



ALPINE TX

Water Workshop

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Discussion Topics

1. Sky Way Gardens Feasibility Study.
2. Water system generators and FEMA grant application.
3. Additional water system concerns and issues:
 - a) Pearce Tank
 - b) Sunny Glen Well Field capacity
 - c) Water system redundancy



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Sky Way Gardens Feasibility Study

- Background: The City tasked JM with performing a feasibility study to determine if the water system has the capacity to serve the proposed Sky Way Gardens Development located off Lechuguilla Lane.
- Findings:
 - Due to the elevation of the site, it is not feasible to serve the development from the Lower Hill Tank
 - Feasibility study revealed a much larger area of concern in the Lower Hill Pressure Plane (see Exhibit on next slide)
 - Potential solutions discussed with City included modifications to Lower or Sul Ross Pressure Planes to increase pressures in this area of the water system.



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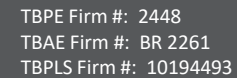
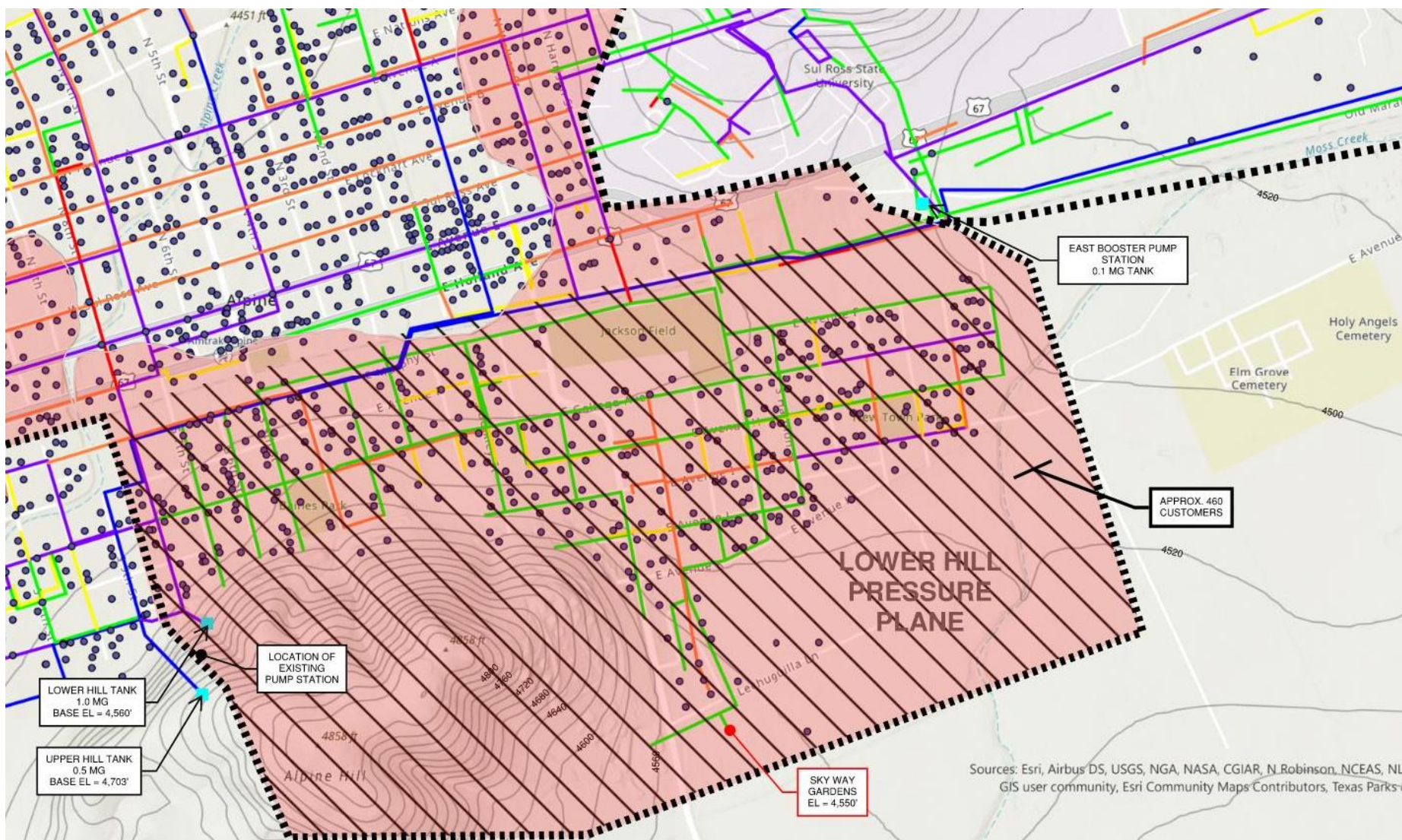
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Water System Generators

- Background: As a result of the “Great Freeze” the legislature passed Senate Bill 3 (SB3) requiring all water systems to prepare an Emergency Preparedness Plan (EPP).
- Actions Taken by City:
 - JM performed a feasibility study for the City to help develop a plan to provide emergency power to all water and wastewater facilities during an emergency power outage event.
 - The City utilized the information in the feasibility study to prepare the EPP that was submitted to the state.
 - The City is also utilizing one of the options presented in the feasibility study to apply for funding through FEMA to install generators for backup power for the water system.
 - JM is actively assisting with the FEMA grant application.



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FEMA Grant Application

- FEMA grant is a 90:10 (grant to local match) funding program.
- The application currently being considered by FEMA includes the following:
 - Fixed generator at Musquiz Pump Station
 - Fixed generator at Sunny Glen Pump Station
 - Fixed generator at East Pump Station
 - Fixed generator at City Yard (Near Upper and Lower Hill Tanks)
 - Installation of manual transfer switches at each well site in the Sunny Glen and Musquiz Well Fields (City would utilize their existing mobile generator for the well fields)
 - With the installation of these generators the City should be able to maintain a reliable water supply during a prolonged power outage.



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Additional Water System Concerns and Issues

- The City has identified the following three additional concerns in the water system that warrant further investigation and study:
 - Pearce Tank
 - Possible lack of sufficient well capacity in the Sunny Glen Well Field
 - Lack of redundancy in the water system for reliable water supply in an emergency event



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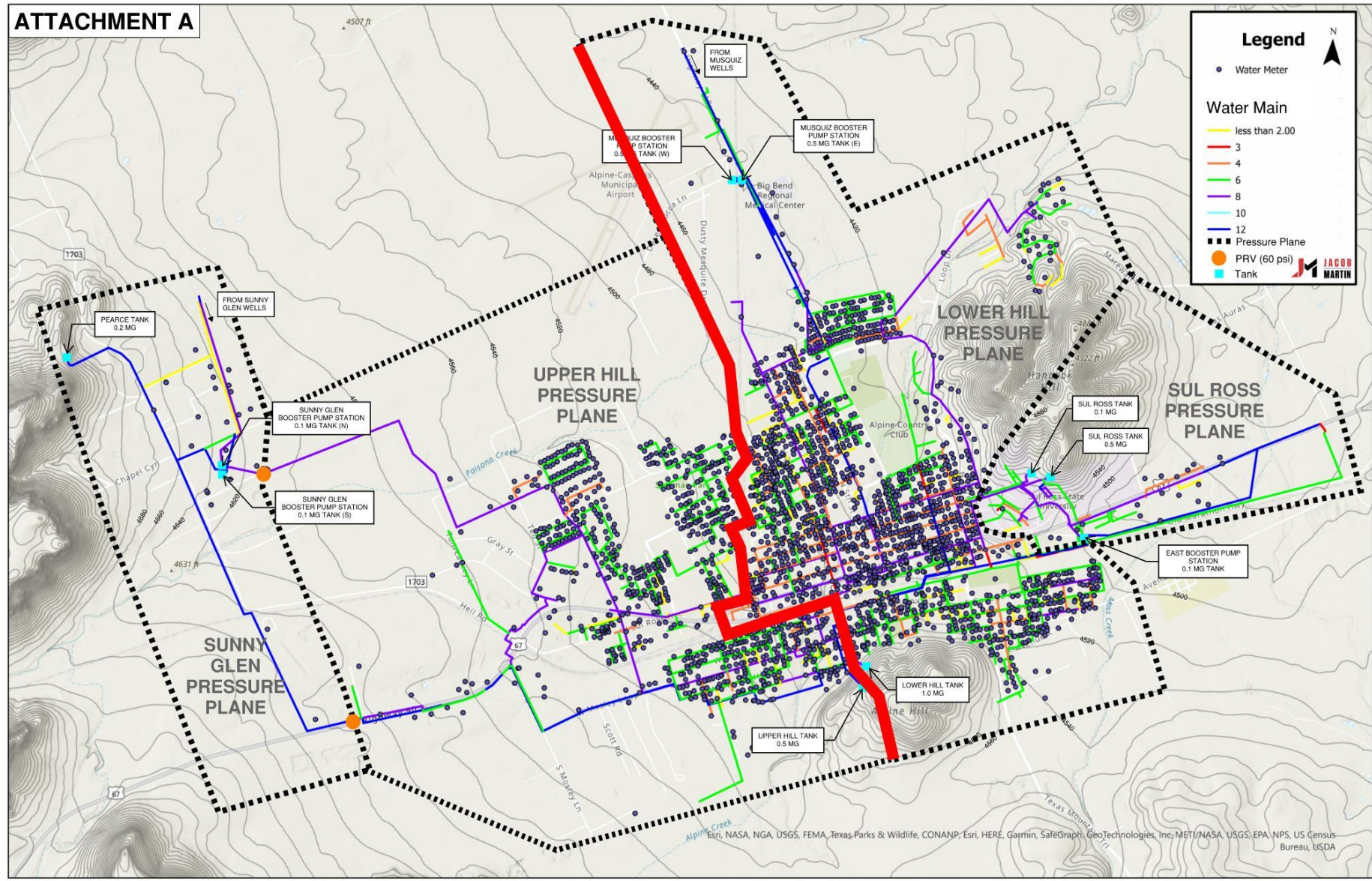
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City of Alpine Water System Map



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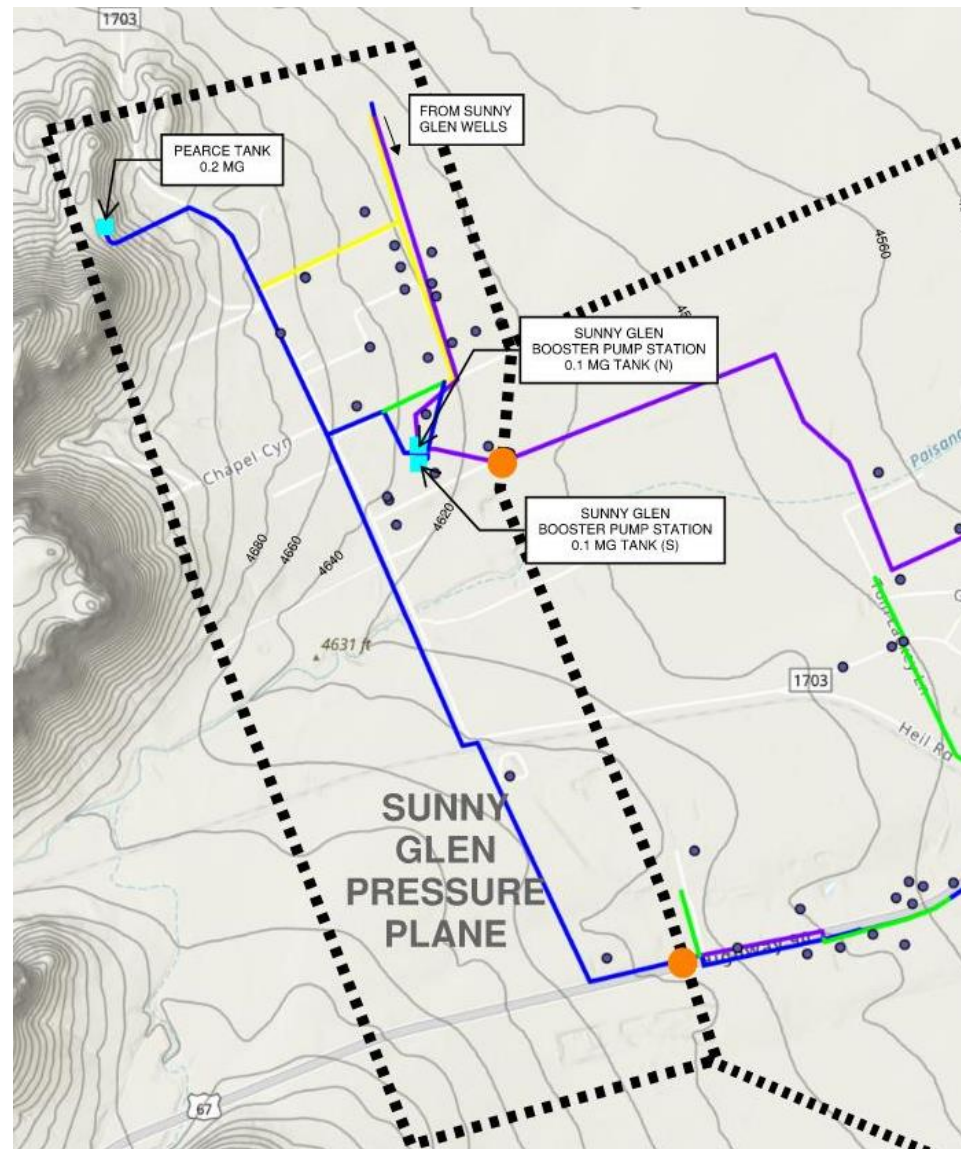


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Pearce Tank

- Facility Description: The Pearce Tank is in the far northwest part of the system and serves as elevated storage for all customers located east of the Sunny Glen Pump Station.
- Issues:
 - For a considerable amount of time the City has been unable to utilize the full capacity of the tank.
 - The City is not able to fill the tank due to a hydraulic issue in this part of the water system. The cause is currently unknown. JM is under contract to investigate this issue.





Sunny Glen Well Field Capacity

- Problem / Concern: The City has identified a concern that there is possibly insufficient capacity in the Sunny Glen Well Field.
- In the event of a prolonged inability to pump water from the Musquiz Well Field the City could have difficulty maintaining an adequate water supply from the Sunny Glen Well Field, the wells at the City Yard and the well at the East Pump Station.
- It is recommended that the City explore the feasibility of expanding the capacity of the Sunny Glen Well Field for a long-term reliable water supply.

Well Field / Location	Total Capacity (GPM)	% of Total Capacity
Sunny Glenn Well Field	650	25%
City Yard	350	13%
East Pump Station	60	2%
Musquiz Well Field	1,550	59%
	2,610	100%

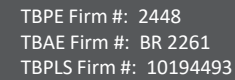
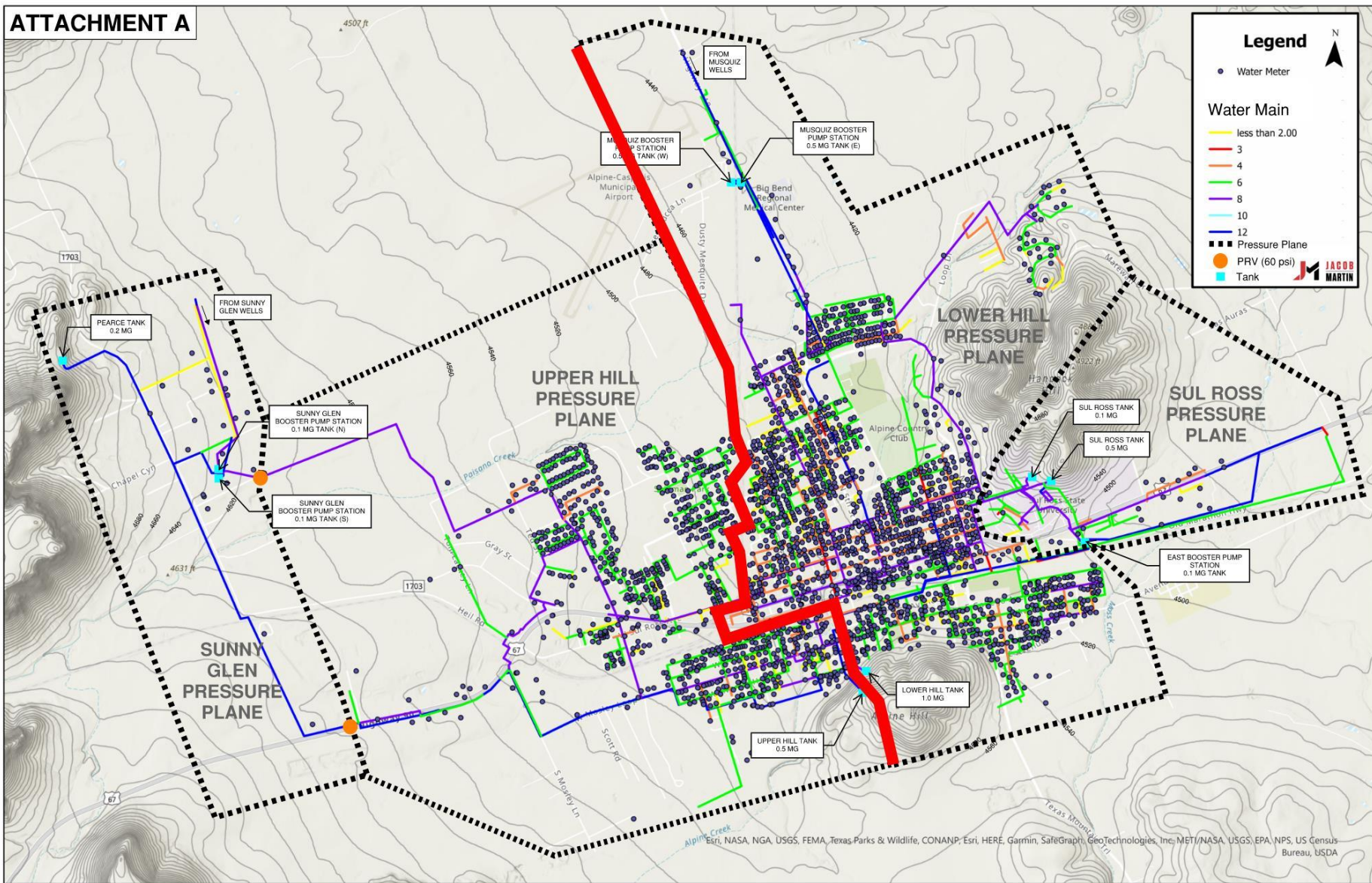




Lack of Redundancy in the Water System

- Problem / Concern: The City has identified a couple of concerns related to redundancy in the water system:
 1. Lack of sufficient well capacity in the Sunny Glen Well Field (as discussed on the previous slide).
 2. Inability to move water from the Lower Hill Pressure Plane to the Upper Hill Pressure Plane and Pearce Tank Pressure Plane.
- In the event of a prolonged inability to pump water from the Sunny Glen Well Field, the City currently does not have a way to move water from the Lower Hill Pressure Plane to the Upper Hill Pressure Plane and Pearce Tank Pressure Plane.
- This issue warrants further study to determine the most feasible means to create redundancy in the water system.







Questions



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