

Memorandum

Date: June 22, 2016

To: State Water Resources Control Board
Submitted via Water Supply Reliability Certification and Data Submission Form:
<http://drinc.ca.gov/dnn/Applications/PublicWaterSystems/WaterReliabilityCertification.aspx>

From: Mark Kinsey, General Manager
Monte Vista Water District

O.B.O.: Chino, City of (PWS No. CA3610012)
Chino Hills, City of (PWS No. CA3610036)
Monte Vista Water District (PWS No. CA3610029)
Ontario, City of (PWS No. CA3610034)
Upland, City of (PWS No. CA3610050)

CC: Water Facilities Authority (PWS No. CA3610006)

Subject: Documentation to Support Water Supply Reliability Certification and Data Submission

This memorandum is submitted as documentation in support of data provided via the above website for the estimated annual total potable water supplies for Water Years 2017-2019 under the State Water Resources Control Board's (State Water Board) May 18, 2016 Emergency Regulation.

This documentation provides support for all water supplies claimed by the cities of Chino, Chino Hills, Ontario, Upland, and the Monte Vista Water District ("MVWD") (collectively, the "Aggregated Agencies," or individually as "Aggregated Agency"). The Aggregated Agencies are submitting an aggregated certification under Section 864.5(f) of the Emergency Regulation. The Aggregated Agencies collectively own and receive wholesale potable water supply service from the Water Facilities Authority ("WFA").

Please Note: This documentation, which is being submitted by each agency respectively, supports each Aggregated Agency's estimated water supplies for Water Years (WY) 2017-2019 (Worksheet 1) individually, as well as in the aggregate.

The Aggregated Agencies, through the signed June 14, 2016 Letter Agreement submitted by MVWD on their collective behalf, designate MVWD as responsible for developing documentation in support of the Aggregated Agencies' claimed water supplies. The WFA is also signatory to the Letter Agreement and posted its wholesale supply availability on June 15, 2016.

Consistent with the Emergency Regulation, the information submitted via the above website and supported herein results in a zero percent (0%) conservation standard for the Aggregated Agencies.

All of the following water supply information is provided in units of acre-feet (AF).

TOTAL SUPPLIES

Table 1 shows the total supplies claimed by the Aggregated Agencies by water supply source. Documentation for each source of supply by Aggregated Agency is provided below.

Table 1: Total Aggregated Agencies' Potable Water Supply Projections

	WY 2017	WY 2018	WY 2019
WHOLESALE SUPPLIES			
Water Facilities Authority¹	31,384	31,384	27,406
Chino Desalter Authority²	17,733	17,733	17,733
San Antonio Water Company³	8,982	8,982	8,982
West End Consolidated Water Company⁴	2,253	2,112	2,042
LOCAL SUPPLIES			
Chino Basin Groundwater⁵	77,642	74,293	72,192
Six Basins Groundwater⁶	1,527	1,432	1,384
Cucamonga Basin Groundwater⁷	750	750	750
TOTAL SUPPLIES			
Total Potable Water Supply⁸	140,270	136,685	130,488
Total Potable Water Demand			98,870
Supply Shortfall in 2019 (negative indicates surplus)			-31,618
Conservation Standard w/Self-Certification of Supply Reliability			0%

¹ Provided by Water Facilities Authority (Table 2).

² Provided by Chino Desalter Authority (Table 3).

³ Provided by San Antonio Water Company (Table 4).

⁴ Upland's share of West End Consolidated Water Company's Six Basins groundwater production rights (Table 5). Upland's share of the Company's Chino Basin and Cucamonga Basin rights are produced by Upland wells and listed by source under Local Supplies.

⁵ Chino Basin Groundwater supply availability inclusive of estimated production rights, carryover rights, and recharged recycled water projections provided by Inland Empire Utilities Agency, unless indicated otherwise (Table 6).

⁶ Upland's projected Six Basins groundwater production rights (Table 13).

⁷ Upland's projected Cucamonga Basin groundwater production rights through ownership interest in West End Consolidated Water Company (Table 14).

⁸ **The total potable water supply for 2019 does not include the 237,291 AF of Chino Basin Groundwater that currently is stored and is available for safe production through existing groundwater production wells (Table 12).**

WHOLESALE SUPPLIES

Water Facilities Authority

Table 2 shows the Water Facilities Authority (WFA) wholesale supply information: <https://www.ieua.org/use-water-wisely/emergency-drought-water-supply-data/> (“WFA Wholesale Supply Information”)

WFA provides a melded MVWD/Chino Hills supply projection per agreement. Direct WFA deliveries to Chino Hills for WY 2017-2019 are estimated based on average historical direct deliveries for WY 2013-2015: 1,500 AF for 2017 and 2018, 1,275 AF for 2019.

Table 2: Water Facilities Authority Water Supply Projections Per Aggregated Agency

	WY 2017	WY 2018	WY 2019
Chino, City of	4,096	3,918	3,453
Chino Hills, City of¹	1,500	1,500	1,275
MVWD²	6,985	6,802	5,960
Ontario, City of	13,044	13,448	11,840
Upland, City of	5,759	5,716	4,878
Total Potable Water Supply	31,384	31,384	27,406

Source data: Water Facilities Authority wholesale supply information: <https://www.ieua.org/use-water-wisely/emergency-drought-water-supply-data/> (“WFA Wholesale Supply Information”).

¹ Based on average historical direct deliveries for WY 2013-2015, prorated for year 2019.

² Combined MVWD/Chino Hills projected deliveries minus Chino Hills direct deliveries.

Chino Desalter Authority

Table 3 shows the Chino Desalter Authority wholesale supply information: <http://chinodesalter.org/DocumentCenter/View/91>.

Table 3: Chino Desalter Authority Water Supply Projections Per Aggregated Agency

	WY 2017	WY 2018	WY 2019
Chino, City of	5,000.0	5,000.0	5,000.0
Chino Hills, City of	4,200.0	4,200.0	4,200.0
Ontario City of	8,533.0	8,533.0	8,533.0
Total Potable Water Supply	17,733.0	17,733.0	17,733.0

Source data: Chino Desalter Authority wholesale supply information: <http://chinodesalter.org/DocumentCenter/View/91>.

San Antonio Water Company

Table 4 shows the San Antonio Water Company wholesale supply information: <http://sawaterco.com/sites/default/files/2016%20Three%20Year%20Projected%20Water%20Supply.pdf>

Table 4: San Antonio Water Company Water Supply Projections Per Aggregated Agency

	WY 2017	WY 2018	WY 2019
Ontario City of	545.1	545.1	545.1
MVWD	596.2	596.2	596.2
Upland, City of	7,840.2	7,840.2	7,840.2
Total Potable Water Supply	8,981.5	8,981.5	8,981.5

Source data: San Antonio Water Company wholesale supply information: <http://sawaterco.com/sites/default/files/2016%20Three%20Year%20Projected%20Water%20Supply.pdf>.

West End Consolidated Water Company

Table 5 shows the West End Consolidated Water Company (WECWC) wholesale supply information: <http://www.ci.upland.ca.us/uploads/files/WEST%20END.pdf>

Table 5: West End Consolidated Water Company Water Supply Projections Per Aggregated Agency

	WY 2017	WY 2018	WY 2019
Upland, City of	2,253	2,112	2,042
Total Potable Water Supply	2,253	2,112	2,042

Source data: West End Consolidated Water Company wholesale supply information: <http://www.ci.upland.ca.us/uploads/files/WEST%20END.pdf>

LOCAL SUPPLIES

Chino Basin Groundwater

Table 6 shows the Chino Basin Groundwater local supplies estimated to be available to the Aggregated Agencies. These supplies include projected allocated production rights, carryover rights, and recharged recycled water for indirect potable reuse, unless indicated otherwise, as described below.

In order to provide a conservative estimate of available Chino Basin groundwater supplies through 2019, the below supply estimate does not include the 237,291 AF of Chino Basin groundwater that currently is stored by the Aggregated Agencies and is available for safe production through existing groundwater production wells (Table 12).

**Table 6: Chino Basin Groundwater Water Supply Projections
Per Aggregated Agency**

	WY 2017	WY 2018	WY 2019
Chino, City of	16,213.491	15,478.351	15,478.351
Chino Hills, City of	5,987.444	7,043.308	6,864.608
MVWD	14,564.544	12,861.632	11,373.616
Ontario, City of	37,476.413	35,509.817	35,075.117
Upland, City of¹	3,400.000	3,400.000	3,400.000
Total Potable Water Supply	77,641.892	74,293.108	72,191.692

¹ Upland annual Chino Basin groundwater production capacity limited to 3,400 AF.

Chino Basin Groundwater Production Rights

Chino Basin groundwater production rights are allocated through the 1978 Chino Basin Judgment adjudication. The 1978 Judgment established an annual “safe yield” for the Chino Basin of 140,000 AF based on long-term hydrology. The safe yield was allocated in full during WY 2013-2015 and is not generally impacted by individual water year hydrology.

As parties to the Judgment, the Aggregated Agencies are allocated shares of annual safe yield, both individually and through ownership interests in other parties, through their membership in the Appropriative Pool. Two Aggregated Parties also own production rights through their membership in the Overlying Non-Agricultural Pool. Rights are allocated as follows:

- **Share of Safe Yield:** Share of safe yield assigned to parties either as a fixed percentage of operating safe yield for members of the Appropriative Pool or as a fixed percentage of safe yield for members of the Overlying Non-Agricultural Pool.
- **Net Agricultural Pool Reallocation:** Unproduced Overlying Agricultural Pool rights reallocated to members of the Appropriative Pool.

Additionally, Aggregated Agencies can carry over from the prior year unproduced production rights up to their share of safe yield. Finally, Aggregated Agencies may be allocated additional production rights per agreement, may receive transferred rights from another party, or transfer water from their storage accounts into their production rights.

Table 7 shows the Chino Basin base production rights estimated to be available to the Aggregated Agencies and their subsidiary entities in WY 2017-2019. Unless indicated otherwise, these production rights include each respective party's Share of Safe Yield and Net Agricultural Pool Reallocation, as defined above. Also included are estimated carryover rights for 2017 based on the same amount of carryover rights in 2016 (this is a conservative estimate, as current year production levels are much lower than the prior year, which will result in higher carryover of production rights than represented below). The production rights in Table 7 do not include additional production rights per agreement, transferred rights from other parties, or transferred rights from storage accounts (see below).

A party's Share of Safe Yield does not change from year to year. A party's Net Agricultural Pool Reallocation may change slightly but has been consistent across different hydrological years over the past decade. Table 8 shows this consistency, and provides a 10-year average value for use in estimating future groundwater production rights.

Table 7: Chino Basin Groundwater Production Rights Available Per Aggregated Agency or Subsidiary Party¹

	WY 2017	WY 2018²	WY 2019²
Chino, City of	16,213.491	11,812.064	11,812.064
Chino Hills, City of	4,884.044	3,976.401	3,976.401
Monte Vista Irrigation Company (MVIC)³	1,711.670	973.104	973.104
MVWD (Appropriative Pool)	12,250.574	6,986.563	6,986.563
MVWD (Non-Agricultural Pool)⁴	50.000	50.000	50.000
Ontario, City of (Appropriative Pool)	30,137.199	17,726.135	17,726.135
Ontario, City of (Non-Agricultural Pool)	4,655.614	2,327.807	2,327.807
Upland, City of⁵	3,400.000	3,400.000	3,400.000
Total Potable Water Supply	73,302.592	47,252.074	47,252.074

Source data: Chino Basin Watermaster 2015-16 Assessment Package (to be posted by June 30, 2016), <http://www.cbwm.org/docs/financdocs/All%20Assessment%20Packages, Report References 2D/2P/14D>.

¹ Includes each party's Share of Safe Yield, Net Agricultural Pool Reallocation (10-year average, see Table 8), and carryover rights from the prior year (2017 only).

² In 2018, Operating Safe Yield for the Appropriative Pool will be reduced by 5,000 AFY due to the expiration of a Judgment-approved overdraft (Restated Judgment, Exhibit "I," paragraph 3). This reduced allocation is reflected in the projected production rights for WY 2018 and WY 2019.

³ Production rights wholly owned and controlled by MVWD.

⁴ New production rights available to MVWD effective 2017.

⁵ Upland annual Chino Basin groundwater production capacity limited to 3,400 AFY.

**Table 8: Chino Basin Groundwater Net Agricultural Pool Reallocation
Per Aggregated Agency or Subsidiary Party: 2006-15**

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Avg.
Chino	7,982	7,304	8,292	8,056	8,114	8,220	7,757	8,004	8,368	9,361	8,146
Chino Hills	2,086	1,863	2,113	2,053	2,057	2,074	1,946	1,923	1,999	2,265	2,038
MVIC	352	335	380	369	370	373	350	346	337	369	358
MVWD	2,565	2,435	2,761	2,682	2,687	2,710	2,542	2,513	2,452	2,679	2,603
Ontario	7,061	6,789	7,727	7,507	7,520	7,584	7,114	7,073	7,374	8,146	7,390
Upland	1,484	1,413	1,602	1,557	1,559	1,573	1,475	1,458	1,423	1,555	1,514
WECWC¹	449	427	484	471	471	475	446	441	430	470	456
Total	21,978	20,567	23,359	22,694	22,779	23,009	20,155	21,757	22,383	24,846	22,353

Source data: Chino Basin Watermaster 2006-07 through 2014-15 Assessment Packages, <http://www.cbwm.org/docs/financdocs/All%20Assessment%20Packages>, Report Reference 2E (pages differ).

¹ Upland controls 91 percent of WECWC's rights in the Chino Basin.

Chino Basin Recycled Water Groundwater Recharge

Table 9 shows the Inland Empire Utilities Agency (IEUA) wholesale groundwater recharge supply information: <https://www.ieua.org/use-water-wisely/emergency-drought-water-supply-data/> ("IEUA Wholesale Supply Information"). In addition to groundwater production rights, IEUA's wholesale groundwater recharge is available for potable groundwater production by each Aggregated Agency.

Table 9: Chino Basin Recycled Water Groundwater Recharge

	WY 2017	WY 2018	WY 2019
Chino Hills, City of	1,103.4	1,147.8	969.1
MVWD	552.3	574.5	485.1
Ontario, City of²	2,683.6	2,791.5	2,356.8
Upland, City of	1,233.4	1,283.0	1,083.2
Total Potable Water Supply	5,572.7	5,796.8	4,894.2

Source data: Inland Empire Utilities Agency wholesale supply information: <https://www.ieua.org/use-water-wisely/emergency-drought-water-supply-data/> ("IEUA Wholesale Supply Information").

¹ IEUA allocates a portion of its wholesale groundwater recharge supply to Chino. However, by agreement, Chino's share will soon be reallocated to other agencies. To maintain a conservative groundwater supply estimate, Chino's allocation will not be considered a supply for WY 2017-2019.

² Ontario has an agreement with the City of Fontana to purchase up to 3,000 AFY of Fontana's recycled water groundwater recharge rights. This quantity is not included in the Table 9 calculation.

Chino Basin Carryover Water Supplies – WY 2018 and WY 2019

Worksheet 1 states, “Any carryover from one year is incorporated in the supply of the following year, as legally allowed.” The Aggregated Agencies are legally allowed under the Judgment to carry over unproduced groundwater rights into a subsequent year up to their respective annual Share of Safe Yield.

Tables 10 and 11 show each Aggregated Agency’s annual Share of Safe Yield, projected annual demands, projected WY 2017 and 2018 supplies, the amount of supplies in excess to projected demands, and the resulting carryover into 2018 and 2019 equal to the lesser value of either their annual Share of Safe Yield or their excess available supplies.

Tables 10 and 11: Chino Basin Carryover Water Supplies – WY 2018 and WY 2019

<u>WY 2018</u>	Annual Share of Safe Yield¹	Projected Annual Demands²	Projected WY 2017 Supplies	WY 2017 Excess Supplies	WY 2018 Carryover Supplies³
Chino, City of	3,666.287	15,733.20	25,309.5	9,576.296	3,666.287
Chino Hills, City of	1,919.107	15,860.50	19,412.5	3,552.029	1,919.107
MVWD	5,048.849	10,143.18	14,420.6	4,277.465	4,277.465
Ontario, City of	12,664.375	35,809.00	59,598.5	23,789.525	12,664.375
Upland, City of	3,453.679	21,324.00	21,528.9	204.911	204.911
	Total	98,869.88	140,270.1	41,400.226	22,732.145

<u>WY 2019</u>	Annual Share of Safe Yield¹	Projected Annual Demands²	Projected WY 2018 Supplies⁴	WY 2018 Excess Supplies	WY 2019 Carryover Supplies³
Chino, City of	3,666.287	15,733.20	24,396.4	8,663.156	3,666.287
Chino Hills, City of	1,919.107	15,860.50	19,981.1	4,120.598	1,919.107
MVWD	5,048.849	10,143.18	13,022.0	2,878.849	2,878.849
Ontario, City of	12,664.375	35,809.00	58,035.9	22,226.929	12,664.375
Upland, City of	3,453.679	21,324.00	21,249.7	-	-
	Total	98,869.88	136,685.1	37,815.243	21,128.618

Source data: Chino Basin Watermaster 2015-16 Assessment Package (to be posted by June 30, 2016), <http://www.cbwm.org/docs/financdocs/All%20Assessment%20Packages>, Report References 2D/14D.

¹ Includes ownership interest in subsidiary parties (see Tables 7 and 8). Reflects projected reduction in Appropriative Pool Operating Safe Yield for WY 2018 and WY 2019 (Table 7, footnote 2).

² Average of Calendar Year 2013 and 2014 total potable production, as reported by each Aggregated Agency.

³ The lesser value of either Annual Share of Safe Yield or Excess Supplies.

⁴ Includes carryover supplies identified in Table 10.

Chino Basin Stored Groundwater

Table 12 shows the 237,291 AF of Chino Basin Groundwater that currently is stored and available for safe production through Aggregated Agencies' existing groundwater production wells. **This quantity of additional available supply under projected ongoing drought conditions is not included in the Aggregated Agencies' total supply projections.**

**Table 12: Chino Basin Stored Groundwater Available
Per Aggregated Agency or Subsidiary Party**

	Local Excess Carry Over Storage	Local Supplemental Storage	Total
Chino, City of	71,092.746	9,126.949	80,219.695
Chino Hills, City of	6,903.859	10,125.340	17,029.199
MVIC¹	5,941.374	6,060.025	12,001.399
MVWD (Appropriative Pool)	8,179.884	8,143.939	16,323.823
Ontario, City of (Appropriative Pool)	39,662.802	36,871.145	76,533.947
Ontario, City of (Non-Agricultural Pool)	2,905.004	-	2,905.004
Upland, City of	16,279.095	11,717.643	27,996.738
WECWC²	3,863.411	417.969	4,281.381
Total	154,828.175	82,463.010	237,291.186

Source data: Chino Basin Watermaster 2015-16 Assessment Package (to be posted by June 30, 2016), <http://www.cbwm.org/docs/finandocs/All%20Assessment%20Packages>, Report References 3F/4P/15D.

¹ Stored groundwater wholly owned and controlled by MVWD.

² 91 percent of stored groundwater wholly owned and controlled by Upland.

Six Basins Groundwater

Table 13 shows the Six Basins Groundwater local supplies estimated to be available to the Aggregated Agencies.

Table 13: Six Basins Water Supply Projections Per Aggregated Agency

	WY 2017	WY 2018	WY 2019
Upland, City of¹	1,527	1,432	1,384
Total Potable Water Supply	1,527	1,432	1,384

¹ 9.54% of Six Basins safe yield, incorporating projected decline.

The City of Upland owns 9.54 percent share of Six Basins safe yield. Unlike the Chino Basin, Six Basins is a shallow groundwater basin, and its safe yield may be impacted by short-term hydrology. Under WY 2013-2015 conditions, Upland projects safe yield to decline from 16,000 AFY in WY 2017 to 15,000 AFY and 14,500 AFY in WY 2018 and WY 2019, respectively.

Cucamonga Basin Groundwater

Table 14 shows the Cucamonga Basin Groundwater local supplies estimated to be available to the Aggregated Agencies. These supplies are based on the WECWC wholesale supply information: <http://www.ci.upland.ca.us/uploads/files/WEST%20END.pdf>.

**Table 14: Cucamonga Basin Groundwater Water Supply Projections
Per Aggregated Agency**

	WY 2017	WY 2018	WY 2019
Upland, City of	750	750	750
Total Potable Water Supply	750	750	750

*Source data: West End Consolidated Water Company wholesale supply information:
<http://www.ci.upland.ca.us/uploads/files/WEST%20END.pdf>*

The City of Upland produces its share of WECWC rights in the Cucamonga Basin through its own groundwater wells. Therefore, it is listed herein as a local groundwater supply.

MVWD Wholesale Deliveries to Chino Hills

MVWD provides wholesale water service to Chino Hills. Under the Emergency Regulations, MVWD is not required to report as a wholesale agency, so its supply to Chino Hills is included as “Self-Supplied.” This supply is not included in Table 1 as it has no impact on the total aggregate water supply projections.

Table 15: MVWD Wholesale Sales to Chino Hills

	WY 2017	WY 2018	WY 2019
MVWD Wholesale Deliveries to Chino Hills	7,725	7,238	3,694
Total Potable Water Supply	7,725	7,238	3,694

Source data: MVWD deliveries to Chino Hills, WY 2013-2015.

cc: City of Chino – Gilbert Aldaco, (909) 464-8368, galdaco@cityofchino.org
City of Chino Hills – Mark Wiley, (909) 364-2854, mwiley@chinohills.org
City of Ontario – Ryan Shaw, (909) 395-2679, rshaw@ontarioca.gov
City of Upland – Rosemary Hoerning, (909) 291-2931, rhoerning@ci.upland.ca.us
Monte Vista Water District – Justin Scott-Coe, (909) 267-2116, jscottcoe@mvwd.org
Water Facilities Authority – Terry Catlin, (909) 981-9454, tlcatlin@wfajpa.org