



Fairfield Rural Expansion Analysis, IHP

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Purpose

The Company proposes to extend natural gas service to the town of Fairfield, Utah. There are Intermediate High Pressure (IHP) gas facilities approximately 2.5 miles to the northeast of Fairfield. There is a regulator station (EG0007) approximately 3.5 miles to the northeast of Fairfield. In order to serve Fairfield an 8-inch distribution gas main would be installed along N Cedar Valley Rd (HWY 73) from the intersection of W Pole Canyon Blvd and HWY 73 to S Allens Ranch Rd and along Lehi Fairfield Rd from the intersection of Pole Canyon Blvd and Lehi Fairfield Rd to HWY 73. A 6-inch distribution gas main would be installed along S Allens Ranch Rd to the airport. Either a 4-inch or a 2-inch distribution gas mains would be installed all other roadways in town to supply gas to the homes.

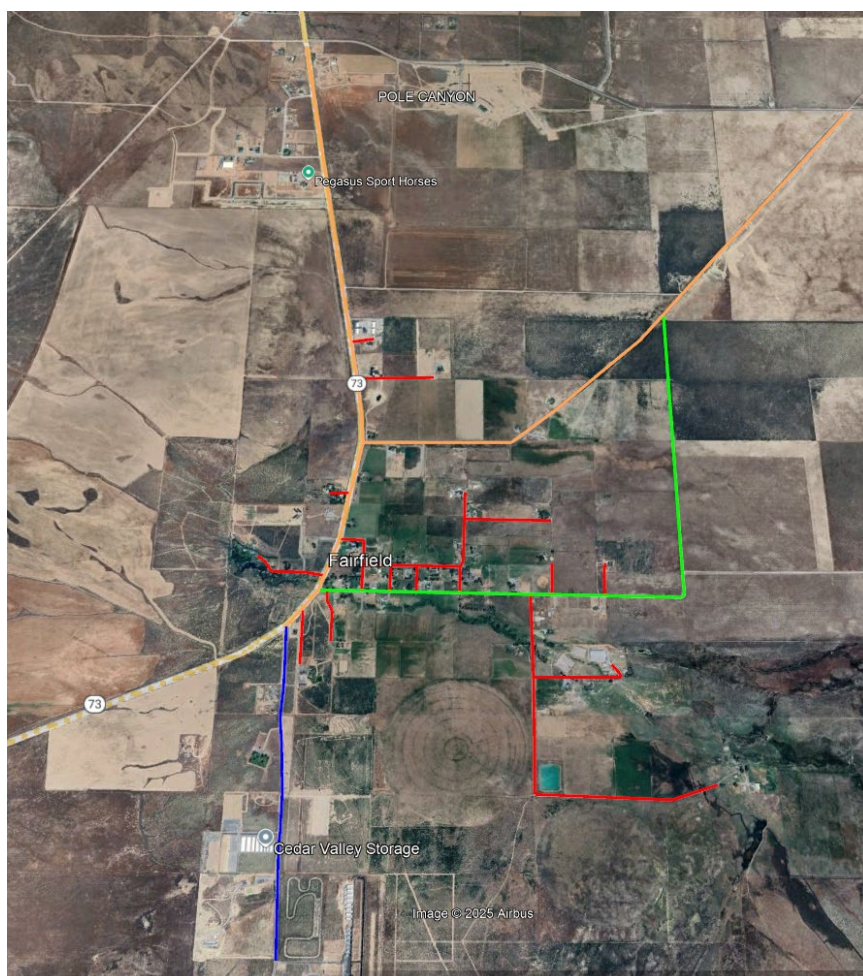


Figure 1: Overview of the Portage Intermediate High Pressure



Analysis

A steady-state model was used to analyze minimum pressures throughout the proposed Fairfield subsystem. Design iterations using 2-inch through 8-inch diameter primary feeds coming from the existing IHP main on Pole Canyon Blvd were analyzed. The estimated peak-hour demand for the system was calculated to a minimum of 3,800 cubic feet per hour (3.080 MCFH) based solely on existing structure count as identified in Exhibit 2.04. The minimum diameter for the primary feed using this base existing load was 2 inches but does not allow for any significant growth following this rural expansion project. To accommodate future growth, an 8-inch diameter gas main was designed along the entirety of Hwy 73. A second 8-inch diameter gas main was designed along the Lehi Fairfield Rd to provide a redundant gas supply feed into the town. Additionally, a 6-inch diameter gas main was designed to run south of town to the airport to allow for commercial and industrial growth in that area, and a 4-inch diameter gas main was designed to run along Main Street. 2-inch diameter gas mains were determined to be adequate everywhere else in the system.

Conclusion

The primary and redundant feeds into town are designed at 8-inch and the feed to the industrial area south of town is designed at a 6-inch. 4-inch and 2-inch were determined to be adequate everywhere else. While 2-inch IHP mains were determined to be the minimum main sizing based on the current structure count and gas load, it was determined to be cost effective and appropriate to upsize to account for growth in the area.