

West Valley Water District Local Groundwater Assistance Grant
ATTACHMENT 3. STATUS OF GWMP

The proposed Groundwater Model Integration and Enhancement Project encompasses the entire Rialto-Colton Groundwater Basin (Basin), including a narrow fringe beyond the Basin boundaries. The State of California recognizes three basic forms of groundwater management: (1) management by local agencies under authority granted in the California Water Code or other applicable State statutes (e.g., AB3030 Plan), (2) local government groundwater ordinances or joint powers agreements, and (3) court adjudications. The Rialto-Colton Basin does not have an adopted groundwater management plan; however, groundwater within the Rialto-Colton Basin is managed through court adjudications as detailed in the 1961 Rialto Basin Decree and the *Western* Judgment. While the *Western* Judgment uses the terminology “Colton Basin Area,” the Basin is also known as the Rialto-Colton Basin.

This attachment briefly describes the geographical characteristics of the Rialto-Colton Basin and summarizes how the Basin is managed as a result of the court adjudication.

The Rialto-Colton Basin

The Rialto-Colton Basin underlies a portion of the upper Santa Ana Valley in southwestern San Bernardino County and northwestern Riverside County. This Basin is about 10 miles long and varies in width from about 3.5 miles in the northwestern part to about 1.5 miles in the southeastern part (Figure 2). The Basin is bounded by the San Gabriel Mountains in the northwest, the San Jacinto fault in the northeast, the Badlands in the southeast, and the Rialto-Colton fault in the southwest. The Santa Ana River cuts across the southeastern part of the basin. The Basin generally drains to the southeast, toward the Santa Ana River. Warm and Lytle creeks join near the southeastern boundary of the Basin and flow to meet the Santa Ana River near the center of the southeastern part of the Basin.

The principal recharge areas are Lytle Creek, Reche Canyon in the southeastern part and the Santa Ana River in the south-central part. Lesser amounts of recharge are provided by percolation of precipitation to the valley floor, underflow, and irrigation and septic returns (DWR 1970, Wildermuth 2000). Underflow occurs from fractured basement rock (DWR 1970, Wildermuth 2000) and through the San Jacinto fault in younger Santa Ana River deposits at the south end of the Basin (Dutcher and Garrett 1958) and in the northern reaches of the San Jacinto fault system (Wildermuth 2000). Groundwater recharge has been augmented through the use of spreading basins.

Adjudication & Groundwater Management

The Rialto-Colton Basin was adjudicated as a result of the *Lytle Creek Water & Improvement Company vs. Fontana Ranchos Water Company, et al.*, San Bernardino County Superior Court Action 81264, entered on December 22, 1961 (Att3_LGA12_WestValleyWD_GWMP_2of2.pdf). As a result, the Fontana Union Water Company (FWC), City of Rialto, City of Colton, and West Valley Water District are subject to the 1961 Rialto Basin Decree. Entitlement extractions for any given water year (October 1 to September 30) are affected by groundwater elevations between March and May for three specific “index” wells (Duncan Well, Willow Street Well, and Boyd Well). Under specified conditions, groundwater extractions may be limited on an annual basis, as described below:

Water Level	Extractions
Above 1002.3 feet	Unlimited
Between 1002.3 and 969.7 feet	As imposed by the Judgment
Below 969.7 feet	Reduced by 1% for every foot the average is below 969.7 to a Maximum of 50%

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The *Western* Judgment (Western Municipal Water District of Riverside County v. East San Bernardino County Water District, Case No. 78426)

(Att3_LGA12_WestValleyWD_GWMP_2of2.pdf) (filed simultaneously with the *Orange County* Judgment in April 17, 1969) requires the local state water contractor, San Bernardino Valley Municipal Water District (Valley District), to maintain the average lowest static water levels in three index wells in the Rialto-Colton Basin Area and Riverside North Basins above 822.04 feet mean sea level (MSL). If the water levels fall below 822.04 feet MSL, the Valley District is obligated to recharge the Basin with imported water or extractions must be reduced.

Need for Additional Groundwater Management

The 1961 Rialto Basin Decree and the *Western* Judgment manage a narrowly defined set of parameters within the Rialto-Colton Basin, namely the groundwater elevation at three index wells. While these parameters have been effective in helping groundwater users in the Basin manage groundwater extractions from year to year, additional management tools are needed in order to better manage the complex set of issues facing the Basin, including the interplay between extraction activities and recharge operations, as well as perchlorate and volatile organic compound (VOC) contamination and associated treatment activities.

In recent years, perchlorate has been detected in several of West Valley Water District's (District's) production wells at concentrations exceeding the action/notification level and maximum contaminant level (MCL) of six micrograms per liter ($\mu\text{g/L}$) established by the California Department of Public Health (CDPH) in 2007. The District and the City of Rialto have both removed production wells from service, pending the installation of appropriate treatment systems. The loss of these wells has made it challenging to

maintain operational flexibility and meet seasonal peak water demands. The District is currently working to restore two production wells to service through the construction of a wellhead treatment system that will remove perchlorate and nitrate from groundwater and reduce VOC concentrations in the groundwater.

Other perchlorate and VOC cleanup projects are active within the Rialto-Colton Basin as well, including remediation activities to eliminate the source of contamination at a 160-acre parcel that was previously identified by the U.S. Environmental Protection Agency as a Superfund site under the federal Comprehensive Environmental Response, Compensation and Liability Act. As these and other treatment and remediation projects are completed, additional groundwater from the Rialto-Colton Basin will be made available for extraction and potable use. However, a risk exists that, without the ability to recharge groundwater and improve the yield of the Basin, these treatment projects would have to sit idle under the extraction stipulations imposed by the 1961 Rialto Basin Decree and the *Western* Judgment. Furthermore, little understanding exists regarding the effects of additional recharge within the Basin on the transport of the contaminant plumes.

Current Basin models are not comprehensive enough to analyze the interacting effects of groundwater contamination, extraction, and recharge within the Rialto-Colton Basin. Past models have focused on specific locations within the Basin where groundwater contaminants are thought to have originated and the areas directly down gradient of these locations. In order to better manage the Basin's water resources, a Basin-wide model capable of analyzing water quality and quantity, as well as contaminant transport is needed.

The proposed Project aims to establish a comprehensive groundwater model that can

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serve as a Basin-wide tool with outputs that support a more comprehensive groundwater management strategy for the Rialto-Colton Basin. Such a model will allow groundwater users within the Basin to develop an overarching strategy to maximize the beneficial uses of the Basin's water resources by increasing extractions within the confines of the safe yield for the Basin, implementing additional groundwater recharge programs to support increased extractions within the stipulations of the adjudication, and continue to monitor and treat contaminated water to meet CDPH standards for potable water.

References

California Department of Water Resources (DWR). 1970. *Meeting Water Demands in the Chino-Riverside Area*. Bulletin 104-3, Appendix A: Water Supply.

Dutcher, L. C., and Garrett, A. A. 1958. *Geologic and Hydrologic Features of the San Bernardino Area, California, with Special Reference to Underflow Across the San Jacinto Fault*. U. S. Geological Survey Open-File Report.

Wildermuth Environmental, Inc. (Wildermuth). 2000. *TIN/TDS Study - Phase 2A of the Santa Ana Watershed; Final Technical Memorandum*. San Clemente, California, July 2000.

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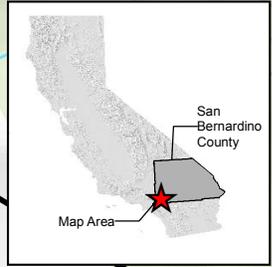
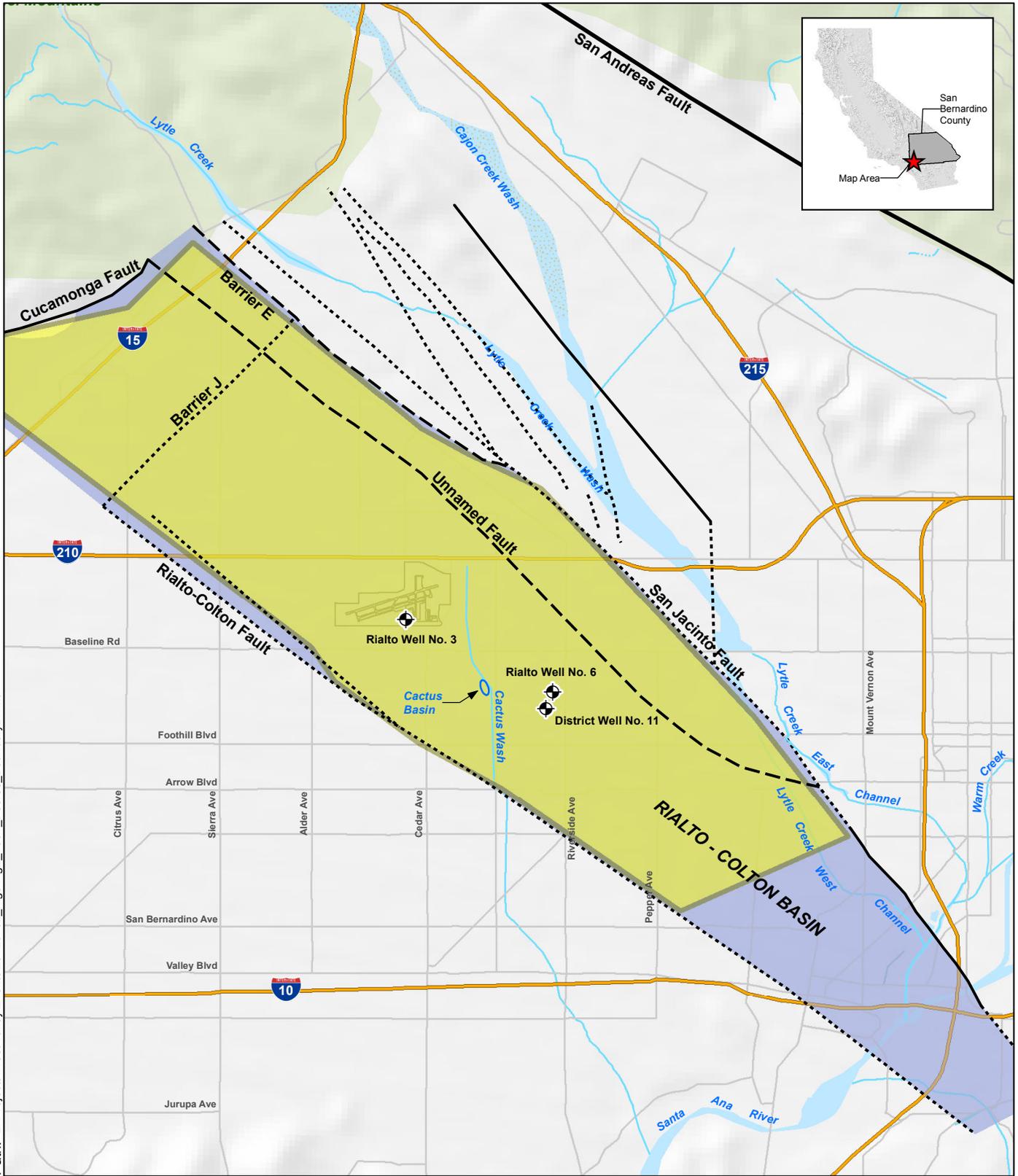
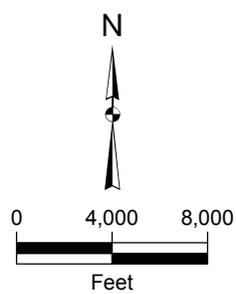


Image Source: ESRI

Legend	
	Project Wells
	Fault
	Fault (Approximate)
	Fault (Concealed)
	Rialto-Colton Basin
	Area Controlled by the Stipulated Judgement in <i>The Lytle Creek Water & Improvement Company vs. Fontana Ranchos Water Company, et al., Action 81264</i>



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West Valley Water District and City of Rialto
Rialto, California

1961 Decree Boundary

Figure 2