

2.1 DOMESTIC WATER SUPPLY SYSTEM PROJECTS

A description of the existing water supply system, system issues identified from the IMP, and the proposed CI Projects for the system are discussed in the following sections.

2.1.1 Existing Domestic Water Supply Sources

The District's domestic water has been historically supplied from imported water from two sources: Northern California, via the State Water Project, and the Colorado River, via the Colorado River Aqueduct. Currently, MWD is responsible for delivering the imported water to its 27 member agencies, including the MWDOC, which is the wholesale provider to the District and the majority of other Orange County water purveyors. The District has nominal capacity rights to 13,225 acre-feet per year (AFY) from MWDOC.

To enhance supply, the District has recently initiated service at the District's Groundwater Recovery Facility (GRF) in Capistrano Beach, which has a supply capability of one million gallons per day (1 MGD). With the GRF, the District for the first time possesses a local source of supply (the Lower San Juan Creek Groundwater Basin). The GRF consists of a reverse osmosis treatment plant that converts the poor quality groundwater extracted from the lower San Juan Creek groundwater basin to potable quality water. Plant production is currently limited by the water production capacity of the existing well and by water rights limitations imposed by the State Water Resources Control Board. The permit allows the District to currently pump up to 976 AFY from the basin and a possible additional 324 AFY in the future. The District expects to secure the right to produce up to 2,000 AFY from the basin and has designed the well system and treatment plant accordingly. The 2005 UWMP projects a GRF contribution to the District's potable supply of 800 AFY by 2010, increasing to 1,300 AFY in 2015, and 2,000 AFY in 2020 and thereafter.

2.1.2 Domestic Water Supply System Capital Improvement Projects

All of the water supply capacity projects proposed as part of the IMP are covered by project specific CEQA documents or are otherwise exempt from CEQA review.

2.2 WATER DISTRIBUTION SYSTEM

A description of the existing water distribution system, system issues identified from the IMP and the proposed CI Projects for the system are discussed in the following sections.

2.2.1 Existing Water Distribution

Ultimate or build-out water demands were developed for the District's water system based upon known development projects and the historical growth pattern within the District. These future demands represent an increase of approximately 5 percent (PBS&J 2008) and are consistent with the UWMP and City planning projections. Although important to consider in future water planning needs, the District's water distribution and storage needs are largely driven by the existing demand, fire flow requirements, and system reliability needs.

The District's water system includes 147 miles of water main, nine pressure zones (PZs), nine booster pump stations, and 14 water storage reservoirs with a total capacity of 22 MG of potable water. An additional 12.8 MG of storage is available in the Bradt Reservoir. The District also maintains 1,500 fire hydrants in its service area. Figure 2-1 presents the District's existing water system pressure zones and the major facilities, such as reservoirs and pump stations.