Reservoir	2	2	2	1	1	1	**1.45**
Kerr Booster Pump Station	3	3	2	1	2	1	**2.20**
RIAC Booster Pump Station	5	4	2	3	4	3	**3.65**
RIAC #5	4	4	2	3	2	2	**3.05**
RIAC #1	2	2	2	2	3	2	**2.15**
RIAC #3	2	2	2	2	2	2	**2.00**
RIAC West EST	1	1	2	1	1	1	**1.10**
RIAC East EST	1	1	2	1	1	1	**1.10**
South of Roswell Well 12	2	2	2	2	2	2	**2.00**
South of Roswell Well 15	2	2	2	2	2	4	**2.20**
South of Roswell Well 16	2	2	2	4	2	3	**2.40**
South of Roswell Well 17	2	2	2	2	2	2	**2.00**
South of Roswell Well 13	2	3	2	2	2	3	**2.35**
Six Mile Hill Well 18	2	3	2	3	3	2	**2.55**
Six Mile Hill Well 10	2	2	2	2	2	1	**1.90**
Six Mile Hill Well 11	2	3	2	2	3	1	**2.30**
Third St Reservoir	5	3	2	5	3	2	**3.80**
Country Club Reservoir (N)	3	3	2	3	3	3	**2.90**
Country Club Reservoir (S)	1	2	2	1	1	1	**1.20**

7.1 SATELLITE LEAK DETECTION ANALYSIS

FNI subcontracted with ASTERRA to perform a leak detection analysis. ASTERRA's satellite leak detection technology has the capability to identify areas having a high probability of subsurface leakage. Points of interest throughout the system were identified, then ASTERRA performed two field inspections to identify specific locations of leaks and estimate the quantity of water loss. The following subsections summarize the results of this analysis.

First Round

After completion of the satellite-based leak detection, ASTERRA identified over 120 points of interest. Leak detection types were split into three categories: Main Leak, Service Leak, and Customer-Side Leak. Over 70 leak locations were identified after this analysis, with a majority of the leaks located in the Roswell Pressure Zone. **Figure 7-1** illustrates field verified leak locations within the system.

Second Round

After the second round of satellite-based leak detection, ASTERRA identified over sixty additional points of interest to investigate in the field. **Figure 7-2** illustrates the field verified leak locations within the system. Forty leak locations were identified, the majority again located within the Roswell PZ. FNI utilized both rounds of data to propose recommended pipeline replacement projects, which will be discussed further in **Section 8.0**. Areas of the distribution system that had a high concentration of leaks were selected for further analysis. Pipelines that were over 50-years old and were constructed of cast iron pipe were also highlighted as areas of concern, due to the anticipated service life of cast iron waterlines. Cast iron pipelines constructed prior to 1975 that had a high concentration of detected leaks were selected for pipeline replacement projects. The type of leak detected, diameter of the waterline, and flow through the waterline were all variables used to prioritize the projects throughout the planning phases.

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Job No.: RNM24817
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Updated: Friday, October 9, 2026 12:08 PM
User Name: 04390

DRAFT FIGURE 7-1
CITY OF ROSWELL
FIELD VERIFIED
LEAK LOCATIONS - ROUND 1

LEGEND

- Ground Storage Tank
- Elevated Storage Tank
- PS — Booster Pump Station
- Well
- 10" and Smaller Water Line
- 12" and Larger Water Line
- Road
- Parcel
- City Limit
- Extra Territorial Zone

FREESE AND NICHOLS

ROSWELL New Mexico

LEAK DETECTIONS

- Main Leak
- Service Leak
- Customer-Side Leak

Kerr Reservoir

Mathis Elevated Storage

RIAC Elevated Storage

0 3,500

SCALE IN FEET

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User Name: 04390

DRAFT FIGURE 7-2

CITY OF ROSWELL

FIELD VERIFIED
LEAK LOCATIONS - ROUND 2

LEGEND

- Ground Storage Tank
- Elevated Storage Tank
- PS — Booster Pump Station
- Well
- 10" and Smaller Water Line
- 12" and Larger Water Line
- Road
- Parcel
- City Limit
- Extra Territorial Zone

FREESE AND NICHOLS

ROSWELL New Mexico

LEAK DETECTIONS

- Main Leak
- Service Leak
- Customer-Side Leak

Kerr Reservoir

Mathis Elevated Storage

RIAC Elevated Storage

0 3,500

SCALE IN FEET

8.0 CAPITAL IMPROVEMENT PLANS

A capital improvements plan (CIP) was developed for the City of Roswell to ensure high quality water service to customers. The recommended improvements will provide reliability to meet projected water demands through buildout. The recommended projects for the water system are presented on **Figure 8-1.** Locations shown for new mains and other recommended improvements were generalized for hydraulic analyses. Specific alignments and sites will be determined as part of the design process.

Planning-level cost estimates were developed for the recommended improvements and do not include individual service connections. The costs are in 2026 dollars and include an allowance for engineering, surveying, and contingencies. Costs for land acquisition or easements are not included. **Table 8-1** summarizes the costs of the water system CIP. Detailed descriptions of the projects and costs are included in **Appendix D**. Improvements were phased into the three planning periods based on system needs and infrastructure condition. It is recommended that these projects be constructed generally in the order listed; however, asset condition may make it necessary to construct some projects sooner or later than anticipated. The following sections list the projects by phase and provide a description and driver for each project.

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Job No.: RNM24817
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Updated: Friday, October 9, 2026 12:38 PM
User Name: 04390

DRAFT FIGURE 8-1
CITY OF ROSWELL
WATER SYSTEM IMPROVEMENTS
LEGEND

Short-Term Projects
- Well
- Pump Station
- Water Line

Intermediate Term
- Well
- Reservoir
- Water Line

Long-Term
- Reservoir
- Water Line
- Highway

- Ground Storage Tank
- Elevated Storage Tank
- Pump Station
- Well
- 10" and Smaller Water Line
- 12" and Larger Water Line
- City Limit

FREESE AND NICHOLS

ROSWELL New Mexico

0 6,500
SCALE IN FEET

Table 8-1: Water Capital Improvement Plan Summary

Project Number	Project Name	Cost
Short Term Projects		
1	SCADA System Update	$312,000
2	Kerr #6 Well Rehabilitation	$23,400
3	Kerr #1 Well Rehabilitation	$85,800
4	Kerr #2 Well Rehabilitation	$85,800
5	RIAC Booster Pump Station Rehabilitation	$358,800
6	8-inch Montana Avenue Pipeline Replacement	$5,833,500
7	8-inch Kelly Place Pipeline Replacement	$3,384,600
8	12-inch North Main Street Pipeline Replacement	$3,260,000
9	10-inch Hobbs Street Pipeline Replacement	$7,590,200
	Short Term Total	**$20,934,100**
Intermediate Projects		
10	Trigg Reservoir Rehabilitation	$156,000
11	Third Street Reservoir Rehabilitation	$546,000
12	RIAC #5 Well Rehabilitation	$62,400
13	8-inch Union Avenue Pipeline Replacement	$1,533,800
14	8-inch Vista Parkway Pipeline Replacement	$4,648,700
15	8-inch Garden Avenue Pipeline Replacement	$7,236,600
16	8-inch S Grand Avenue Pipeline Replacement	$4,936,200
	Intermediate Total	**$19,119,700**
Long Term Projects		
17	8-inch Chrysler Place Pipeline Replacement	$916,700
18	8-inch College Boulevard Pipeline Replacement	$988,500
19	8-inch Petro Drive Pipeline Replacement	$1,665,500
20	8-inch W 8th Street Pipeline Replacement	$6,475,800
21	8-inch Hendricks Street Pipeline Replacement	$1,875,200
23	Trigg Reservoir Demolition	$117,000
	Long Term Total	**$12,038,700**
	CIP Total	**$52,092,500**

8.1 SHORT-TERM WATER PROJECTS

Projects recommended within the first 5-year phase are the most critical to the system. These projects resolve existing deficiencies or accommodate near-term projected growth. A detailed description of each project is provided below.

Project 1: SCADA System Update

This project is to update and repair the water SCADA system. The SCADA system has been non-operational, and the system is currently monitored and operated manually. This project is needed to collect historical operational data and assist in remote operations of the water system.

Project 2: Kerr #6 Well Rehabilitation

The Kerr #6 Well operates with a VFD, however the existing VFD needs to be replaced. This project replaces the VFD at the Kerr #6 Well, which is needed to operate the well pump.

Project 3: Kerr #1 Well Rehabilitation

This project updates the Kerr #1 Well motor and replaces the current soft start control with a VFD. This project is needed to operate the Kerr #1 Well.

Project 4: Kerr #2 Well Rehabilitation

This project updates the Kerr #2 Well motor and replaces the VFD. The pump is currently turned off due to the motor issues. This project is needed to operate the Kerr #2 Well.

Project 5: RIAC Booster Pump Station Rehabilitation

This project repairs the pump seals to prevent leaking on the RIAC Booster Pump Station pumps. All pumps at the RIAC Booster Pump Station are leaking and need replacement seals.

Project 6: 8-inch Montana Avenue Pipeline Replacement

This project replaces approximately 9,000 lf of existing 6- and 8-inch water lines along West 1st Street, West Walnut Street, West Tilden Street, West Alameda Street, West Hendricks Street, and West Albuquerque Street. This project is recommended to address leaks detected within the water distribution system. This project repairs pipe that is suspected to have aged past its useful service life and is necessary to provide safe, reliable water service to customers. This project also includes additional water line looping, to improve available fire flow.

Project 7: 8-inch Kelly Place Pipeline Replacement

This project replaces approximately 5,700 lf of existing 6-inch water lines along Hollowan Place, Kelly Place, and B Street. This project is recommended to address leaks detected within the water distribution

system. This project repairs pipe that is suspected to have aged past its useful service life and is necessary to provide safe, reliable water service to customers. This project also includes additional water line looping, to improve available fire flow.

Project 8: 12-inch North Main Street Pipeline Replacement

This project replaces approximately 4,400 lf of existing 10- and 8-inch water lines along North Main Street from East 8th Street to East Alameda Street. This project is recommended to address leaks detected within the water distribution system, detected as part of the satellite leak detection analysis. This project replaces pipe that is suspected to have aged past its useful service life and is necessary to provide safe, reliable water service to customers.

Project 12: 10-inch Hobbs Street Pipeline Replacement

This project replaces approximately 10,000 lf of existing 10- and 8-inch water lines along North Garden Avenue, from Tierra Berrenda Drive to East Berrendo Road, as well as water lines along Mission Arch Drive, Sunrise Road, Twin Diamond Road, Swinging Spear Road, and Broken Arrow Road. This project is recommended to address leaks detected within the water distribution system. This project repairs pipe that is suspected to have aged past its useful service life and is necessary to provide safe, reliable water service to customers. This project also includes additional water line looping, to improve available fire flow.

8.2 INTERMEDIATE-TERM WATER PROJECTS

Project 10: Trigg Reservoir Rehabilitation

The 0.1 MG Trigg Reservoir is in poor condition, due to the highly corroded nature of the interior lining. The structure has experienced corrosion due to historical high chlorine usage, though chlorine is no longer injected at the Trigg Well sites. This project involves recoating the interior of the Trigg Reservoir and associated site improvements. Hydraulic analysis has indicated that the Trigg Reservoir may not be necessary to convey water from the Trigg wellfield to the Kerr Reservoir. Further analysis is recommended prior to taking the Trigg Reservoir offline.

Project 11: Third Street Reservoir Rehabilitation

This project is to re-coat the Third Street Reservoir. The exterior coating needs sandblasting and re-coating. The current coating appears to be too thin and rusting in some areas.

Project 12: RIAC #5 Well Rehabilitation

This project replaces the RIAC #5 Well motor, which is needed to operate the RIAC #5 well.

Project 13: 8-inch Union Avenue Pipeline Replacement

This project replaces approximately 2,500 lf of existing 8-inch water lines along South Union Avenue. This project is recommended to address leaks detected within the water distribution system. This project repairs pipe that is suspected to have aged past its useful service life and is necessary to provide safe, reliable water service to customers. This project also includes additional water line looping, to improve available fire flow.

Project 14: 8-inch Vista Parkway Pipeline Replacement

This project replaces approximately 7,800 lf of existing 8-inch water lines along North Delicado Drive, Encanto Drive, Futura Drive, and North Garden Avenue. This project is recommended to address leaks detected within the water distribution system. This project repairs pipe that is suspected to have aged past its useful service life and is necessary to provide safe, reliable water service to customers. This project also includes additional water line looping, to improve available fire flow.

Project 15: 8-inch Garden Avenue Pipeline Replacement

This project replaces approximately 12,000 lf of existing 8-inch water lines along East Hobbs Street, South Monroe Avenue, Stanton Avenue, and Jackson Avenue, and South Garden Avenue. This project is recommended to address leaks detected within the water distribution system. This project repairs pipe that is suspected to have aged past its useful service life and is necessary to provide safe, reliable water service to customers. This project also includes additional water line looping, to improve available fire flow.

Project 16: 8-inch S Grand Avenue Pipeline Replacement

This project replaces approximately 8,200 lf of existing 8-inch water lines along South Grand Avenue, East Bonney Street, East Lewis Street, and East Hervey Street. This project is recommended to address leaks detected within the water distribution system. This project repairs pipe that is suspected to have aged past its useful service life and is necessary to provide safe, reliable water service to customers. This project also includes additional water line looping, to improve available fire flow.

8.3 LONG-TERM WATER PROJECTS

Project 17: 8-inch Chrysler Place Pipeline Replacement

This project replaces approximately 500 lf of existing 8-inch water lines along Chrysler Place. This project is recommended to address leaks detected within the water distribution system. This project repairs pipe that is suspected to have aged past its useful service life and is necessary to provide safe, reliable water service to customers. This project also includes additional water line looping, to improve available fire flow.

Project 18: 8-inch College Boulevard Pipeline Replacement

This project replaces approximately 1,600 lf of existing 8-inch water lines along North Pennsylvania Avenue from West College Boulevard to West 11th Street. This project is recommended to address leaks detected within the water distribution system. This project repairs pipe that is suspected to have aged past its useful service life and is necessary to provide safe, reliable water service to customers.

Project 19: 8-inch Petro Drive Pipeline Replacement

This project replaces approximately 2,800 lf of existing 8-inch water lines along East College Boulevard from North Grand Avenue to North Garden Avenue. This project is recommended to address leaks detected within the water distribution system. This project repairs pipe that is suspected to have aged past its useful service life and is necessary to provide safe, reliable water service to customers.

Project 20: 8-inch W 8th Street Pipeline Replacement

This project replaces approximately 10,800 lf of existing 6-inch water lines along West 8th Street, Mullis Avenue, Hall Drive, and Moore Avenue. This project is recommended to address leaks detected within the water distribution system. This project repairs pipe that is suspected to have aged past its useful service life and is necessary to provide safe, reliable water service to customers.

Project 21: 8-inch Hendricks Street Pipeline Replacement

This project replaces approximately 3,100 lf of existing 8-inch water lines along Hinkle Street, East Hendricks Street, and East Tilden Street. This project is recommended to address leaks detected within the water distribution system. This project repairs pipe that is suspected to have aged past its useful service life and is necessary to provide safe, reliable water service to customers.

Project 22: Trigg Reservoir Demolition

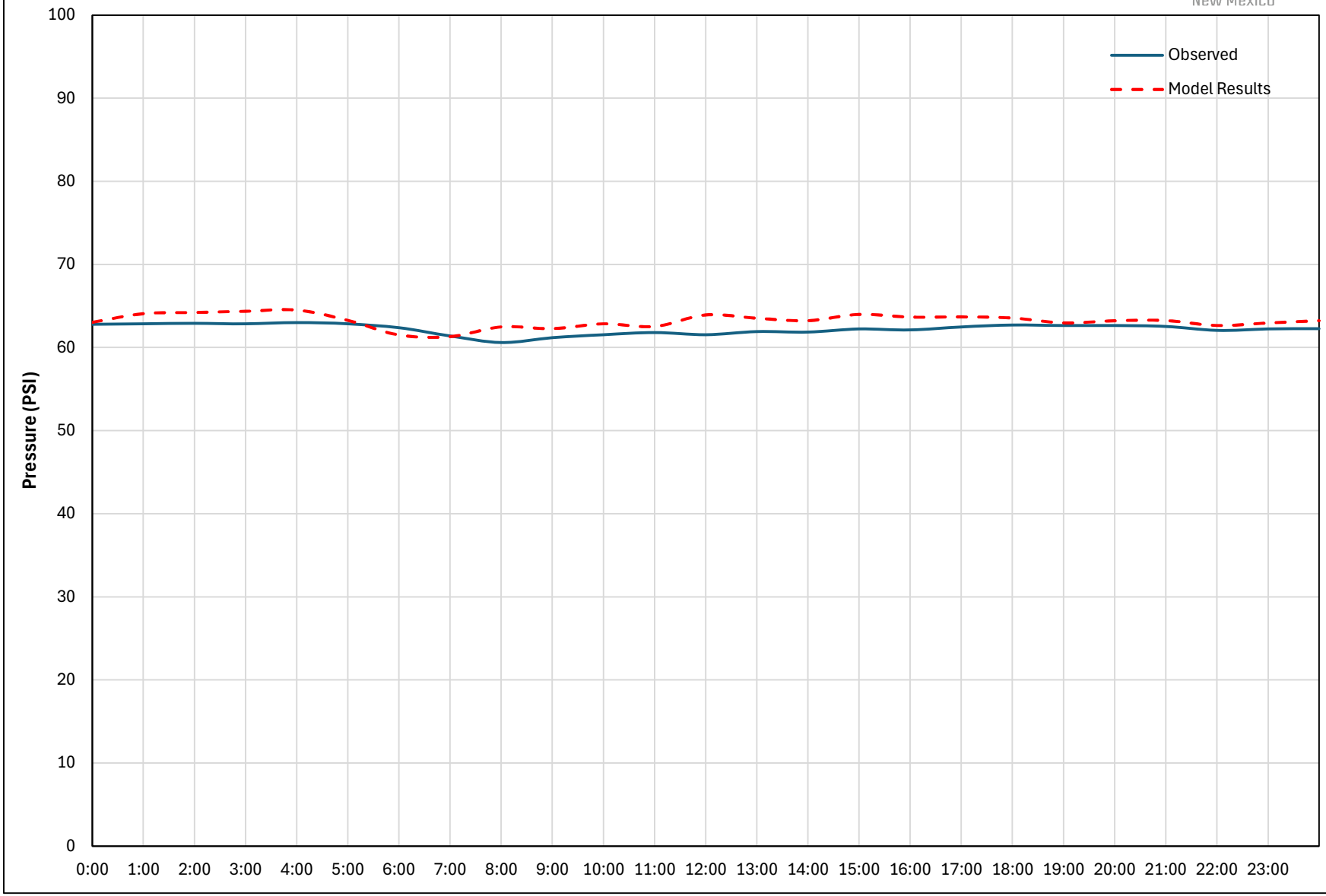
This project demolishes the existing Trigg Reservoir. Preliminary hydraulic analysis has indicated that the 0.1 MG Trigg Reservoir is not required to convey water from the Trigg wells to the Kerr reservoir.

APPENDIX A
WATER MODEL CALIBRATION RESULTS

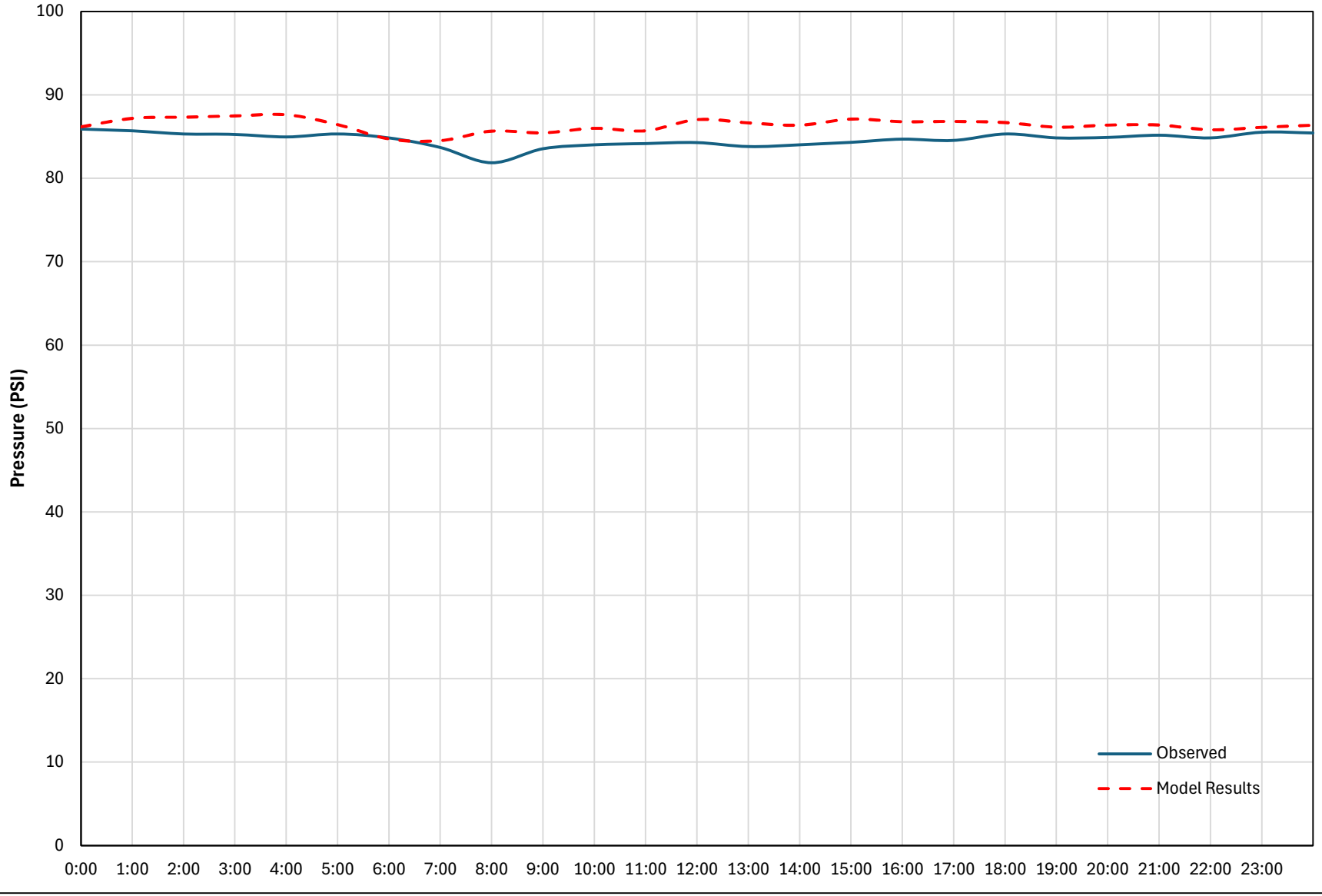
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4507 North Main Street

August 6th, 2025



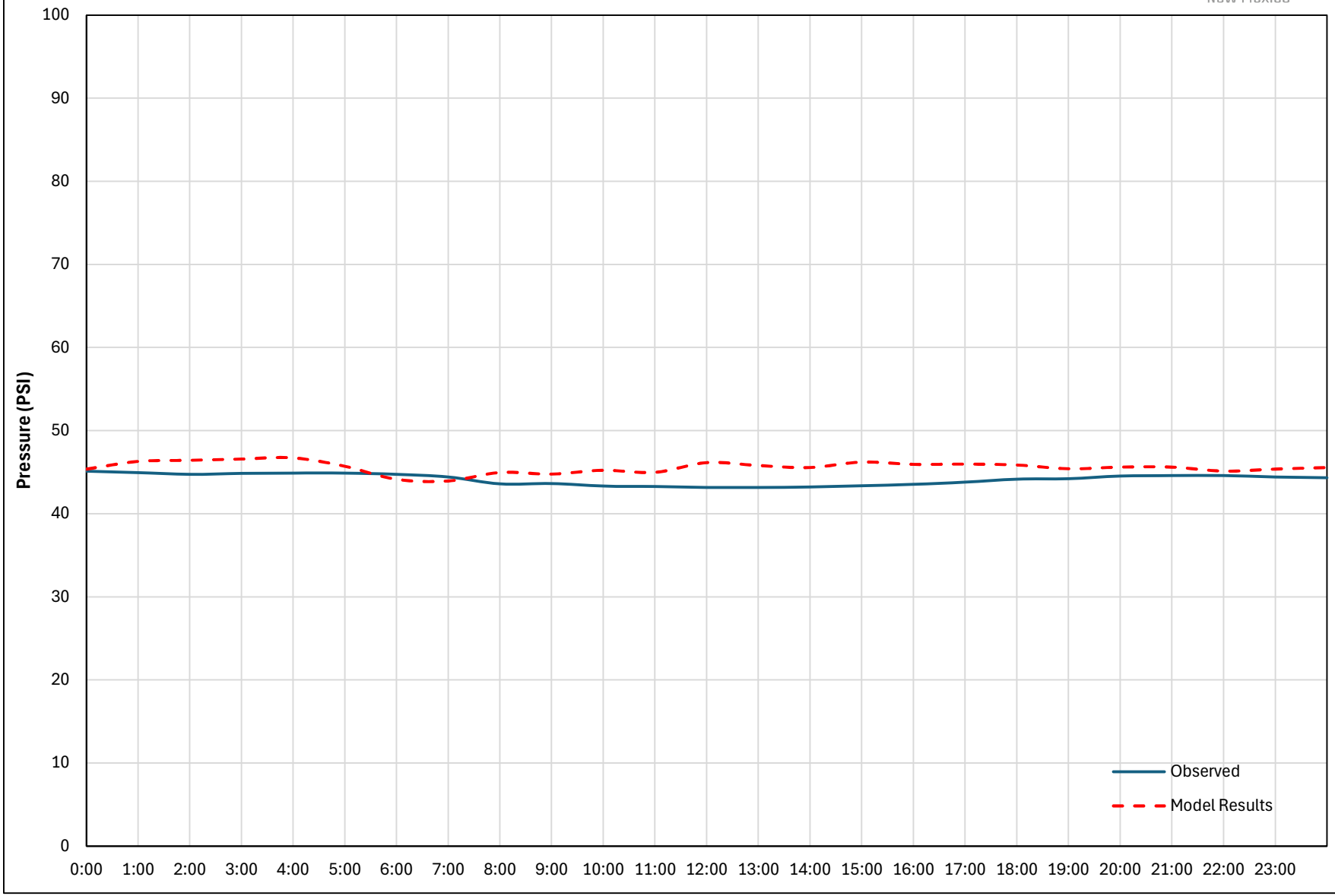
PR #2: 44201851
107 Bent Tree Road
August 6th, 2025



PR #3: 49202344

2300 North Sycamore Avenue

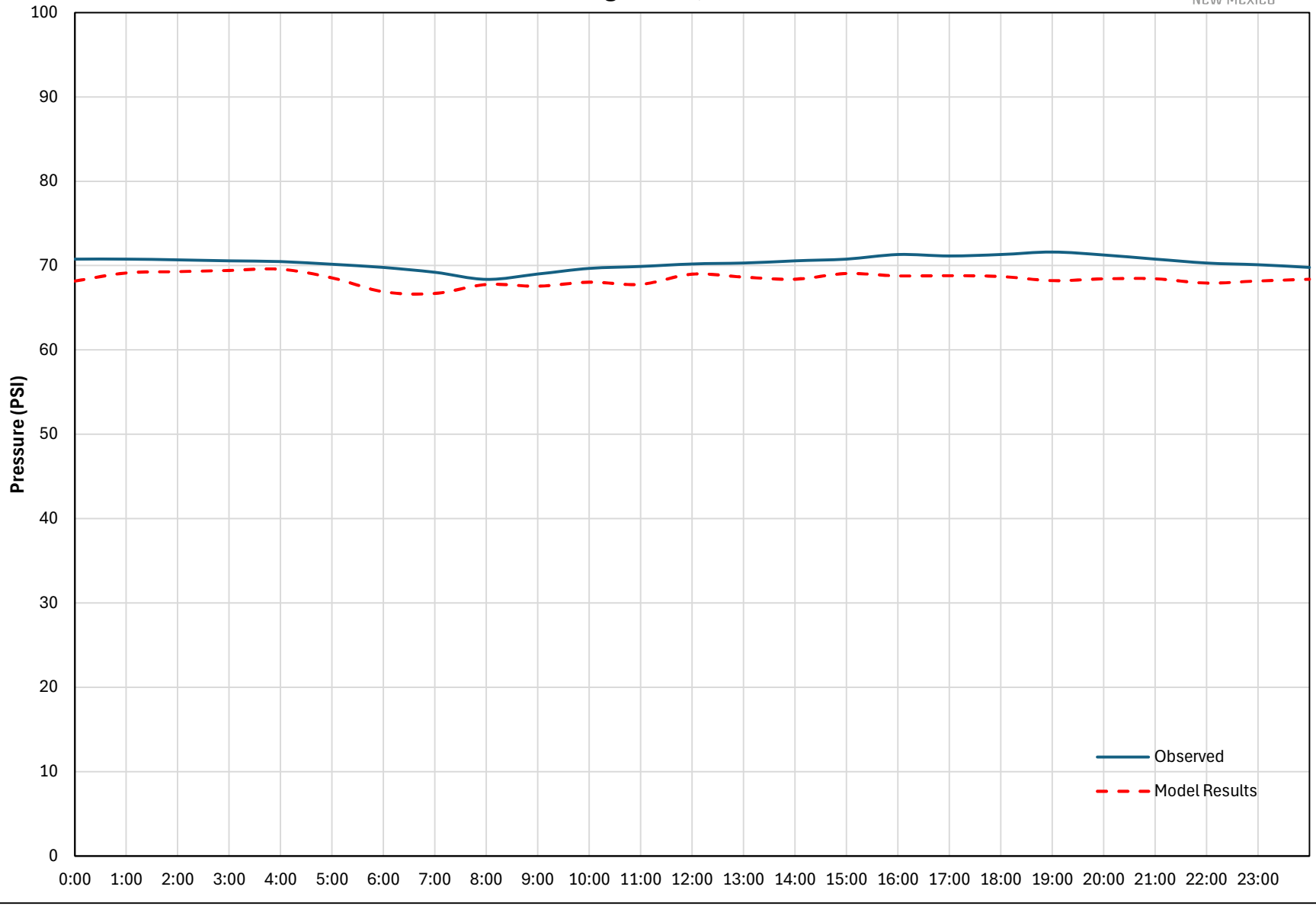
August 6th, 2025



PR #4: 44201850

120 South Main Street

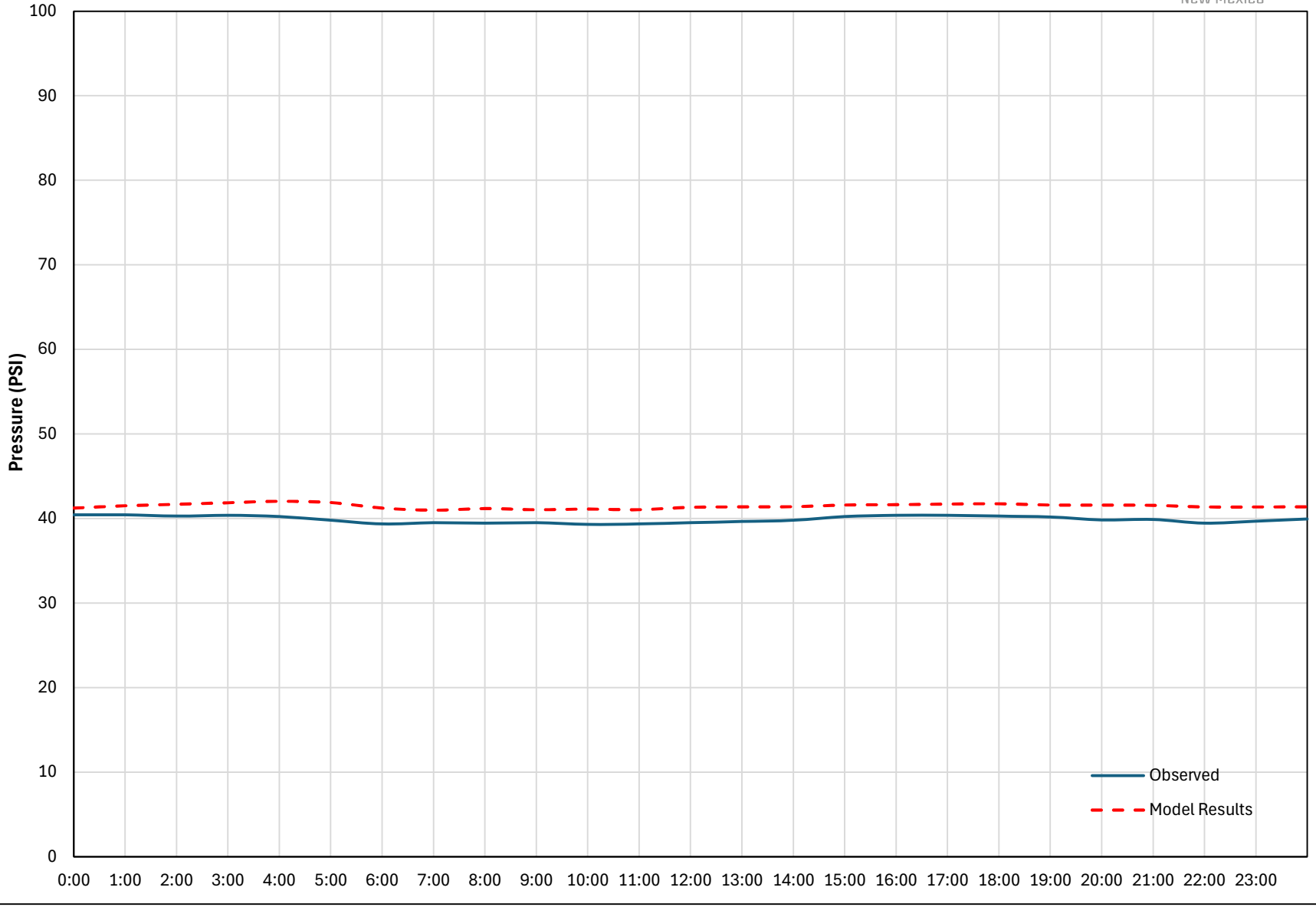
August 6th, 2025



PR #5: 24200203

Pima Drive & West Alameda Street

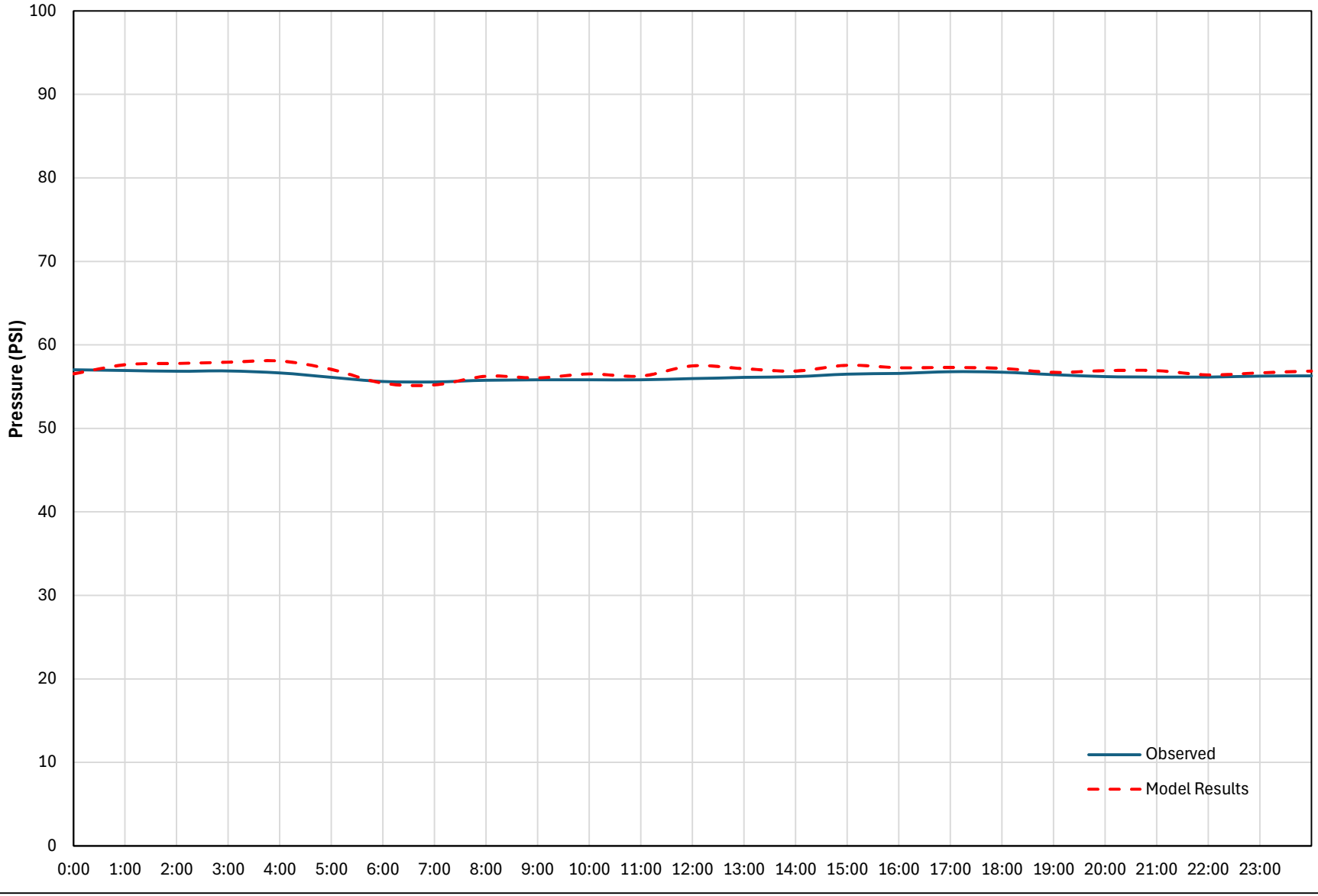
August 6th, 2025



PR #6: 32200858

1208 South Washington Avenue

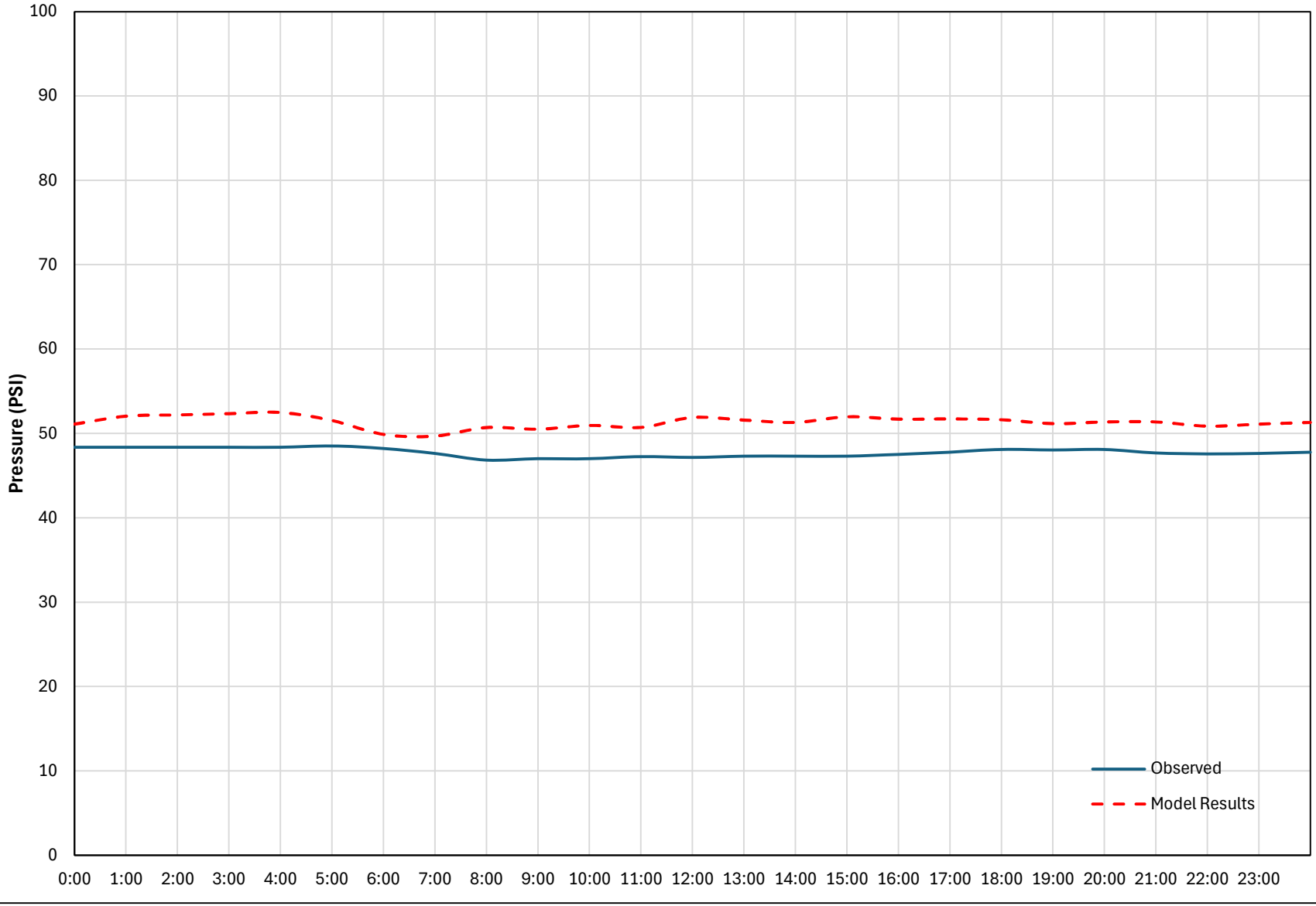
August 6th, 2025



PR #7: 49202323

1900 South Sunset Avenue

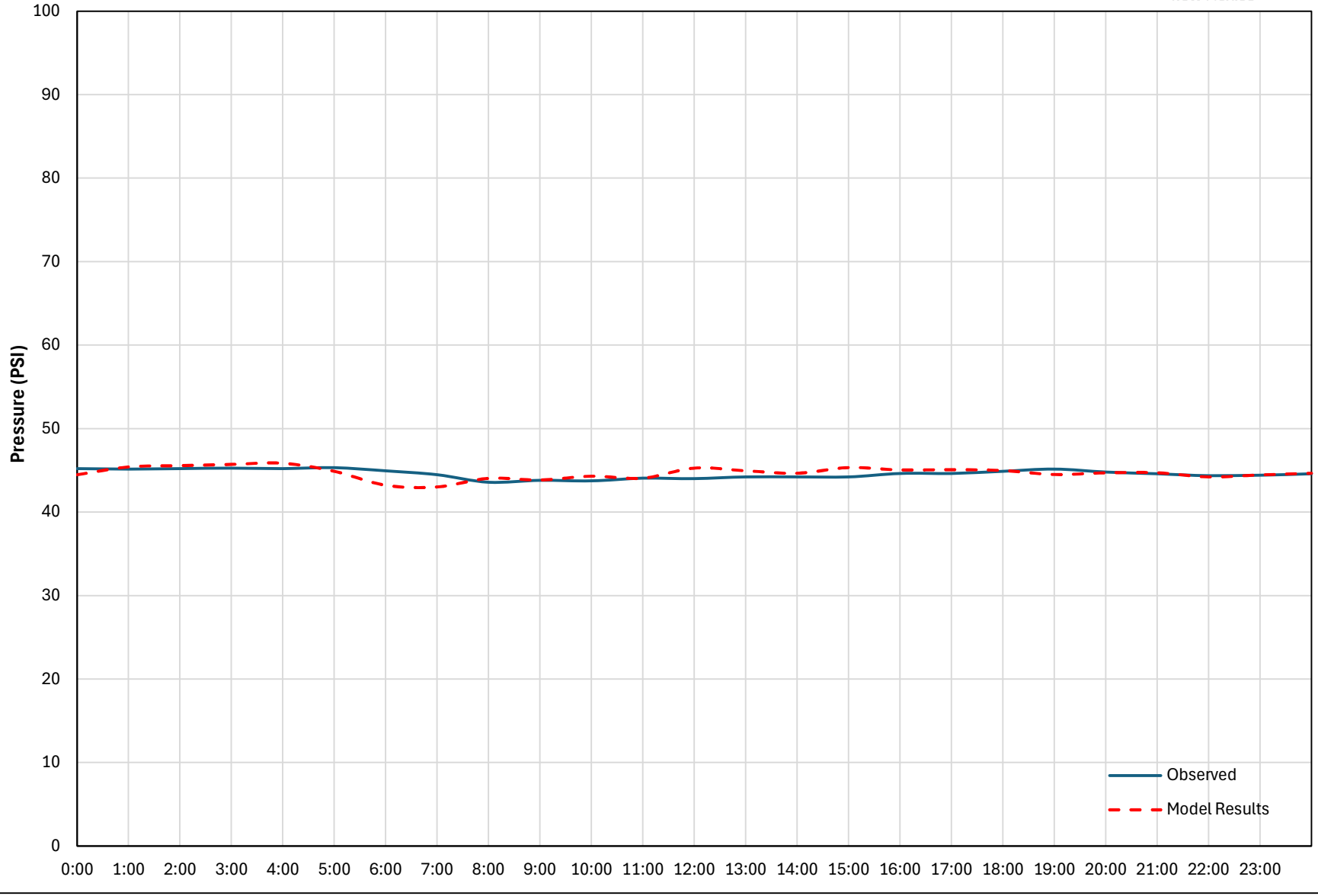
August 6th, 2025



PR #8: 50202413

1301 Sunset Place

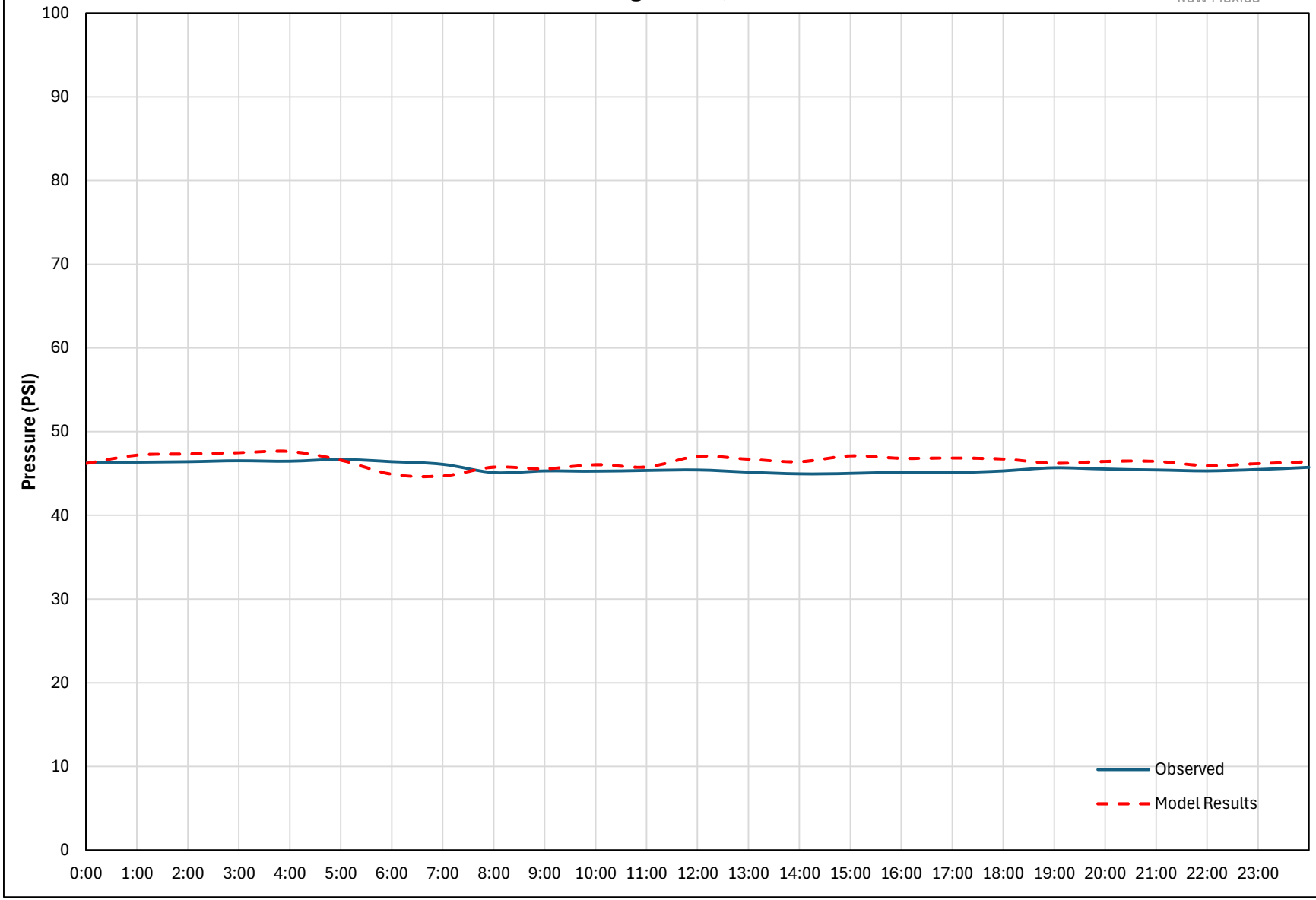
August 6th, 2025

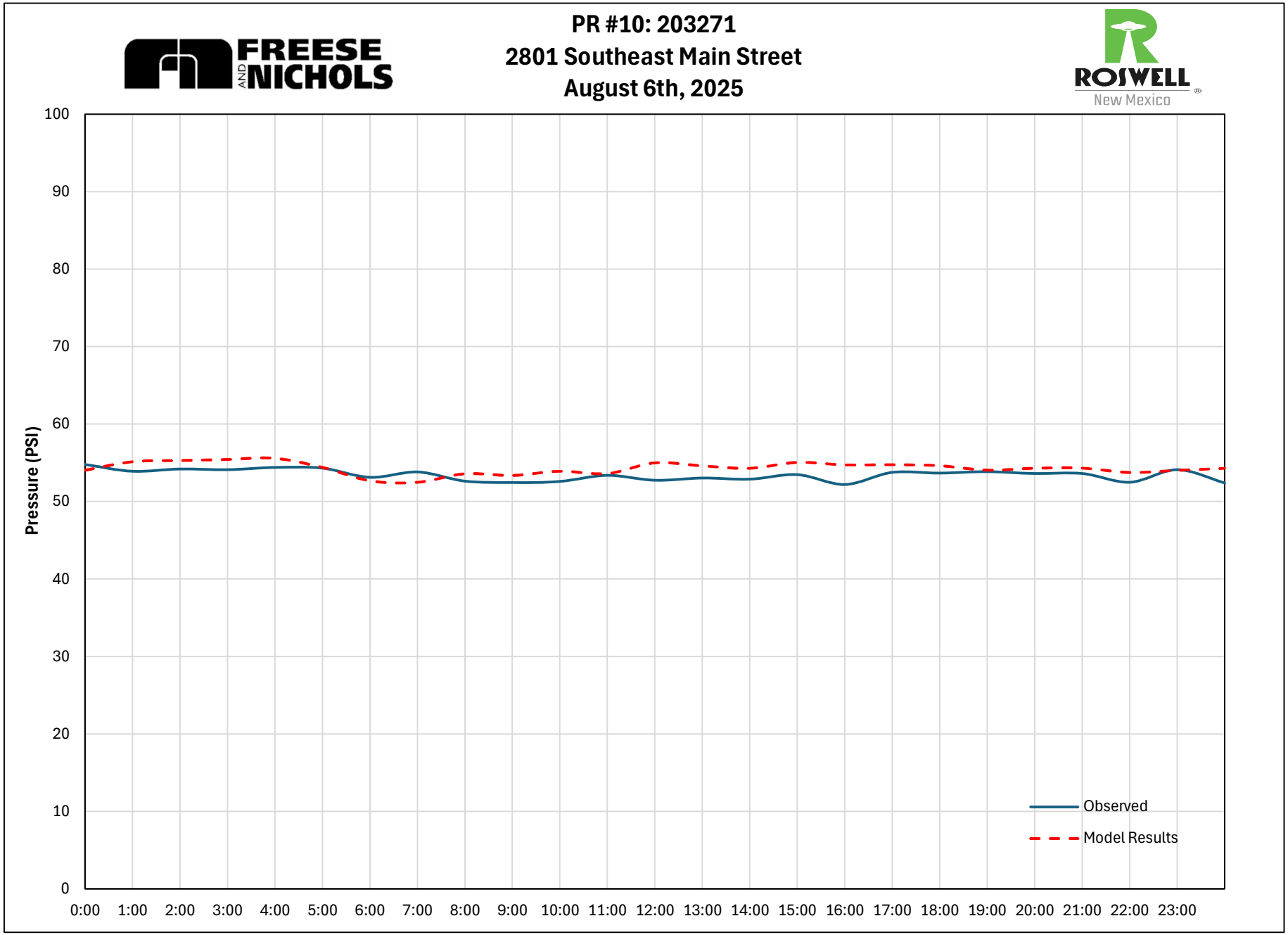


PR #9: 50202412

Lusk Drive and South Washington Avenue

August 6th, 2025

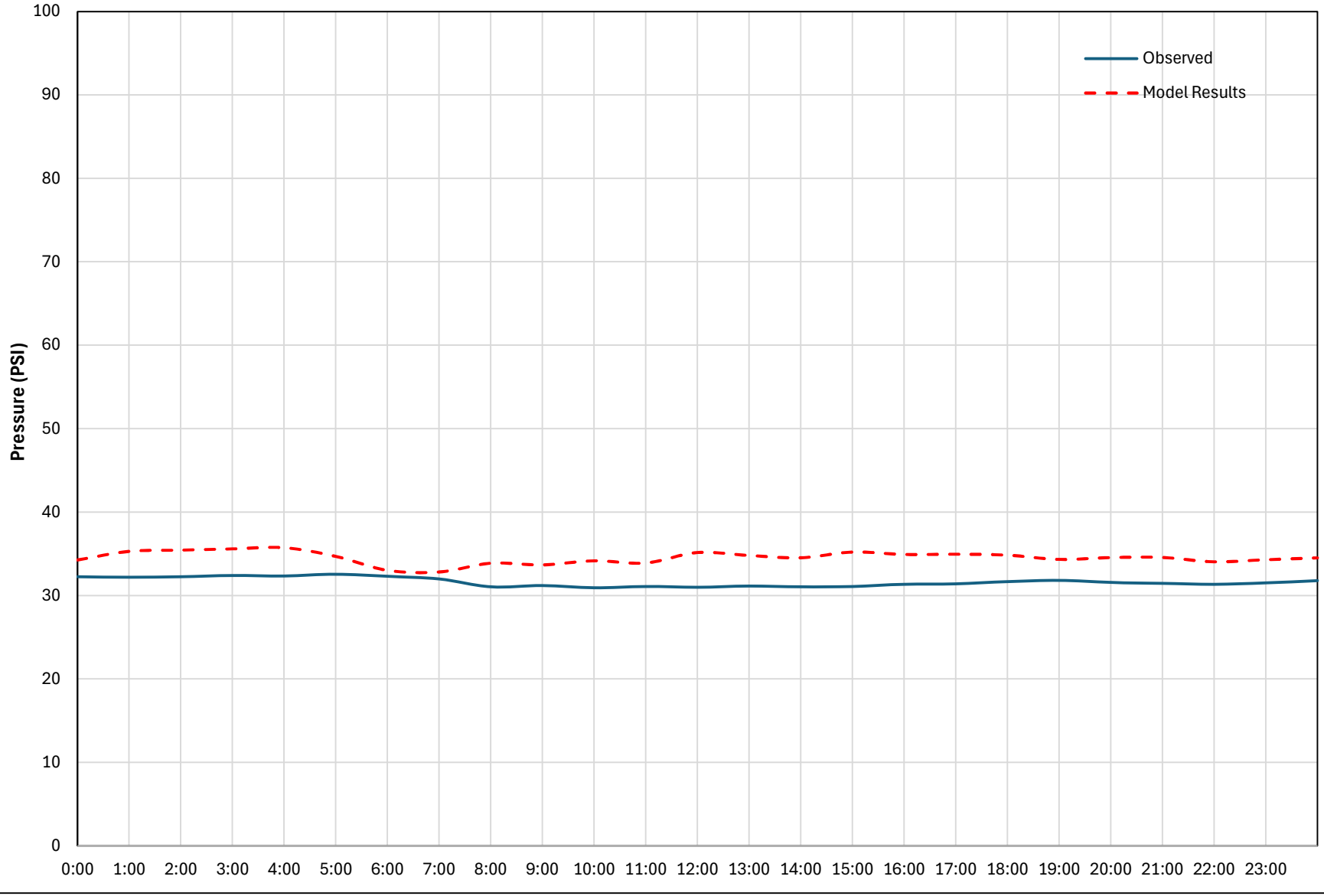



PR #10: 203271
2801 Southeast Main Street
August 6th, 2025
FREESE AND NICHOLS
ROSWELL New Mexico
Pressure (PSI)
100
90
80
70
60
50
40
30
20
10
0
0:00
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
Observed
Model Results

PR #11: 48202320

1200 W Hobbson Road

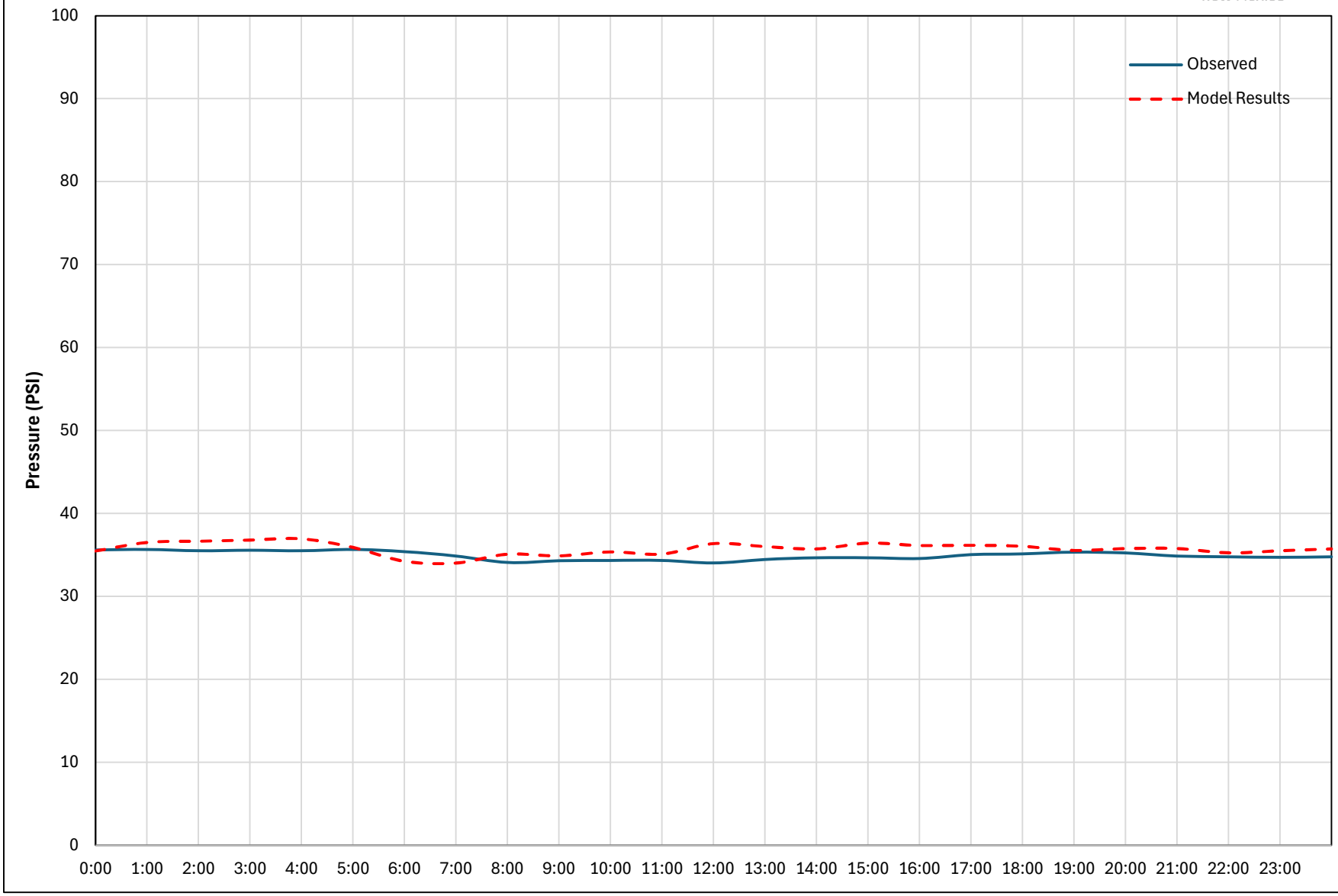
August 6th, 2025



PR #12: 44201849

903 West Hobbson Road

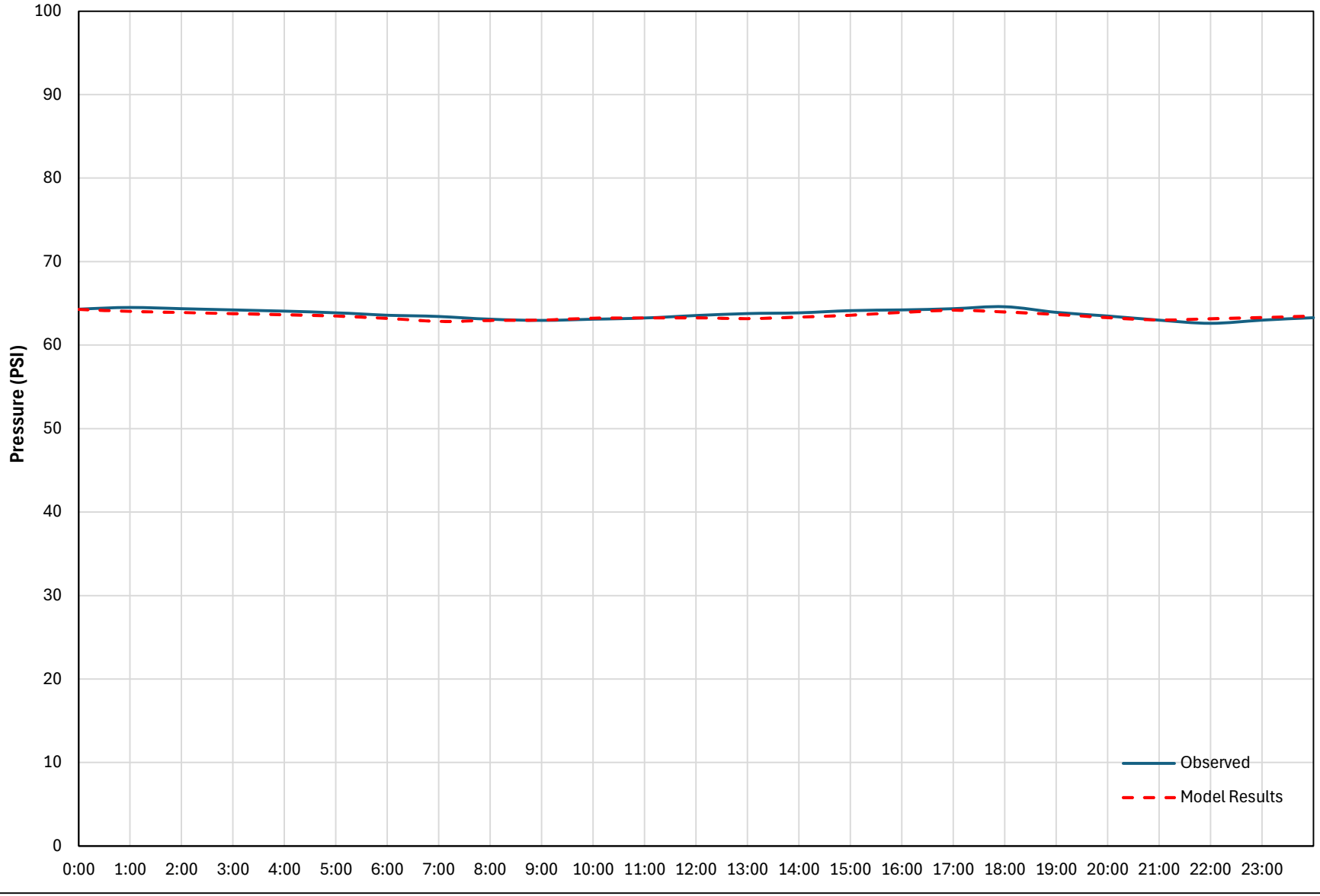
August 6th, 2025



PR # 13: 40201519

West Earl Cummings Loop

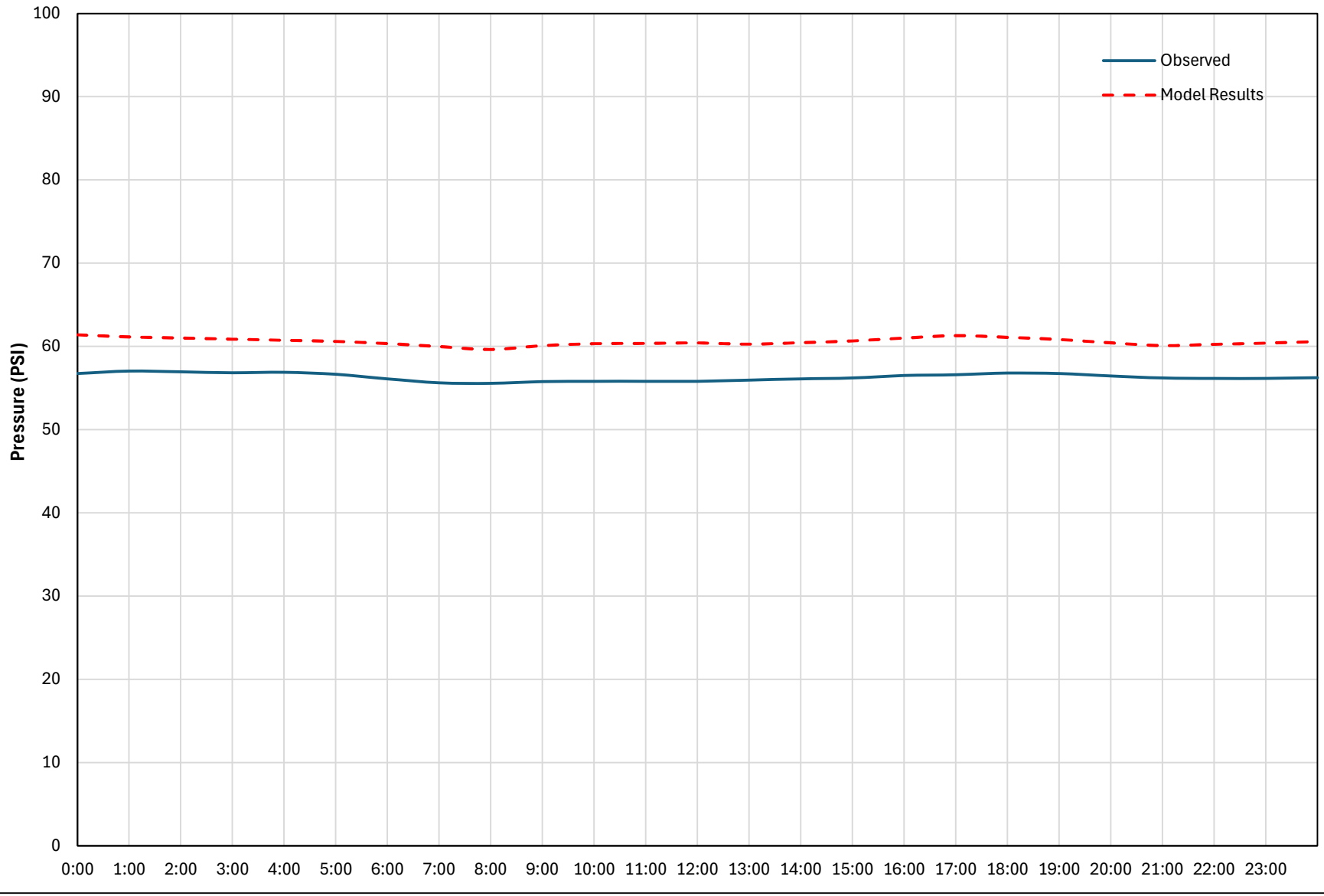
August 6th, 2025



PR #14: 32200836

42 West Earl Cummings Road

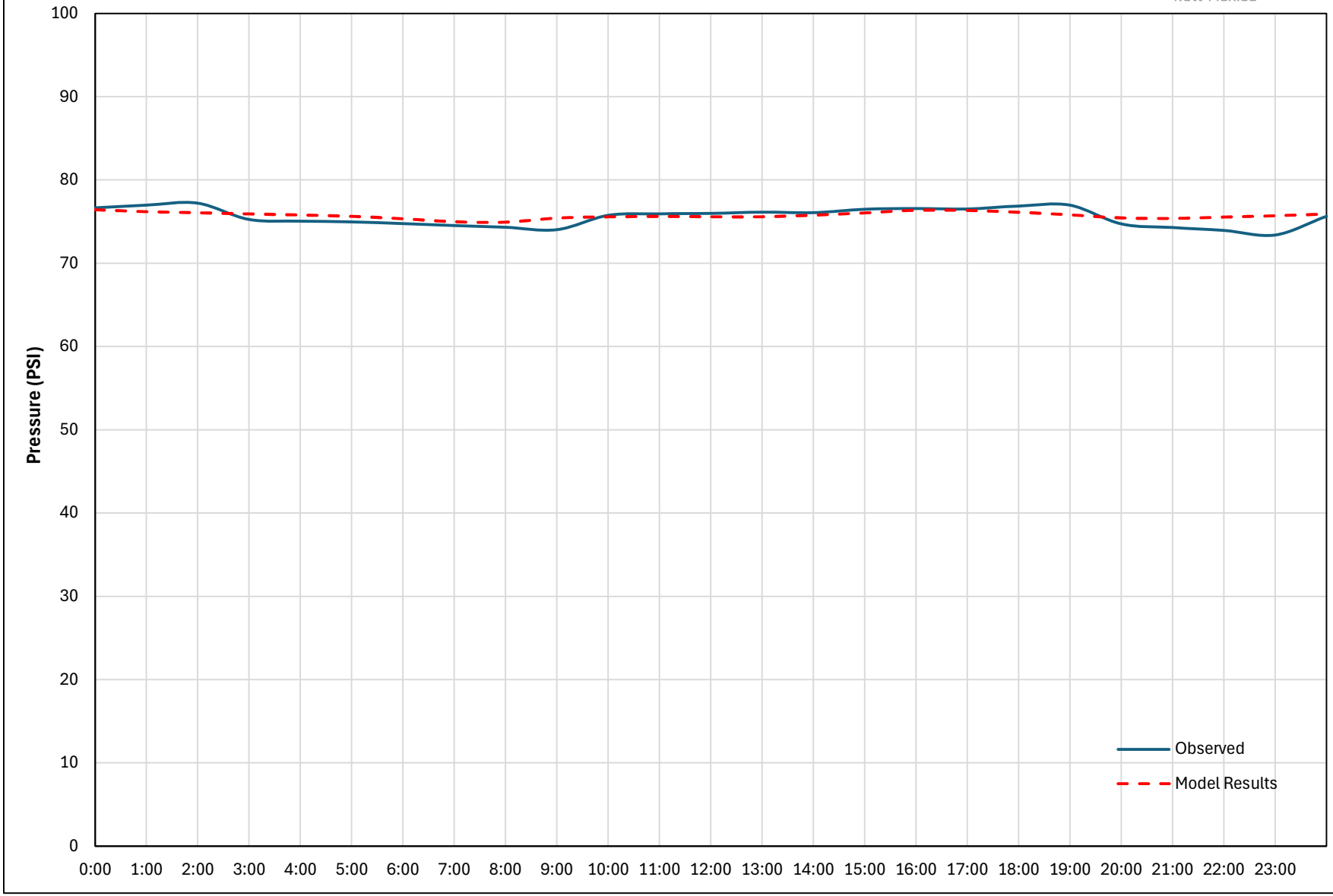
August 6th, 2025



PR #15: 206052

East Byrne Street & I Street

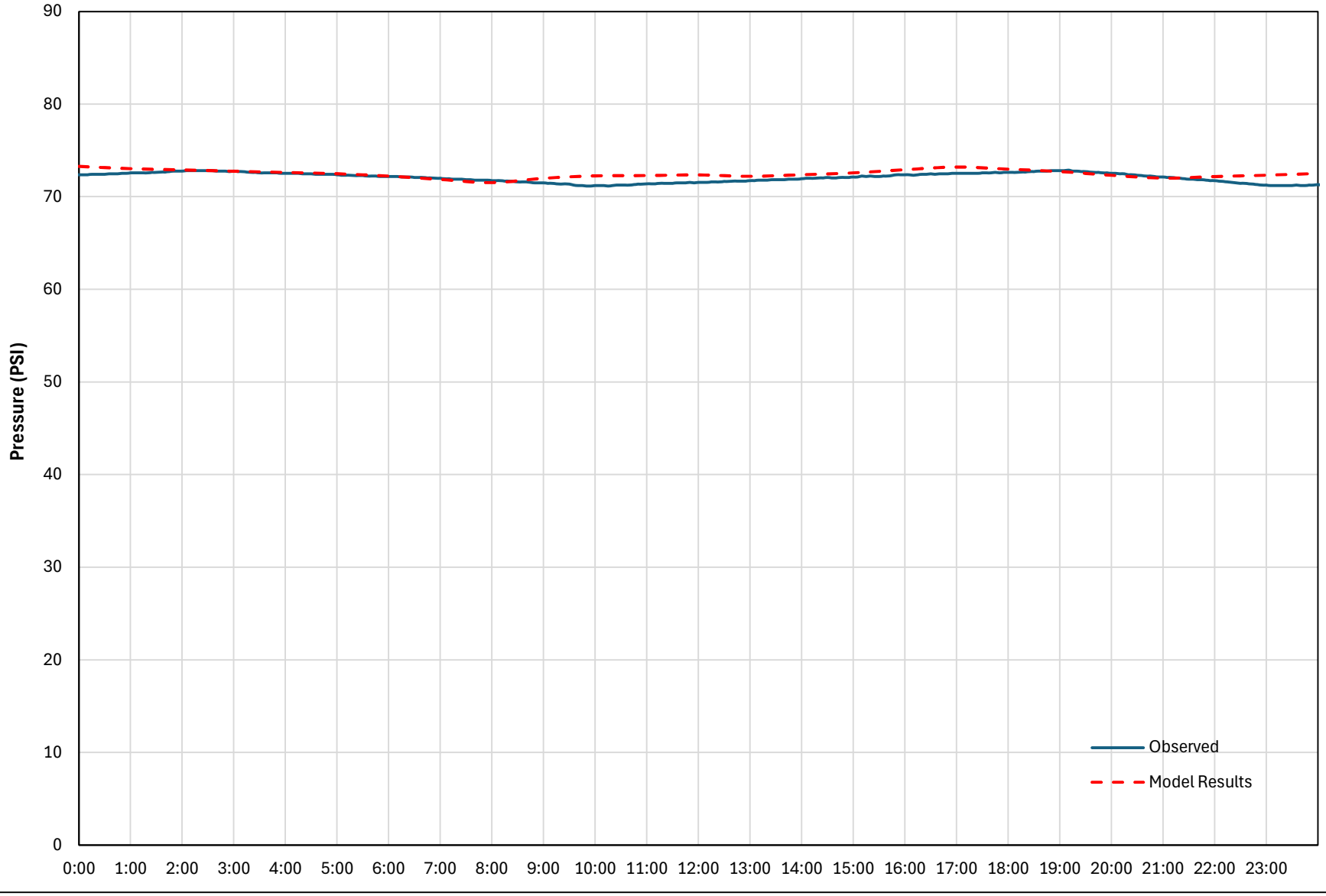
August 6th, 2025



PR #16: 203018

Earl Cummings Loop & East Gillis Street

August 6th, 2025



APPENDIX B
SITE VISIT INSPECTION SHEETS

Trigg Reservoir

Inspection Date: 3/4/2025-3/6/2025

Address: East of Old Hondo Channel Rd

Facility Information			
Install Year:	1979, Updated in 2019	Rated Pump Capacity (gpm):	-
Pressure Zone:	Trigg/Kerr	Total Pumping Capacity (gpm):	-
Force/Transmission Main Diameter (in):		Storage Capacity (MG):	0.1
Number of Pumps:	-	Monitoring/SCADA:	-
Pump Brand:		Electrical Service:	
Horsepower:		Generator/Quick Connect:	No generator

City Score:

Scoring Guidelines	
1	New condition, no improvements recommended to maintain function
2	Good condition, minor improvements recommended to enhance performance
3	Fair condition, improvements recommended to improve performance or efficiency
4	Poor condition, improvements recommended to maintain reliability
5	Eminent failure, rehabilitation or replacement required

CONDITION ASSESSMENT

Component Group	Component Condition Rating	Weight Factor	Weighted Component Rating	Comments
Coating	5	25%	1.25	Exterior tank coating is in good condition. Interior coating is highly corroded and needs replacement.
Electrical – MCC, Back-up Power, Cables	2	10%	0.20	
Instrumentation - SCADA, Alarms, Controls	2	10%	0.20	
Structure - Hatches, Corrosion, Cracks, Leaking	5	25%	1.25	Structure has experienced corrosion due to historical high chlorine usage. Wells no longer inject chlorine at well site,
Piping and Valves	4	20%	0.80	
Site - Drainage, Access Drive, Security, Fencing	3	10%	0.30	Site location is in good condition. Drive to facilities is difficult and requires 4-wheel drive.
Condition Rating	-	100%	**4.00**	

Additional Notes:

TIC inspected the tank and found the inside to be corroded. It was recommende to the City by TIC the tank be drained and the inside be relined. Chlorine is no longer injected at the wells and is instead added at booster pump station.

Trigg #1 Production Well

Inspection Date: 3/4/2025-3/6/2025

Address: East of Old Hondo Channel Rd

Facility Information			
Install Year:	1980, Updated in 1993	Rated Pump Capacity (gpm):	1,350
Pressure Zone:	Trigg/Kerr	Total Pumping Capacity (gpm):	1,350
Force/Transmission Main Diameter (in):		Water Rights (gpm):	1,224
Number of Pumps:	1	Monitoring/SCADA:	
Pump Brand:		Electrical Service:	
Horsepower:		Generator/Quick Connect:	No generator

City Score:

Scoring Guidelines	
1	New condition, no improvements recommended to maintain function
2	Good condition, minor improvements recommended to enhance performance
3	Fair condition, improvements recommended to improve performance or efficiency
4	Poor condition, improvements recommended to maintain reliability
5	Eminent failure, rehabilitation or replacement required

CONDITION ASSESSMENT

Component Group	Component Condition Rating	Weight Factor	Weighted Component Rating	Comments
Pumps and Motors	3	20%	0.60	Uses an oil feed for motor, oil lubed.
Electrical – MCC, Back-up Power, Cables	3	25%	0.75	No backup generator.
Instrumentation - SCADA, Alarms, Controls	2	15%	0.30	
Structure - Hatches, Corrosion, Cracks, Leaking	2	15%	0.30	
Piping and Valves	3	15%	0.45	
Site - Drainage, Access Drive, Security, Fencing	3	10%	0.30	
Condition Rating	-	100%	**2.70**	

Additional Notes:

Chlorine not injected at this well site, instead added at booster pump station.

Trigg #2 Production Well

Inspection Date: 3/4/2025-3/6/2025

Address: East of Old Hondo Channel Rd

Facility Information			
Install Year:	1978, Updated in 2005	Rated Pump Capacity (gpm):	1,275
Pressure Zone:	Trigg/Kerr	Total Pumping Capacity (gpm):	1,275
Force/Transmission Main Diameter (in):		Water Rights (gpm):	1,224
Number of Pumps:	1	Monitoring/SCADA:	
Pump Brand:		Electrical Service:	
Horsepower:		Generator/Quick Connect:	No generator

City Score:

Scoring Guidelines	
1	New condition, no improvements recommended to maintain function
2	Good condition, minor improvements recommended to enhance performance
3	Fair condition, improvements recommended to improve performance or efficiency
4	Poor condition, improvements recommended to maintain reliability
5	Eminent failure, rehabilitation or replacement required

CONDITION ASSESSMENT

Component Group	Component Condition Rating	Weight Factor	Weighted Component Rating	Comments
Pumps and Motors	3	20%	0.60	
Electrical – MCC, Back-up Power, Cables	3	25%	0.75	No backup generator.
Instrumentation - SCADA, Alarms, Controls	2	15%	0.30	
Structure - Hatches, Corrosion, Cracks, Leaking	2	15%	0.30	
Piping and Valves	3	15%	0.45	
Site - Drainage, Access Drive, Security, Fencing	3	10%	0.30	
Condition Rating	-	100%	**2.70**	

Additional Notes:

Chlorine not injected at this well site, instead added at booster pump station.

Kerr #6 Production Well

Inspection Date: 3/4/2025-3/6/2025

Address: South Aspen Rd & Roswell In Air Center

Facility Information			
Install Year:	1972, Updated in 2011	Rated Pump Capacity (gpm):	1,900
Pressure Zone:	Trigg/Kerr	Total Pumping Capacity (gpm):	1,900
Force/Transmission Main Diameter (in):		Water Rights (gpm):	3,043
Number of Pumps:	1	Monitoring/SCADA:	-
Pump Brand:		Electrical Service:	
Horsepower:		Generator/Quick Connect:	No generator

City Score:

Scoring Guidelines	
1	New condition, no improvements recommended to maintain function
2	Good condition, minor improvements recommended to enhance performance
3	Fair condition, improvements recommended to improve performance or efficiency
4	Poor condition, improvements recommended to maintain reliability
5	Eminent failure, rehabilitation or replacement required

CONDITION ASSESSMENT

Component Group	Component Condition Rating	Weight Factor	Weighted Component Rating	Comments
Pumps and Motors	3	20%	0.60	No notable issues with pumps or motors.
Electrical – MCC, Back-up Power, Cables	4	25%	1.00	VFD planned for replacement. VFD burned up and is planned to be replaced.
Instrumentation - SCADA, Alarms, Controls	2	15%	0.30	
Structure - Hatches, Corrosion, Cracks, Leaking	3	15%	0.45	
Piping and Valves	3	15%	0.45	
Site - Drainage, Access Drive, Security, Fencing	3	10%	0.30	
Condition Rating	-	100%	**3.10**	

Additional Notes:

The valve to the Trigg Reservoir is located at this facility. Chlorine is not injected at this well site, instead added at booster pump station. Kerr #6 Well feeds to the Kerr Reservoir and is not pumped directly into the system.

Kerr #5 Production Well

Inspection Date: 3/4/2025-3/6/2025

Address: South Aspen Rd & Roswell In Air Center

Facility Information			
Install Year:	1970, Updated in 2001	Rated Pump Capacity (gpm):	1,900
Pressure Zone:	Trigg/Kerr	Total Pumping Capacity (gpm):	1,900
Force/Transmission Main Diameter (in):		Water Rights (gpm):	3,043
Number of Pumps:	1	Monitoring/SCADA:	-
Pump Brand:		Electrical Service:	
Horsepower:		Generator/Quick Connect:	No generator

City Score:

Scoring Guidelines	
1	New condition, no improvements recommended to maintain function
2	Good condition, minor improvements recommended to enhance performance
3	Fair condition, improvements recommended to improve performance or efficiency
4	Poor condition, improvements recommended to maintain reliability
5	Eminent failure, rehabilitation or replacement required

CONDITION ASSESSMENT

Component Group	Component Condition Rating	Weight Factor	Weighted Component Rating	Comments
Pumps and Motors	3	20%	0.60	No notable issues with pumps or motors.
Electrical – MCC, Back-up Power, Cables	3	25%	0.75	
Instrumentation - SCADA, Alarms, Controls	2	15%	0.30	
Structure - Hatches, Corrosion, Cracks, Leaking	2	15%	0.30	No leaks in structure, appears to be in good condition.
Piping and Valves	3	15%	0.45	
Site - Drainage, Access Drive, Security, Fencing	3	10%	0.30	Property maintained by airport and it located within the airport security gates.
Condition Rating	-	100%	**2.70**	

Additional Notes:

Kerr #1 Production Well

Inspection Date: 3/4/2025-3/6/2025

Address: East of Old Y O Crossing Rd

Facility Information			
Install Year:	1970, Updated in 1990	Rated Pump Capacity (gpm):	1,700
Pressure Zone:	Trigg/Kerr	Total Pumping Capacity (gpm):	1,700
Force/Transmission Main Diameter (in):		Water Rights (gpm):	3,043
Number of Pumps:	1	Monitoring/SCADA:	-
Pump Brand:		Electrical Service:	
Horsepower:		Generator/Quick Connect:	No generator

City Score:

Scoring Guidelines	
1	New condition, no improvements recommended to maintain function
2	Good condition, minor improvements recommended to enhance performance
3	Fair condition, improvements recommended to improve performance or efficiency
4	Poor condition, improvements recommended to maintain reliability
5	Eminent failure, rehabilitation or replacement required

CONDITION ASSESSMENT

Component Group	Component Condition Rating	Weight Factor	Weighted Component Rating	Comments
Pumps and Motors	4	20%	0.80	Motors have not been upgraded recently. Motors are not equipped with VFDs.
Electrical – MCC, Back-up Power, Cables	4	25%	1.00	Planning to replace soft start with VFD. No backup generator.
Instrumentation - SCADA, Alarms, Controls	3	15%	0.45	
Structure - Hatches, Corrosion, Cracks, Leaking	4	15%	0.60	Interior drains are clogged and don't properly drain for Kerr Wells #1 - #4.
Piping and Valves	3	15%	0.45	
Site - Drainage, Access Drive, Security, Fencing	3	10%	0.30	Site is gated, not on airport property.
Condition Rating	-	100%	**3.60**	

Additional Notes:

Kerr #2 Production Well

Inspection Date: 3/4/2025-3/6/2025

Address: East of Old Y O Crossing Rd

Facility Information			
Install Year:	1970, Updated in 1990	Rated Pump Capacity (gpm):	1,325
Pressure Zone:	Trigg/Kerr	Total Pumping Capacity (gpm):	1,325
Force/Transmission Main Diameter (in):		Water Rights (gpm):	3,043
Number of Pumps:	1	Monitoring/SCADA:	-
Pump Brand:		Electrical Service:	
Horsepower:		Generator/Quick Connect:	No generator

City Score:

Scoring Guidelines	
1	New condition, no improvements recommended to maintain function
2	Good condition, minor improvements recommended to enhance performance
3	Fair condition, improvements recommended to improve performance or efficiency
4	Poor condition, improvements recommended to maintain reliability
5	Eminent failure, rehabilitation or replacement required

CONDITION ASSESSMENT

Component Group	Component Condition Rating	Weight Factor	Weighted Component Rating	Comments
Pumps and Motors	5	20%	1.00	Pump has been turned off because motor needs to be replaced.
Electrical – MCC, Back-up Power, Cables	5	25%	1.25	VFD needs repair. VFD burned up and needs to be replaced. No backup generator
Instrumentation - SCADA, Alarms, Controls	3	15%	0.45	
Structure - Hatches, Corrosion, Cracks, Leaking	4	15%	0.60	Interior drains are clogged and don't properly drain for Kerr Wells #1 - #4.
Piping and Valves	3	15%	0.45	
Site - Drainage, Access Drive, Security, Fencing	2	10%	0.20	Extra electrified wire added around security fence to protect from animals.
Condition Rating	-	100%	**3.95**	

Additional Notes:

Chlorine tanks were removed due to pump being turned off.

Kerr #3 Production Well

Inspection Date: 3/4/2025-3/6/2025

Address: East of Old Y O Crossing Rd

Facility Information			
Install Year:	1970, Updated in 1997	Rated Pump Capacity (gpm):	1,025
Pressure Zone:	Trigg/Kerr	Total Pumping Capacity (gpm):	1,025
Force/Transmission Main Diameter (in):		Water Rights (gpm):	3,043
Number of Pumps:	1	Monitoring/SCADA:	-
Pump Brand:		Electrical Service:	
Horsepower:		Generator/Quick Connect:	No generator

City Score:

Scoring Guidelines	
1	New condition, no improvements recommended to maintain function
2	Good condition, minor improvements recommended to enhance performance
3	Fair condition, improvements recommended to improve performance or efficiency
4	Poor condition, improvements recommended to maintain reliability
5	Eminent failure, rehabilitation or replacement required

CONDITION ASSESSMENT

Component Group	Component Condition Rating	Weight Factor	Weighted Component Rating	Comments
Pumps and Motors	3	20%	0.60	No notable issues with pumps or motors.
Electrical – MCC, Back-up Power, Cables	3	25%	0.75	Planning to replace soft start with VFD. No backup generator.
Instrumentation - SCADA, Alarms, Controls	2	15%	0.30	
Structure - Hatches, Corrosion, Cracks, Leaking	4	15%	0.60	Interior drains are clogged and don't properly drain for Kerr Wells #1 - #4. Appears to be wood rot near roof vent.
Piping and Valves	2	15%	0.30	
Site - Drainage, Access Drive, Security, Fencing	2	10%	0.20	
Condition Rating	-	100%	**2.75**	

Additional Notes:

Facilities include a wellhead desander.

Kerr #4 Production Well

Inspection Date: 3/4/2025-3/6/2025

Address: East of Old Y O Crossing Rd

Facility Information			
Install Year:	1970, Updated in 2006	Rated Pump Capacity (gpm):	1,600
Pressure Zone:	Trigg/Kerr	Total Pumping Capacity (gpm):	1,600
Force/Transmission Main Diameter (in):		Water Rights (gpm):	3,043
Number of Pumps:	1	Monitoring/SCADA:	-
Pump Brand:		Electrical Service:	
Horsepower:		Generator/Quick Connect:	No generator

City Score:

Scoring Guidelines	
1	New condition, no improvements recommended to maintain function
2	Good condition, minor improvements recommended to enhance performance
3	Fair condition, improvements recommended to improve performance or efficiency
4	Poor condition, improvements recommended to maintain reliability
5	Eminent failure, rehabilitation or replacement required

CONDITION ASSESSMENT

Component Group	Component Condition Rating	Weight Factor	Weighted Component Rating	Comments
Pumps and Motors	2	20%	0.40	No VFD.
Electrical – MCC, Back-up Power, Cables	3	25%	0.75	Soft start. No backup generator
Instrumentation - SCADA, Alarms, Controls	2	15%	0.30	
Structure - Hatches, Corrosion, Cracks, Leaking	4	15%	0.60	Interior drains are clogged and don't properly drain for Kerr Wells #1 - #4.
Piping and Valves	2	15%	0.30	
Site - Drainage, Access Drive, Security, Fencing	2	10%	0.20	
Condition Rating	-	100%	**2.55**	

Additional Notes:

Kerr Reservoir

Inspection Date: 3/4/2025-3/6/2025 Address: 1200 W Hobson Road

Facility Information			
Install Year:	1979, Updated in 2020	Rated Pump Capacity (gpm):	-
Pressure Zone:	Trigg/Kerr	Total Pumping Capacity (gpm):	-
Force/Transmission Main Diameter (in):		Storage Capacity (MG):	3.52
Number of Pumps:	-	Monitoring/SCADA:	Level sensor
Pump Brand:		Electrical Service:	
Horsepower:		Generator/Quick Connect:	No generator

City Score:

Scoring Guidelines	
1	New condition, no improvements recommended to maintain function
2	Good condition, minor improvements recommended to enhance performance
3	Fair condition, improvements recommended to improve performance or efficiency
4	Poor condition, improvements recommended to maintain reliability
5	Eminent failure, rehabilitation or replacement required

CONDITION ASSESSMENT

Component Group	Component Condition Rating	Weight Factor	Weighted Component Rating	Comments
Coating	2	25%	0.50	Exterior coating is 10 years old. Some rust observed on exterior coating.
Electrical – MCC, Back-up Power, Cables	2	10%	0.20	
Instrumentation - SCADA, Alarms, Controls	2	10%	0.20	SCADA is undergoing update
Structure - Hatches, Corrosion, Cracks, Leaking	1	25%	0.25	
Piping and Valves	1	20%	0.20	
Site - Drainage, Access Drive, Security, Fencing	1	10%	0.10	
Condition Rating	-	100%	**1.45**	

Additional Notes:

No sump pump in valve vault, need to drop in pump. Louis has TIC visual inspection of tank. Receives annual inspection and no issues reported with cathodic protection.

Kerr Booster Pump Station

Inspection Date: 3/4/2025-3/6/2025 Address: 1200 W Hobson Road

Facility Information			
Install Year:	6/1/1905	Rated Pump Capacity (gpm):	24,500
Pressure Zone:	Trigg/Kerr	Total Pumping Capacity (gpm):	24,500
Force/Transmission Main Diameter (in):		Storage Capacity (MG):	-
Number of Pumps:	5	Monitoring/SCADA:	-
Pump Brand:		Electrical Service:	
Horsepower:		Generator/Quick Connect:	One back up generator that powers central only.

City Score:

Scoring Guidelines	
1	New condition, no improvements recommended to maintain function
2	Good condition, minor improvements recommended to enhance performance
3	Fair condition, improvements recommended to improve performance or efficiency
4	Poor condition, improvements recommended to maintain reliability
5	Eminent failure, rehabilitation or replacement required

CONDITION ASSESSMENT

Component Group	Component Condition Rating	Weight Factor	Weighted Component Rating	Comments
Pumps and Motors	3	20%	0.60	Five pumps total with three spare pumps.
Electrical – MCC, Back-up Power, Cables	3	25%	0.75	There is no backup power . There are filters on the electrical. Electircal is on a platform about one foot
Instrumentation - SCADA, Alarms, Controls	2	15%	0.30	Experiencing issue with SCADA after October 2024 flood event.
Structure - Hatches, Corrosion, Cracks, Leaking	1	15%	0.15	The structure/building is good and does not experience water infiltration during a rain event.
Piping and Valves	2	15%	0.30	
Site - Drainage, Access Drive, Security, Fencing	1	10%	0.10	The site is hot in the summer, but has coolers and it's secured by fence and gate.
Condition Rating	-	100%	**2.20**	

Additional Notes:

The bridge crane is broken. No back up power generation present at this site. Ask for pump data. City has a work order history of wells and pumps.

RIAC Booster Pump Station

Inspection Date: 3/4/2025-3/6/2025 Address: 106 W Byrne St

Facility Information			
Install Year:	4/23/1905	Rated Pump Capacity (gpm):	4,500
Pressure Zone:	RIAC	Total Pumping Capacity (gpm):	4,500
Force/Transmission Main Diameter (in):		Storage Capacity (MG):	-
Number of Pumps:	3	Monitoring/SCADA:	-
Pump Brand:		Electrical Service:	
Horsepower:		Generator/Quick Connect:	No backup generator

City Score:

Scoring Guidelines	
1	New condition, no improvements recommended to maintain function
2	Good condition, minor improvements recommended to enhance performance
3	Fair condition, improvements recommended to improve performance or efficiency
4	Poor condition, improvements recommended to maintain reliability
5	Eminent failure, rehabilitation or replacement required

CONDITION ASSESSMENT

Component Group	Component Condition Rating	Weight Factor	Weighted Component Rating	Comments
Pumps and Motors	5	20%	1.00	Seals are blown on all the pumps and all leak.
Electrical – MCC, Back-up Power, Cables	4	25%	1.00	Electircal is old, no backup generator.
Instrumentation - SCADA, Alarms, Controls	2	15%	0.30	SCADA is being worked on
Structure - Hatches, Corrosion, Cracks, Leaking	3	15%	0.45	Flat roof on the structure, no cuurent leaks. Room had water from larger rain event.
Piping and Valves	4	15%	0.60	
Site - Drainage, Access Drive, Security, Fencing	3	10%	0.30	
Condition Rating	-	100%	**3.65**	

Additional Notes:

There is room for one more pump at station. Stations feeds EST and base, and site is fenced and locked. There was a rain event in October of 2024 and some water got inside.

RIAC #4 Production Well

Inspection Date: 3/4/2025-3/6/2025

Address: 82 W Earl Cummings Loop

Facility Information			
Install Year:	1940, Updated in 2024	Rated Pump Capacity (gpm):	800
Pressure Zone:	RIAC	Total Pumping Capacity (gpm):	800
Force/Transmission Main Diameter (in):		Water Rights (gpm):	1,550
Number of Pumps:	1	Monitoring/SCADA:	-
Pump Brand:		Electrical Service:	
Horsepower:		Generator/Quick Connect:	No generator

City Score:

Scoring Guidelines	
1	New condition, no improvements recommended to maintain function
2	Good condition, minor improvements recommended to enhance performance
3	Fair condition, improvements recommended to improve performance or efficiency
4	Poor condition, improvements recommended to maintain reliability
5	Eminent failure, rehabilitation or replacement required

CONDITION ASSESSMENT

Component Group	Component Condition Rating	Weight Factor	Weighted Component Rating	Comments
Pumps and Motors		20%		
Electrical – MCC, Back-up Power, Cables		25%		
Instrumentation - SCADA, Alarms, Controls		15%		
Structure - Hatches, Corrosion, Cracks, Leaking		15%		
Piping and Valves		15%		
Site - Drainage, Access Drive, Security, Fencing		10%		
Condition Rating	-	100%		

Additional Notes:

Currently being replaced with an entire rebuild. Cost of rebuild is around $460,000.

RIAC #4 Production Well

Inspection Date: 3/4/2025-3/6/2025

Address: 82 W Earl Cummings Loop

Facility Information			
Install Year:	1940, Updated in 2024	Rated Pump Capacity (gpm):	800
Pressure Zone:	RIAC	Total Pumping Capacity (gpm):	800
Force/Transmission Main Diameter (in):		Water Rights (gpm):	1,550
Number of Pumps:	1	Monitoring/SCADA:	-
Pump Brand:		Electrical Service:	
Horsepower:		Generator/Quick Connect:	No generator

City Score:

Scoring Guidelines	
1	New condition, no improvements recommended to maintain function
2	Good condition, minor improvements recommended to enhance performance
3	Fair condition, improvements recommended to improve performance or efficiency
4	Poor condition, improvements recommended to maintain reliability
5	Eminent failure, rehabilitation or replacement required

CONDITION ASSESSMENT

Component Group	Component Condition Rating	Weight Factor	Weighted Component Rating	Comments
Pumps and Motors		20%		
Electrical – MCC, Back-up Power, Cables		25%		
Instrumentation - SCADA, Alarms, Controls		15%		
Structure - Hatches, Corrosion, Cracks, Leaking		15%		
Piping and Valves		15%		
Site - Drainage, Access Drive, Security, Fencing		10%		
Condition Rating	-	100%		

Additional Notes:

Currently being replaced with an entire rebuild. Cost of rebuild is around $460,000.

RIAC #1 Production Well

Inspection Date: 3/4/2025-3/6/2025 Address: 6005 E Challenger St

Facility Information			
Install Year:	7/13/1905	Rated Pump Capacity (gpm):	1,350
Pressure Zone:	RIAC	Total Pumping Capacity (gpm):	1,350
Force/Transmission Main Diameter (in):		Water Rights (gpm):	1,550
Number of Pumps:	1	Monitoring/SCADA:	-
Pump Brand:		Electrical Service:	
Horsepower:		Generator/Quick Connect:	Has a generator

City Score:

Scoring Guidelines	
1	New condition, no improvements recommended to maintain function
2	Good condition, minor improvements recommended to enhance performance
3	Fair condition, improvements recommended to improve performance or efficiency
4	Poor condition, improvements recommended to maintain reliability
5	Eminent failure, rehabilitation or replacement required

CONDITION ASSESSMENT

Component Group	Component Condition Rating	Weight Factor	Weighted Component Rating	Comments
Pumps and Motors	2	20%	0.40	Pumps, motors, etc installed in 2021.
Electrical – MCC, Back-up Power, Cables	2	25%	0.50	
Instrumentation - SCADA, Alarms, Controls	2	15%	0.30	Radio is working.
Structure - Hatches, Corrosion, Cracks, Leaking	2	15%	0.30	There is a chlorine room.
Piping and Valves	3	15%	0.45	Outside chlorine pipes froze last winter. There is usually heated wires.
Site - Drainage, Access Drive, Security, Fencing	2	10%	0.20	No leaks. Build on site structure.
Condition Rating	-	100%	**2.15**	

Additional Notes:

Disinfects with chlorine gas. Building and well were replaced. The generator is Cummins brand.

RIAC #3 Production Well

Inspection Date: 3/4/2025-3/6/2025 Address: 102 E Eyman St

Facility Information			
Install Year:	7/11/1905	Rated Pump Capacity (gpm):	875
Pressure Zone:	RIAC	Total Pumping Capacity (gpm):	875
Force/Transmission Main Diameter (in):		Water Rights (gpm):	1,550
Number of Pumps:	1	Monitoring/SCADA:	-
Pump Brand:		Electrical Service:	
Horsepower:		Generator/Quick Connect:	No generator

City Score:

Scoring Guidelines	
1	New condition, no improvements recommended to maintain function
2	Good condition, minor improvements recommended to enhance performance
3	Fair condition, improvements recommended to improve performance or efficiency
4	Poor condition, improvements recommended to maintain reliability
5	Eminent failure, rehabilitation or replacement required

CONDITION ASSESSMENT

Component Group	Component Condition Rating	Weight Factor	Weighted Component Rating	Comments
Pumps and Motors	2	20%	0.40	
Electrical – MCC, Back-up Power, Cables	2	25%	0.50	No backup generator.
Instrumentation - SCADA, Alarms, Controls	2	15%	0.30	
Structure - Hatches, Corrosion, Cracks, Leaking	2	15%	0.30	No freezing issues present. The hatch is the exhaust fan.
Piping and Valves	2	15%	0.30	
Site - Drainage, Access Drive, Security, Fencing	2	10%	0.20	Site has a low fence. A portion of the fence needs barbed wire after it was damaged during building and well
Condition Rating	-	100%	**2.00**	

Additional Notes:

Building and well were replaced. Located near Aersale. Jason at alpha southwest. Rich and urban?

RIAC Elevated Storage Tank

Inspection Date: 3/4/2025-3/6/2025 Address: 91 W Martin St

Facility Information			
Install Year:	May 2021	Rated Pump Capacity (gpm):	-
Pressure Zone:	RIAC	Total Pumping Capacity (gpm):	-
Force/Transmission Main Diameter (in):		Storage Capacity (MG):	0.8
Number of Pumps:	-	Monitoring/SCADA:	-
Pump Brand:	RIAC West	Electrical Service:	
Horsepower:		Generator/Quick Connect:	No generator

City Score:

Scoring Guidelines	
1	New condition, no improvements recommended to maintain function
2	Good condition, minor improvements recommended to enhance performance
3	Fair condition, improvements recommended to improve performance or efficiency
4	Poor condition, improvements recommended to maintain reliability
5	Eminent failure, rehabilitation or replacement required

CONDITION ASSESSMENT

Component Group	Component Condition Rating	Weight Factor	Weighted Component Rating	Comments
Coating	1	25%	0.25	
Electrical – MCC, Back-up Power, Cables	1	10%	0.10	
Instrumentation - SCADA, Alarms, Controls	2	10%	0.20	
Structure - Hatches, Corrosion, Cracks, Leaking	1	25%	0.25	
Piping and Valves	1	20%	0.20	Same as west (Mathis?).
Site - Drainage, Access Drive, Security, Fencing	1	10%	0.10	
Condition Rating	-	100%	**1.10**	

Additional Notes:

Built in 2021. Landmark tank. Once pit is full, overflows to the road.

Mathis Elevated Storage Tank

Inspection Date: 3/4/2025-3/6/2025 Address: 91 E Earl Cummings Loop

Facility Information			
Install Year:	7/13/1905	Rated Pump Capacity (gpm):	-
Pressure Zone:	RIAC East	Total Pumping Capacity (gpm):	-
Force/Transmission Main Diameter (in):		Storage Capacity (MG):	0.8
Number of Pumps:	-	Monitoring/SCADA:	
Pump Brand:		Electrical Service:	
Horsepower:		Generator/Quick Connect:	No generator

City Score:

Scoring Guidelines	
1	New condition, no improvements recommended to maintain function
2	Good condition, minor improvements recommended to enhance performance
3	Fair condition, improvements recommended to improve performance or efficiency
4	Poor condition, improvements recommended to maintain reliability
5	Eminent failure, rehabilitation or replacement required

CONDITION ASSESSMENT

Component Group	Component Condition Rating	Weight Factor	Weighted Component Rating	Comments
Coating	1	25%	0.25	Concrete is painted.
Electrical – MCC, Back-up Power, Cables	1	10%	0.10	
Instrumentation - SCADA, Alarms, Controls	2	10%	0.20	SCADA goes to RIAC booster pump station and then goes to central to turn off and on.
Structure - Hatches, Corrosion, Cracks, Leaking	1	25%	0.25	
Piping and Valves	1	20%	0.20	
Site - Drainage, Access Drive, Security, Fencing	1	10%	0.10	
Condition Rating	-	100%	**1.10**	

Additional Notes:

In service May 2021. Landmark tank.

South of Roswell Well 12 Production Well

Inspection Date: 3/4/2025-3/6/2025 Address: 316 E Conner St

Facility Information			
Install Year:	1980, Updated in 2020	Rated Pump Capacity (gpm):	600
Pressure Zone:	Roswell	Total Pumping Capacity (gpm):	600
Force/Transmission Main Diameter (in):		Water Rights (gpm):	5,604
Number of Pumps:	1	Monitoring/SCADA:	-
Pump Brand:	Big ol pipe and valves	Electrical Service:	
Horsepower:		Generator/Quick Connect:	No generator

City Score:

Scoring Guidelines	
1	New condition, no improvements recommended to maintain function
2	Good condition, minor improvements recommended to enhance performance
3	Fair condition, improvements recommended to improve performance or efficiency
4	Poor condition, improvements recommended to maintain reliability
5	Eminent failure, rehabilitation or replacement required

CONDITION ASSESSMENT

Component Group	Component Condition Rating	Weight Factor	Weighted Component Rating	Comments
Pumps and Motors	2	20%	0.40	New-ish motors, VFD.
Electrical – MCC, Back-up Power, Cables	2	25%	0.50	
Instrumentation - SCADA, Alarms, Controls	2	15%	0.30	
Structure - Hatches, Corrosion, Cracks, Leaking	2	15%	0.30	Nice finished roof (internal).
Piping and Valves	2	15%	0.30	
Site - Drainage, Access Drive, Security, Fencing	2	10%	0.20	
Condition Rating	-	100%	**2.00**	

Additional Notes:

Well does house another pump for the cemetery sprinkler system.

South of Roswell Well 15 Production Well

Inspection Date: 3/4/2025-3/6/2025

Address: 2904 W Fruitland St

Facility Information			
Install Year:	1980, Updated in 2020	Rated Pump Capacity (gpm):	1,650
Pressure Zone:	Roswell	Total Pumping Capacity (gpm):	1,650
Force/Transmission Main Diameter (in):		Water Rights (gpm):	5,604
Number of Pumps:	1	Monitoring/SCADA:	-
Pump Brand:		Electrical Service:	
Horsepower:		Generator/Quick Connect:	No generator

City Score:

Scoring Guidelines	
1	New condition, no improvements recommended to maintain function
2	Good condition, minor improvements recommended to enhance performance
3	Fair condition, improvements recommended to improve performance or efficiency
4	Poor condition, improvements recommended to maintain reliability
5	Eminent failure, rehabilitation or replacement required

CONDITION ASSESSMENT

Component Group	Component Condition Rating	Weight Factor	Weighted Component Rating	Comments
Pumps and Motors	2	20%	0.40	
Electrical – MCC, Back-up Power, Cables	2	25%	0.50	Radio and control valves.
Instrumentation - SCADA, Alarms, Controls	2	15%	0.30	
Structure - Hatches, Corrosion, Cracks, Leaking	2	15%	0.30	Roof was rotted out. Continue to line roof and insulate.
Piping and Valves	2	15%	0.30	Pipe is not buried on discharge of injection. Lots of dirt in pipe vault, injection is inside gate.
Site - Drainage, Access Drive, Security, Fencing	4	10%	0.40	Lots of dirt in pipe vault, injection is inside gate.
Condition Rating	-	100%	**2.20**	

Additional Notes:

Site is dusty. Membrane/vinyl covering the roof which keeps out water.

South of Roswell Well 16 Production Well

Inspection Date: 3/4/2025-3/6/2025 Address: 2700 S Sunset Ave

Facility Information			
Install Year:	1980, Updated in 2014	Rated Pump Capacity (gpm):	2,500
Pressure Zone:	Roswell	Total Pumping Capacity (gpm):	2,500
Force/Transmission Main Diameter (in):		Water Rights (gpm):	5,604
Number of Pumps:	1	Monitoring/SCADA:	-
Pump Brand:	Nema Premium	Electrical Service:	
Horsepower:	200	Generator/Quick Connect:	No generator

City Score:

Scoring Guidelines	
1	New condition, no improvements recommended to maintain function
2	Good condition, minor improvements recommended to enhance performance
3	Fair condition, improvements recommended to improve performance or efficiency
4	Poor condition, improvements recommended to maintain reliability
5	Eminent failure, rehabilitation or replacement required

CONDITION ASSESSMENT

Component Group	Component Condition Rating	Weight Factor	Weighted Component Rating	Comments
Pumps and Motors	2	20%	0.40	
Electrical – MCC, Back-up Power, Cables	2	25%	0.50	Old but Good electrical.
Instrumentation - SCADA, Alarms, Controls	2	15%	0.30	Radio control works.
Structure - Hatches, Corrosion, Cracks, Leaking	4	15%	0.60	The dirtiest structure yet.
Piping and Valves	2	15%	0.30	
Site - Drainage, Access Drive, Security, Fencing	3	10%	0.30	Replace part of fence where broken. Good overall access.
Condition Rating	-	100%	**2.40**	

Additional Notes:

Site would benefit from spray foam to keep dirt out.

South of Roswell Well 17 Production Well

Inspection Date: 3/4/2025-3/6/2025 Address: 1900 S Sunset Ave

Facility Information			
Install Year:	1980, Updated in 2018	Rated Pump Capacity (gpm):	2,475
Pressure Zone:	Roswell	Total Pumping Capacity (gpm):	2,475
Force/Transmission Main Diameter (in):		Water Rights (gpm):	5,604
Number of Pumps:	1	Monitoring/SCADA:	-
Pump Brand:		Electrical Service:	
Horsepower:		Generator/Quick Connect:	Has a generator- diesel

City Score:

Scoring Guidelines	
1	New condition, no improvements recommended to maintain function
2	Good condition, minor improvements recommended to enhance performance
3	Fair condition, improvements recommended to improve performance or efficiency
4	Poor condition, improvements recommended to maintain reliability
5	Eminent failure, rehabilitation or replacement required

CONDITION ASSESSMENT

Component Group	Component Condition Rating	Weight Factor	Weighted Component Rating	Comments
Pumps and Motors	2	20%	0.40	Has VFD. Need to clean screen on motor.
Electrical – MCC, Back-up Power, Cables	2	25%	0.50	
Instrumentation - SCADA, Alarms, Controls	2	15%	0.30	
Structure - Hatches, Corrosion, Cracks, Leaking	2	15%	0.30	Insulation needed to help with the exhaust not running 24/7.
Piping and Valves	2	15%	0.30	
Site - Drainage, Access Drive, Security, Fencing	2	10%	0.20	
Condition Rating	-	100%	**2.00**	

Additional Notes:

Runs 24/7

South of Roswell Well 13 Production Well

Inspection Date: 3/4/2025-3/6/2025 Address: 900 W Wildy St

Facility Information			
Install Year:	1980, Updated in 2020	Rated Pump Capacity (gpm):	1,550
Pressure Zone:	Roswell	Total Pumping Capacity (gpm):	1,550
Force/Transmission Main Diameter (in):		Water Rights (gpm):	5,604
Number of Pumps:	1	Monitoring/SCADA:	-
Pump Brand:		Electrical Service:	
Horsepower:		Generator/Quick Connect:	No generator

City Score:

Scoring Guidelines	
1	New condition, no improvements recommended to maintain function
2	Good condition, minor improvements recommended to enhance performance
3	Fair condition, improvements recommended to improve performance or efficiency
4	Poor condition, improvements recommended to maintain reliability
5	Eminent failure, rehabilitation or replacement required

CONDITION ASSESSMENT

Component Group	Component Condition Rating	Weight Factor	Weighted Component Rating	Comments
Pumps and Motors	2	20%	0.40	Pretty new looking pump.
Electrical – MCC, Back-up Power, Cables	3	25%	0.75	No issues with electrical other than age.
Instrumentation - SCADA, Alarms, Controls	2	15%	0.30	Antenna works well.
Structure - Hatches, Corrosion, Cracks, Leaking	2	15%	0.30	There have been additions to the structure. Potentially add insultation? The ventilation doubles as a hatch
Piping and Valves	2	15%	0.30	Good, new.
Site - Drainage, Access Drive, Security, Fencing	3	10%	0.30	
Condition Rating	-	100%	**2.35**	

Additional Notes:

Some wood rot on old part of roof. Located near Valley View Elementary School.

Six Mile Hill Well 18 Production Well

Inspection Date: 3/4/2025-3/6/2025 Address: US-70 Truck Rd

Facility Information			
Install Year:	1980, Updated in 2020	Rated Pump Capacity (gpm):	1,000
Pressure Zone:	Roswell	Total Pumping Capacity (gpm):	1,000
Force/Transmission Main Diameter (in):		Water Rights (gpm):	5,000
Number of Pumps:	1	Monitoring/SCADA:	-
Pump Brand:		Electrical Service:	
Horsepower:		Generator/Quick Connect:	No generator

City Score:

Scoring Guidelines	
1	New condition, no improvements recommended to maintain function
2	Good condition, minor improvements recommended to enhance performance
3	Fair condition, improvements recommended to improve performance or efficiency
4	Poor condition, improvements recommended to maintain reliability
5	Eminent failure, rehabilitation or replacement required

CONDITION ASSESSMENT

Component Group	Component Condition Rating	Weight Factor	Weighted Component Rating	Comments
Pumps and Motors	2	20%	0.40	VFD on pump, there is blubber for well. Pump runs nonstop because radio alarm doesn't work.
Electrical – MCC, Back-up Power, Cables	3	25%	0.75	Motor leak at some point.
Instrumentation - SCADA, Alarms, Controls	2	15%	0.30	Radio does not work so pump runs nonstop. Antenna needs to be higher to reach signal.
Structure - Hatches, Corrosion, Cracks, Leaking	3	15%	0.45	Manual, don't shut it off.
Piping and Valves	3	15%	0.45	
Site - Drainage, Access Drive, Security, Fencing	2	10%	0.20	
Condition Rating	-	100%	**2.55**	

Additional Notes:

Trying to go to a digital gauge. Advance/denora instead of regal, prefer regal.

Six Mile Hill Well 10 Production Well

Inspection Date: 3/4/2025-3/6/2025 Address: 5005 Nettle Rd

Facility Information			
Install Year:	1970, Updated in 2020	Rated Pump Capacity (gpm):	1,750
Pressure Zone:	Roswell	Total Pumping Capacity (gpm):	1,750
Force/Transmission Main Diameter (in):		Water Rights (gpm):	5,000
Number of Pumps:	1	Monitoring/SCADA:	-
Pump Brand:		Electrical Service:	
Horsepower:		Generator/Quick Connect:	Has a generator-diesel

City Score:

Scoring Guidelines	
1	New condition, no improvements recommended to maintain function
2	Good condition, minor improvements recommended to enhance performance
3	Fair condition, improvements recommended to improve performance or efficiency
4	Poor condition, improvements recommended to maintain reliability
5	Eminent failure, rehabilitation or replacement required

CONDITION ASSESSMENT

Component Group	Component Condition Rating	Weight Factor	Weighted Component Rating	Comments
Pumps and Motors	2	20%	0.40	Has VFD
Electrical – MCC, Back-up Power, Cables	2	25%	0.50	
Instrumentation - SCADA, Alarms, Controls	2	15%	0.30	Radio control on top of control building.
Structure - Hatches, Corrosion, Cracks, Leaking	2	15%	0.30	
Piping and Valves	2	15%	0.30	
Site - Drainage, Access Drive, Security, Fencing	1	10%	0.10	
Condition Rating	-	100%	**1.90**	

Additional Notes:

Pumps are located outside, but chlorine is located inside. Pumps will likely be left outside. Generator powers wells 10, 11 and the tanks (alarms and such). A hotbox was added to keep the generator from freezing.

Six Mile Hill Well 11 Production Well

Inspection Date: 3/4/2025-3/6/2025 Address:

Facility Information			
Install Year:	1980, Updated in 2020	Rated Pump Capacity (gpm):	1,550
Pressure Zone:	Roswell	Total Pumping Capacity (gpm):	1,550
Force/Transmission Main Diameter (in):		Water Rights (gpm):	5,000
Number of Pumps:	1	Monitoring/SCADA:	-
Pump Brand:		Electrical Service:	
Horsepower:		Generator/Quick Connect:	Has a generator-diesel

City Score:

Scoring Guidelines	
1	New condition, no improvements recommended to maintain function
2	Good condition, minor improvements recommended to enhance performance
3	Fair condition, improvements recommended to improve performance or efficiency
4	Poor condition, improvements recommended to maintain reliability
5	Eminent failure, rehabilitation or replacement required

CONDITION ASSESSMENT

Component Group	Component Condition Rating	Weight Factor	Weighted Component Rating	Comments
Pumps and Motors	2	20%	0.40	Has VFD, newish motors.
Electrical – MCC, Back-up Power, Cables	3	25%	0.75	
Instrumentation - SCADA, Alarms, Controls	2	15%	0.30	
Structure - Hatches, Corrosion, Cracks, Leaking	2	15%	0.30	
Piping and Valves	3	15%	0.45	Valve seal is leaking.
Site - Drainage, Access Drive, Security, Fencing	1	10%	0.10	City has not touched coating on pipe but it looks very good.
Condition Rating	-	100%	**2.30**	

Additional Notes:

Pumps are located outside, but chlorine is located inside. Pumps will likely be left outside. Generator powers wells 10, 11 and the tanks (alarms and such). A hotbox was added to keep the generator from freezing.

Third St Reservoir

Inspection Date: 3/4/2025-3/6/2025 Address: 5005 Nettle Rd

Facility Information			
Install Year:	1950, Updated in 2019	Rated Pump Capacity (gpm):	-
Pressure Zone:	Roswell	Total Pumping Capacity (gpm):	-
Force/Transmission Main Diameter (in):		Storage Capacity (MG):	3.50
Number of Pumps:	-	Monitoring/SCADA:	-
Pump Brand:		Electrical Service:	
Horsepower:		Generator/Quick Connect:	No generator

City Score:

Scoring Guidelines	
1	New condition, no improvements recommended to maintain function
2	Good condition, minor improvements recommended to enhance performance
3	Fair condition, improvements recommended to improve performance or efficiency
4	Poor condition, improvements recommended to maintain reliability
5	Eminent failure, rehabilitation or replacement required

CONDITION ASSESSMENT

Component Group	Component Condition Rating	Weight Factor	Weighted Component Rating	Comments
Coating	5	25%	1.25	Coating needs sandblasting and recoating. Current coating may be too thin. Paint chipping on roof and rust on
Electrical – MCC, Back-up Power, Cables	3	10%	0.30	Has generator to power alarms.
Instrumentation - SCADA, Alarms, Controls	2	10%	0.20	Good.
Structure - Hatches, Corrosion, Cracks, Leaking	5	25%	1.25	
Piping and Valves	3	20%	0.60	Valve has never been utilized. May or may not work.
Site - Drainage, Access Drive, Security, Fencing	2	10%	0.20	
Condition Rating	-	100%	**3.80**	

Additional Notes:

On the top of the tank there is paint chippings and rust. Facility was built in 1950, there is lead potentially in paint. New Mexico Water performs safety inspections, not structural, OSHA compliant.

Country Club Reservoir (N) Reservoir

Inspection Date: 3/4/2025-3/6/2025 Address: 5018 Country Club Road

Facility Information			
Install Year:	1965, Updated in 1968	Rated Pump Capacity (gpm):	-
Pressure Zone:	Roswell	Total Pumping Capacity (gpm):	-
Force/Transmission Main Diameter (in):		Storage Capacity (MG):	7.52
Number of Pumps:	-	Monitoring/SCADA:	-
Pump Brand:		Electrical Service:	
Horsepower:		Generator/Quick Connect:	No generator

City Score:

Scoring Guidelines	
1	New condition, no improvements recommended to maintain function
2	Good condition, minor improvements recommended to enhance performance
3	Fair condition, improvements recommended to improve performance or efficiency
4	Poor condition, improvements recommended to maintain reliability
5	Eminent failure, rehabilitation or replacement required

CONDITION ASSESSMENT

Component Group	Component Condition Rating	Weight Factor	Weighted Component Rating	Comments
Coating	3	25%	0.75	
Electrical – MCC, Back-up Power, Cables	3	10%	0.30	
Instrumentation - SCADA, Alarms, Controls	2	10%	0.20	
Structure - Hatches, Corrosion, Cracks, Leaking	3	25%	0.75	Cracks and mud dauber nests present, leaking.
Piping and Valves	3	20%	0.60	
Site - Drainage, Access Drive, Security, Fencing	3	10%	0.30	
Condition Rating	-	100%	**2.90**	

Additional Notes:

Site has concrete tanks. Site is shared between both country club reservoirs. South Country club reservoirs is currently being redone, north will follow after likely in November. Brown Rd marks the end of water service units. Project cost is around 8 million dollars.

Country Club Reservoir (S) Reservoir

Inspection Date: 3/4/2025-3/6/2025 Address: 5018 Country Club Road

Facility Information			
Install Year:	1965, Updated in 1968	Rated Pump Capacity (gpm):	-
Pressure Zone:	Roswell	Total Pumping Capacity (gpm):	-
Force/Transmission Main Diameter (in):		Storage Capacity (MG):	7.52
Number of Pumps:	-	Monitoring/SCADA:	-
Pump Brand:		Electrical Service:	
Horsepower:		Generator/Quick Connect:	No generator

City Score:

Scoring Guidelines	
1	New condition, no improvements recommended to maintain function
2	Good condition, minor improvements recommended to enhance performance
3	Fair condition, improvements recommended to improve performance or efficiency
4	Poor condition, improvements recommended to maintain reliability
5	Eminent failure, rehabilitation or replacement required

CONDITION ASSESSMENT

Component Group	Component Condition Rating	Weight Factor	Weighted Component Rating	Comments
Coating	1	25%	0.25	
Electrical – MCC, Back-up Power, Cables	2	10%	0.20	
Instrumentation - SCADA, Alarms, Controls	2	10%	0.20	
Structure - Hatches, Corrosion, Cracks, Leaking	1	25%	0.25	Surface cracks, but are being repaired on the inside. No leaks present during storm events.
Piping and Valves	1	20%	0.20	
Site - Drainage, Access Drive, Security, Fencing	1	10%	0.10	
Condition Rating	-	100%	**1.20**	

Additional Notes:

Facility is being refurbished on the inside, TMI coatings. Tanks are concrete, there are no pumps present.

APPENDIX C
FUTURE WATER SYSTEM MODELING RESULTS

Created By Freese and Nichols, Inc.
Job No.: RNM24817
Location: H:\W_WW_PLANNING\01_DELIVERABLES\00_DRAFT_REPORT\Draft_Report_PRO\Draft_Report_PRO.aprx\(Figure_6-3)-2030_Minimum_Pressures
Updated: Tuesday, September 22, 2026 11:15 AM
User Name: 04390

DRAFT FIGURE 6-3
CITY OF ROSWELL
2030 MINIMUM PRESSURES

Country Club Reservoirs
Third St Reservoir
Kerr Reservoir
Mathis Elevated Storage
RIAC Elevated Storage

LEGEND

- Ground Storage Tank
- Elevated Storage Tank
- PS Booster Pump Station
- Well
- 10" and Smaller Water Line
- 12" and Larger Water Line
- Road
- Parcel
- City Limit
- Extra Territorial Zone

MINIMUM PRESSURES

- Less than 35 psi
- 35 - 55 psi
- 55 - 70 psi
- 70 - 85 psi
- Greater than 85 psi

FREESE AND NICHOLS

ROSWELL New Mexico

0 3,500
SCALE IN FEET

Created By Freese and Nichols, Inc.
Job No.: RNM24817
Location: H:\W_WW_PLANNING\01_DELIVERABLES\00_DRAFT_REPORT\Draft_Report_PRO\Draft_Report_PRO.aprx\(Figure_6-4)-2040_Minimum_Pressures
Updated: Tuesday, September 22, 2026 11:15 AM
User Name: 04390

DRAFT FIGURE 6-4
CITY OF ROSWELL
2040 MINIMUM PRESSURES

Country Club Reservoirs
Third St Reservoir
Kerr Reservoir
Mathis Elevated Storage
RIAC Elevated Storage

LEGEND

- Ground Storage Tank
- Elevated Storage Tank
- PS Booster Pump Station
- Well
- 10" and Smaller Water Line
- 12" and Larger Water Line
- Road
- Parcel
- City Limit
- Extra Territorial Zone

MINIMUM PRESSURES

- Less than 35 psi
- 35 - 55 psi
- 55 - 70 psi
- 70 - 85 psi
- Greater than 85 psi

FREESE AND NICHOLS

ROSWELL New Mexico

0 3,500
SCALE IN FEET

Created By Freese and Nichols, Inc.
Job No.: RNM24817
Location: H:\W_WW_PLANNING\01_DELIVERABLES\00_DRAFT_REPORT\Draft_Report_PRO\Draft_Report_PRO.aprx\(Figure_6-5)-Buildout_Minimum_Pressures
Updated: Tuesday, September 22, 2026 11:15 AM
User Name: 04390

DRAFT FIGURE 6-5
CITY OF ROSWELL
BUILDOUT MINIMUM PRESSURES

Country Club Reservoirs
Third St Reservoir
Kerr Reservoir
Mathis Elevated Storage
RIAC Elevated Storage

LEGEND

- Ground Storage Tank
- Elevated Storage Tank
- PS Booster Pump Station
- Well
- 10" and Smaller Water Line
- 12" and Larger Water Line
- Road
- Parcel
- City Limit
- Extra Territorial Zone

MINIMUM PRESSURES

- Less than 35 psi
- 35 - 55 psi
- 55 - 70 psi
- 70 - 80 psi
- Greater than 80 psi

FREESE AND NICHOLS

ROSWELL New Mexico

0 3,500
SCALE IN FEET

Created By Freese and Nichols, Inc.
Job No.: RNM24817
Location: H:\W_WW_PLANNING\01_DELIVERABLES\00_DRAFT_REPORT\Draft_Report_PRO\Draft_Report_PRO.aprx\(Figure_6-6)-2030_Available_FF
Updated: Tuesday, September 22, 2026 11:16 AM
User Name: 04390

Country Club Reservoirs
Third St Reservoir
Kerr Reservoir
Mathis Elevated Storage
RIAC Elevated Storage

DRAFT FIGURE 6-6

CITY OF ROSWELL

2030 AVAILABLE FIREFLOW

LEGEND

- Ground Storage Tank
- Elevated Storage Tank
- Booster Pump Station
- Well
- 10" and Smaller Water Line
- 12" and Larger Water Line
- City Limit
- Highway
- Road
- Parcel
- Extra Territorial Zone

AVAILABLE FIREFLOW

- Less than 500 gpm
- 500 - 1,500 gpm
- 1,500 - 2,500 gpm
- 2,500 - 3,500 gpm
- Greater than 3,500 gpm

FREESE AND NICHOLS

ROSWELL New Mexico

0 3,500
SCALE IN FEET

Created By Freese and Nichols, Inc.
Job No.: RNM24817
Location: H:\W_WW_PLANNING\01_DELIVERABLES\00_DRAFT_REPORT\Draft_Report_PRO\Draft_Report_PRO.aprx\(Figure_6-7)-2040_Available_FF
Updated: Tuesday, September 22, 2026 11:17 AM
User Name: 04390

Country Club Reservoirs
Third St Reservoir
Kerr Reservoir
Mathis Elevated Storage
RIAC Elevated Storage

DRAFT FIGURE 6-7

CITY OF ROSWELL

2040 AVAILABLE FIREFLOW

LEGEND

- Ground Storage Tank
- Elevated Storage Tank
- Booster Pump Station
- Well
- 10" and Smaller Water Line
- 12" and Larger Water Line
- City Limit
- Highway
- Road
- Parcel
- Extra Territorial Zone

AVAILABLE FIREFLOW

- Less than 500 gpm
- 500 - 1,500 gpm
- 1,500 - 2,500 gpm
- 2,500 - 3,500 gpm
- Greater than 3,500 gpm

FREESE AND NICHOLS

ROSWELL New Mexico

0 3,500
SCALE IN FEET

Created By Freese and Nichols, Inc.
Job No.: RNM24817
Location: H:\W_WW_PLANNING\01_DELIVERABLES\00_DRAFT_REPORT\Draft_Report_PRO\Draft_Report_PRO.aprx\(Figure_6-8)-Buildout_Available_FF
Updated: Tuesday, September 22, 2026 11:18 AM
User Name: 04390

DRAFT FIGURE 6-8
CITY OF ROSWELL
BUILDOUT AVAILABLE FIREFLOW

Country Club Reservoirs
Third St Reservoir
Kerr Reservoir
Mathis Elevated Storage
RIAC Elevated Storage

LEGEND

- Ground Storage Tank
- Elevated Storage Tank
- Booster Pump Station
- Well
- 10" and Smaller Water Line
- 12" and Larger Water Line
- City Limit
- Highway
- Road
- Parcel
- Extra Territorial Zone

AVAILABLE FIREFLOW

- Less than 500 gpm
- 500 - 1,500 gpm
- 1,500 - 2,500 gpm
- 2,500 - 3,500 gpm
- Greater than 3,500 gpm

FREESE AND NICHOLS

ROSWELL New Mexico

0 3,500
SCALE IN FEET

APPENDIX D
WATER CAPITAL IMPROVEMENT PLAN COST ESTIMATES

DRAFT

City of Roswell
CIP Cost Summary

Project Number	Project Name	Cost
Short Term Projects		
1	SCADA System Update	$ 312,000
2	Kerr #6 Well Rehabilitation	$ 23,400
3	Kerr #1 Well Rehabilitation	$ 85,800
4	Kerr #2 Well Rehabilitation	$ 85,800
5	RIAC Booster Pump Station Rehabilitation	$ 358,800
6	8-inch Montana Avenue Pipeline Replacement	$ 5,833,500
7	8-inch Kelly Place Pipeline Replacement	$ 3,384,600
8	12-inch North Main Street Pipeline Replacement	$ 3,260,000
9	10-inch Hobbs Street Pipeline Replacement	$ 7,590,200
	Short Term Total	**$ 20,934,100**
Intermediate Projects		
10	Trigg Reservoir Rehabilitation	$ 156,000
11	Third Street Reservoir Rehabilitation	$ 546,000
12	RIAC #5 Well Rehabilitation	$ 62,400
13	8-inch Union Avenue Pipeline Replacement	$ 1,533,800
14	8-inch Vista Parkway Pipeline Replacement	$ 4,648,700
15	8-inch Garden Avenue Pipeline Replacement	$ 7,236,600
16	8-inch S Grand Avenue Pipeline Replacement	$ 4,936,200
	Intermediate Total	**$ 19,119,700**
Long Term Projects		
17	8-inch Chrysler Place Pipeline Replacement	$ 916,700
18	8-inch College Boulevard Pipeline Replacement	$ 988,500
19	8-inch Petro Drive Pipeline Replacement	$ 1,665,500
20	8-inch W 8th Street Pipeline Replacement	$ 6,475,800
21	8-inch Hendricks Street Pipeline Replacement	$ 1,875,200
22	Trigg Reservoir Demolition	$ 117,000
	Long Term Total	**$ 12,038,700**
	CIP Total	**$ 52,092,500**

City of Roswell

DRAFT Capital Improvement Cost Estimate — **October 8, 2026**

Construction Project Number: 1 — **Phase:** short

Project Name: SCADA System Update

Project Description:

This project is to update and repair the water SCADA system.

Project Drivers:

The SCADA system has been non-operational and the system is currently monitored and operated manually. This project is needed to collect historical operational data and assist in remote operations of the water system.

Opinion of Probable Construction Cost

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	SCADA System Improvements	1	LS	$ 200,000	$ 200,000
				SUBTOTAL:	**$ 200,000**
				CONTINGENCY 30%	$ 60,000
				SUBTOTAL:	**$ 260,000**
				ENG/SURVEY 20%	$ 52,000
				SUBTOTAL:	**$ 312,000**
				Estimated Project Total:	**$ 312,000**

Comments:

City of Roswell

DRAFT Capital Improvement Cost Estimate — **October 8, 2026**

Construction Project Number: 2 — **Phase:** short

Project Name: Kerr #6 Well Rehabilitation

Project Description:

This project replaces the VFD at the Kerr #6 Well.

Project Drivers:

The Kerr #6 Well operates with a VFD, however the VFD needs to be replaced. This project is needed to operate the Kerr #6 Well.

Opinion of Probable Construction Cost

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	New Variable Frequency Drive	1	LS	$ 15,000	$ 15,000
				SUBTOTAL:	**$ 15,000**
		CONTINGENCY		30%	$ 4,500
				SUBTOTAL:	**$ 19,500**
		ENG/SURVEY		20%	$ 3,900
				SUBTOTAL:	**$ 23,400**
				Estimated Project Total:	**$ 23,400**

Comments:

City of Roswell

DRAFT Capital Improvement Cost Estimate — **October 8, 2026**

Construction Project Number: 3 — **Phase:** short

Project Name: Kerr #1 Well Rehabilitation

Project Description:

This project updates the Kerr #1 Well motor and replaces the current soft start control with a VFD.

Project Drivers:

The Kerr #1 Well motor needs to be upgraded, with a VFD installed. This project is needed to operate the Kerr #1 Well.

Opinion of Probable Construction Cost

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	New Pump Motor	1	LS	$ 40,000	$ 40,000
2	New Variable Frequency Drive	1	LS	$ 15,000	$ 15,000
				SUBTOTAL:	**$ 55,000**
		CONTINGENCY		30%	$ 16,500
				SUBTOTAL:	**$ 71,500**
		ENG/SURVEY		20%	$ 14,300
				SUBTOTAL:	**$ 85,800**
				Estimated Project Total:	**$ 85,800**

Comments:

City of Roswell

DRAFT Capital Improvement Cost Estimate — **October 8, 2026**

Construction Project Number: 4 — **Phase:** short

Project Name: Kerr #2 Well Rehabilitation

Project Description:

This project updates the Kerr #2 Well motor and replaces the VFD.

Project Drivers:

The Kerr #2 Well motor needs to be replaced, as well as the VFD. The pump is currently turned off due to the motor issues. This project is needed to operate the Kerr #2 Well.

Opinion of Probable Construction Cost

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	New Pump Motor	1	LS	$ 40,000	$ 40,000
2	New Variable Frequency Drive	1	LS	$ 15,000	$ 15,000
				SUBTOTAL:	**$ 55,000**
		CONTINGENCY		30%	$ 16,500
				SUBTOTAL:	**$ 71,500**
		ENG/SURVEY		20%	$ 14,300
				SUBTOTAL:	**$ 85,800**
				Estimated Project Total:	**$ 85,800**

Comments:

City of Roswell

DRAFT Capital Improvement Cost Estimate — **October 8, 2026**

Construction Project Number: 5 — **Phase:** short

Project Name: RIAC Booster Pump Station Rehabilitation

Project Description:

This project repairs the pump seals to prevent leaking on the RIAC Booster Pump Station pumps.

Project Drivers:

All pumps at the RIAC Booster Pump Station are leaking and need replacement seals.

Opinion of Probable Construction Cost

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	Pump Improvements (Pump Seals, Site Improvements)	3	LS	$ 10,000	$ 30,000
2	Misc. Electrical Improvements	1	LS	$ 200,000	$ 200,000
				SUBTOTAL:	**$ 230,000**
		CONTINGENCY		30%	$ 69,000
				SUBTOTAL:	**$ 299,000**
		ENG/SURVEY		20%	$ 59,800
				SUBTOTAL:	**$ 358,800**
				Estimated Project Total:	**$ 358,800**

Comments:

City of Roswell

DRAFT Capital Improvement Cost Estimate — **October 8, 2026**

Construction Project Number: 6 — **Phase:** short

Project Name: 8-inch Montana Avenue Pipeline Replacement

Project Description:

This project replaces the existing water lines along West 1st Street, West Walnut Street, West Tilden Street, West Alameda Street, West Hendricks Street, and West Albuquerque Street.

Project Drivers:

This project is recommended to address leaks detected within the water distribution system. This project repairs pipe that is suspected to have aged past its useful service life and is necessary to provide safe, reliable water service to customers.

Opinion of Probable Construction Cost

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	12" WL & Appurtenances	3,330	LF	$ 276	$ 919,080
2	8" WL & Appurtenances	5,610	LF	$ 184	$ 1,032,240
3	Asphalt Pavement Repair	8,940	LF	$ 200	$ 1,788,000
				SUBTOTAL:	**$ 3,739,400**
		CONTINGENCY		30%	$ 1,121,900
				SUBTOTAL:	**$ 4,861,300**
		ENG/SURVEY		20%	$ 972,300
				SUBTOTAL:	**$ 5,833,600**
				Estimated Project Total:	**$ 5,833,600**

Comments:

City of Roswell

DRAFT Capital Improvement Cost Estimate — **October 8, 2026**

Construction Project Number: 7 — **Phase:** short

Project Name: 8-inch Kelly Place Pipeline Replacement

Project Description:

This project replaces the existing water lines along Hollowan Place, Kelly Place, and B Street.

Project Drivers:

This project is recommended to address leaks detected within the water distribution system. This project repairs pipe that is suspected to have aged past its useful service life and is necessary to provide safe, reliable water service to customers.

Opinion of Probable Construction Cost

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	8" WL & Appurtenances	5,650	LF	$ 184	$ 1,039,600
2	Asphalt Pavement Repair	5,650	LF	$ 200	$ 1,130,000
				SUBTOTAL:	**$ 2,169,600**
				CONTINGENCY 30%	$ 650,900
				SUBTOTAL:	**$ 2,820,500**
				ENG/SURVEY 20%	$ 564,100
				SUBTOTAL:	**$ 3,384,600**
				Estimated Project Total:	**$ 3,384,600**

Comments:

City of Roswell

DRAFT Capital Improvement Cost Estimate — **October 8, 2026**

Construction Project Number: 8 — **Phase:** short

Project Name: 12-inch North Main Street Pipeline Replacement

Project Description:

This project replaces the existing water lines along North Main Street from East 8th Street to East Alameda Street.

Project Drivers:

This project is recommended to address leaks detected within the water distribution system. This project repairs pipe that is suspected to have aged past its useful service life and is necessary to provide safe, reliable water service to customers.

Opinion of Probable Construction Cost

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	12" WL & Appurtenances	4,390	LF	$ 276	$ 1,211,640
2	Asphalt Pavement Repair	4,390	LF	$ 200	$ 878,000
				SUBTOTAL:	**$ 2,089,700**
				CONTINGENCY 30%	$ 627,000
				SUBTOTAL:	**$ 2,716,700**
				ENG/SURVEY 20%	$ 543,400
				SUBTOTAL:	**$ 3,260,100**
				Estimated Project Total:	**$ 3,260,100**

Comments:

City of Roswell

DRAFT Capital Improvement Cost Estimate — **October 8, 2026**

Construction Project Number: 9 — **Phase:** short

Project Name: 10-inch Hobbs Street Pipeline Replacement

Project Description:

This project replaces the existing water lines along North Garden Avenue, from Tierra Berrenda Drive to East Berrendo Road, as well as water lines along Mission Arch Drive, Sunrise Road, Twin Diamond Road, Swinging Spear Road, and Broken Arrow Road.

Project Drivers:

This project is recommended to address leaks detected within the water distribution system. This project repairs pipe that is suspected to have aged past its useful service life and is necessary to provide safe, reliable water service to customers.

Opinion of Probable Construction Cost

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	12" WL & Appurtenances	1,170	LF	$ 276	$ 322,920
2	8" WL & Appurtenances	11,220	LF	$ 184	$ 2,064,480
3	Asphalt Pavement Repair	12,390	LF	$ 200	$ 2,478,000
				SUBTOTAL:	**$ 4,865,400**
		CONTINGENCY		30%	$ 1,459,700
				SUBTOTAL:	**$ 6,325,100**
		ENG/SURVEY		20%	$ 1,265,100
				SUBTOTAL:	**$ 7,590,200**
				Estimated Project Total:	**$ 7,590,200**

City of Roswell

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Construction Project Number: 10 — **Phase: medium**

Project Name: Trigg Reservoir Rehabilitation

Project Description:

This project involves recoating the interior of the Trigg Reservoir and associated site improvements.

Project Drivers:

The 0.1 MG Trigg Reservoir is in poor condition. The interior coating is reportedly highly corroded. The structure has experienced corrosion due to historical high chlorine usage, though chlorine is no longer injected at the Trigg Well sites.

Opinion of Probable Construction Cost

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	Interior Recoating, Misc. Tank Improvements	1	LS	$ 100,000	$ 100,000
				SUBTOTAL:	**$ 100,000**
				CONTINGENCY 30%	$ 30,000
				SUBTOTAL:	**$ 130,000**
				ENG/SURVEY 20%	$ 26,000
				SUBTOTAL:	**$ 156,000**
				Estimated Project Total:	**$ 156,000**

Comments:

City of Roswell

DRAFT Capital Improvement Cost Estimate — **October 8, 2026**

Construction Project Number: 11 — **Phase:** medium

Project Name: Third Street Reservoir Rehabilitation

Project Description:

This project is to re-coat the Third Street Reservoir.

Project Drivers:

The exterior coating needs sandblasting and re-coating. Current coating appears to be too thin and rusting in some areas.

Opinion of Probable Construction Cost

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	Sandblasting, Recoating, Misc. Tank Improvements	1	LS	$ 350,000	$ 350,000
				SUBTOTAL:	**$ 350,000**
				CONTINGENCY 30%	$ 105,000
				SUBTOTAL:	**$ 455,000**
				ENG/SURVEY 20%	$ 91,000
				SUBTOTAL:	**$ 546,000**
				Estimated Project Total:	**$ 546,000**

Comments:

City of Roswell

DRAFT Capital Improvement Cost Estimate — **October 8, 2026**

Construction Project Number: 12 — **Phase:** medium

Project Name: RIAC #5 Well Rehabilitation

Project Description:

This project replaces the RIAC #5 Well motor.

Project Drivers:

The Kerr #5 Well motor needs to be replaced to operate the RIAC #5 well.

Opinion of Probable Construction Cost

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	New Pump Motor	1	LS	$ 40,000	$ 40,000
				SUBTOTAL:	**$ 40,000**
				CONTINGENCY 30%	$ 12,000
				SUBTOTAL:	**$ 52,000**
				ENG/SURVEY 20%	$ 10,400
				SUBTOTAL:	**$ 62,400**
				Estimated Project Total:	**$ 62,400**

Comments:

City of Roswell

DRAFT Capital Improvement Cost Estimate — **October 8, 2026**

Construction Project Number: 13 — **Phase: medium**

Project Name: **8-inch Union Avenue Pipeline Replacement**

Project Description:

This project replaces the existing water lines along South Union Avenue.

Project Drivers:

This project is recommended to address leaks detected within the water distribution system. This project repairs pipe that is suspected to have aged past its useful service life and is necessary to provide safe, reliable water service to customers.

Opinion of Probable Construction Cost

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	8" WL & Appurtenances	2,560	LF	$ 184	$ 471,040
2	Asphalt Pavement Repair	2,560	LF	$ 200	$ 512,000
				SUBTOTAL:	**$ 983,100**
				CONTINGENCY 30%	$ 295,000
				SUBTOTAL:	**$ 1,278,100**
				ENG/SURVEY 20%	$ 255,700
				SUBTOTAL:	**$ 1,533,800**
				Estimated Project Total:	**$ 1,533,800**

Comments:

City of Roswell

DRAFT Capital Improvement Cost Estimate — **October 8, 2026**

Construction Project Number: 14 — **Phase:** medium

Project Name: 8-inch Vista Parkway Pipeline Replacement

Project Description:

This project replaces the existing water lines along North Delicado Drive, Encanto Drive, Futura Drive, and North Garden Avenue.

Project Drivers:

This project is recommended to address leaks detected within the water distribution system. This project repairs pipe that is suspected to have aged past its useful service life and is necessary to provide safe, reliable water service to customers.

Opinion of Probable Construction Cost

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	8" WL & Appurtenances	7,760	LF	$ 184	$ 1,427,840
2	Asphalt Pavement Repair	7,760	LF	$ 200	$ 1,552,000
				SUBTOTAL:	**$ 2,979,900**
				CONTINGENCY 30%	$ 894,000
				SUBTOTAL:	**$ 3,873,900**
				ENG/SURVEY 20%	$ 774,800
				SUBTOTAL:	**$ 4,648,700**
				Estimated Project Total:	**$ 4,648,700**

Comments:

City of Roswell

DRAFT Capital Improvement Cost Estimate — **October 8, 2026**

Construction Project Number: 15 — **Phase:** medium

Project Name: 8-inch Garden Avenue Pipeline Replacement

Project Description:

This project replaces the existing water lines along East Hobbs Street, South Monroe Aveneue, Stanton Avenue, and Jackson Avenue, and South Garden Avenue.

Project Drivers:

This project is recommended to address leaks detected within the water distribution system. This project repairs pipe that is suspected to have aged past its useful service life and is necessary to provide safe, reliable water service to customers.

Opinion of Probable Construction Cost

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	8" WL & Appurtenances	12,080	LF	$ 184	$ 2,222,720
2	Asphalt Pavement Repair	12,080	LF	$ 200	$ 2,416,000
				SUBTOTAL:	**$ 4,638,800**
				CONTINGENCY 30%	$ 1,391,700
				SUBTOTAL:	**$ 6,030,500**
				ENG/SURVEY 20%	$ 1,206,100
				SUBTOTAL:	**$ 7,236,600**
				Estimated Project Total:	**$ 7,236,600**

Comments:

City of Roswell

DRAFT Capital Improvement Cost Estimate — **October 8, 2026**

Construction Project Number: 16 — **Phase:** medium

Project Name: 8-inch S Grand Avenue Pipeline Replacement

Project Description:

This project replaces the existing water lines along South Grand Avenue, East Bonney Street, East Lewis Street, and East Hervey Street.

Project Drivers:

This project is recommended to address leaks detected within the water distribution system. This project repairs pipe that is suspected to have aged past its useful service life and is necessary to provide safe, reliable water service to customers.

Opinion of Probable Construction Cost

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	8" WL & Appurtenances	8,240	LF	$ 184	$ 1,516,160
2	Asphalt Pavement Repair	8,240	LF	$ 200	$ 1,648,000
				SUBTOTAL:	**$ 3,164,200**
				CONTINGENCY 30%	$ 949,300
				SUBTOTAL:	**$ 4,113,500**
				ENG/SURVEY 20%	$ 822,700
				SUBTOTAL:	**$ 4,936,200**
				Estimated Project Total:	**$ 4,936,200**

Comments:

City of Roswell

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Construction Project Number: 17 — **Phase:** medium

Project Name: 8-inch Chrysler Place Pipeline Replacement

Project Description:

This project replaces the existing water lines along Chrysler Place.

Project Drivers:

This project is recommended to address leaks detected within the water distribution system. This project repairs pipe that is suspected to have aged past its useful service life and is necessary to provide safe, reliable water service to customers.

Vicinity Map

Opinion of Probable Construction Cost

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	8" WL & Appurtenances	1,530	LF	$ 184	$ 281,520
2	Asphalt Pavement Repair	1,530	LF	$ 200	$ 306,000
				SUBTOTAL:	**$ 587,600**
				CONTINGENCY 30%	$ 176,300
				SUBTOTAL:	**$ 763,900**
				ENG/SURVEY 20%	$ 152,800
				SUBTOTAL:	**$ 916,700**
				Estimated Project Total:	**$ 916,700**

Comments:

City of Roswell

DRAFT Capital Improvement Cost Estimate — **October 8, 2026**

Construction Project Number: 18 — **Phase:** long

Project Name: 8-inch College Boulevard Pipeline Replacement

Project Description:

This project replaces the existing water lines along North Pennsylvania Avenue from West College Bulevard to West 11th Street.

Project Drivers:

This project is recommended to address leaks detected within the water distribution system. This project repairs pipe that is suspected to have aged past its useful service life and is necessary to provide safe, reliable water service to customers.

Opinion of Probable Construction Cost

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	8" WL & Appurtenances	1,650	LF	$ 184	$ 303,600
2	Asphalt Pavement Repair	1,650	LF	$ 200	$ 330,000
				SUBTOTAL:	**$ 633,600**
		CONTINGENCY		30%	$ 190,100
				SUBTOTAL:	**$ 823,700**
		ENG/SURVEY		20%	$ 164,800
				SUBTOTAL:	**$ 988,500**
				Estimated Project Total:	**$ 988,500**

Comments:

City of Roswell

DRAFT Capital Improvement Cost Estimate — **October 8, 2026**

Construction Project Number: 19 — **Phase:** long

Project Name: 8-inch Petro Drive Pipeline Replacement

Project Description:

This project replaces the existing water lines along East College Bulevard from North Grand Avenue to North Garden Avenue.

Project Drivers:

This project is recommended to address leaks detected within the water distribution system. This project repairs pipe that is suspected to have aged past its useful service life and is necessary to provide safe, reliable water service to customers.

Opinion of Probable Construction Cost

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	8" WL & Appurtenances	2,780	LF	$ 184	$ 511,520
2	Asphalt Pavement Repair	2,780	LF	$ 200	$ 556,000
				SUBTOTAL:	**$ 1,067,600**
				CONTINGENCY 30%	$ 320,300
				SUBTOTAL:	**$ 1,387,900**
				ENG/SURVEY 20%	$ 277,600
				SUBTOTAL:	**$ 1,665,500**
				Estimated Project Total:	**$ 1,665,500**

Comments:

City of Roswell

DRAFT Capital Improvement Cost Estimate — **October 8, 2026**

Construction Project Number: 20 — **Phase:** long

Project Name: 8-inch W 8th Street Pipeline Replacement

Project Description:

This project replaces the existing water lines along West 8th Street, Mullis Avenue, Hall Drive, and Moore Avenue.

Project Drivers:

This project is recommended to address leaks detected within the water distribution system. This project repairs pipe that is suspected to have aged past its useful service life and is necessary to provide safe, reliable water service to customers.

Opinion of Probable Construction Cost

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	8" WL & Appurtenances	10,810	LF	$ 184	$ 1,989,040
2	Asphalt Pavement Repair	10,810	LF	$ 200	$ 2,162,000
				SUBTOTAL:	**$ 4,151,100**
				CONTINGENCY 30%	$ 1,245,400
				SUBTOTAL:	**$ 5,396,500**
				ENG/SURVEY 20%	$ 1,079,300
				SUBTOTAL:	**$ 6,475,800**
				Estimated Project Total:	**$ 6,475,800**

Comments:

City of Roswell

DRAFT Capital Improvement Cost Estimate — **October 8, 2026**

Construction Project Number: 21 — **Phase:** long

Project Name: 8-inch Hendricks Street Pipeline Replacement

Project Description:

This project replaces the existing water lines along Hinkle Street, East Hendricks Street, and East Tilden Street.

Project Drivers:

This project is recommended to address leaks detected within the water distribution system. This project repairs pipe that is suspected to have aged past its useful service life and is necessary to provide safe, reliable water service to customers.

Opinion of Probable Construction Cost

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	8" WL & Appurtenances	3,130	LF	$ 184	$ 575,920
2	Asphalt Pavement Repair	3,130	LF	$ 200	$ 626,000
				SUBTOTAL:	**$ 1,202,000**
				CONTINGENCY 30%	$ 360,600
				SUBTOTAL:	**$ 1,562,600**
				ENG/SURVEY 20%	$ 312,600
				SUBTOTAL:	**$ 1,875,200**
				Estimated Project Total:	**$ 1,875,200**

Comments:

City of Roswell

DRAFT Capital Improvement Cost Estimate — **October 8, 2026**

Construction Project Number: 22 — **Phase:** long

Project Name: Trigg Reservoir Demolition

Project Description:

This project demolishes the existing Trigg Reservoir.

Project Drivers:

Preliminary hydraulic analysis has indicated that the 0.1 MG Trigg Reservoir is not required to convey water from the Trigg wells to the Kerr reservoir.

Opinion of Probable Construction Cost

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	Decommission Trigg Reservoir	1	LS	$ 50,000	$ 50,000
2	Misc. Site Work	1	LS	$ 25,000	$ 25,000
				SUBTOTAL:	**$ 75,000**
				CONTINGENCY 30%	$ 22,500
				SUBTOTAL:	**$ 97,500**
				ENG/SURVEY 20%	$ 19,500
				SUBTOTAL:	**$ 117,000**
				Estimated Project Total:	**$ 117,000**

Comments: