

**Project Identifier:** BP-2

**CIP Budget:** \$30,000

**Project Name:** 21<sup>st</sup> Street Booster Suction  
Transmission Main Modifications

**Funding Source:** Rates

**PROJECT DESCRIPTION:** This project interconnects the existing parallel 16-inch converse steel and 16-inch cast iron transmission mains near the intersection of 16<sup>th</sup> Avenue and 29<sup>th</sup> Street adjacent to the High Reservoir and adds an isolation valve.

**NEED OR JUSTIFICATION:** All flow to the suction side of the 21<sup>st</sup> Street Booster is currently handled by a single 16-inch converse steel transmission main. During high demand periods, operation of the booster station at 3,800 gpm can reduce system pressure on the suction side of the pumps to as little as 7 psi due to excessive head loss in the suction main. Interconnecting these two mains so they function in parallel will reduce head loss and provide additional suction pressure to the booster pumps during peak day demand based. These suction pressure improvements were evaluated based on hydraulic modeling simulation of the local transmission and distribution system.

**Project Identifier:** BP-3

**CIP Budget:** \$120,000

**Project Name:** Southport No. 1 Booster Intertie

**Funding Source:** Rates

**PROJECT DESCRIPTION:** This system intertie project will allow the existing non-operational Southport No. 1 Booster station to transfer water supply from Well No. 5 reservoir to the Southwest reservoir. Prior to construction of the existing Southport booster station, the Southport Service Level was pressurized by the Southport No. 1 booster station located adjacent to the Well No. 5 Reservoir. The booster station is not currently in use, but remains in operational condition. This project will add yard piping and isolation valves to connect the Well No. 5 Reservoir to the suction side of the Southport No. 1 booster station, and the discharge side to the transmission main connecting the Well No. 5 Reservoir and the Southwest Reservoir. This will allow the booster pumps to transfer water from the Well No. 5 Reservoir to the Southwest Reservoir, which is not currently possible.

The booster station is equipped with flow and pressure measurement instrumentation and is already integrated into the City's SCADA system, so extensive instrumentation upgrades will not be necessary. Modifications to the booster station programming will be required to allow the station to operate correctly when pumping to the Southwest Reservoir instead of the Southport Service Level.

**NEED OR JUSTIFICATION:** The West System lacks adequate firm capacity to meet peak design demand. This project would address this deficiency by allowing excess Well No. 5 capacity to be utilized in the West System, and also provides a redundant source of supply for the West System.

## WATER STORAGE (WS)

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**Project Identifier:** WS-1

**CIP Budget:** \$3,250,000

**Project Name:** New Standpipe or Ground Level  
Reservoir in Southeast Service Level

**Funding Source:** Debt

**PROJECT DESCRIPTION:** This project generally consists of the design and construction of water supply and, if needed, booster pumping facilities required to serve the high growth areas of the Community Park and adjacent commercial development areas located within the Southeast Service Level. The project will include additional water transmission main, a new water storage reservoir, and booster pumping capacity if needed. Water storage siting and configuration will be evaluated during preliminary engineering and will include either a ground level storage reservoir and booster station or a gravity supplied standpipe configuration.

**NEED OR JUSTIFICATION:** The South High Booster Station currently pumps into a closed system serving the Southeast and South Central Service Levels. New commercial development is anticipated in the South Central zone and the Community Park development in the Southeast Service Level. This growth is anticipated to increase peak day demand on the South High Booster to 2,100 gpd within the next five years. Much of the additional Community Park water demand is irrigation associated with large park areas and athletic fields likely occurring concurrently with existing irrigation demand at night or in the early morning. The South High Booster facility does not have adequate firm capacity to meet this demand without adding equalization storage in the Southeast/South Central service area. The new water storage reservoir will add critical backbone plant facilities to the Southeast Service Level, reduce the peaking demands required currently from the South High Reservoir, and provide redundant supply in the event of an emergency.