



City of Prescott
Public Works Department
P.O. Box 2059
Prescott, Arizona 86302

**City of Prescott Pressure Zone 39 Water Main and Pump Station Improvements and
Indian Hill Water Tank Replacement Design**

August 14, 2008

This project is to upgrade and improve various distribution main, pump station improvements and water tank replacement within water system Pressure Zone 39 in the south part of Prescott. The project consolidates several inter-related components of the system into one project. These system upgrades, consisting of replacement of aged and undersized facilities, are necessary to meet current and future water demand. The new water mains and pump station identified below will also enhance public safety by augmenting fire flow capability throughout Pressure Zone 39.

12" line in White Spar Road (Granite Street to Copper Basin)
20" line in Aubrey Street (S. Pleasant Street to the Pioneer Pump Station)
Pioneer Pump Station replacement
16" line in Country Club Drive (Pioneer Pump Station to Indian Hills Reservoir)
Replacement of Indian Hill Reservoirs (Two 200,000 gal tanks to one 1.3 million gallon tank)

The **12" line in White Spar Road** will replace an existing undersized 6" water main, increasing supply to the White Spar Pump Station and Copper Basin Road Service Area.

The **20" Line in Aubrey Street** will replace existing undersized 14" welded steel and 8" cast iron pipes that are in excess of 60 years old and severely deteriorated. Frequent leaks have occurred requiring expensive repairs and service outages.

The **Pioneer Pump Station** will be relocated and increased in capacity from 1,000 to 2,700 gallons per minute (gpm). The scope of work include new variable frequency drive pumps, piping, controls, an emergency backup generator, and enclosure since the new equipment will not fit within the existing structure. Relocation will also enable uninterrupted service while the new facility is being constructed on adjacent City land.

The **16" line in Country Club Drive** will replace an existing undersized 6" water main, conveying flow from the new Pioneer Pump Station to the Indian Hills tank which supplies the Zone 39 Service Area.

The **Indian Hill Tank Replacement** consists of replacing two 200,000 gallon aging, undersized tanks with a new 1.33 million gallon tank. The capacity need for the reservoir is for a 2.0 million gallon tank. The 1.3 million gallon tank was sized to provide nearly maximum capacity within the area constraints of the hilltop balanced with pump size modifications. The area of the tank site is limited by archaeological features on the west and north sides which must be avoided. Also, the terrain of the hilltop itself is a limiting factor. The new Indian Hill tank will be constructed within the existing limits of the disturbed area. The site boundary will remain approximately the same on the west, north, and east sides and will increase by 12 feet at the widest point on the south side.

The access road will be improved by placing a gravel surface and grading of the road and the ditch will be riprapped to control the drainage. The road will not be widened.

Drainage for the tank site and road will be improved to control erosion and will discharge where it currently does at the base of the hill but in a more controlled manner.

All communications equipment will need to be removed from the existing tanks prior to demolition and relocated onto a tower. The private cell phone companies that have existing antennas will be required to pay for and build one or more new towers as may be required to relocate the existing equipment. Other City departments, such as Emergency Communications and utilities operations will have space on this site for communications equipment also.

Council approved award of design contract for water mains and pump station on 8/23/07 and a Supplemental agreement for design of tank site improvements on 11/6/07. Design work is scheduled to be completed in Summer 2008. Bidding and construction for the water mains and pump station are anticipated to follow in Fall 2008. Bidding and construction for water tank improvements will begin July 2009.



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City of Prescott Pressure Zone 39 Utility Improvement Project

Public Participation Summary

August 14, 2008

The City of Prescott is developing a design to upgrade the existing utilities within the Zone 39 Utility District. Upsized water mains are being designed along the following neighborhood roads: Country Club Drive, Park Avenue, Hassayampa Drive, Pioneer Drive, East Aubrey Street, and White Spar Road. The existing water pump station near the intersection of Pioneer Drive and Hassayampa Drive will be rebuilt to handle current and future water capacity needs. Additionally, water tanks and communication equipment at the summit of Indian Hill will be upgraded as part of this design project. To ensure the design of the utility upgrades meets the needs of the public, the City of Prescott implemented a Public Participation Plan to outreach to local citizens and gather input from the community regarding the project.

The Public Participation Plan (P2 Plan) contained several elements designed to provide project information to concerned residents and gather public comment for consideration in design. The P2 Plan focused on two public meetings scheduled at 30% and 60% intervals in the design process. The first meeting was held on May 8, 2008. Teaming with PBS&J, the design consultant, and ESMpr, public outreach specialists, the City made outreach efforts to area residents and property owners to address project-related questions and concerns. Outreach efforts included a press release for local radio and newspaper, paid newspaper advertising, and a bulk mailing of 2,630 fliers to area residents along the project corridor. Approximately 50 people attended the meeting. The second meeting was held on July 10, 2008. The meeting was promoted in the same way, with approximately 55 people attending the meeting.

Each public meeting featured members of the project team, project information, and display boards which had the design drawings and various informational graphics. Project team members were identified by name badges and made themselves available to the public to discuss the informational boards and answer questions the public may have had. An acoustically-amplified presentation by the City which explained the needs and objectives of the project was followed by a more formal question and answer session. Questions asked by the public were answered by representatives from City of Prescott and the design firm PBS&J. Question and answer sessions in each meeting identified issues specific to certain property owners adjacent to the project, and issues held by residents of Pressure Zone 39. The City of Prescott has listened to public issues and would like to take this opportunity to address concerns regarding the end results of the project, construction issues, site selection issues, aesthetic issues, and safety issues.

End Results

- The finished project will improve water service to Pressure Zone 39. Improvements include more consistent water pressure during peak use hours, increased fire flow capability, and increased capacity.
- Since most pressure zones city-wide are interrelated, upgrades to this pressure zone will have an overall beneficial result for most City of Prescott water customers.
- New communication equipment will improve emergency communication for fire, police, and emergency medical personnel operating in the area.

Construction Issues

- Area property owners and business managers expressed desire to be kept up-to-date as construction related to the project occurs. These concerns will be addressed through regular construction updates.
- Blasting concerns for residents near the tank installation will not be an issue. Due to the nature of the site and the excavation required, no blasting is planned.
- Vegetation removal will occur within construction easements. Reseeding and landscaping of these disturbed areas will be completed by the contractor once construction activities in the immediate area are complete.
- Excavated material will be removed from the Indian hilltop and relocated off-site at a location determined during construction. No material will be "bulldozed over the side."
- All construction activity will avoid known cultural resources and an archaeological monitor will be present during construction on top of the hill.

Site Selection Issues

- The City of Prescott water system relies on gravity to feed homes with water. Indian Hill is at the proper elevation to feed all parts of Pressure Zone 39. Other sites were explored, but all other eligible sites would either require acquiring and demolition of existing homes, were not the correct elevation, or require an extensive, costly and lengthy federal permitting process.
- The new water tank cannot be situated underground on the top of Indian Hill due to the presence of basalt rock near the surface. Additionally, an underground tank at an offsite location (such as next to Safeway) is less reliable and would require more energy and therefore costs to deliver water to homes and it would be difficult to integrate into the existing gravity-fed system.
- The existing Indian Hill tank and associated utilities require increasing amounts of maintenance due to their age. Upgrades to this site are the most cost-effective and logical alternatives.
- Upgrading the existing facilities atop Indian Hill should not adversely affect property values of surrounding homes.

Aesthetic Issues

- The new tank is larger than the old tanks, and steps will be taken to minimize aesthetic impacts regarding the new tank. The site will be lowered to keep the new tank profile approximately 4 feet taller than the existing tank's appurtenances. The new tank will be painted to minimize visual impacts. The Historic Preservation Commission will make the final decision on tank paint colors/schemes and landscaping requirements to ensure the tank blends into existing historical viewsheds.
- The chain link fence surrounding the site will be painted to minimize visual impacts from great distances.

- Cell towers within the site will be 32 feet tall and be of monopole type construction, keeping them level with the top of the new tank. This will reduce the appearance of a “cell tower farm” atop Indian Hill.
- The emergency communication tower will be 60 feet tall and will not require an aircraft warning light in accordance with Federal Aviation Administration requirements.
- All towers will be monopoles. These towers will not require guy wires. Aesthetic stealth tower options will be discussed and the Historic Preservation Commission will ultimately decide what type of towers can be placed in the site. This will keep the towers consistent with existing facilities and minimize impacts to the historic viewshed.
- All cell towers must be permitted (as a separate project) through the City and governing federal agencies prior to any tower construction.

Safety Issues

- The new tanks, towers, and water mains will be built to the earthquake resistant specifications outlined in applicable codes (including 4WWA and IBC) for the Prescott region.
- The new tanks will be less likely to leak than existing, deteriorating facilities; however, should a leak occur, drainage channels and pipes will be in place to direct the water away from local residences and the summer camp.
- Liability for any damage caused by the tank facility rests with the City of Prescott.
- The current roadway to the top of the hill will remain unpaved, but will be regraded to ensure safe truck travel during construction. Regrading also improves drainage, through the use of a drainage ditch which runs along the roadway and ties into the existing storm drain system.

These issues have been addressed by the project team not only in the question and answer sessions at each public meeting, but also in the design process. Public input has been a significant factor in design regarding tank aesthetics, drainage, and construction practices.

The City of Prescott is committed to the public participation process on design projects of this nature. The utility improvements will benefit residents throughout the pressure zone and the entire city; however, these improvements will be made with the interests of local residents and the general public in mind. The public participation process for this project has given the City of Prescott a clear idea of the concerns of the citizens. As the improvement project moves forward through design and into the construction phase, these concerns will be addressed in design practices put in place by the city to deliver the best possible product to water utility customers in the Pressure Zone 39.