



City of Arts & Innovation

City of Riverside Public Utilities Conservation Standard with Self-Certification of Supply Reliability

The City of Riverside Public Utilities (RPU) is pleased to submit the following documentation to develop conservation standards based upon our local supply and demand conditions. Since 2008, RPU has met 100% of the water demands for its service area from local, well managed, adjudicated groundwater basins and locally produced recycled water. Presently, Riverside produces water from three local groundwater basins that recharge naturally within the Santa Ana River watershed.

RPU's Available Water Supply

As of 2013 and 2014, all of RPU's water supply came from groundwater extraction rights in the San Bernardino Basin Area (SBBA), Riverside Basin, and the Rialto-Colton Basin. These rights were established in the Western Municipal Water District of Riverside County et al., vs. East San Bernardino County Water District et al., Riverside County Superior Court Case No. 78426 (Western-San Bernardino Judgment). The Western-San Bernardino Judgment cooperatively works with the 1969 Orange County Judgment to enforce the physical solution. As a plaintiff party to the Western-San Bernardino Judgment, RPU's total water right and base period production from all these basins is 85,774 AF as shown in Table 1.

Table 1. RPU's Total Water Right and Base Period Production (in acre-feet)

Groundwater Basin	RPU Right
SBBA	55,264
Rialto-Colton	2,728
Riverside North	10,902
Riverside South	16,880
Total	85,774

In addition to its groundwater production rights established in the Western-San Bernardino Judgment, RPU also has access to imported water from Western Municipal Water District (WMWD); through a connection at the Metropolitan Water District of Southern California's Henry J. Mills Treatment Plant for 21,700 acre-feet.

San Bernardino Basin Area. As a plaintiff party, RPU has a limit to extract a defined share of safe yield in the SBBA while non-plaintiff party extractions are unlimited in exchange for San Bernardino Valley Municipal Water District's commitment to provide replenishment for any aggregated extractions in excess of non-plaintiff's share of safe yield. The natural safe yield of the SBBA

(232,100 AF) was set forth in 1972 and was determined over a period of varying hydrology and was absent of imported water. The Western-San Bernardino Judgment allows plaintiffs to extract five times their adjusted right in any five year period provided that extractions in any given year not exceed more than 30-percent of the annual adjusted right. RPU's extraction rights from the SBBA, which includes the Bunker Hill Basin, have been revised to reflect new water conservation as defined by the Western-San Bernardino Judgment, associated with the operation of the Seven Oaks Dam and downstream recharge facilities. RPU's adjusted export rights are summarized in Table 2. In addition to RPU's annual extraction rights, it has storage accounts derived from previous recharge activities associated with Seven Oaks Dam that were identified through new conservation and RPU has 10,293 AF in storage.

Table 2. RPU's Annual SBBA Extraction Rights (in acre-feet)

Extraction Entity	Export Right	New Conservation (195 cfs)	Adjusted Right (subtotal)	Western-San Bernardino 2015 Annual Watermaster Report Reference ¹
City of Riverside (RW Co and Gage Canal Co) ²	49,542	1,719	51,261	Table No. 3A-1, page 40
Agua Mansa and Meeks & Daley Water Co ³	2,909	100	3,009	Table No. 3C-1, page 52
Riverside Highland Water Co ⁴	440	0	440	Table No. 3B-1, page 46
Regents of the University of California ⁵	536	18	554	Table No. 3D-1, page 58
Total	53,427	1,837	55,264	

1) Appendix A

2) Appendix B

3) Appendix C

4) Appendix D

5) Appendix E

Riverside Basin. The basis for establishment of extraction rights stipulated within the Western-San Bernardino Judgment was groundwater production in the Riverside Basin over the 5-year period from 1959 through 1963 (referred to as the base period). The Western-San Bernardino Judgment divides the Riverside Basin into two areas, based on jurisdictional boundaries: the portion of the Riverside Basin in San Bernardino County (Riverside North) and the portion of the Riverside Basin in Riverside County (Riverside South).

For Riverside North, the base period extractions by Riverside County entities for use in Riverside County are limited to 21,085 acre-feet/year. San Bernardino County entities have unlimited extractions provided that a minimum groundwater elevation is maintained by Valley District. Should extractions by Riverside County entities exceed the base period extraction over a 5-year period, or by more than 20 percent in a single year, WMWD is responsible for replenishment in the following year equal to the excess extractions over a 20-percent peaking allowance. WMWD's replenishment obligation can be reduced through credits that are available from previous years

due to importing water into the basin or production below the base period threshold. RPU's base period export extractions from Riverside North is 10,902 AFY (Appendix B).

For Riverside South, the Western-San Bernardino Judgment set a 5-year base period extraction of 29,663 acre-feet for use in Riverside County. In Riverside South, should extractions exceed the base period extraction over a 5-year period, or by more than 20 percent in a single year, WMWD is responsible for replenishment in the following year equal to the excess extractions over a 20 percent peaking allowance, unless credits are available from previous years due to productions below the base period extraction or to importing water. RPU's base period extractions from Riverside South is 16,880 AFY (Appendix B).

Rialto-Colton Basin. The basis for establishment of extraction rights stipulated within the Western-San Bernardino Judgment was groundwater production over the 5-year period from 1959 through 1963 (base period). For the Rialto-Colton Basin, extraction limits are set only for that which is used within Riverside County. Provided that a minimum groundwater elevation is maintained by Valley District, extractions from the Rialto-Colton Basin by San Bernardino County Entities for use within San Bernardino County are not limited. The Western-San Bernardino Judgment established 3,381 acre-feet as the base period extraction for use within Riverside County. Should extractions exceed the base period extraction over a 5-year period, or by more than 20 percent in a single year, WMWD is responsible for replenishment in the following year equal to the excess extractions over a 20-percent peaking allowance, unless credits are available from previous years due to production below the base period extraction or to importing water. RPU's export rights from the Rialto-Colton Basin include 2,418 AFY for the City of Riverside (Appendix B) and 310 AFY for RPU's shares of Agua Mansa and Meeks & Daley Water Company (Appendix C), for a total of 2,728 AFY.

As of the 2015 Watermaster Annual Report, WMWD has total credits of 466,040 acre-feet for the Rialto-Colton and Riverside basins, which can be used to offset over extraction and exceedances to the 20-percent peaking allowance. Watermaster allows these credits to be used in either the Rialto-Colton and Riverside basins.

City of Riverside Public Utilities' Water Demand in 2013 and 2014

The total potable water demand for RPU in 2013 and 2014 is summarized in Table 3.

The total potable water demand is calculated by adding all of the potable water supplied to retail customers, the exchange deliveries to Gage Canal Company, and all potable and raw water loss (i.e. unaccounted for water).

Table 3. City of Riverside's Total Potable Water Demand in 2013 and 2014

City of Riverside's Total Potable Water Demand (Potable Water Production in CY 2013 and 2014) in acre-feet		
2013	City of Riverside Total Water Production	68,544
	Non-Potable Gage Exchange	12,150
	Unaccounted for Water	2,411
	City of Riverside Total Potable Water Demand	83,105
2014	City of Riverside Total Water Production	66,543
	Non-Potable Gage Exchange	11,896
	Unaccounted for Water	2,840
	City of Riverside Total Potable Water Demand	81,279

The attached supporting documents in Appendix F (Schematic of RPU Ground Water Production in 2013 and 2014) show in detail how RPU's water production is allocated among potable use, irrigation use, and water loss. The ground water production by well in each basin are also summarized in Appendix F. The source data supporting the production by well in each basin can be found in the 2015 Supplemental Volumes for the Western-San Bernardino Watermaster (Appendix A). For easier reference, Table 4 shows the page numbers in the 2015 Watermaster Supplemental Volumes Report for the published water production volumes by well used in the schematics provided Appendix F.

Table 4. Reference Page to Water Productions in 2013 and 2014 from the 2015 Supplemental Volumes for the Western-San Bernardino Watermaster (Appendix A)

	Bunker Hill Basin	Rialto-Colton Basin	Riverside North Sub-basin	Riverside South Sub-Basin
Riverside, City of	Page 243-245	Na	Page 357-358	Page 438-439
Riverside, City of (Gage Canal)	Page 245-246	Na	Page 358	Page 439-440
Meeks & Daley	Page 242	Na	Na	Na
Riverside Highland Water Company	Page 242-243	Na	Page 357	Na
UC Regents	Page 246	Na	Na	Page 442

Na: Not Applicable.

Conservation Standard with Self-Certification of Supply Reliability

Based on the calculation method defined by the State Water Board, the new RPU conservation standard with self-certification of supply reliability is 0. Table 5 shows the calculation steps:

Table 5 Riverside Public Utilities Water Supply Reliability Self-Certification

RPU Water Supply Reliability Self-Certification	
Calculations of Urban Water Supplier's Conservation Standard Supply Reliability for Three Additional Years of Drought	acre-feet
Step 1: Determine Total Potable Water Demand ¹	
Potable Water Production in Calendar Year 2013	83,105
Potable Water Production in Calendar Year 2014	81,279
Total Potable Water Demand	82,192
Step 2: Calculate Total Potable Water Supply ²	
Potable Water Supply	
Groundwater supply for the next three years	85,774
Supply Shortfall in Year 3 (negative amount indicates a surplus)	(3,582)
Conservation Standard with Self-Certification of Supply Reliability	0%

1-Potable water demand includes retail water use, Gage Canal Company deliveries, and unaccounted for water.

2-Please refer to the supply section earlier in this write-up for Potable water supply estimates.

Appendix A

Judgment Support Documents

Judgment Documents can be located at the link below

<http://www.sbvmd.com/reports/-folder-1046>

Appendix B

City of Riverside Support Documents

Contents Include:

- SBBA City of Riverside Adjusted Right, Watermaster Table No. 3A-1
- Rialto-Colton Basin, City of Riverside Base Period Production, Watermaster Vol.2 Table 4
- Riverside North, City of Riverside Base Period Production, Watermaster Vol.3 Table 4
- Riverside South, City of Riverside Base Period Production, Watermaster Vol.4 Table 3A
- 1965 Agreement with Gage Canal Company
- Resolution to Condemn Riverside Water Company, 1959

Appendix C

Meeks and Daley Water Company Support Documents

Contents Include:

- Meeks and Daley Adjusted Right, Table No 3C-1
- Support Table
- RPU Board Report, Shares in Mutual Water Companies
- Meeks and Daley 8-4-15 Board Report, Shareholders

Appendix D

Riverside Highland Mutual Water Company

Support Documents

Contents Include:

- Riverside Highland Water Company Adjusted Right, Table 3B-1
- 1992 Agreement
- RPU Board Report, Shares in Mutual Water Companies

Appendix E

Regents of the University of California Support Documents

Contents Include:

- Regents of the University of California Adjusted Right, Table 3D-1
- 2015 Agreement

Appendix F

Summary of Riverside Public Utilities Ground Water Production in 2013 and 2014

Contents Include:

- Schematic of RPU Ground Water Production in 2013 and 2014