

City of Santa Rosa

Urban Water Shortage

Contingency Plan

2006



**CITY OF SANTA ROSA
URBAN WATER SHORTAGE CONTINGENCY PLAN 2006
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CITY OF SANTA ROSA URBAN WATER SHORTAGE CONTINGENCY PLAN - 2006 UPDATE

Section 1: Introduction

The City of Santa Rosa Water Shortage Contingency Plan (Plan) was first adopted on February 11, 1992 and is updated every five years. The Plan is a component of the regional Urban Water Management Plan, which is prepared by the Sonoma County Water Agency (SCWA). The Plan was first adopted in response to emergency legislation, California Assembly Bill 11X. Legislation has changed the requirements of water shortage contingency planning several times since the initial bill. Current requirements are in Section 10632 of the California Water Code, the Urban Water Management Planning Act, which is provided as Appendix 3 to this document.

Santa Rosa's initial Plan was first revised in 1996 with updated demand and financial figures. In 2002, a more comprehensive revision was completed, which included updated demand projections, financial analysis, and rate structure design for each rationing stage; a change in the per capita allocations in Stages 2-4; and a change in the methodology for determining landscape allocations in Stages 2-4. In 2005, the revision updated the demand and financial figures. This 2006 revision adds two sections to the document addressing minimum water supply and drought/emergency planning actions.

Santa Rosa's Urban Water Shortage Contingency Plan addresses demand reduction strategies for the Santa Rosa system. Trigger points on the Russian River system, which in turn trigger Santa Rosa's program, are determined by SCWA.

Section 2: City of Santa Rosa Water Supply

The City of Santa Rosa provides water to 48,700 connections, with an annual total demand in 2004 of 23,584 acre-feet (AF). The City's source of water supply is the Sonoma County Water Agency. Santa Rosa's demand constituted approximately 36% of SCWA's total production in 2004.

Santa Rosa has historically received all of its potable water supply from the SCWA aqueduct system, which delivers water from the Russian River, and from groundwater wells in the Santa Rosa Plain. Under a master agreement entered into in October 1974 and amended most recently in 2001, Santa Rosa holds an entitlement to 56.6 million gallons per day, peak month average, with an annual volume limit of 29,100 AF. In 2005, Santa Rosa converted one emergency groundwater source to production status, with an annual yield of approximately 1,700 AF.

In December 1999, SCWA declared a state of impairment on their delivery system caused by delayed completion of critical pumping and conveyance facilities. The delay has been brought on by Endangered Species Act requirements and litigation. SCWA asked all water contractors and other customers to sign a Memorandum of Understanding (MOU) that defines certain operating agreements during this impairment condition. This MOU was executed in February 2001. Among other things, it requires parties to activate certain measures of Stage 1 of their Water Shortage Contingency Plans from June through

September until 2005 when additional pumping capacity on the Russian River System can be secured. During the impairment condition, parties to the MOU are also operating under modified peak entitlements.

Santa Rosa has never formally activated the Plan. There has not been a drought-based reduction in delivery from SCWA to the City of Santa Rosa since 1976-77. However, due to dry conditions on both the Russian River system and throughout the State, Santa Rosa adopted voluntary demand reduction Resolutions in 1988 and 1991; because of the SCWA impairment condition, the City again adopted a voluntary demand reduction Resolution in 2000.

Section 3: Past, Current and Projected Demand

Santa Rosa is a community of 154,000. Of the approximately 48,700 water connections, 91% service residential demand while 9% service commercial. Utility customers are segregated into the following large customer classes: single-family residential, multi-family residential, and commercial. The multi-family residential class can be further divided by number of living units. In the commercial customer class, all utility customers have been classified according to the Standard Industrial Classification (SIC) system, which allows the commercial category to be sorted into sub-categories including: irrigation only, governmental institution, health care facility, and public safety. This latter classification system is represented in the demand reduction schedule of this plan (Table IV).

Analysis of historic dry year conditions in the “Sonoma County Water Agency Urban Water Management Plan 2000” indicates that no supply curtailment would result to Santa Rosa if the hydrologic conditions of the driest three-year historic sequence (1990-1992) occurred today (Page 6-3 UWMP 2000).

The following table summarizes highest historical water use and projected demand by customer class for the next three years. Actual purchase of water would be approximately 6% higher than demand due to normal unaccounted for water losses.

Table I - Customer Class, Highest Year Demand, and Estimated Demand

Customer Class	Number of Connections 2004	Highest Demand (AF) 2004	Estimated Demand (AF) 2005	Estimated Demand (AF) 2006	Estimated Demand (AF) 2007
Single Family Residential	41,310	13,638	13,911	14,249	14,473
Multiple Family Residential	3,046	3,505	3,575	3,662	3,719
*Commercial	2,737	3,569	3,640	3,729	3,788
Irrigation (est.)	1,673	2,872	2,930	3,001	3,048
Total	48,766	**23,584	**24,056	**24,641	**25,029

*Includes Commercial, Industrial, Institutional, Health Care and Public Safety

**Demand totals do not include unaccounted for water loss, which is approximately 6%.

3.1 – ESTIMATED MINIMUM WATER SUPPLY FOR NEXT THREE YEARS

The City has one primary source of supply, the Sonoma County Water Agency (SCWA), with City groundwater as an emergency backup supply. The estimated minimum water supply for the next three years assumes a multiple dry year condition based on the driest three-year historic sequence (1990 to 1992). As indicated in the SCWA UWMP 2000, no supply curtailment would result to Santa Rosa if the hydrologic conditions of the driest three-year historic sequence occurred today. Table II presents the estimated minimum water supply for the next three years.

Table II – Estimated Minimum Water Supply for the Next Three Years

Supply Source	Projected Minimum Water Supply, acre-feet		
	2006	2007	2008
SCWA*	29,100	29,100	29,100
City Groundwater	1,550	1,550	1,550
Total Supply	30, 650	30, 650	30, 650
Projected Water Demand	**24,641	**25,029	**25,403
Projected Supply Shortfall	No Shortfall Projected		

* Assumes no supply curtailment based on information provided in the SCWA 2000 UWMP.

**Demand totals do not include unaccounted for water loss, which is approximately 6%.

Also shown in Table II are the projected demands for the next three years. As shown, the estimated minimum water supply is sufficient to meet the projected water demands and no supply shortfall is projected.

Section 4: Drought/Emergency Planning Actions

In addition to responding to drought conditions, the City’s Water Shortage Contingency Plan can be used to respond to emergency conditions that interrupt water supplies to the City. Water supplies may be interrupted in the future due to water supply contamination, major transmission pipeline break, regional power outage, or a natural disaster such as an earthquake. In the event of an emergency, the Utilities Department would respond as outlined in the City’s current City of Santa Rosa Utilities Department Water System Emergency Response Plan. Actions that the City would take if these emergencies occurred today are outlined below.

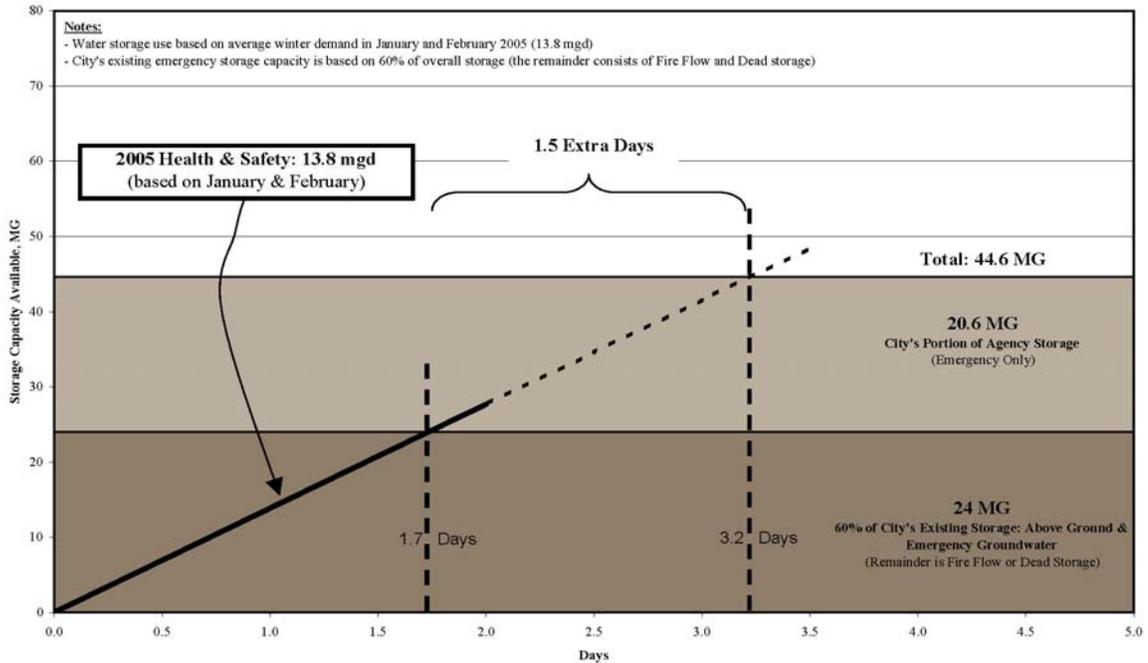
4.1 NO WATER AVAILABLE FROM SCWA

In the event that SCWA’s Russian River supply becomes contaminated (i.e. due to a chemical spill or other environmental incident), it may be possible that no water would be available from SCWA for a period of time. In such a case, the City would need to rely on water from its distribution system storage facilities or emergency wells.

Figure 1 shows a water supply outage scenario along with minimum amounts of water required for health and safety purposes. As shown, based on the City’s assumed available storage capacity at the time of the emergency and minimum health and safety water needs, the City’s stored water supplies would last 3.2 days. If such an event were to occur, the City would need to implement one or more stages of the Water Shortage Contingency Plan to

notify customers of the need to reduce water use until the SCWA water supply could be restored.

Figure 1. Existing Emergency Storage Available to Meet Health & Safety Water Demands



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4.2 AREA-WIDE ELECTRICAL POWER FAILURE

If an area-wide electrical power failure were to occur within the City's water service area, many of the City's pumping facilities could potentially be impacted. The City has stationary generators at some of its booster pump stations, while others only have receptacles for use with portable generators. The City has acknowledged this potential vulnerability and has included the provision of back-up power facilities at each of the City's booster pump stations in the City's current Capital Improvement Program.

SCWA's facilities may also be vulnerable to power outages; however, most of the SCWA facilities which serve the City have backup power provisions.

4.3 EARTHQUAKE

Water system infrastructure, including pump stations, storage tanks, and pipelines, can be damaged during a strong earthquake. The City's facilities have been constructed in accordance with the applicable building codes to minimize potential damage during an earthquake. However, it is expected that some facilities may be damaged as the result of a strong earthquake. The City has planned for this potential outage scenario by constructing

system redundancy into its water system. The City has multiple storage facilities and looped distribution pipelines, to allow potentially damaged portions of the City's system to be quickly isolated and repaired.

Section 5: Stages of Action for Demand Reduction up to 50%

Demand reduction strategies will be employed at all stages of a water shortage emergency. This Section includes details of *Rationing Stages*, *Reduction Goals*, *Consumption Limits*, *Prohibitions on Water Use*, and *Water Shortage Rate Structure*. The entire strategy for demand reduction is summarized in Appendix 1, the Water Shortage Action Plan table.

5.1 RATIONING STAGES: The City has determined the following rationing stages for response to reduced supply in a water shortage emergency:

Table III - Rationing Stages and Reduction Goals

Supply Shortage	Rationing Stage	Overall Demand Reduction Goal	Program Type
Up to 15%	Stage 1 - Minimal	15%	Voluntary
15% - 25%	Stage 2 - Moderate	25%	Mandatory
25% - 35%	Stage 3 - Severe	35%	Mandatory
35% - 50%+	Stage 4 - Critical	50%+	Mandatory

5.2 DEMAND REDUCTION GOALS: Overall demand reduction will be achieved with different reduction goals in each user class. The following priorities have been established for use in developing demand reduction programs and allocations during a water shortage emergency. Priorities for use of available water, from highest to lowest priority, are:

- Health and Safety
- Commercial, Industrial and Governmental
- Existing Landscaping - especially trees and shrubs
- New Demand - projects without permits when shortage is declared

With these guidelines in mind, the following table details overall reduction goals by customer class for Stages 2-4 of the water shortage emergency. Reduction goals for single-family customers are based on per capita water allocation, plus an irrigation allocation (as further described below). For irrigation water services, the allocation is based on plant type and evapotranspiration data. For the commercial customers, prior year demand is the basis for calculating demand reduction.

Table IV - Customer Class, Highest Year Demand and Reduction Goals

	Highest Year 2004	Stage 2	Stage 3	Stage 4
Customer Class		% Reduction	% Reduction	% Reduction
	Annual Demand	Annual Allocation	Annual Allocation	Annual Allocation
Single Family		29%	40%	57%
	13,638 AF	9,682 AF	8,251 AF	5,905 AF
Multiple Family		2%	14%	23%
	3,505 AF	3,418 AF	3,014 AF	2,699 AF
Commercial/ Industrial/ Governmental		15%	20%	30%
	2,962 AF	2,518 AF	2,370 AF	2,073 AF
Irrigation		48%	60%	79%
	2,872 AF	1,493 AF	1,149 AF	599 AF
Health Care Facilities/ Public Safety		5%	10%	15%
	607 AF	577 AF	546 AF	516 AF
Total		25%	35%	50%
	23,584 AF	17,688 AF	15,330 AF	11,792 AF

5.3 CONSUMPTION LIMITS: To achieve the overall reduction goals, a community-wide goal is assigned in Stage 1, and allocations are determined for each customer within a customer class for Stages 2-4. Details of reduction strategies for each customer class at each reduction stage are as follows:

Stage 1 is a voluntary program with 15% overall reduction:

- Community-wide reduction is the goal; elimination of all waste; minimization of non-essential use; "water-on-request" restaurant program

Stage 2 is a mandatory program with 25% overall reduction. Allocations are developed for each water service:

- Single-family customers receive 65 gallons per capita day (gpcd) plus a moderate landscape allotment of 2,500 gallons per month from May through October
- Multi-family customers receive 65 gpcd plus a moderate landscape allotment if irrigation usage is not on a separate dedicated service
- Commercial/Industrial/ Governmental receives 85% of previous 12 months' usage or of the most recent 12-month period with no water shortage restrictions in place
- Irrigation receives a water budget based on the 80% of historical net evapotranspiration-based demand for the square footage of the irrigated area
- Health care and public safety receives 95% of previous 12 months' usage or of the most recent 12-month period with no water shortage restrictions in place

Stage 3 is a mandatory program with 35% overall reduction. Allocations are developed for each water service:

- Single-family customers receive 57 gpcd plus a minimal landscape allotment of 2,000 gallons per month from May through October
- Multi-family customers receive 57 gpcd plus a minimal landscape allotment if irrigation usage is not on a separate dedicated service
- Commercial/Industrial/Governmental receives 80% of previous 12 months' usage or of the most recent 12-month period with no water shortage restrictions in place
- Irrigation receives a water budget based on the 50% of historical net evapotranspiration-based demand for the square footage of the irrigated area
- Health care and public safety receives 90% of previous 12 months' usage or of the most recent 12-month period with no water shortage restrictions in place

Stage 4 is a mandatory program with 50% overall reduction. Allocations are developed for each water service:

- Single and multi-family customers receive 50 gpcd with no landscape allotment
- Commercial/Industrial/Governmental receives 70% of previous 12 months' usage or of the most recent 12-month period with no water shortage restrictions in place
- Irrigation receives allotment only for mature trees and shrubs
- Health care and public safety receives 85% of previous 12 months' usage or of the most recent 12-month period with no water shortage restrictions in place

5.4 PROHIBITIONS ON WATER USE: Santa Rosa adopted a Water Waste Ordinance in 1999 which prohibits the following:

- Irrigation in such a manner that it runs off or over-sprays the irrigated area
- Leaks that are detected yet un-repaired

The Ordinance states that water service will be discontinued for continued violation once notification has been made.

In addition to the prohibitions outlined in the Water Waste Ordinance, the following program of prohibited use is established for the Water Shortage Emergency condition:

Stage 1

- Hose-end shut-off nozzles required on all garden and utility hoses
- Water served in restaurants on request only
- Washing sidewalks, patios, and other hard surfaces prohibited

Stage 2 - All prohibitions established in previous stage plus:

- Irrigation limited to the hours of 8:00 pm to 6:00 am
- Operating ornamental fountains prohibited
- Filling new swimming pools prohibited
- Reclaimed water must be used for construction dust control

Stage 3 - All prohibitions established in previous stage plus:

- No water using landscape installation in new construction
- New construction must offset new demand by conserving two times the new demand within the community
- Filling or topping-off of existing swimming pools prohibited

Stage 4 - All prohibitions established in previous stage plus:

- No water using landscape installation
- New construction must offset new demand by conserving three times the new demand within the community

A customer will be found in violation of a prohibited use if the use continues after two official City written notifications. Remedies for violation of these prohibited actions are included in Section 5.6.

5.5 WATER SHORTAGE RATE STRUCTURE

Santa Rosa's water commodity rate structure as of January 1, 2005 is \$2.89 per 1,000 gallons. Water rates during a shortage condition as defined in the following sections will be based on modifications to the commodity rate in place at the time of the declared emergency.

Santa Rosa's water rate structure is designed to encourage efficient water use, even during normal water supply conditions. This is achieved through a low fixed service charge and a

relatively high commodity rate applicable to each unit of water use. This conservation-oriented rate structure introduces some financial risk in that some fixed costs are recovered through the commodity rate, based on total water usage. A reduction in water usage results in revenues not covering all fixed costs.

Changes to the water rate structure during each stage of rationing are designed to encourage customers to reduce water use commensurate with water allocations and reduction goals. In addition, the rate structure changes are also necessary to help protect the financial condition of the water system as water demands are reduced.

Three lines of defense are incorporated into the City's water shortage financial strategy and rate structure.

1. The catastrophic reserve will be drawn down to absorb part of the financial deficit caused by a reduction in water rate revenues (due to lower water sales) that exceeds the reduction in operating costs.
2. All customers will be subject to an increased commodity rate (Water Shortage Charge) to encourage water conservation by all customers and help protect the financial condition of the water utility. The Water Shortage Charge (described below) is designed such that customers meeting reduction goals will have lower water bills than they do with normal usage.
3. Water service customers that exceed water allocations and do not meet reduction goals will be subject to additional Excess Use Charges during severe (Stage 3) and critical (Stage 4) periods. Revenues from Excess Use Charges will be used only for specified purposes.

In Stage 1, there are no changes to the water rate structure. To compensate for loss of revenue from reduced water sales and increased staffing for the water shortage response effort, the Catastrophic Reserve will be employed. In the event of a water shortage, adoption of the Water Shortage Resolution (See Section 7: Implementation of the Plan) by Santa Rosa City Council will allow the appropriation of funds from the Catastrophic Reserve.

In Stages 2-4, reduction in net revenue brought on by reduced water sales and increased costs for the water shortage response effort will be mitigated by both the Catastrophic Reserve and the introduction of a Water Shortage Charge (WSC) on each unit of water sold. The WSC is designed to recover a portion of the cost of the revenue from the shortfall from the entire community, and is designed such that a typical customer's bill will not change significantly even though the rate has increased (this assumes the typical customer will reduce use at least at the level of the WSC). The WSC will increase with each stage according to Table V.

Table V - Water Shortage Charge (WSC) for All Water Sold: Stages 2-4

Stage	Charge for water	Example with current rate (charge per 1000 gallons)
Stage 2	Commodity rate + 10% WSC	$\$2.89 + 0.29 = \3.18
Stage 3	Commodity rate + 20% WSC	$\$2.89 + 0.58 = \3.47
Stage 4	Commodity rate + 30% WSC	$\$2.89 + 0.87 = \3.76

In addition to the WSC, an inclining block rate designed to reward customers for staying within their allotment and to assess Excess Use Charges (EUC) for water use over the allotment will be adopted at Stages 3 and 4. The blocks will be designed to reflect the structure illustrated in Table VI.

Table VI – Excess Use Charge (EUC) in an Inclining Block Rate for Water Used in Excess of Allotment - Stages 3-4

Water Use Compared to Allotment	Block/Rate
Water use up to 100% of allotment	Block 1: Commodity rate with WSC per table V
Water use 101% to 150% of allotment	Block 2: Block 1 rate + 50% EUC (Stage 3) or 100% EUC (Stage 4)
Water use over 150% of allotment	Block 3: Block 1 rate + 100% EUC (Stage 3) or 200% EUC (Stage 4)

EUC revenues are not intended to be used as general operating revenues during the emergency, but may be used to: (1) offset the extraordinary costs of the water shortage emergency such as additional conservation support; (2) rebuild the Catastrophic Reserve; (3) establish a rate stabilization fund for the post-emergency recovery.

Table VII summarizes the water shortage rate structure for each stage of rationing based on the current (2005) water rates.

Table VII - Water Shortage Rate Structures (2005)

	Normal	Stage 1	Stage 2	Stage 3	Stage 4
Monthly Service Charge (\$/Month)					
5/8" Meter	\$ 5.07	\$ 5.07	\$ 5.07	\$ 5.07	\$ 5.07
1" Meter	\$ 9.23	\$ 9.23	\$ 9.23	\$ 9.23	\$ 9.23
1 1/2" Meter	\$ 17.66	\$ 17.66	\$ 17.66	\$ 17.66	\$ 17.66
2" Meter	\$ 29.68	\$ 29.68	\$ 29.68	\$ 29.68	\$ 29.68
3" Meter	\$ 69.40	\$ 69.40	\$ 69.40	\$ 69.40	\$ 69.40
4" Meter	\$ 118.07	\$ 118.07	\$ 118.07	\$ 118.07	\$ 118.07
6" Meter	\$ 258.48	\$ 258.48	\$ 258.48	\$ 258.48	\$ 258.48
Commodity Rates (\$/1,000 Gal.)					
Uniform (Tier 1) Rate (1)	\$ 2.89	\$ 2.89	\$ 3.18	\$ 3.47	\$ 3.76
Tier 2 Rate (2)	n/a	n/a	n/a	\$ 5.21	\$ 7.52
Tier 3 Rate (3)	n/a	n/a	n/a	\$ 6.94	\$ 11.28
Commodity Rate Components (\$/1,000 Gal.)					
Standard Commodity Rate	\$ 2.89	\$ 2.89	\$ 2.89	\$ 2.89	\$ 2.89
Water Shortage Charge (4)	\$ -	\$ -	\$ 0.29	\$ 0.58	\$ 0.87
Tier 2 Excess Use Charge (5)	\$ -	\$ -	\$ -	\$ 1.74	\$ 3.76
Tier 3 Excess Use Charge (6)	\$ -	\$ -	\$ -	\$ 3.47	\$ 7.52

Notes:

- (1) Includes the Standard Commodity Rate plus the Water Shortage Charge.
- (2) Includes the Tier 1 rate plus the Tier 2 Excess Use Charge. Applies to water use 101% to 150% of allocation.
- (3) Includes the Tier 1 rate plus the Tier 3 Excess Use Charge. Applies to water use in excess of 150% of allocation.
- (4) Equals 10%, 20%, or 30% of Standard Commodity Rate during Stage 2, Stage 3, or Stage 4, respectively.
- (5) Equals 50% of Tier 1 Rate during Stage 3 and 100% of Tier 1 Rate during Stage 4.
- (6) Equals 100% of Tier 1 Rate during Stage 3 and 200% of Tier 1 Rate during Stage 4.

5.6 VIOLATIONS OF WATER USE RESTRICTIONS AND REPEATED EXCESS USE

Any customer who exceeds the established allotment three consecutive months, or exceeds the established allotment six months within a twelve month period, or violates one or more prohibited uses, may, at the discretion of the Director of Utilities, be subject to any of the following actions:

- At the customer's expense, undergo a complete site water audit and install certain water efficient fixtures
- Installation of a flow reducing device at the water meter
- Disconnection of water service and payment of a designated fee for reconnection of the water service

5.7 VARIANCE PROCEDURES

This Plan is designed to place the responsibility for managing our water resource during a water shortage emergency on the entire community. Care has been taken in the design of the Plan not to penalize any customer who has undertaken conservation measures in the past for having saved water on an ongoing basis. Furthermore, any customer meeting water use reduction goals by limiting water use to defined allocations will be able to avoid paying Excess Use Charges.

Any customer who feels their established allotment is unfair may apply to the City for a reassessment. Variances will be granted, on a case-by-case basis, at the discretion of the Director of Utilities. The following conditions are among those that may be given

consideration in the variance process:

- Water uses that support public health and safety,
- Non-residential water customers (whose allotment is based on previous consumption) who can demonstrate that water efficient hardware and conservation practices were in place prior to the water shortage emergency, and
- Water used for mature trees for which an inadequate allocation has been made.

Section 6: Analysis of Revenue and Expenditure Impacts

Table VIII details the Santa Rosa Water Utility's projected annual revenue and expenditure status (based on 2005) in non-shortage conditions and at each stage in the water shortage program.

Table VIII - Impact of Water Shortage on Revenues and Expenditures (2005)

	Normal Supply	Stage 1: 15% Shortage	Stage 2: 25% Shortage	Stage 3: 35% Shortage	Stage 4: 50% Shortage
Sources of Funds					
Service Charge Revenues	\$ 3,560,000	\$ 3,560,000	\$ 3,560,000	\$ 3,560,000	\$ 3,560,000
Commodity Rate Revenues (1)	\$ 20,860,000	\$ 17,731,000	\$ 15,645,000	\$ 13,559,000	\$ 10,430,000
Water Shortage Charge Revs. (2)	\$ -	\$ -	\$ 1,564,000	\$ 2,712,000	\$ 3,129,000
Other Operating Revenues	\$ 2,881,000	\$ 2,881,000	\$ 2,881,000	\$ 2,881,000	\$ 2,881,000
Total Sources of Funds	\$ 27,301,000	\$ 24,172,000	\$ 23,650,000	\$ 22,712,000	\$ 20,000,000
(% of normal)		89%	87%	83%	73%
Uses of Funds					
Purchase of Water (3)	\$ 10,570,000	\$ 8,985,000	\$ 7,928,000	\$ 6,871,000	\$ 5,285,000
Water Quality	\$ 624,000	\$ 624,000	\$ 624,000	\$ 624,000	\$ 624,000
Water Maintenance	\$ 8,506,000	\$ 8,506,000	\$ 8,506,000	\$ 8,506,000	\$ 8,506,000
Demand Management	\$ 1,704,000	\$ 1,704,000	\$ 1,704,000	\$ 1,704,000	\$ 1,704,000
Water Shortage Prog. Expend. (4)	\$ -	\$ 250,000	\$ 600,000	\$ 800,000	\$ 1,000,000
Operation & Maintenance Projects	\$ 657,000	\$ 657,000	\$ 657,000	\$ 657,000	\$ 657,000
Water Operations Turnback	\$ (500,000)	\$ (500,000)	\$ (500,000)	\$ (500,000)	\$ (500,000)
Net Transfers and Use of Reserves	\$ 5,740,000	\$ 5,740,000	\$ 5,740,000	\$ 5,740,000	\$ 5,740,000
Total Uses of Funds	\$ 27,301,000	\$ 25,966,000	\$ 25,259,000	\$ 24,402,000	\$ 23,016,000
(% of normal)		95%	93%	89%	84%
Surplus/(Deficit) in Operations	\$ -	\$ (1,794,000)	\$ (1,609,000)	\$ (1,690,000)	\$ (3,016,000)
Catastrophic Reserve					
Available Balance (5)	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000
Excess Use Chrg. Revs. (6)	\$ -	\$ -	\$ -	\$ -	\$ -
Used to Cover Oper. Deficit	\$ -	\$ (1,794,000)	\$ (1,609,000)	\$ (1,690,000)	\$ (3,016,000)
Ending Balance	\$ 5,000,000	\$ 3,206,000	\$ 3,391,000	\$ 3,310,000	\$ 1,984,000

Notes:

- (1) Commodity rate revenues would decline in proportion with water
- (2) Water shortage charge would be imposed in Stages 2, 3, and 4 to limit the operating
- (3) Water supply costs would be reduced in proportion with water
- (4) Additional expenditures associated with water shortage
- (5) Assumed catastrophic reserve balance at start of
- (6) Excess Use Charge would be imposed in Stages 3 and 4. Revenues are difficult to predict due to relationship customer rationing response at the margin. If customers achieve rationing goals Excess Use Charges would be

Table IX summarizes the water bill for a typical single-family customer during each stage of water rationing. One example shows the customer’s bill when water usage is limited to the specified water allocation, and the other example shows the customer’s bill if no reduction is made in water use.

Table IX - Single Family Water Bills During Stages of Rationing (1)

Rationing Stage	Single Family Reduction Goal	Monthly Water Use (1000 gal)	Service Charge	Standard Commodity Charge	Water Shortage Charge	Excess Use Charge	Total Water Bill
<i>Average Single Family Customer Meeting Allocation Limits</i>							
Normal	0%	12	\$ 5.07	\$ 34.68	\$ -	\$ -	\$ 39.75
Stage 1	15%	10	\$ 5.07	\$ 28.90	\$ -	\$ -	\$ 33.97
Stage 2	29%	9	\$ 5.07	\$ 26.01	\$ 2.60	\$ -	\$ 33.68
Stage 3	40%	7	\$ 5.07	\$ 20.23	\$ 4.05	\$ -	\$ 29.35
Stage 4	57%	5	\$ 5.07	\$ 14.45	\$ 4.34	\$ -	\$ 23.86
<i>Average Single Family with No Water Use Reduction</i>							
Normal	0%	12	\$ 5.07	\$ 34.68	\$ -	\$ -	\$39.75
Stage 1	15%	12	\$ 5.07	\$ 34.68	\$ -	\$ -	\$39.75
Stage 2	29%	12	\$ 5.07	\$ 34.68	\$ 3.47	\$ -	\$43.22
Stage 3	40%	12	\$ 5.07	\$ 34.68	\$ 6.94	\$ 8.66	\$55.35
Stage 4	57%	12	\$ 5.07	\$ 34.68	\$ 10.40	\$ 45.07	\$95.22

Notes:

(1) Assumes 3 person household and summertime irrigation

Section 7: Implementation of the Plan

At the time of a water shortage emergency, the Santa Rosa City Council will adopt a Water Shortage Resolution. A draft Water Shortage Declaration Resolution is found in Appendix 2. With Stages 2-4, a Water Shortage Emergency Ordinance will also be adopted.

In the event that a Water Shortage Emergency occurs and the City Council cannot assemble to adopt the Water Shortage Resolution, the Director of Utilities is authorized to implement the appropriate stage, based on the reduction in water supply, of the Urban Water Shortage Contingency Plan. The Director of Utilities determination to implement the Urban Water Shortage Contingency Plan shall remain effective until the City Council meeting immediately following such determination, at which time the Santa Rosa City Council will adopt the Water Shortage Resolution.

Section 8: Monitoring Procedures

Stage 1 - Monthly delivery records from SCWA meters and from local groundwater sources, if in use, will be reported to the Director of Utilities or the Director's designee. If overall reduction goals are not met, the Director may notify the Board of Public Utilities and more aggressive measures can be implemented.

Stage 2 - 4 - Weekly delivery figures from SCWA meters and local groundwater sources, if in use, and monthly consumption data from Santa Rosa Utility Billing will be reported to the Director of Utilities or the Director's designee. If reduction goals are not met, the Director will notify the Board of Public Utilities and more aggressive action will be taken.

Section 9: Public Noticing and Adoption

The City of Santa Rosa prepared the first Water Shortage Contingency Plan during December 1991 and January 1992. The Board of Public Utilities adopted the Plan on February 6, 1992. The Santa Rosa City Council adopted the Plan on February 11, 1992. The Plan was updated in data areas only in 1996 and reviewed by the Board of Public Utilities Water Conservation Subcommittee. The 2002 revision was reviewed in a public hearing before the Santa Rosa Board of Public Utilities. The City Council adopted the plan on May 21, 2002.

The 2005 revision was updated in data areas only and reviewed in public hearing before the Santa Rosa Board of Public Utilities on May 19, 2005, and was recommended for adoption by the Santa Rosa City Council on that date. The City Council adopted the plan on June 7, 2005.

This 2006 revision was updated as part of the adoption of the City's 2005 Urban Water Management Plan. This revision was updated by adding Section 4 to the document and was reviewed by the Board of Public Utilities Water Conservation Subcommittee in May 2006. The 2006 plan was reviewed in public hearing before the Santa Rosa Board of Public Utilities on June 15, 2006, and was recommended for adoption by the Santa Rosa City Council on that date. The City Council adopted the plan on June 27, 2006 as part of the adoption of the City's 2005 Urban Water Management Plan.

Appendices

City of Santa Rosa - Water Shortage Action Plan 2005

Stage	Utility Department Actions	Customer Actions	Comments
<p>Stage I - Minimal: 15 percent overall reduction.</p>	<p>1) Adopt resolution: *Requesting voluntary water conservation with non-allotment based cut-back goals for all user classes. *Prohibiting water waste and reducing all non-essential uses.</p> <p>2) Initiate public information campaign: *Prepare and disseminate educational brochures, bill inserts, etc. *Disseminate technical information to specific customer types. *Set up public information booths urging water conservation and showing ways the public can save water. *Coordinate media outreach program; issue news releases to the media. *Explain other stages and forecast future actions.</p> <p>3) Increase agency support: *Add temporary position to staff phone lines. *Initiate patrol for water waste violations and customer audits.</p> <p>4) Prepare for future stages: *Develop computer capability to initiate rationing stages. *Gather census information from residential sector for per capita allotments</p>	<p>1) Implement voluntary water use reductions.</p> <p>2) Adhere to water shortage resolution.</p> <p>3) Become aware of possible further restriction.</p>	<p>*Voluntary program, community-wide reduction goals.</p> <p>*Strong public information campaign.</p> <p>*Emphasis on elimination of waste and increased awareness.</p> <p>* Hose-end shut-off nozzles and required on all garden and utility hoses.</p> <p>* Hosing off hard surfaces prohibited.</p> <p>* A “Water-on-request” restaurant program.</p>

City of Santa Rosa - Water Shortage Action Plan 2005

Stage	Utility Department Actions	Customer Actions	Comments
<p>Stage II - Moderate: 25 percent overall reduction.</p>	<p>In addition to stage I:</p> <p>1) Adopt rationing ordinance: *Assigning allotment to each water service: residential based on per capita allotment plus landscape; irrigation only based on ET to water budget; non-residential based on reduction from previous consumption. *Implement Water Shortage Charge (WSC) *Expanding prohibited uses and developing penalty structure for waste violations. *Defining criteria and administrative procedures for variances.</p> <p>2) Intensify public info campaign: *Notify each service of allotment goals. *Make site surveys available to all customers</p> <p>3) Increase agency support: *Establish Shortage Response Center *Appoint variance officer and administer variance program for all user classes. *Increase patrol/audit support.</p>	<p>1) Adhere to allotment for 25 percent overall reduction:</p> <p>*Single Family - 65 gpcd, plus landscape allotment of 2,500 gallons per month May-Oct. *Multiple Family - 65 gpcd, plus moderate landscape allotment. *Commercial/Industrial/Governmental - 85 % of previous 12 months usage (15% reduction). *Irrigation - 80% of ET based water budget. *Health Care Facilities - 95% of previous 12 months usage (5% reduction).</p> <p>2) Request variance where required.</p> <p>3) Eliminate all prohibited uses.</p>	<p>*Mandatory program with allotments for each service; residential with moderate landscape allotments.</p> <p>*Close tracking and feedback to community.</p> <p>*Restricted uses include: - irrigation limited to the hours between 8pm to 6am. - operation of ornamental fountains prohibited. - filling new swimming pools prohibited. - reclaimed water must be used for construction dust control.</p>

City of Santa Rosa - Water Shortage Action Plan 2005

Stage	Utility Department Actions	Customer Actions	Comments
<p>Stage III - Severe: 35 percent overall reduction.</p>	<p>In addition to Stage II:</p> <p>1) Intensify ordinance requirements: *Prohibit installation of landscapes in new construction. *Require new construction to offset two times the new demand through upgrades to existing homes and businesses (toilet replacements, etc.). *Implement excess use charge (EUC) in addition to WSC.</p> <p>2) Intensify public information campaign: *Promote participation in new construction offset program.</p> <p>3) Staffing: *Expand Shortage Response Center and patrol/audit effort.</p>	<p>In addition to Stage II:</p> <p>1) Adhere to allotment for 35 percent overall reduction: *Single Family - 57 gpcd, plus landscape allotment of 2,000 gallons per month May-Oct. *Multiple Family - 57 gpcd, plus minimal landscape allotment. *Commercial/Industrial/Governmental - 80 % of previous 12 months usage (20% reduction). *Irrigation - 50% of ET based budget. *Health Care Facilities - 90% of previous 12 months usage (10% reduction).</p> <p>2) Request variance when required.</p> <p>3) Eliminate all prohibited uses.</p>	<p>*Mandatory program with minimal landscape allotments.</p> <p>*Prohibit uses from Stage II plus: - new construction program - offset twice the new demand. - no water using landscape installation in new construction. - filling or topping off of existing swimming pool is prohibited.</p>

City of Santa Rosa - Water Shortage Action Plan 2005

Stage	Utility Department Actions	Customer Actions	Comments
<p>Stage IV - Critical: 50 percent overall reduction.</p>	<p>In addition to Stage III:</p> <p>1) Intensify ordinance requirements: *Prohibit installation or replanting of any landscaping. *Allowing residential use of grey water if State allows. *Requiring new construction to offset three times the new demand through upgrades to existing homes and businesses; toilet replacement, etc. *Continue WSC and EUC.</p> <p>2) Intensify public information campaign: *Develop demonstrations of grey water use.</p> <p>3) Expand Drought Response Center and patrol/audit effort.</p>	<p>1) Adhere to allotment for 50 percent overall reduction:</p> <p>*Single Family - 50 gpcd, no landscape allotment. *Multiple Family - 50 gpcd, no landscape allotment. *Commercial/Industrial/Governmental - 70% of previous 12 months usage (30% reduction). *Irrigation - minimal allotment - for mature trees and shrubs only. *Health Care Facilities - 85% of previous 12 months usage (15% reduction).</p> <p>2) Request variance where required.</p> <p>3) Eliminate all prohibited uses.</p>	<p>*Severe penalties for excess usage.</p> <p>*Prohibited uses from Stage III plus: - new construction offset program - offset three times new demand. - no new water using landscaping.</p>

DRAFT WATER SHORTAGE EMERGENCY RESOLUTION

RESOLUTION OF THE SANTA ROSA CITY COUNCIL DECLARING A WATER SHORTAGE EMERGENCY.

WHEREAS, the City of Santa Rosa is a City empowered to provide water service within certain boundaries; and

WHEREAS, due to (current condition – drought, contamination, etc.), water supply conditions indicate that a ____% reduction in demand is required to ensure adequate supply in 20__; and

WHEREAS, the Sonoma County Water Agency has reduced delivery to the City and all prime contractors by ____%; and

WHEREAS, the City of Santa Rosa has the authority and responsibility to adopt water demand reduction measures within its area of service; and

WHEREAS, the City of Santa Rosa has the authority to employ the Catastrophic Reserve during a Water Shortage Emergency.

NOW, THEREFORE, IT IS RESOLVED that the City Council declares that under the current water shortage conditions a Water Shortage Emergency exists within the area served by the City water system.

BE IT FURTHER RESOLVED, that the City Council directs staff to implement a program of demand management as defined in the Santa Rosa Urban Water Shortage Contingency Plan to realize district-wide reduction of ____%.

BE IT FURTHER RESOLVED, that the City Council directs staff to utilize the Catastrophic Reserve to compensate for loss of revenue due to reduced water sales.

DULY AND REGULARLY ADOPTED this _____ day of _____, 20__

AYES:

NOES:

ABSENT:

ABSTAIN:

Chairman

Recording Secretary

California Water Code Section 10632
Urban Water Management Planning
Water Shortage Contingency Analysis

10632. The plan shall provide an urban water shortage contingency analysis, which includes each of the following elements, which are within the authority of the urban water supplier:

- (a) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply, and an outline of specific water supply conditions which are applicable to each stage.
- (b) An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.
- (c) Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.
- (d) Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.
- (e) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.
- (f) Penalties or charges for excessive use, where applicable.
- (g) An analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.
- (h) A draft water shortage contingency resolution or ordinance.
- (i) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.