



Memorandum

TO: HONORABLE MAYOR
AND CITY COUNCIL

FROM: John Stufflebean

SUBJECT: SEE BELOW

DATE: 03-07-11

Approved

Date

3/15/11

COUNCIL DISTRICT: 4

SUBJECT: APPROVAL OF DROUGHT IMPLEMENTATION PLAN FOR SAN FRANCISCO PUBLIC UTILITIES COMMISSION WATER SUPPLY SHORTAGES

RECOMMENDATION

Adopt a resolution approving the Tier 2 Drought Implementation Plan (Tier 2 Plan) for allocating water among wholesale water customers of San Francisco Public Utilities Commission during water supply shortages of up to 20%.

OUTCOME

Approval of the Plan by all wholesale customers of the San Francisco Public Utilities Commission (SFPUC), including San José, will enable the Tier 2 Plan to be used to allocate available water in the event of a water supply shortage.

BACKGROUND

On June 16, 2009, Council adopted resolutions approving the Water Supply Agreement (WSA) and Water Sales Contract as a Wholesale Customer of SFPUC, which provided for continued delivery of Hetch Hetchy water supply to the City's North San José/Alviso service area. Included within the WSA is a Water Shortage Allocation Plan to allocate water between Wholesale Customers and San Francisco's retail customers during system-wide shortages of 20% or less (Tier 1 Plan). The Tier 1 Plan replaced the prior Tier 1 Interim Water Shortage Allocation Plan, adopted in 2000 and expired in June 2009, which allocated water between San Francisco and its wholesale customers for shortages up to 20%. The provisions of the Tier 1 Plan allow wholesale customers to "bank" drought allocations and to voluntarily transfer them to each other and San Francisco. The Tier 1 plan also presents an updated schedule for actions preceding and during a drought.

Section 3.11.C of the WSA authorizes the Wholesale Customers to adopt a methodology for allocating the water which is collectively available to the 26 Wholesale Customers among each individual Wholesale Customer (i.e., the Tier 2 Plan). A prior Tier 2 Plan was adopted in 2000 and expired in June 2009. The WSA commits the SFPUC to honor allocations of water unanimously agreed to by all Wholesale Customers or, if unanimous agreement cannot be achieved, water allocations that have been adopted by the Board of Directors of the Bay Area Water Supply and Conservation Agency (BAWSCA). The WSA also provides that the SFPUC can allocate water supplies as necessary during a water shortage emergency if no agreed upon plan for water allocation has been adopted by the 26 Wholesale Customers or the BAWSCA Board of Directors.

The term of the recommended new Tier 2 Plan (see Attachment A) is through December 31, 2018. The recommended Tier 2 Plan allocates the collective Wholesale Customer share among each of the 26 wholesale customers through 2018 to coincide with San Francisco's deferral of decisions about additional supply until at least 2018. The Tier 1 and Tier 2 Drought Allocation Plans apply only during times of water shortages caused by drought.

In order to implement the Tier 2 Plan, the Plan must be adopted by all 26 Wholesale Customers. If all Wholesale Customers do not adopt the Tier 2 Plan, the water allocations may be adopted by the Board of Directors of BAWSCA. If no agreed upon plan has been adopted by all Wholesale Customers or the BAWSCA Board of Directors, water shortage allocations to Wholesale Customers may be made by SFPUC.

ANALYSIS

Commencing in October 2009, Appointed Water Management Representatives of each of the Wholesale Customers have been meeting to develop a set of principles to serve as guidelines for an equitable allocation methodology, as well as formulas and procedures, to implement those principles. These principles include:

- Providing certainty of drought allocations with consistent and pre-determined rules for calculation;
- Providing sufficient amounts of water for basic needs of customers;
- Creating an incentive for water conservation at all times and the development and management of alternative water supplies;
- Avoiding preventable, adverse economic impacts;
- Avoiding reallocation of water supply assets and investments among agencies without mutual consent and compensation; and
- Recognizing inherent differences in land use and climate.

The discussions, and supporting technical analyses, were conducted with the assistance of BAWSCA staff.

The Tier 2 Plan includes an allocation formula that will determine how the available water from the SFPUC will be allocated among the individual Wholesale Customers in system-wide shortages up to 20%. The allocation formula is based on an individual agency's Individual Supply Guarantee and recent seasonal water usage. Additionally, there are provisions for minimum and maximum percent cutbacks, and adjustments made to guarantee sufficient supply to meet health and safety needs for East Palo Alto. Because San José and Santa Clara are considered temporary, interruptible customers under the WSA, variations in formula calculations are also made to ensure that the cutback to both agencies is at least as much as the highest percentage reduction among any of the permanent Wholesale Customers.

The Tier 2 Plan includes a sample calculation of the allocation formula, using monthly production values for Fiscal Year (FY) 2008-2009 as representative of a 3-year average for illustration purposes. This sample calculation results in a water supply cutback to both San José and Santa Clara of 46.84% each in the event of a 20% supply shortage. The large cutback can be attributed to the area's high seasonal use, which is higher for San José because of the large campus industrial areas, and to the requirement that the cutback for San José and Santa Clara be as high as the highest percentage reduction to any of the permanent Wholesale Customers. To compare, the cutback to San José using the methodology of the recently expired Tier 2 Plan based on FY 03-04 purchases was 40.04%.

The Tier 2 Plan was developed collaboratively by Appointed Water Management Representatives of each of the Wholesale Customers. On August 25, 2010, these Management Representatives unanimously agreed to recommend adoption of the Tier 2 Plan to each of their respective governing bodies. Agency staff of all the Wholesale Customers have committed to recommend that the Tier 2 Plan be formally adopted by the governing body of their respective agencies by the end of March, 2011, which would ensure that the Tier 2 Plan is adopted in time for each agency to include the Plan into their respective 2010 Urban Water Management Plan. The 2010 Urban Water Management Plan must be approved by governing bodies by June 30, 2011, and will be brought to Council in late Spring.

Implications to San José Municipal Water System (Muni Water)

Muni Water currently has a contractual allotment from San Francisco of 4.5 million gallons of water per day. If the Tier 2 Plan were to be implemented due to drought, under the example in Attachment A based on FY 08-09, Muni Water would receive on average 2.37 million gallons per day.

In the event that the Tier 2 Plan is implemented, water demand in the North San José/Alviso service area will be met by augmenting water supplies with groundwater which is managed by the Santa Clara Valley Water District. In the event that groundwater cannot fully supplement the available SFPUC supply in order to meet demands, the City of San José will implement, with City Council's approval, the water shortage measures in accordance with Municipal Code

Chapter 15.10. During a water shortage, Environmental Services Department will work closely with the Santa Clara Valley Water District, SFPUC, and other retail agencies to implement any stages of action to reduce the demand for water.

EVALUATION AND FOLLOW UP

Staff will coordinate with BAWSCA and San Francisco regarding Wholesale Customer agency adoption of the Tier 2 Plan. If the SFPUC supply is decreased due to a water shortage and a demand reduction is required then staff will recommend that Council declare a drought, which will enable staff to implement and enforce the water shortage measures included in Municipal Code Chapter 15.10.

POLICY ALTERNATIVES

Alternative #1: Not adopt the resolution approving the Tier 2 Plan.

Pros: None

Cons: If all Wholesale Customers do not adopt the Tier 2 Plan, the water allocations may be adopted by the Board of Directors of BAWSCA. If no agreed upon plan has been adopted by all Wholesale Customers or the BAWSCA Board of Directors, water shortage allocations to Wholesale Customers may be made by SFPUC.

Reasons for not recommending: The current Tier 2 Plan is relatively consistent with the methodology of the recently expired Tier 2 Plan, which was previously approved by Council. A 46% reduction of SFPUC supply will not necessarily lead to an equivalent demand reduction requirement, as groundwater can be used to supplement the SFPUC water supply.

PUBLIC OUTREACH/INTEREST

- Criteria 1:** Requires Council action on the use of public funds equal to \$1 million or greater. **(Required: Website Posting)**
- Criteria 2:** Adoption of a new or revised policy that may have implications for public health, safety, quality of life, or financial/economic vitality of the City. **(Required: E-mail and Website Posting)**
- Criteria 3:** Consideration of proposed changes to service delivery, programs, staffing that may have impacts to community services and have been identified by staff, Council or a Community group that requires special outreach. **(Required: E-mail, Website Posting, Community Meetings, Notice in appropriate newspapers)**

This item does not meet any of the above criteria.

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COORDINATION

This item has been coordinated with the City Attorney's Office.

CEQA

Resolution 74998, File No. PP11-010

/s/
JOHN STUFFLEBEAN
Director, Environmental Services

For questions please contact Mansour Nasser, Deputy Director, at (408) 277-4218

Attachment A

ATTACHMENT A

TIER 2 DROUGHT IMPLEMENTATION PLAN AMONG WHOLESALE CUSTOMERS

This Tier 2 Drought Implementation (Plan) describes the method for allocating the water made available by the San Francisco Public Utilities Commission (SFPUC) among the Wholesale Customers during shortages caused by drought. This Plan is adopted pursuant to Section 3.11.C of the July 2009 Water Supply Agreement between the City and County of San Francisco and the Wholesale Customers (Agreement).

SECTION 1. APPLICABILITY AND INTEGRATION

Section 1.1 Applicability. This Plan applies when, and only when, the SFPUC determines that a system-wide water shortage of 20 percent or less exists, as set forth in a declaration of water shortage emergency adopted by the SFPUC pursuant to California Water Code Sections 350 *et seq.* This Plan applies only to water acquired and distributed by the SFPUC to the Wholesale Customers and has no effect on water obtained by a Wholesale Customer from any source other than the SFPUC.

Section 1.2 Integration with Tier 1 Water Shortage Allocation Plan. The Agreement contains, in Attachment H, a Water Shortage Allocation Plan which, among other things, (a) provides for the allocation by the SFPUC of water between Direct City Water Users (e.g., retail water customers within the City and County of San Francisco) and the Wholesale Customers collectively during system-wide water shortages of 20 percent or less, (b) contemplates the adoption by the Wholesale Customers of this Plan for allocation of the water made available to Wholesale Customers collectively among the 26 individual Wholesale Customers, (c) commits the SFPUC to implement this Plan, and (d) provides for the transfer of both banked water and shortage allocations between and among the Wholesale Customers and commits the SFPUC to implement such transfers. That plan is referred to as the Tier 1 Plan.

The Tier 1 Plan also provides the methodology for determining the Overall Average Wholesale Customer Reduction, expressed as a percentage cutback from prior year's normal SFPUC purchases, and Overall Wholesale Customer Allocation, in million gallons per day, both of which are used in determining the Final Allocation Factor for each Wholesale Customer. The Overall Average Wholesale Customer Reduction is determined by dividing the volume of water available to the Wholesale Customers (the Overall Wholesale Customer Allocation), shown as a share of available water in Section 2 of the Tier 1 Plan, by the prior year's normal total Wholesale Customers SFPUC purchases and subtracting that value from one.

This Plan is referred to in the Agreement as the Tier 2 Plan. It is intended to be integrated with the Tier 1 Plan described in the preceding paragraph. Terms used in this Plan are intended to have the same meaning as such terms have in the Tier 1 Plan.

SECTION 2. ALLOCATION OF WATER AMONG WHOLESALE CUSTOMERS

Section 2.1 Annual Allocations Among the Wholesale Customers. The annual water supply allocated by the SFPUC to the Wholesale Customers collectively during system-wide shortages of 20 percent or less shall be apportioned among them based on the methodology described in this Section.

Section 2.2 Methodology for Allocating Water Among Wholesale Customers. The water made available to the Wholesale Customers collectively will be allocated among them in proportion to each Wholesale Customer's Allocation Factor, adjusted as described in the following subsections below. The Wholesale Customer Allocation Factors will only be calculated at the onset of a drought and will remain the same until such time as the SFPUC declares the shortage condition over. The Wholesale Customer Allocation Factors will be recalculated during subsequent shortage periods for use during those specific periods.

Section 2.2.1 Step One: Determination of Base/Seasonal Purchase Cutback For Each Wholesale Customer. The first step requires calculating the Wholesale Customer's Base/Seasonal Purchase Cutback. This calculation has seven parts. An example of Steps 1b-1f is presented in Table 2. Step 1g is shown in columns 3-6 in Table 3. For steps 1b-1g, the calculation uses average monthly production values for the three years preceding the drought for all potable supply sources, expressed as a monthly value in hundred cubic feet:

- Step 1a: Each agency's total annual purchases from the SFPUC will be compared to its Individual Supply Guarantee (ISG), with any annual purchases above its ISG subtracted from that agency's total annual SFPUC purchases by subtracting the amount on a monthly basis in proportion to the agency's monthly SFPUC purchase pattern,
- Step 1b: Calculate Average Monthly and Total Production for the three fiscal years immediately preceding the drought, excluding years during which shortage allocations were in effect, based on monthly production data from the SFPUC and Wholesale Customers,
- Step 1c: Calculate Base Component which is equal to the Average Monthly Production during the base months of December, January, February and March, multiplied by 12,
- Step 1d: Calculate Seasonal Component as the difference between Total Production and Base Component,
- Step 1e: Calculate an agency's Base/Seasonal Allocation, expressed in hundred cubic feet, by multiplying the Base Component by one minus the Base Reduction Percentage, or 90%, and the Seasonal Component by the percentage needed (Seasonal Reduction Percentage) to achieve the required Overall Average Wholesale Customer Reduction, which is expressed as a percentage,

- Step 1f: Calculate the Base/Seasonal Allocation Cutback Percentage for each agency by dividing its Base/Seasonal Allocation by the agency's Total Production, and
- Step 1g: Calculate the Base/Seasonal Purchase Cutback Percentage by multiplying the Base/Seasonal Allocation Cutback percentage times the lesser of: (a) the immediately preceding SFPUC purchases or (b) ISG, adjusting the Seasonal percentage above until the total reduction equals the Overall Average Wholesale Customer Reduction.

Additionally, adjustments to the Base Component for Stanford University will be made to remove that two week time period that the University is completely closed during the winter break per policy set by the University President as long as that policy remains in place. This adjustment will be removed at such time as the seasonal closure policy is terminated by Stanford University.

Section 2.2.2 Step Two: First Adjustment for San Jose and Santa Clara. The resulting Base/Seasonal Purchase Cutback Percentage in Section 2.2.1 for San Jose and Santa Clara will be compared to the highest Base/Seasonal Purchase Cutback percentage of the other Wholesale Customers. If both San Jose's and Santa Clara's percentage reductions are larger than the highest percentage reduction among any other Wholesale Customers, the Base/Seasonal Purchase Cutback percentage established under Section 2.2.1 will remain unchanged. If either San Jose's percentage cutback or Santa Clara's percentage cutback, or both, is smaller than the highest Base/Seasonal Purchase Cutback percentage of other Wholesale Customers, the Base/Seasonal Allocation (in mgd) of San Jose or Santa Clara, or both, will be reduced so that the percentage cutback of each is no smaller than that of the Wholesale Customers' otherwise highest percentage cutback. The amount of shortage allocation (in mgd) removed from San Jose and/or Santa Clara will be reallocated among the remaining Wholesale Customers in proportion to the Base/Seasonal Allocation of each.

Section 2.2.3 Step Three: Determination of Weighted Purchase Cutback For Each Wholesale Customer. Each agency's weighted allocation is calculated by multiplying its Adjusted Base/Seasonal Allocation in Section 2.2.2 by 66.66% and its Fixed Component by 33.33%. The Fixed Component is (i) the Wholesale Customer's ISG provided for in the Agreement, or (ii) in the case of Hayward, 25.11 mgd, or (iii) in the case of San Jose and Santa Clara, consistent with the limit on purchases from SFPUC set forth in Section 4.05 of the Agreement, e. g., 4.5 mgd each. The amount of the Fixed Component for each Wholesale Customer is shown on Table 1.

Section 2.2.4 Step Four: Second Adjustment for San Jose and Santa Clara. The resulting Weighted Allocations for San Jose and Santa Clara will be compared to the highest Weighted Purchase Cutback, shown as a percentage, of the other Wholesale Customers. If both San Jose's and Santa Clara's percentage cutback is larger than the highest percentage cutback among other Wholesale Customers, the Weighted Purchase Cutbacks established under Section 2.2.3 will remain unchanged. If either San Jose's

percentage cutback or Santa Clara's percentage cutback, or both, is smaller than the highest percentage cutback of any other Wholesale Customers, the Weighted Shortage Allocation (in mgd) of San Jose or Santa Clara, or both, will be reduced so that the percentage reduction of each is no smaller than that of the Wholesale Customers' otherwise highest Weighted Percentage Cutback. The amount of allocation (in mgd) removed from San Jose and/or Santa Clara will be reallocated among the remaining Wholesale Customers in proportion to the Weighted Shortage Allocation of each.

Section 2.2.5 Step Five: Adjustment for Minimum and Maximum Cutbacks. Using the Adjusted Weighted Purchase Cutbacks, either a 10% minimum cutback or maximum cutback, as defined below, is applied to any agency whose Adjusted Weighted Purchase Cutback falls outside this range:

- A minimum 10% cutback is applied to the individual agency Adjusted Weighted Allocation, with the reapportioned water being placed in the hardship bank for allocation to East Palo Alto.
- A maximum cutback of the average cutback plus 20% (e.g. 15% average cutback results in a maximum cutback of $15\% + 20\% = 35\%$) is applied to the individual agency Adjusted Weighted Allocation, with the water necessary to meet that level being subtracted in proportion to each Wholesale Customer's Adjusted Weighted Allocation from all remaining agencies, except those at agencies subject to the minimum cutback above.

The result is the Adjusted Minimum/Maximum Purchase Cutback, expressed as a percentage.

Section 2.2.6 Step Six: Adjustment to Provide Sufficient Supply for East Palo Alto.

In order to provide for sufficient water supply for water customers served by the City of East Palo Alto (EPA), the maximum Final Purchase Cutback applied at any given time to EPA will be equal to 50% of the Overall Average Wholesale Customer Reduction. The water needed to accommodate the guaranteed maximum cutback to EPA will be provided in two ways:

- First, water from the hardship bank provided by the 10% minimum cutback will be first added to the EPA Adjusted Weighted Purchase Allocation, and
- Second, the balance of water needed for EPA will be deducted on a prorated basis from those agencies with a pre-drought residential per capita water use greater than 55 gallons per capita per day (as documented in the most recent BAWSCA Annual Survey) in proportion to each agency's Min./Max. Adjusted Allocation and who are not subject to the minimum and maximum reductions already applied per Section 2.2.5

The result is the Allocation with EPA Adjustment, expressed as an mgd.

Section 2.2.7 Step Seven: Determination of Final Allocation Factor. Each Wholesale Customer's Final Allocation Factor is the fraction expressed as a percentage, the numerator of which is the particular Wholesale Customer's "Final Allocation with EPA Adjustment" (in mgd) as calculated in Steps One through Six and the denominator of which is the Overall Wholesale Customer Allocation (in mgd), a number provided by the SFPUC during the drought period as determined by the SFPUC in the Tier 1 Plan.

Section 2.2.8 Example Calculation. Table 2 presents a sample of the calculations involved in Steps 1b-1f. Table 3 presents a sample of the calculations involved in Step 1g and Steps Two through Seven, using the values from Tables 1 and 2 and recent water use data for the other values. Tables 2 and 3 are presented for illustrative purposes only and do not supersede the foregoing provisions of this Section 2.2. In the event of any inconsistency between this Section 2.2 and Tables 2 and 3, the text of this section will govern.

Section 2.3 Calculation of Individual Wholesale Customer Allocation Factors; Directions to SFPUC. The Tier 1 Plan contemplates that in any year in which the methodology described above must be applied, the Bay Area Water Supply and Conversation Agency (BAWSCA) will calculate each Wholesale Customer's individual percentage share of the amount of water made available to the Wholesale Customers collectively, following the methodology described above and defined above as Wholesale Customer Allocation Factors. The Tier 1 Plan requires SFPUC to allocate water to each Wholesale Customer in accordance with calculations delivered to it by BAWSCA.

Each Wholesale Customer authorizes BAWSCA to perform the calculations required, using water sales data furnished to it by the SFPUC, and to deliver to SFPUC a list of individual Wholesale Customer Allocation Factors so calculated as contemplated by the Tier 1 Plan. Neither BAWSCA nor any officer or employee of BAWSCA shall be liable to any Wholesale Customer for any such calculations made in good faith, even if incorrect.

SECTION 3. GENERAL PROVISIONS

Section 3.1 No Third-Party Beneficiaries. This Plan is for the sole benefit of the Wholesale Customers and shall not be construed as granting rights to any person other than another Wholesale Customer.

Section 3.2 Governing Law. This Plan is made under and shall be governed by the laws of the State of California.

Section 3.3 Effect on Water Supply Agreement. This Plan describes the method for allocating water from the SFPUC among the Wholesale Customers during system-wide water shortages of 20 percent or less declared by the SFPUC. The provisions of this Plan, and the Tier 1 Plan contained in Attachment H to the Agreement with which it is integrated, are intended to implement Section 3.11 of the Agreement. The Plans do not

affect, change or modify any other section, term or condition of the Agreement or of the individual Water Sales Contracts between each Wholesale Customer and San Francisco.

Section 3.4 Amendment. This Plan may be amended only by the written agreement of all Wholesale Customers.

Section 3.5 Termination. This Plan shall expire on December 31, 2018. It may be terminated prior to that date only by the written agreement of all Wholesale Customers.

TABLE 1 - FIXED COMPONENT FOR USE IN TIER 2 ALLOCATION CALCULATION

<u>Wholesale Customer</u>	<u>Fixed Component</u>
ACWD	13.76
Brisbane/GVMID	0.98
Burlingame	5.23
Coastside	2.18
CWS Total	35.68
Daly City	4.29
East Palo Alto	1.96
Estero	5.90
Hayward	25.11
Hillsborough	4.09
Menlo Park	4.46
Mid Pen WD	3.89
Millbrae	3.15
Milpitas	9.23
Mountain View	13.46
North Coast	3.84
Palo Alto	17.07
Purissima Hills	1.62
Redwood City	10.93
San Bruno	3.25
San José	4.50
Santa Clara	4.50
Stanford	3.03
Sunnyvale	12.58
Westborough	1.32

TABLE 2 - BASE/SEASONAL CUTBACK CALCULATION FOR TIER 2 DROUGHT IMPLEMENTATION PLAN (DRIP) (Steps 1b-1f of DRIP Calculation)

**BASE/SEASONAL CUTBACK CALCULATION
3 YEAR ROLLING AVERAGE OF TOTAL PRODUCTION**
All Units In Hundred Cubic Feet (HCF) Except Where Otherwise Notes

Base Percentage Reduction =	10.00%
Seasonal Percentage Reduction =	65.00%
Number of Fiscal Years in Average =	1.0

Three-year averages by source

	July	August	September	October	November	December	January	February	March	April	May	June	Total
SFPUC Net	9,492,234	8,865,793	8,847,818	7,624,081	5,785,671	5,320,333	4,925,451	4,167,812	4,333,119	5,780,803	7,102,580	7,427,737	79,673,432
Groundwater	1,969,068	2,014,327	1,682,556	1,449,343	1,179,106	1,375,812	1,099,608	983,756	1,084,734	1,389,622	1,662,344	1,647,268	17,537,545
Other	2,744,449	2,669,344	2,537,606	2,418,221	1,644,468	874,833	1,391,142	1,320,782	1,606,115	2,004,769	2,517,062	2,675,045	24,403,836
Subtotal	14,205,751	13,549,464	13,067,981	11,491,646	8,609,245	7,570,977	7,416,201	6,472,350	7,023,968	9,175,195	11,281,986	11,750,050	121,614,813
SFPUC Excess	(36,886)	(33,367)	(35,125)	(28,015)	(18,394)	(11,600)	(10,843)	(11,088)	(8,721)	(16,898)	(25,409)	(27,984)	(264,330)
Net	14,168,865	13,516,097	13,032,856	11,463,631	8,590,851	7,559,378	7,405,358	6,461,262	7,015,246	9,158,297	11,256,577	11,722,066	121,350,483

	Three-year rolling monthly production average by Wholesale Customer with SFPUC purchases limited to ISG on a yearly basis												Total Production	Base Component	Seasonal Component	Base/Seasonal Allocation	Base/Seasonal Cutback % (To Tab 2, Col 4)
	July	August	September	October	November	December	January	February	March	April	May	June					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)					
ACWD	2,598,324	2,521,779	2,356,517	2,088,213	1,483,726	1,389,921	1,331,023	1,102,420	1,303,110	1,683,608	2,074,964	2,226,985	22,160,590	15,379,420	6,781,170	16,214,887	26.83%
Brisbane/GVMID	35,597	36,251	34,821	31,630	25,808	17,907	20,064	11,403	17,339	16,961	25,289	28,775	301,845	200,139	101,706	215,722	28.53%
Burlingame	237,426	236,780	214,046	203,879	183,921	127,936	130,576	132,703	110,995	141,580	164,657	202,117	2,086,616	1,506,630	579,986	1,558,962	25.29%
Coastside	118,409	120,160	102,807	103,917	69,291	70,976	72,928	57,246	48,396	79,714	90,816	102,112	1,036,773	748,636	288,136	774,620	25.29%
CWS	2,139,140	2,093,378	1,954,875	1,694,788	1,100,278	996,843	1,007,651	846,173	1,026,988	1,408,292	1,697,865	1,805,399	17,771,671	11,632,966	6,138,705	12,618,216	29.00%
Daly City	324,019	340,112	305,711	309,038	318,039	278,252	269,650	234,447	294,443	250,006	261,671	250,006	3,230,352	215,715	2,982,817	13.44%	
East Palo Alto	100,845	98,204	99,301	92,276	74,634	56,388	70,278	60,063	54,918	67,468	89,886	71,174	935,435	724,941	210,494	726,120	22.38%
Esterio	304,604	294,448	299,906	248,800	231,729	136,155	133,622	145,923	92,203	162,122	208,383	252,034	2,509,929	1,523,709	986,220	1,716,515	31.61%
Hayward	983,955	851,762	917,490	828,612	740,510	843,184	700,858	519,840	611,449	572,724	849,545	836,615	9,256,544	8,025,993	1,230,551	7,654,087	17.31%
Hillsborough	250,428	239,293	339,873	187,852	149,425	70,505	57,857	68,263	46,840	77,287	127,533	179,470	1,794,626	730,395	1,064,231	1,029,836	42.62%
Menlo Park	205,878	197,865	195,391	171,845	118,504	78,597	80,370	62,369	70,962	108,772	169,161	151,171	1,630,885	936,894	693,991	1,086,101	33.40%
Mid Pen WD	174,821	168,580	176,218	154,115	126,396	83,564	95,477	90,390	83,076	124,092	124,306	141,794	1,542,829	1,057,521	485,308	1,121,627	27.30%
Milbrae	132,776	130,963	122,123	112,057	102,206	73,644	74,678	70,473	68,880	78,212	89,547	112,449	1,168,008	863,025	304,983	883,467	24.36%
Milpitas	560,066	511,819	499,068	456,297	339,619	346,470	345,211	313,013	348,809	390,135	458,282	487,604	5,056,393	4,060,509	995,884	4,003,018	20.83%
Mountain View	696,607	601,089	571,691	507,741	332,245	317,851	306,054	307,473	316,164	466,737	552,409	584,813	5,560,874	3,742,626	1,818,248	4,004,750	27.98%
North Coast	175,214	142,592	149,874	131,114	136,038	107,334	115,408	100,129	70,449	138,934	123,139	96,305	1,486,530	1,179,960	306,570	1,169,264	21.34%
Palo Alto	710,992	687,471	674,410	599,590	409,114	261,926	291,888	274,558	221,426	413,454	602,470	529,719	5,677,018	3,149,394	2,527,624	3,719,123	34.49%
Purissima Hills	116,098	102,177	112,087	86,968	57,418	30,674	27,294	31,514	18,976	46,701	77,214	85,712	792,832	325,373	467,459	456,447	42.43%
Redwood City	593,464	576,449	627,527	521,009	427,638	275,051	298,520	280,891	257,786	377,386	415,099	397,489	5,048,309	3,336,744	1,711,565	3,602,117	28.65%
San Bruno	177,048	195,589	172,534	162,980	128,108	140,430	140,637	109,929	143,808	160,884	162,280	183,615	1,877,842	1,604,412	273,430	1,539,671	18.01%
Stanford	127,534	102,493	119,688	94,886	78,913	65,097	99,295	69,251	59,292	81,719	90,169	118,440	1,106,776	878,805	227,971	870,714	21.33%
Sunnyvale	1,150,141	1,043,040	991,516	862,693	653,331	669,034	578,608	502,957	578,103	757,643	906,030	960,437	9,653,533	6,986,106	2,667,427	7,221,095	25.20%
Westborough	39,266	51,302	44,708	44,615	38,399	23,623	51,170	33,520	35,133	29,513	31,342	41,224	463,815	430,338	33,477	399,021	13.97%
	11,952,651	11,343,597	11,082,182	9,694,915	7,325,290	6,461,362	6,299,117	5,444,948	5,879,536	7,644,625	9,392,057	9,845,460	102,365,739	72,254,888	30,110,851	75,568,197	26.18%
San Jose	1,166,894	1,084,954	1,005,465	846,564	569,616	484,680	495,721	417,476	510,636	726,102	910,264	999,166	9,217,538	5,725,539	3,491,999	6,375,185	30.84%
Santa Clara	1,049,320	1,087,546	945,209	922,152	695,945	613,336	610,520	598,838	625,074	787,570	954,256	877,440	9,767,206	7,343,304	2,423,902	7,457,339	23.65%
Net	14,168,865	13,516,097	13,032,856	11,463,631	8,590,851	7,559,378	7,405,358	6,461,262	7,015,246	9,158,297	11,256,577	11,722,066	121,350,483	157,578,619	66,137,603	89,400,721	26.33%

Column Notes

- (1) thru (12) Calculated as the net potable water supply production for all sources, three-year rolling average, by month, and by suburban purchaser, with ISG limits imposed on Annual SFPUC Purchases from Step 1a (Step 1b)
- (13) Sum of columns (1) thru (12)
- (14) Base Component: Calculated as the winter average usage (Cols 6 through 9 - December through March), multiplied by 12 (Step 1c)
- (15) Seasonal Component: Calculated as the total production (Col 13) minus the base component (Col 14) (Step 1d)
- (16) Base/Seasonal Allocations: Calculated as the Base Component minus the Base Reduction plus the Seasonal Component minus the Seasonal Reduction (Step 1e)
- (17) Base/Seasonal Cutback: Calculated as the ratio of an agency's Base/Seasonal Allocation to its Total Production, minus 1, expressed as a percent (Step 1f)

TABLE 3 - CALCULATION OF FINAL PURCHASE CUTBACK AND ALLOCATION FACTOR FOR TIER 2 DROUGHT IMPLEMENTATION PLAN (DRIP)

Overall Average Wholesale
 Customer Reduction: 26.84%
 Reduction from purchases in: FY 08-09

Base = 10.00%
 Seasonal = 65.00%

Weighted average for Column 10:
 0.33 =ISG component (Col. 2)
 0.67 =Base/Seas component (Col. 9)

Agency Information	Initial Allocations Based on Weighted Fixed (ISG) and Variable (Base/Seasonal) Components Adjusting for SJ/SC																
	Base/Seasonal Allocations						1st SJ/SC Adjustment		Weighted Allocation				2nd SJ/SC Adjustment				
	FY 08-09		Base/		Base/		Subtotal		Weighted		Weighted		Subtotal		Adjusted		
	SFPUC	Fixed	Purchase or	Seasonal	Seasonal	Seasonal	Allocation	Adjusted	ISG-Base/	Allocation	Shortage	Purchase	Allocation	Shortage	Adjusted	Adjusted	
Purchases	Comp.	ISG	Cutback	Allocation	Cutback	Factors	Allocation	Seasonal Avg	Factors	Allocation	Cutback	Factors	Allocation	Cutback			
ACWD	11.24	13.76	11.24	-26.83%	8.22	-26.83%	7.19%	8.35	10.14	7.00%	8.37	-25.55%	7.26%	8.43	-24.99%		
Brisbane/GVMID	0.62	0.98	0.62	-28.53%	0.44	-28.53%	0.39%	0.45	0.62	0.43%	0.52	-16.72%	0.45%	0.52	-16.10%		
Burlingame	4.28	5.23	4.28	-25.29%	3.20	-25.29%	2.79%	3.25	3.90	2.70%	3.22	-24.70%	2.80%	3.24	-24.13%		
Coastside	1.97	2.18	1.97	-25.29%	1.47	-25.29%	1.28%	1.49	1.72	1.19%	1.42	-27.83%	1.23%	1.43	-27.29%		
CWS Total	35.84	35.68	35.68	-29.00%	25.33	-29.31%	22.15%	25.73	29.01	20.05%	23.95	-33.17%	20.79%	24.13	-32.67%		
Daly City	4.10	4.29	4.10	-13.44%	3.55	-13.44%	3.11%	3.61	3.83	2.65%	3.16	-22.90%	2.75%	3.19	-22.32%		
East Palo Alto	1.92	1.96	1.92	-22.38%	1.49	-22.38%	1.30%	1.51	1.66	1.15%	1.37	-28.55%	1.19%	1.38	-28.02%		
Estero	5.14	5.90	5.14	-31.61%	3.52	-31.61%	3.08%	3.57	4.34	3.00%	3.58	-30.34%	3.11%	3.61	-29.82%		
Hayward	18.97	25.11	18.97	-17.31%	15.69	-17.31%	13.72%	15.93	18.96	13.10%	15.65	-17.50%	13.59%	15.77	-16.88%		
Hillsborough	3.68	4.09	3.68	-42.62%	2.11	-42.62%	1.85%	2.14	2.79	1.93%	2.30	-37.47%	2.00%	2.32	-37.01%		
Menlo Park	3.34	4.46	3.34	-33.40%	2.23	-33.40%	1.95%	2.26	2.99	2.06%	2.47	-26.25%	2.14%	2.48	-25.69%		
Mid Pen WD	3.16	3.89	3.16	-27.30%	2.30	-27.30%	2.01%	2.33	2.85	1.97%	2.35	-25.64%	2.04%	2.37	-25.08%		
Millbrae	2.39	3.15	2.39	-24.36%	1.81	-24.36%	1.58%	1.84	2.27	1.57%	1.88	-21.65%	1.63%	1.89	-21.06%		
Milpitas	6.91	9.23	6.91	-20.83%	5.47	-20.83%	4.79%	5.56	6.77	4.68%	5.59	-19.16%	4.85%	5.63	-18.56%		
Mountain View	9.81	13.46	9.81	-27.98%	7.07	-27.98%	6.18%	7.18	9.25	6.39%	7.64	-22.19%	6.63%	7.69	-21.61%		
North Coast	3.05	3.84	3.05	-21.34%	2.40	-21.34%	2.10%	2.43	2.90	2.00%	2.39	-21.50%	2.08%	2.41	-20.91%		
Palo Alto	11.63	17.07	11.63	-34.49%	7.62	-34.49%	6.66%	7.74	10.82	7.48%	8.93	-23.23%	7.75%	9.00	-22.65%		
Purissima Hills	2.01	1.62	1.62	-42.43%	0.94	-53.47%	0.82%	0.95	1.17	0.81%	0.97	-51.85%	0.84%	0.98	-51.49%		
Redwood City	10.35	10.93	10.35	-28.65%	7.38	-28.65%	6.45%	7.50	8.63	5.96%	7.12	-31.15%	6.18%	7.18	-30.63%		
San Bruno	1.94	3.25	1.94	-18.01%	1.59	-18.01%	1.39%	1.62	2.15	1.49%	1.78	-8.42%	1.54%	1.79	-7.74%		
Stanford	2.27	3.03	2.27	-21.33%	1.78	-21.33%	1.56%	1.81	2.22	1.53%	1.83	-19.39%	1.59%	1.84	-18.79%		
Sunnyvale	10.62	12.58	10.62	-25.20%	7.94	-25.20%	6.95%	8.07	9.56	6.60%	7.89	-25.72%	6.85%	7.95	-25.16%		
Westborough	0.95	1.32	0.95	-13.97%	0.82	-13.97%	0.72%	0.83	0.99	0.69%	0.82	-13.86%	0.71%	0.82	-13.21%		
Subtotal	156.19		156.19	-26.18%	114.37	-26.78%	100.00%	116.16	139.55		115.18	-26.26%	100.00%	116.05	-25.70%		
San José	4.46	4.50	4.46	-30.84%	3.08	-30.84%		2.07	2.87	1.99%	2.37	-46.78%		2.15	-51.85%		
Santa Clara	2.64	4.50	2.64	-23.65%	2.01	-23.65%		1.23	2.31	1.59%	1.90	-27.78%		1.27	-51.85%		
Total	163.29		163.29	-26.33%	119.46	-26.84%		119.46	144.73	100.00%	119.46	-26.84%		119.46	-26.84%		

**All values in MGD unless noted otherwise

First SJ/SC Adjustment

1. Largest permanent customer cutback: -53.47%
- 2a. Adjusted SC allocation: 1.23 (Applying largest permanent customer cutback)
- 2b. Santa Clara adjustment: -0.79 (Difference between initial and adjusted alloc.)
- 3a. Adjusted SJ allocation: 2.07 (Applying largest permanent customer cutback)
- 3b. San José adjustment: -1.01 (Difference between initial and adjusted alloc.)
4. Total Adjustment: -1.80 (2b + 3b)

Second SJ/SC Adjustment

1. Largest permanent customer cutback: -51.85%
- 2a. Adjusted SC allocation: 1.27
- 2b. Santa Clara adjustment: -0.63
- 3a. Adjusted SJ allocation: 2.15
- 3b. San José adjustment: -0.23
4. Total Adjustment: -0.86

TABLE 3 - CALCULATION OF FINAL PURCHASE CUTBACK AND ALLOCATION FACTOR FOR TIER 2 DROUGHT IMPLEMENTATION PLAN (DRIP) - CONT'D

Variable component - Base/Seasonal Allocation (with ISG cap)
 Minimum (Column 19) = 10.00%
 Ceiling (Col. 21) = avg. cutback + 20.00%

Minimum residential per capita use
 threshold (Column 29) =
 55.00 gpcpd

	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
	Adjustment for Minimum and Maximum Cutbacks								Adjustment for East Palo Alto						
	Minimum Cutback Adj.		Maximum Cutback Adjustment						Adjustment for East Palo Alto						
	Adjusted for 10.00% Minimum Cutback	Add'l Cutback for Hardship Bank	Adjusted for 46.84% Maximum Cutback	Cutback Over Cap	Allocations Adjusted For Cap	Agencies To Which Cutback Over Cap Is Redistributed	Min/Max Adjusted Allocation	Adj. Min/Max Purchase Cutbacks	FY 08-09 Residential Per Capita	Which EPA Adjustment Applies	Share of EPA Adjustment	Allocations With EPA Adjustments	Final Purchase Cutback	Final Allocation Factor	
Wholesale Customers															
ACWD	-24.99%		-24.99%		8.43	8.43	8.40	-25.29%	91.40	8.40	-0.019	8.376	-2.860	-25.45%	7.01%
Brisbane/GVMID	-16.10%		-16.10%		0.52	0.52	0.52	-16.43%	62.89	0.52	-0.001	0.516	-0.103	-16.62%	0.43%
Burlingame	-24.13%		-24.13%		3.24	3.24	3.23	-24.43%	89.50	3.23	-0.007	3.224	-1.052	-24.60%	2.70%
Coastside	-27.29%		-27.29%		1.43	1.43	1.42	-27.58%	68.30	1.42	-0.003	1.421	-0.545	-27.74%	1.19%
CWS Total	-32.67%		-32.67%		24.13	24.13	24.03	-32.94%	107.12	24.03	-0.054	23.977	-11.858	-33.09%	20.07%
Daly City	-22.32%		-22.32%		3.19	3.19	3.18	-22.63%	50.00			3.176	-0.929	-22.63%	2.66%
East Palo Alto	-28.02%		-28.02%		1.38	1.38	1.375	-28.30%	45.30		0.241	1.660	-0.257	-13.42%	1.39%
Estero	-29.82%		-29.82%		3.61	3.61	3.60	-30.10%	85.40	3.60	-0.008	3.588	-1.556	-30.26%	3.00%
Hayward	-16.88%		-16.88%		15.77	15.77	15.71	-17.21%	64.00	15.71	-0.035	15.670	-3.301	-17.40%	13.12%
Hillsborough	-37.01%		-37.01%		2.32	2.32	2.31	-37.26%	289.50	2.31	-0.005	2.303	-1.375	-37.40%	1.93%
Menlo Park	-25.69%		-25.69%		2.48	2.48	2.47	-25.99%	104.60	2.47	-0.006	2.468	-0.874	-26.16%	2.07%
Mid Pen WD	-25.08%		-25.08%		2.37	2.37	2.36	-25.38%	83.90	2.36	-0.005	2.354	-0.808	-25.55%	1.97%
Millbrae	-21.06%		-21.06%		1.89	1.89	1.88	-21.38%	75.70	1.88	-0.004	1.878	-0.516	-21.55%	1.57%
Milpitas	-18.56%		-18.56%		5.63	5.63	5.61	-18.88%	65.10	5.61	-0.013	5.595	-1.318	-19.06%	4.68%
Mountain View	-21.61%		-21.61%		7.69	7.69	7.66	-21.92%	78.80	7.66	-0.017	7.646	-2.169	-22.10%	6.40%
North Coast	-20.91%		-20.91%		2.41	2.41	2.40	-21.23%	57.10	2.40	-0.005	2.395	-0.652	-21.40%	2.00%
Palo Alto	-22.65%		-22.65%		9.00	9.00	8.96	-22.96%	107.00	8.96	-0.020	8.943	-2.691	-23.13%	7.49%
Purissima Hills	-51.49%		-46.84%	-0.094	1.07		1.07	-46.84%	302.70			1.069	-0.942	-46.84%	0.89%
Redwood City	-30.63%		-30.63%		7.18	7.18	7.15	-30.91%	85.40	7.15	-0.016	7.132	-3.214	-31.06%	5.97%
San Bruno	-10.00%	-0.044	-10.00%		1.75		1.75	-10.00%	66.20			1.748	-0.194	-10.00%	1.46%
Stanford	-18.79%		-18.79%		1.84	1.84	1.83	-19.11%	N/A	1.83	-0.004	1.831	-0.438	-19.29%	1.53%
Sunnyvale	-25.16%		-25.16%		7.95	7.95	7.92	-25.46%	89.20	7.92	-0.018	7.898	-2.721	-25.62%	6.61%
Westborough	-13.21%		-13.21%		0.82	0.82	0.82	-13.56%	48.50			0.822	-0.129	-13.56%	0.69%
Subtotal	-25.70%		-25.70%		116.09	113.28	115.65	-25.96%		107.46		115.689	-40.503	-25.93%	
San José	-51.85%		-46.84%	-0.223	2.37		2.37	-46.84%	63.20			2.370	-2.088	-46.84%	1.98%
Santa Clara	-51.85%		-46.84%	-0.132	1.40		1.40	-46.84%	85.80			1.401	-1.235	-46.84%	1.17%
Total	-26.84%	-0.044	-26.84%	-0.449	119.87	113.28	119.42	-26.87%		107.46	0.000	119.461	-43.826	-26.84%	100.00%

**All values in MGD unless noted otherwise

TABLE 3 - COLUMN NOTES

Agency Information

- (1) SFPUC Purchases: From Tab 1.
- (2) Fixed Component: Individual Supply Guarantees for most agencies from Tab 1; 4.5 mgd for SJ & SC; projected 2018 demand before conservation used as surrogate for Hayward

Base/Seasonal Allocations

- (4) Base/Seasonal Allocation Cutback: From Tab 3, column (17).
- (5) Base/Seasonal Allocation: column (3) reduced by the Base/Seasonal cutback in column (4).
- (6) Base/Seasonal Purchase Cutback: The change between column (5) and column (1) shown as a percentage.

First San Jose/Santa Clara Adjustment: This adjustment is made so that Santa Clara's and San Jose's cutbacks are at least as great as the highest cutback by the permanent customers.

- (7) Subtotal Allocation Factors: The ratio of each permanent agency's column (5) allocation to the column (5) subtotal.
- (8) Adjusted Base/Seasonal Allocation: Redistributes "First SJ/SC Adjustment" line 4 value among the permanent customers based on the proportionate shares in column (8).

Allocations Based on Weighted ISG/Base Seasonal Average

- (9) Weighted ISG/Base-Seasonal Avg: 33% of column (2) plus 67% of column (8).
- (10) Allocation Factors: Each agency's proportionate share of column (9).
- (11) Weighted Shortage Allocation: Column (9) times the available water supply (column (5) total).
- (12) Weighted Purchase Cutback: The change between column (11) and column (1) shown as a percentage.

Second San Jose/Santa Clara Adjustment: This adjustment is made so that Santa Clara's and San Jose's cutbacks are at least as great as the highest cutback by the permanent customers.

- (13) Subtotal Allocation Factors: The ratio of each permanent agency's column (11) allocation to the column (11) subtotal.
- (14) Adjusted Weighted Shortage Allocation: Redistributes "Second SJ/SC Adjustment" line 4 value among the permanent customers based on the proportionate shares in column (13).
- (15) Adjusted Weighted Purchase Cutback: The change between column (14) and column (1).

Adjustment for Minimum Cutback: This adjustment forces a 10% minimum cutback with the reallocated water being placed in a hardship bank for later application to East Palo Alto.

- (16) Adjusted for 10% Minimum Cutback: Decreases any percentage cutback in column (15) that is less than the minimum 10% floor to equal the 10% floor.
- (17) Additional Cutback for Hardship Bank: The difference between column (15) and column (16) times column (1).

Adjustment for Maximum Cutback: This adjustment is made so that the maximum cutback applied to any agency is equal to the Overall Average BAWSCA Reduction + 20%.

- (18) Adjusted for Maximum Cutback: Caps the cutbacks in column (18) to no more than 20% more than the average cutback.
- (19) Cutback Over Cap: The difference between column (18) and column (15) times column (1).
- (20) Allocations Adjusted for Cap: Purchases in column (1) reduced by the cutbacks in column (18).
- (21) Agencies to Which Cutback Over Cap is Redistributed: Agencies that are not subject to the minimum or maximum adjustments in columns (17) and (19).
- (22) Minimum/Maximum Adjusted Allocation: Redistributes the excess cutback in column (19) by the proportions in column (21) to agencies shown in column (21).
- (23) Adjusted Minn/Max Purchase Cutbacks: The change between column (22) and column (1) shown as a percentage.

Adjustment for East Palo Alto (Low Residential Gallons per Capita per Day Adjustment)

- (24) Residential Per Capita Usage: From Tab 1.
- (25) Agencies To Which EPA Adjustment Applies: Column (22) agency allocations, except those whose GPCD is less than 55 GPCD & those who are impacted by the min./max. cutback.
- (26) Share of EPA Adjustment: EPA value equal to difference 50% of the Overall Average Wholesale Customer Reduction and the sum of column (17) total (Hardship Bank value) and EPA allocation in column (22). Individual agency proportionate shares of EPA's adjustment based on column (25).
- (27) Allocation with EPA Adjustment: Column (22) plus column (26).

Final Allocations

- (28) Final Purchase Cutback: Column (27) minus column (1) expressed as MGD
- (29) Final Purchase Cutback: The change between column (31) and column (1) shown as a percentage.
- (30) Final Allocation Factor: Each agency's allocation from Column (27) divided by the total water allocated to the wholesale agencies (total in Column (27)), shown as a percentage