



To: Mayor and City Council
From: Tim Tucker, City Engineer
Subject: Updated Urban Water Management Plan – Public Hearing
Date: June 1, 2016

Recommendation

After conducting public hearing adopt resolution updating the City of Martinez 2015 Urban Water Management Plan and direct staff to prepare a final plan in accordance with California Water Code, Urban Water Management Planning Act and the California Water Conservation Bill of 2009.

Background

After experiencing severe and extended droughts in the mid 1970s the State of California in 1983 adopted AB 797 (and subsequent amendments), commonly known as the Urban Water Management Planning Act. The act requires every urban water supplier with more than 3,000 customers, which includes the City of Martinez Water System, to adopt and periodically update an Urban Water Management Plan (Plan). The City’s plan was last updated in 2010.

The intent of the law is to require urban water suppliers to evaluate benefit and costs for various water conservation methods as an alternative to expanding their water supply. It also requires suppliers to develop plans of action should water shortages occur. Requirements of the plan include the following:

- Detailed evaluation of the supplies necessary to meet demands over at least a 20-year period, in five-year increments, for a single dry water year, in multi-year droughts, and during average year conditions,
- Documentation of the stages of actions an urban water supplier would undertake to address up to a 50 percent reduction in its water supplies,
- Description of the actions to be undertaken in the event of a catastrophic interruption in water supplies, and
- Evaluation of reasonable and practical efficient water uses, recycling, and conservation activities.

Coordination between the City of Martinez and other agencies was key in the development of the 2015 UWMP. Agencies which participated and provided valuable information directly, through information provided on their website, and/or through published reports/documents included:

- Contra Costa Water District (CCWD) – water supply and conservation
- Central Contra Costa Sanitary District (CCCSD) – recycled water availability/use
- Mountain View Sanitary District (MVSD) – recycled water availability/use
- Contra Costa County – treated water customer service in County jurisdiction areas

DEMAND AND SUPPLIES

Historical water service connections by customer sector are shown in the table below. The total number of water service connections has increased from 9,708 in 2000 to 9,904 in 2015 for a modest increase of 2.0 percent. Single-family residential accounts for approximately 88.4 percent of total water service connections.

Historical City Water Service Connections				
Customer Sector	2000	2005	2010	2015
Single Family	8,485	8,493	8,595	8,754
Multi Family	465	458	464	457
Commercial	355	372	371	424
Industrial	22	12	10	10
Institutional and Government	239	161	157	101
Irrigation	142	159	167	158
	9,708	9,655	9,764	9,904

The City purchases all of its water from Contra Costa Water District (CCWD), which is almost all State Water Project (SWP) surface water imported from the Sacramento-San Joaquin Bay Delta. The raw water is treated to potable water standards at the City's water treatment plant before being distributed to the City's water service area. Currently, the City has no recycled water supply and no indirect recycled water use, which are also not projected to occur in the future at this time. The City's water treatment plant is a conventional treatment plant with pre-ozonation, coagulation, flocculation, sedimentation, mixed media GAC (granular activated carbon) filtration and intermediate ozonation (after sedimentation). City water use by customer sector plus system water losses represent 100 percent of the water demands for the City's water system.

Historical Water Use						
	2005 Water Use/ Supply	2010 Water Use/ Supply	% Change (2010- 2005)	2015 Water Use/ Supply	% Change (2015- 2010)	% Change (2015- 2005)
Single-Family Residential	2,888	2,299	-20.4%	1,777	-22.7%	-38.5%
Multi-Family Residential	545	434	-20.4%	366	-15.7%	-32.9%
Total Residential	3,433	2,733	-20.4%	2,142	-21.6%	-37.6%
Population	28,837	28,801	-0.1%	28,471	-1.1%	-1.3%
Residential Per-Capita (gpcd)	106.3	84.7	-20.3%	67.2	-20.7%	-36.8%
Commercial	507	324	-36.1%	301	-7.2%	-40.7%
Industrial	113	172	52.2%	180	4.5%	59.0%
Irrigation	352	248	-29.5%	194	-21.7%	-44.8%
Institutional/Gov.	632	360	-43.0%	336	-6.6%	-46.8%
Construction	-	-	0.0%	14	0.0%	0.0%
Unaccounted	192	384	100.0%	357	-7.0%	85.9%
Total	5,229	4,221	-19.3%	3,524	-16.5%	-32.6%
Total Per-Capita (gpcd)	161.8	130.8	-19.2%	110.5	-15.5%	-31.7%

Through the implementation of City water conservation ordinances and other measures total City of Martinez per-capita water use has decreased 15.5 percent since 2010 and 31.7 percent since 2005; and residential per-capita water has decreased 20.7 percent since 2010 and 36.8 percent since 2005.

In April 2015, Governor Jerry Brown issued an executive order requiring the State Water Resources Control Board to implement measures to cut the State's overall water usage by 25% due to the continuing drought. City water use has decreased a cumulative 31.4% for the first seven recording months (June 2015 through January 2016) relative to year 2013 water usage in response to the City's conservation goal of 20% set by the State, which has been extended by the Governor to October 2016, or as long as the drought continues.

Projected City potable water demands for the planning period (2020-2040) by water use sector and water loss are shown in the following table.

Demands for Potable Water Projected					
Use Type	Projected Water Use				
	2020	2025	2030	2035	2040
Single Family	3,436	3,374	3,309	3,241	3,171
Multi-Family	184	181	177	174	170
Commercial	150	147	144	141	138
Industrial	6	6	6	6	6
Institutional/Governmental	69	68	66	65	64
Landscape	62	61	60	59	58
Losses	318	318	317	316	315
Other ^(a)	14	14	14	14	14
Total	4,239	4,169	4,093	4,016	3,936

Many of the water conservation measures already implemented and being implemented by City customers such as turf removal, conversion to drought resistance landscapes, conversion to more efficient irrigation systems and ET-based irrigation controllers, retrofits to high efficiency clothes washers and toilets, implementation of weather-based irrigation controllers, etc. will have permanent effects on water use (reduction) in the future.

It is anticipated that once the drought ends, some water conservation will end and per-capita water use will increase some relative to 2015 water use. However, it is also anticipated that a great deal of water conservation will remain due to permanent measures that have already been implemented for exiting City houses and development.

Historical & Projected City Per-Capita Water Use					
	2005	2010	2015	2020	2040
Existing Households					
Residential Per-Capita (gpcd)	106.3	84.7	67.2	85.0	70.0
CII Per-Capita ^(a) (gpcd)	49.6	34.2	32.1	35.0	30.0
Water Loss Per-Capita ^(b) (gpcd)	5.9	11.9	11.2	9.6	8.0
Total Per-Capita (gpcd)	161.8	130.8	110.5	129.6	108.0

More significant future per-capita water use will occur for the City due to new building codes and landscape ordinances for new residential developments compared with existing residential land use. California’s newly adopted Green Building Code will have a direct impact on home building and water conservation in the State. The new code aims to cut indoor water consumption by at least 20 percent, primarily through more efficient indoor water fixtures. For a three-bedroom house, the saving is estimated to be about 10,000 gallons of water per year, on average. The California Green Building program also includes outdoor water conservation by reducing the area devoted to high-irrigation lawns and plants, emphasizing natural drought-tolerant plantings, and installing irrigation controls that respond to local weather conditions. This is consistent with the new Model Water Efficient Landscape Ordinance (MWELO), which was adopted by the State on July 15, 2015 and was adopted by the City by default.

Historical & Projected City Per-Capita Water Use					
	2005	2010	2015	2020	2040
New Households					
Residential Per-Capita (gpcd)	-	-	-	65.0	65.0
CII Per-Capita (gpcd)	-	-	-	30.0	30.0
Water Loss Per-Capita ^(c) (gpcd)	-	-	-	6.2	7.6
Total Per-Capita (gpcd)	-	-	-	101.2	102.6

Senate Bill x7-7 (SB x7-7) was enacted in November 2009 (Water Conservation Act of 2009), requiring all water suppliers to increase water use efficiency. The legislation set an overall goal of reducing per-capita urban water use by 20% by December 31, 2020 and to make incremental progress towards this goal by reducing per capita water use by at least 10% by December 31, 2015. The City’s actual per-capita water use for 2015 was 110.5 GPCD, which is well below their 2015 target of 146.5 GPCD as demonstrated in Table 5-2. There were no adjustments to the 2015 target for extraordinary events, economic adjustment, or weather normalization. The City’s actual per-capita water use for 2015 was also well below their 2020 target of 130.6 GPCD.

RATIONING STAGES AND REDUCTION GOALS

An important part of the Plan is to provide an urban water shortage contingency analysis which includes stages of action.

The City has developed a four-stage rationing plan which is used during a water supply shortage. This plan involves both voluntary and mandatory rationing up to a 50 percent reduction in water use. The rationing stage implemented depends on the restriction imposed by CCWD on the City. A water crisis within the water service area could also cause the shortage conditions and implementation of any rationing stage as appropriate. The following table outlines each of these four reduction stages.

WATER RATIONING STAGES AND REDUCTION GOALS

Shortage Condition	Stage	Description	Customer Reduction Goal	Type of Rationing Program
Up to 15%	I	Voluntary Conservation	15%	Voluntary
15-30%	II	Water Alert	30%	Mandatory
30-40%	III	Water Emergency	40%	Mandatory
40-50%	IV	Water Crisis	50%	Mandatory

A Stage I reduction would be similar to what occurred in 1987 to 1990 and most recently in 2009. Through public education customers were made aware of the need to reduce water consumption. Martinez Water System customers responded to the need to conserve water by decreasing consumption by 25%. A Stage II program was adopted in 1977 and again in the first part of 1991. The Council adopted Resolution No. 47-91 which on May 1, 1991 established prohibition of non-essential use of water. Fortunately, significant late season rains spelled the end of five consecutive low rainfall years. CCWD was able to increase the amount of water available to the Martinez Water System and mandatory rationing was reduced to a voluntary rationing program. The City has not experienced Stage III or IV rationing requirements.

WATER ALLOCATION METHODS

The City has established allocation methods for each customer sector. Single family and multi-family customers are allocated water through percentage reductions, gallons per dwelling unit, and gallons per capita depending on the particular rationing stage implemented. Commercial, industrial, irrigation and public customer sectors are allocated water on a percentage reduction from their previous year's. A certain amount of water is allocated for fire prevention purposes.

The City of Martinez determines the water allocation to each customer and calculates their allotment according to the information shown in the following table. Each bill for water service states the water ration for the service applicable to the following billing period. If a customer's use is under the allotment in any given billing period, the water may be "banked" for future use during that year. A written appeal may be filled to request an exception to the granted water allotment.

WATER ALLOCATION FOR RATIONING STAGES

Water Use Sector	Stage II	Stage III	Stage IV
Single Family	200 gal/DU/day	90 gpcd (single occupant) then 50 gpcd additional	50 gpcd
Multi-Family	85%	70 gpcd (single occupant) then 50 gpcd additional	50 gpcd
Commercial	75%	70%	60%
Industrial	85%	75%	70%
Institutional and Government	75%	70%	60%
Landscape	25%	25%	5%

The water reduction goals for the 2009 rationing program varied slightly higher from the allotments listed.

RATE STRUCTURE UNDER RATIONING

Proposed measures to overcome revenue impacts of rationing include development of reserves and a drought surcharge on water use. The City of Martinez bases its water system budget on previous year use and anticipated drought conditions. Revenue reduction caused by a reduction in water usage could be made up from reserves, or a drought surcharge could be imposed on water users of the system as was done during the 1991 drought. Although no significant expenditures are anticipated to implement water conservation measures during a drought, large expenditures may be necessary under a catastrophic supply interruption. Funding for these would be made up from reserves or obtained through State and Federal aid packages (i.e. FEMA).

During the 1991 rationing program, an extra charge was established for water withdrawn from the Martinez water system by any service connection in excess of its allotted amount. This penalty is outlined in Resolution No. 47-91. The following table shows the penalties imposed in 1991. This rate structure will be reviewed and modified prior to implementation of a future rationing program.

1991 EXCESS USE CHARGES PER BILLING PERIOD¹ (STAGE II RATIONING)

Customer Sector	Excess Use Above Allotment	Excess Charge
Single Family	First 500 cubic feet	2 X Unit Price
	Next 500 cubic feet	3 X Unit Price
	Excess beyond 1,000 cubic feet	4 X Unit Price
All Other Users	First 10% excess	2 X Unit Price
	Next 10% excess	3 X Unit Price
	Additional excess	4 X Unit Price

¹Billing period is bi-monthly.

During the 1991 rationing program, Resolution No. 47-91 also called for installation of flow restrictors in services where the quantity of water withdrawn exceeded the water ration allotment by 20 percent and 20 hundred cubic feet per service during two (2) consecutive billing periods. Flow restrictors remain in place a minimum of seven (7) days the first time installed and fourteen (14) days each consecutive time thereafter. The customer is charged for each time restrictors are installed.

Under the 2015/16 rationing program the City implemented a temporary 50 cents per unit of water used. For customers using less than 200 gallons per day the temporary drought charge was credited back to the customer on their bill. In addition the City implemented 25% Drought Management Plan listing prohibited practices including restricting outdoor watering to two days per week and between the hours of 5 pm and 9 am.

New Requirements:

The City will be required to reduce its future daily per capita usage to meet the requirements of the 20 x 2020 Water Conservation Plan instituted by the State during the past drought. The City of Martinez will participate in a regional 20 x 2020 Water Conservation Plan through CCWD. With participation in the regional 20 x 2020 Plan, it may be required for the City to meet reduction requirements of the 20 x 2020 Conservation Plan individually. In this case, the City would be required to reduce its 10-year baseline daily per capita usage by 20 percent by 2020, and by an interim target of 10 percent by 2015. The following table indicates reduction targets for the City to meet the 20 x 2020 Water Conservation Plan individually.

**MAXIMUM DAILY PER CAPITA WATER USE REDUCTIONS
REQUIRED BY 20 X 2020 PLAN**

Year	GPCD Reduction Required for 20x2020 Plan	Annual Daily Per Capita Water Use (GPCD)
10-Year Base	--	160
2015	10%	144
2020	20%	128

For the City to meet the requirements of the 20 x 2020 Water Conservation Plan individually, it will be required to reduce its usage to 144 GPCD by 2015 and 128 GPCD by 2020. Because the City will participate in a regional effort through CCWD, the City may be allowed to have individual reductions less than this if CCWD's region as a whole can meet the requirements of the 20 x 2020 Water Conservation Plan. CCWD is currently in the process of determining specific reduction requirements for the individual agencies involved in the regional 20 x 2020 Conservation Plan.

If it is determined that the City must meet the requirements of 20 x 2020 individually, the City's reduction must be greater than 5 percent of its 5-year base range daily per capita water use by 2020.

Coordination and Outreach

The 2015 Urban Water Management Plan was prepared in coordination with various City departments. Coordination between the Community Development Department and Finance Department was essential in obtaining the information for population projections and current and historic water use required to prepare the plan.

Coordination between the City of Martinez and other agencies was key in the development of this plan. Agencies which participated and provided valuable information include:

- ◆ Contra Costa Water District (CCWD) – water supply and conservation information
- ◆ Central Contra Costa Sanitary District (CCCSD) – recycled water availability and use
- ◆ Mountain View Sanitary District (MVSD) – recycled water availability and use
- ◆ Contra Costa County – treated water customer service in County jurisdiction areas
- ◆ City of Pleasant Hill – treated water customer service in City jurisdiction areas

Implementation of Demand Management Measures (DMMs) within the City of Martinez is coordinated with Contra Costa Water District's (CCWD) conservation program. In October 1993, the CCWD board voted to implement DMMs throughout their entire service area, including retail customers within their wholesale water area. CCWD's Future Water Supply Study has identified water conservation as a component in its plan to meet future water demands within its service area.

Prior to the adoption of the plan the City must make the plan available for public inspection and conduct a public hearing. Notice and the time and place of the hearing are established by the Government Code. A copy of the draft UWMP update 2015 has been made available for public review in the City Clerk's Office.

Fiscal Impact

None.

Attachment

- Resolution

APPROVED BY:



Acting City Manager

RESOLUTION NO. -16

**ADOPTING UPDATED CITY OF MARTINEZ 2015 URBAN WATER MANAGEMENT PLAN
AND DIRECT STAFF TO PREPARE A FINAL PLAN IN ACCORDANCE WITH
CALIFORNIA WATER CODE, URBAN WATER MANAGEMENT PLANNING ACT AND
THE CALIFORNIA WATER CONSERVATION BILL OF 2009**

WHEREAS, the California Legislature enacted Assembly Bill 797 (Water Code Section 10610 et seq., known as the Urban Water Management Planning Act, (“Act”)) and amended subsequently, which mandates that every supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre feet of water annually, prepare an Urban Water Management Plan, primary objective of which is to plan for the conservation and efficient use of water; and

WHEREAS, the plan shall be periodically reviewed at least once every five years, and the City shall make any amendments or changes to its plan which are indicated by the review; and

WHEREAS, the City commenced a review of its existing Urban Water Management Plan in 2015, and based upon such review has prepared a revised and updated District Urban Water Management Plan for adoption in 2016; and

WHEREAS, a draft of the 2015 Urban Water Management Plan has been made available for public inspection and all comments received from the public and from public agencies have been reviewed and considered, and a duly noticed public hearing was conducted by the City Council on June 15, 2016 prior to adoption of the proposed revisions to the City’s Urban Water Management Plan, all in accordance with the Act, and

WHEREAS, the City of Martinez did prepare, and shall file, said Plan with the California Department of Water Resources by July 31, 2016.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Martinez that the Urban Water Management Plan, as presented, is adopted.

* * * * *

I HEREBY CERTIFY the foregoing is a true and correct copy of a resolution duly adopted by the City Council of the City of Martinez at a Regular Meeting of said Council held on 15th day of June, 2016, by the following vote:

AYES:

NOES:

ABSENT:

RICHARD G. HERNANDEZ, CITY CLERK
CITY OF MARTINEZ