2020

URBAN WATER MANAGEMENT PLAN

City of Martinez

July 2021

PSOMAS

This page intentionally blank

TABLE OF CONTENTS

1 INTRODUCTION AND OVERVIEW 1-1
1.1 Urban Water Management Plan Requirements 1-1
1.1.1 New Requirements Since 2015 1-1
1.1.2 Senate Bill 7 of the Seventh Extraordinary Session of 2009, Water Conservation in the Delta Legislative Package 1-2
1.1.3 Assembly Bill 1668 and Senate Bill 606 1-2
1.2 Lay Description 1-3
1.2.1 Water Demands 1-3
1.2.2 Water Supply 1-4
1.2.3 Water Service Reliability 1-5
1.2.4 Water Shortage Contingency Plan 1-6
1.2.5 Regional Supply Management 1-6
2 PLAN PREPARATION 2-1
2.1 Basis for Preparing a Plan 2-1
2.2 Individual or Regional Planning and Compliance 2-1
2.3 Fiscal or Calendar Year and Units of Measure 2-2
2.4 Coordination and Outreach 2-2
3 SYSTEM DESCRIPTION 3-1
3.1 General Description 3-1
3.1.1 City Water System Description 3-1
3.2 Service Area Boundary Map 3-2
3.3 Service Area Climate 3-2
3.4 Service Area Population and Demographics 3-4
3.5 Land Uses within Service Area 3-5
4 SYSTEM WATER USE CHARACTERIZATION 4-1
4.1 Recycled Versus Potable and Raw Water Demand 4-1
4.2 Water Uses by Sector 4-2
4.2.1 Water Use Sectors Listed in Water Code 4-2
4.2.2 Past and Current Water Use 4-2
4.3 Distribution System Water Losses 4-3
4.4 Projected Water Use 4-4
4.5 Worksheets and Reporting Tables 4-6
4.6 Water Use for Lower Income Households 4-8
4.7 Climate Change 4-9
5 SB X7-7 BASELINES AND TARGETS 5-1

5.1 Baseline Water Use 5-1
5.1.1 Baseline Period 5-1
5.1.2 Service Area Population 5-2
5.1.3 Gross Water Use 5-3
5.2 SBx7-7 Water Use Targets 5-3
5.2.1 SBx7-7 Target Methods 5-3
5.2.2 2020 Target 5-4
5.3 2020 Compliance 5-4
5.3.1 City Per-Capita Water Use 5-4
5.3.2 Regional Alliance 5-4
6 SYSTEM SUPPLIES 6-1
6.1 Purchased or Imported Water 6-1
6.1.1 Contra Costa Water District (CCWD) 6-1
6.2 Groundwater 6-6
6.3 Surface Water 6-6
6.4 Stormwater 6-6
6.5 Wastewater and Recycled Water 6-6
6.5.1 CCCSD Wastewater and Recycled Water Systems 6-7
6.5.2 MVSD Wastewater and Recycled Water Systems 6-8
6.6 Desalinated Water Opportunities 6-9
6.7 Exchanges or Transfers 6-9
6.8 Future Water Projects 6-9
6.9 Summary of Existing and Planned Sources of Water 6-10
6.10 Climate Change Impacts to Supply 6-11
6.11 Energy Intensity 6-11
7 WATER SUPPLY RELIABILITY ASSESSMENT 7-1
7.1 Factors Impacting Reliability 7-1
7.1.1 Constraints on Delta Supply 7-1
7.1.2 Supply Reliability Improvements 7-1
7.2 Reliability by Type of Year 7-2
7.3 Regional Supply Management 7-5
7.4 Supply and Demand Assessment 7-5
7.5 Drought Risk Assessment 7-7
8 WATER SHORTAGE CONTINGENCY PLANNING 8-1
8.1 City Ordinances and Resolutions Responding to Water Shortages 8-1
8.2 Water Supply Reliability Analysis 8-2

8.3 Annual Water Supply and Demand Assessment Procedures 8-3
8.3.1 Decision-Making Process 8-3
8.3.2 Data and Methodologies 8-4
8.4 Six Standard Water Shortage Stages 8-5
8.5 Shortage Response Actions 8-6
8.5.1 CCWD Shortage Response Actions 8-6
8.5.2 City Shortage Response Actions 8-8
8.6 Catastrophic Supply Interruption 8-15
8.6.1 8.5.1 Emergency Response Plan 8-15
8.6.2 Seismic Risk Assessment and Mitigation 8-16
8.7 Communication Protocols 8-17
8.8 Compliance and Enforcement 8-17
8.9 Legal Authorities 8-18
8.10 Financial Consequences of WSCP 8-19
8.11 Monitoring and Reporting 8-19
8.12 WSCP Refinement Procedures 8-19
8.13 Special Water Feature Distinction 8-19
8.14 Plan Adoption, Submittal, and Availability 8-20
9 DEMAND MANAGEMENT MEASURES 9-1
9.1 Demand Management Measures for Retail Agencies 9-2
9.1.1 Water Waste Prevention Ordinances 9-2
9.1.2 Metering 9-3
9.1.3 Conservation Pricing 9-3
9.1.4 Public Education and Outreach 9-4
9.1.5 Programs to Assess and Manage Distribution System Real Loss 9-4
9.1.6 Water Conservation Program Coordination and Staffing Support 9-4
9.1.7 Other Demand Management Measures 9-5
9.2 Implementation Over the Past Five Years 9-6
9.3 Planned Implementation 9-6
10 PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION 10-1
10.1 Inclusion of all 2020 Data 10-1
10.2 Notice of Public Hearing 10-1
10.3 Public Hearing and Adoption 10-1
10.4 Plan Submittal 10-2
10.5 Public Availability 10-2
10.6 Amending the Adopted UWMP 10-2

TABLES

Table 2-1: Public Water Systems 2-1
Table 2-2: Plan Identification 2-1
Table 2-3: Agency Identification 2-2
Table 2-4: Water Supplier Information Exchange 2-3
Table 2-5A: Coordination with Appropriate Agencies 2-3
Table 3-1A: Historical City Climate Characteristics 3-4
Table 3-1B: Population - Historical and Current 3-5
Table 3-1: Population - Historical and Current 3-5
Table 4-1A: Population - Historical Water Service Connections 4-2
Table 4-1B: Historical Water Use by Sector 4-3
Table 4-1C: Water Loss Audit Reporting Data 4-4
Table 4-1D: Historical and Projected Per-Capita Water Demand 4-5
Table 4-1E: Projected Water Use 4-6
Table 4-1: Demands for Potable Water – 2020 Actual 4-7
Table 4-2: Demands for Potable Water - Projected 4-7
Table 4-3: Total Water Demands 4-7
Table 4-4: Last Five Years Water Loss Audit Reporting 4-8
Table 4-5: Inclusion in Water Use Projections 4-9
Table 5-1A: Baseline Daily Per-Capita Water Use 5-2
Table 5-1B: Minimum Baseline Daily Per-Capita Water Use 5-2
Table 5-1: Baselines and Targets Summary 5-4
Table 5-2: 2020 Individual Compliance 5-4
Table 6-2: Wastewater Collected Within Service Area in 2020 6-7
Table 6-8: Water Supplies - Actual 6-10
Table 6-9: Water Supplies - Projected 6-11
Table 6-10A: Water Supplies - Projected 6-11
Table 6-11A: Energy Reporting – Total Utility Approach 6-12
Table 7-1A: CCWD Projected Supply Reliability (% of Demand) 7-3
Table 7-1B: CCWD Wholesale Supply - Basis of Water Year Data 7-3
Table 7-1C: CCWD Supply and Demand Comparison 7-4
Table 7-1: Basis of Water Year Data 7-4
Table 7-2: Normal Year Supply and Demand Comparison 7-5

Table 7-3: Single-Dry Year Supply and Demand Comparison 7-6
Table 7-4: Multiple Dry Years Supply and Demand Comparison 7-6
Table 7-5A: CCWD Five-Year Drought Risk Assessment 7-7
Table 7-5: Five-Year Drought Risk Assessment 7-8
Table 8-1A: Annual Assessment Timeline and Procedures 8-4
Table 8-1B: Water Shortage Contingency Plan Levels 8-6
Table 8-1C: CCWD WSCP Demand Reduction Actions 8-7
Table 8-1D: Stages of WSCP 8-8
Table 8-1 Water Shortage Contingency Plan Levels 8-9
Table 8-2 Demand Reduction Actions 8-11
Table 8-3A: Consumption Reduction Methods 8-14
Table 10-1: Notification to Cities and Counties 10-1

FIGURES

Figure 3-1: City of Martinez Water Service Area 3-3
Figure 6-1: Contra Costa Water District Service Area 6-2

APPENDICES

Appendix A DWR UWMP Checklist
Appendix B UWMP Standardized Submittal Tables
Appendix C Notice of Public Hearing and Resolution for Plan Adoption
Appendix D AWWA Water Loss Reporting Worksheets
Appendix E SBX7-7 Compliance Tables and DWR Population Tool
Appendix F Energy Use Reporting
Appendix G City of Martinez Water Shortage Response Resolutions
Appendix H City of Martinez Emergency Response Plan Summary
Appendix I Summary of Conservation Best Management Practices for City of Martinez
Appendix J Reduced Reliance on the Delta

ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
ABAG	Association of Bay Area Governments
AF	Acre Feet
AFY	Acre Feet per Year
AMI	Area Median Income
AWWA	American Water Works Association
BARR	Bay Area Regional Reliability Partnership
BDCP	Bay Delta Conservation Plan
BMP	Best Management Practices
CalWEP	California Water Efficiency Partnership
CEQA	California Environmental Quality Act
CFS	Cubic Feet Per Second
CIMIS	California Irrigation Management Information System
CUWCC	California Urban Water Conservation Council
CVP	Central Valley Project
DMM	Demand Management Measure
DOF	California Department of Finance
DU	Dwelling Unit
DWR	Department of Water Resources
DWD	Diablo Water District
EBMUD	East Bay Municipal Utility District
ECCC	East Contra Costa County
ECCID	East Contra Costa Irrigation District
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ERP	Emergency Response Plan
ET	Evapotranspiration
Eto	Evapotranspiration From a Standardized Grass Surface
FY	Fiscal Year
GAC	Granular Activated Carbon
GHG	Greenhouse Gas
GPCD	Gallons Per Capita Per Day
GPD	Gallons Per Day
GPM	Gallons Per Minute
HCD	Housing and Community Development
IRP	Integrated Resources Plan
IRWM	Integrated Regional Water Management
IRWMP	Integrated Regional Water Management Plan
M&I	Municipal and Industrial
MAF	Million Acre Feet
MCL	Maximum Contaminant Level
MGD	Million Gallons per Day
Mg/L	Milligrams Per Liter

MIN	Minutes
MOU	Memorandum of Understanding
MVSD	Mountain View Sanitary District
MWELO	Model Water Efficient Landscape Ordinance
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
RHNA	Regional Housing Needs Allocation
RO	Reverse Osmosis
RUWMP	Regional Urban Water Management Plan
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SDWA	Safe Drinking Water Act
SWP	State Water Project
SWRCB	State Water Resources Control Board
TAF	Thousand Acre Feet
TDS	Total Dissolved Solids
TOC	Total Organic Carbon
ug/L	Micrograms Per Liter
USBR	U.S. Bureau of Reclamation
USEPA	United States Environmental Protection Agency
UWMP	Urban Water Management Plan
WQCP	Water Quality Control Plan
WSA	Water Service Area
WSCP	Water Shortage Contingency Plan

This page intentionally blank

1 INTRODUCTION AND OVERVIEW

1.1 Urban Water Management Plan Requirements

This report has been prepared in compliance with the Urban Water Management Planning Act (Act), which was added to the California Water Code by Statute 1983, Chapter 1009, and became effective on January 1, 1984. This Act requires that "every urban water supplier shall prepare and adopt an urban water management plan." An "urban water supplier" is defined as a supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually.

These plans must be filed with the California Department of Water Resources (DWR) every five years ending in 0 and 5. The 2020 UWMP is due to DWR by July 1, 2021. The Act's requirements include:

- Detailed evaluation of the supplies necessary to meet demands over at least a 20-year period, in five-year increments, under normal conditions, single dry-year conditions, and five consecutive dry years,
- 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.

This 2020 Urban Water Management Plan (UWMP) provides a detailed summary of present and future water supplies and demands and provides an assessment of the City of Martinez (City) water resource needs. Specifically, the UWMP provides water supply planning for a 25-year planning period in five-year increments and identifies water supplies needed to meet existing and future demands. The demand analysis must identify supply reliability under three hydrologic conditions: a normal year, single dry-year, and five consecutive dry-years. The City's 2020 UWMP updates the 2015 UWMP, in compliance with new requirements of the Act.

1.1.1 New Requirements Since 2015

There are numerous additional requirements passed by the Legislature for the 2020 UWMP, updating the 2015 UWMP guidance. The following is a summary of the significant changes:

- Five Consecutive Dry-Year Water Reliability Assessment – The dry-year water reliability planning was modified from a "multi-year" time period to a "drought lasting five consecutive water years." The Supplier must analyze the reliability of water supplies to meet demands over an extended drought period.
- Drought Risk Assessment – The Legislature created a new UWMP requirement for drought planning that requires the Supplier to assess water supply reliability over the five-year period from 2021 to 2025 that evaluates water supplies, water use, and the resulting water supply reliability under a reasonable prediction for five consecutive dry years.

- Seismic Risk – The Water Code now requires Suppliers to specifically address the seismic risk to water facilities and to have a mitigation plan.
- Water Shortage Contingency Plan – The Legislature modified the UWMP laws in 2018 to require a Water Shortage Contingency Plan (WSCP) with specific elements. The WSCP provides an action plan for a drought or catastrophic water supply shortage.
- Groundwater Supplies Coordination – The Legislature enacted the Sustainable Groundwater Management Act in 2014 to address groundwater conditions throughout California. The Water Code requires that the 2020 UWMP is consistent with any applicable Groundwater Sustainability Plans that have been completed.
- Lay Description – The Legislature included a new statutory requirement for Suppliers to include a lay description of the fundamental determinations of the UWMP. The description will include water service reliability, future challenges, and strategies for managing reliability risks. The section will provide a synopsis of the Supplier's detailed analysis.
- Reduced Reliance on Delta – Suppliers that anticipate participating in, or receiving water from, a proposed project in the Sacramento-San Joaquin Delta (Delta) have the opportunity to demonstrate reduced reliance on the Delta, consistent with Delta Plan policy.
- Energy Intensity – Suppliers must provide information by water service operation to calculate the energy intensity of their water service. This is now required, whereas in the 2015 UWMP it was voluntary.

1.1.2 Senate Bill 7 of the Seventh Extraordinary Session of 2009, Water Conservation in the Delta Legislative Package

The state Legislature passed Senate Bill 7 as part of the Seventh Extraordinary Session, referred to as SBx7-7, on November 10, 2009, which became effective February 3, 2010. This law was the water conservation component to the historic Delta legislative package and seeks to achieve a 20 percent statewide reduction in urban per capita water use in California by December 31, 2020. The law requires each urban retail water supplier to develop urban water use targets to help meet the 20 percent goal by 2020.

The bill states that the legislative intent is to require all water suppliers to increase the efficiency of use of water resources and to establish a framework to meet the state targets for urban water conservation called for by the Governor. The bill establishes methods for urban retail water suppliers to determine targets to help achieve increased water use efficiency by the year 2020. The law is intended to promote urban water conservation standards consistent with the California Urban Water Conservation Council's adopted best management practices.

This 2020 UWMP shows the 2020 per-capita target value that was adopted in the 2015 UWMP, and the compliance value based upon actual 2020 customer water use. The details of this analysis are included in Chapter 5.

1.1.3 Assembly Bill 1668 and Senate Bill 606

In 2018, Governor Brown signed into law the water conservation bills AB 1668 and SB 606. These bills were a result of an Executive Order from the Governor during the recent drought

which required State agencies to develop and recommend a long-term water conservation framework to ensure adequate water supplies for the State now and in the future. The two bills establish guidelines for efficient water use and a framework for implementation and oversight of the new standards, which must be in place by 2022. Provisions of the bills promote long term water conservation and drought reliability and include the following:

- Established water use objectives and long-term standards for efficient water use that apply to urban retail water suppliers comprised of indoor and outdoor residential water use, dedicated irrigation meters for commercial, industrial, and institutional (CII) users, and water loss.
- Provides incentives for water suppliers to recycle water.
- Requires suppliers to set annual water budgets and prepare for drought.

1.2 Lay Description

The City of Martinez (City) has prepared this 2020 Urban Water Management Plan (UWMP) in compliance with the California Water Code (CWC). This summary satisfies the requirement of CWC to include a simple lay description of information necessary to provide a general understanding of the Plan, including a description of City's water supply reliability, as well as its strategies and potential challenges for the foreseeable future.

This UWMP provides an assessment of the City's water service reliability, describes, and evaluates sources of water supply, demand management measures, and other relevant information and programs. In addition to the water reliability assessments, the Plan includes an evaluation of frequent and severe periods of drought and the preparation and adoption of the Water Shortage Contingency Plan (WSCP) that provides actions in response to potential water supply shortages.

CWC requires reporting agencies to describe their water reliability under the conditions associated with a normal water year, a single dry-year, and droughts lasting at least five consecutive water years, with projected information in five-year increments for a minimum period of 20 years into the future. The factors used to evaluate the City's supply and demand balance for the 2020 UWMP are presented below. Some of the considerations and resulting projections may change over time with changes in water supply conditions and planning efforts. These changes will be reflected in future updates of the UWMP which occur every five years.

1.2.1 Water Demands

The water service area encompasses approximately 10,300 acres. The City water service area boundaries and City limits are shown on Figure 3-1. As shown, the City water service boundaries do not align with the City limits. The water service area extends outside the City limits into unincorporated Contra Costa County and the City of Pleasant Hill. Areas within the City that are located outside of the water service area are served by either Contra Costa Water District (CCWD) or East Bay Municipal Utility District (EBMUD).

Water demands within the City's service area are dependent on many factors such as local climate conditions, population, demographics, land use, and economics. Based on data from the Association of Bay Area Governments (ABAG) and the California Department of Finance, the City's water service area population was 28,095 in 2020 and is projected to increase to 31,632 by 2045, for a 12 percent increase.

California's urban water demand has been largely shaped by the efforts to comply with a 2010 water conservation law known as Senate Bill x7-7 (SB X7-7). This law required California water suppliers to reduce water demand by 20 percent (from a historical baseline) by 2020. The City has been engaged in reducing water use in its service area, in coordination with CCWD, to meet the final 2020 water use target through conservation and Demand Management Measures discussed in Chapter 9 of this UWMP. The City was unable to achieve a 20% reduction from the baseline value on an individual basis but did meet the target as part of a Regional Alliance headed by CCWD. Meeting the target through the Regional Alliance complies with SB X7-7 requirements and was critical to ensure the City's eligibility to receive future State water grants and loans.

Future water use is estimated by understanding the customer type creating the demand. Developing local water use profiles helps to identify the quantity of water used by different land uses within the service area. Past metered customer water use is used to evaluate patterns by land use type. Water consumption in this UWMP is evaluated by the following customer classes:

- Single-family Residential
- Multi-family Residential
- Commercial/Institutional
- Industrial
- Irrigation

By far, the predominant land use in the City is residential, making up approximately 88% of the City's water service connections. Of the residential service connections, 95% are single family residential units. The water service area is largely built out with primarily infill and re-development projects that are on-going and planned for the future.

There are also water losses associated with leaks and meter inaccuracies. Water losses within the City's service area have steadily increased over the past five years. The City attributes most of these losses to pipeline leaks and breaks due to an aging distribution system. Water demands (sales) have not changed substantially over the past five years so the primary increase in water supply has been due to losses. The City plans to accelerate its pipeline replacement program and seek grants or other funding to reduce system losses in the future.

Water demand for the City was projected out to the year 2045 based on existing use data as well as projected land use, population, and future conservation. Future conservation assumes continued implementation of the City's current conservation programs, water efficient new construction, and the gradual replacement with efficient plumbing and irrigation systems for existing homes. The primary source of conservation within the City will be the replacement of pipelines to reduce water losses. Water demand is projected to decrease from 113 gallons per capita per day (gpcd) in 2020 to 102 gpcd in 2045.

1.2.2 Water Supply

The City receives untreated imported water from Contra Costa Water District (CCWD) via the Contra Costa Canal, which is part of the Central Valley Project developed by the U.S. Bureau of Reclamation. The water is sold to Martinez based on CCWD's rate structure per unit of water delivered. This represents 100 percent of the water supply for the City's water service area.

CCWD pumps water from four intakes in the Sacramento-San Joaquin Delta. The backbone of the District's water conveyance system is the 48-mile Contra Costa Canal, which starts at Rock Slough intake and ends at the Martinez Reservoir. Martinez Reservoir is an open, earthen reservoir with an estimated capacity of 79.6 million gallons (MG). The raw water is conveyed from the reservoir to the City's water treatment plant where it is treated to Title 22 drinking water standards prior to being pumped into the City's distribution system. If the treatment plant cannot produce water due to an emergency condition, treated water can be supplied into the City's water distribution system from CCWD through two interties.

CCWD is almost entirely dependent on the Sacramento-San Joaquin Delta for its water supply. CCWD's primary source is the United States Bureau of Reclamation's Central Valley Project (CVP) through a contract that provides for a maximum delivery of 195,000 acre-feet per year (AFY) from the CVP, with a reduction in deliveries during water shortages including regulatory restrictions and drought. CCWD obtained additional water rights for Delta flows through storage in the Los Vaqueros Reservoir. Other sources of CCWD supply include the San Joaquin River, Mallard Slough, recycled water, a minor amount of local well water, and water transfers.

1.2.3 Water Service Reliability

Every urban water supplier is required to assess the reliability of their water service to its customers under normal, dry, and multiple dry water years. Two of the most significant constraints on water supply for the City, and for California, in recent years have been drought and issues related to the Sacramento-San Joaquin River Delta ecosystem.

The City relies on imported CVP water from CCWD. Many factors could result in decreased reliability of the City's water supply from CCWD including water quality and climatic conditions. Potential impacts to water supply are considered in the development of CCWD's supply reliability analysis presented in their 2020 UWMP. CCWD continues to evaluate options to maintain and improve water supply and quality for its customers and to meet increasingly stringent drinking water quality standards. CCWD has completed several projects in the past ten years and continues to evaluate other options to maintain and improve supply.

Since a contract does not exist between CCWD and the City of Martinez for a fixed delivery amount, water supply has been set equal to projected demand. During periods of drought, CCWD has established supply limits based on a percentage of the demand from the previous years. CCWD's supply forecast takes into consideration historical drought hydrology, projected supplies and demands under climate change conditions, and anticipated regulatory changes. CCWD does not anticipate any supply deficits in normal years or single-dry years throughout the planning horizon. This is primarily due to the success of the District's past water use efficiency measures, the existing contract for CVP water, and long-term water transfer agreements. In future years, multiple-dry year conditions may result in supply shortfalls of up to approximately 15% of demand. CCWD's water supply reliability goal is to meet 100 percent of demand in normal years and a minimum of 85 percent of demand during a drought. Any potential supply shortfalls experienced during dry year conditions will be met through a short-term demand management program, consistent with CCWD's Board policy.

It is estimated that a projected CCWD supply deficit in a given year is met with a matching percent short-term City demand reduction through water conservation, consistent with the City's WSCP. Supply reliability has been realized through water conservation during times of drought and other caused water supply shortages. The City of Martinez experienced water supply

shortages in 1977, 1991, 2009, and 2015. In response to each shortage, the City was successful in achieving water reduction beyond the necessary limits in each year.

The CWC also requires every urban water supplier to include, as part of its UWMP, a drought risk assessment (DRA) for its water service as part of information considered in developing its demand management measures and water supply projects and programs for the upcoming five-year period. The DRA allows suppliers to consider how to manage water supplies during dry conditions in relation to variations in demand. This process helps a supplier evaluate its WSCP and anticipate appropriate shortage response actions before an actual extended drought period.

CCWD's DRA is presented in their 2020 UWMP and anticipates that short-term demand management measures (DMMs) up to 7 percent would be needed by 2025 to address supply shortfall under prolonged drought conditions. Water supply availability to the City for the DRA period is estimated based on CCWD's projected surplus and shortfall data provided in their DRA, with surplus supply in the first three years, a 0.5% shortfall in 2024, and a 7.2% shortfall in 2025. Matching CCWD's DRA, the City's DRA demonstrates adequate supply in the first three years and projected shortfalls in the subsequent two years during a long-term drought scenario that occurs over the next five years. Projected water shortages would trigger Water Shortage Contingency Plan response actions as described in Chapter 8. The DRA will be modified as needed during interim periods between each UWMP cycle should information become available that changes the forecasted supply.

1.2.4 Water Shortage Contingency Plan

Water supplies may be interrupted or reduced by droughts, earthquakes, and power outages which hinder a water agency's ability to effectively deliver water. Drought impacts increase with the length of a drought, as supplies in reservoirs and other storage programs are depleted and water levels in groundwater basins decline. The ability to manage water supplies in times of drought or other emergencies is an important part of water resource management for a community. In anticipation of such water supply challenges, the CWC requires suppliers to prepare and adopt a Water Shortage Contingency Plan (WSCP) which includes water shortage response actions that they would take in response to various water shortage levels. This WSCP describes the water supply shortage policies the City has in place to respond to events including reductions and catastrophic interruption in water supply.

During a water shortage period, the City will determine the extent of conservation required based on water supply availability from its sources. As a customer of CCWD, the City will follow CCWD's adopted WSCP and required actions. Depending on the severity of the water shortage, the City will adopt a water shortage response action. The City has four existing shortage levels that are used in its WSCP that range from 15% to 50% of the normal water demand with various associated response actions. For shortage levels greater than 50%, the City will activate the City's Emergency Response Plan (ERP) which outlines response and recovery responsibilities during catastrophic water supply interruptions. The City has historically passed ordinances to restrict water waste and promote water conservation in response to droughts and other water shortage conditions in which CCWD imposed water supply reductions to the City and other retail customers typically by a percentage of water used in the previous years.

1.2.5 Regional Supply Management

The management strategies implemented by CCWD directly relate to the City's own reliability. CCWD strategies include utilizing dry-year agreements with other water providers, the

implementation of conservation programs including percent reduction actions, and the increased use of local storage supplies.

Additionally, CCWD is collaborating with other Bay Area agencies to improve regional water management and planning. CCWD participates and plays a leadership role in the East Contra Costa County Integrated Regional Water Management Plan (IRWMP) process which has, to date, utilized over $30 million in grant funding for projects to offset water supply from the Delta. CCWD, together with seven other Bay Area water agencies, are participating in the Bay Area Regional Reliability (BARR) partnership to improve water supply reliability in the Bay Area. Benefits of this regional approach include leveraging infrastructure investments, facilitating water transfers, enhancing emergency preparedness, and improving climate change resiliency. The partners are working the Shared Water Access Program to develop a guide for sharing resources to improve regional resilience and reliability.

This page intentionally blank

2 PLAN PREPARATION

2.1 Basis for Preparing a Plan

Per California Water Code (CWC), "urban water supplier" means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers. This part applies only to water supplied from public water systems. Every urban water supplier must adopt an urban water management plan within one year after it has become an urban water supplier.

The City of Martinez is a public water supplier that meets the definition of an urban water supplier with 9,977 municipal water service connections and a total 5,152 acre-feet (AF) of water supplied to customers in their water service area in 2020. See Table 2-1.

Table 2-1: Public Water Systems

Public Water Systems			
Public Water System Number	**Public Water System Name**	**Number of Municipal Connections 2020**	**Volume of Water Supplied 2020**
CA0710006	City of Martinez	9,977	5,152

2.2 Individual or Regional Planning and Compliance

The City of Martinez has developed an individual UWMP that reports solely on its service area; addresses all requirements of the CWC; and notifies and coordinates with appropriate regional agencies and constituents. See Table 2-2.

Table 2-2: Plan Identification

Plan Identification			
Select Only One	**Type of Plan**		**Name of RUWMP or Regional Alliance**
☑	**Individual UWMP**		
☐	☐	Water Supplier is also a member of a RUWMP	
☐	☑	Water Supplier is also a member of a Regional Alliance	Contra Costa Water District Alliance
☐	**Regional Urban Water Management Plan (RUWMP)**		
NOTES: City of Martinez is submitting an individual UWMP. The City of Martinez is also participating in the Contra Costa Water District Regional Alliance. The Regional Alliance Report and verification forms have been submitted by CCWD on behalf of the regional alliance member agencies.			

The City is a member of the Contra Costa Water District (CCWD) Regional Alliance that also includes the City of Antioch, the City of Pittsburg, Diablo Water District, and Golden State Water

Company (Bay Point). CCWD will prepare a SBx7-7 analysis for the regional alliance, which allows the City of Martinez to comply with SBx7-7 on an individual or regional basis. CCWD will submit the required Regional Alliance Report and verification forms on behalf of the group as part of its 2020 UWMP

2.3 Fiscal or Calendar Year and Units of Measure

The City of Martinez is a water retailer (as opposed to a water wholesaler). The City's 2020 UWMP has been prepared using calendar years (as opposed to fiscal years) and has been prepared using acre-feet (AF) as the units of water volume measure. See Table 2-3.

Table 2-3: Agency Identification

Agency Identification	
Type of Agency	
☐	Agency is a wholesaler
☑	Agency is a retailer
Fiscal or Calendar Year	
☑	UWMP Tables Are in Calendar Years
☐	UWMP Tables Are in Fiscal Years
Units of Measure Used in UWMP	
Unit	AF

2.4 Coordination and Outreach

Per CWC, an urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (c). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan.

The City of Martinez has provided Contra Costa Water District (CCWD), the City's water wholesaler, with projected water use in accordance with CWC 10631 and has relied upon water supply information provided by CCWD in fulfilling its 2020 UWMP.

Table 2-4: Water Supplier Information Exchange

Water Supplier Information Exchange
The retail supplier has informed the following wholesale supplier(s) of projected water use in accordance with CWC 10631.
Contra Costa Water District

The City of Martinez encourages community participation in its urban water management planning activities. Community input has been encouraged during previous plan development. The 2020 UWMP format has been revised to incorporate plan requirement changes due to legislative amendments enacted since 2015. Prior to its adoption, the plan was made available for public inspection and a noticed public hearing was held. Prior to the hearing, a notice providing time and place of hearing was published, in accordance with Section 6066 of the Government Code. A copy of the affidavit of publication for the public notice is included in Appendix C. Within 30 days after City Council approval, a copy of the Plan was made available for public review.

Coordination between the City of Martinez and other agencies was key in the development of the 2020 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
- Mt. View Sanitary District (MVSD) – recycled water availability/use
- Contra Costa County – treated water customer service in County jurisdiction areas

Implementation of Demand Management Measures (DMMs) within the City of Martinez is coordinated with Contra Costa Water District's (CCWD) water use efficiency program.

A summary of the City's coordination with the appropriate agencies is shown in Table 2-5A.

Table 2-5A: Coordination with Appropriate Agencies

Coordination with Appropriate Agencies					
Agency	**Participated in developing plan**	**Commented on draft plan**	**Was contacted for assistance**	**Was sent a copy of the draft plan**	**Was sent a notice of intention to adopt**
CCWD	x		x	x	x
CCCSD					x
MVSD					x
Contra Costa County				x	x
Pleasant Hill				x	x
Martinez City Council		x		x	x
Interested General Public		x			x

This page intentionally blank

3 SYSTEM DESCRIPTION

3.1 General Description

The City of Martinez is located in north central Contra Costa County along the Carquinez Strait. The water service area encompasses approximately 10,300 acres with elevations ranging from sea level in the downtown Martinez area to over 700 feet in the Stonehurst development in the southwestern corner of the service area. Water service is provided to residential, commercial, industrial, public, and irrigation customers.

The City water service area boundaries and City limits are shown on Figure 3-1. As shown, the City water service boundaries are not contiguous with the city limits. The water service area extends outside the City limits along the northeast (County), southeast (City of Pleasant Hill), and southwest (County). The water service area boundary is inside the City boundary in the northeast, with this area of the City served by the Contra Costa Water District; and is inside the City boundary in the southeast, with this area of the City served by the East Bay Municipal Utility District (EBMUD).

Land uses within the water service boundary include residential, commercial, industrial, public, and quasi-public institutional, parks and recreation, and open space. There is no irrigated agriculture within the water service area.

Residential land use is predominant and is spread out throughout the water service area except for the area north of Pacheco Road, which is primarily zoned for industrial and manufacturing land uses. The predominant residential land use is zoned Residential Low, which has an allowed housing density of 1 to 5 dwelling units per acre (DU/ac). Allowed residential housing density is as low as 0 to 0.49 DU/ac for areas zoned Hillside Rural Residential, and as high as 20 to 30 DU/ac for areas zoned Residential High.

The water service area is largely built out with primarily infill and re-development projects that are on-going and planned for the future.

3.1.1 City Water System Description

The City's Public Works Department operates domestic water treatment, storage, pumping, transmission, distribution, and fire protection facilities for the delivery of potable water to customers located within the water service area. The City's Water Superintendent manages the treatment plant, pump stations, and reservoirs. The City's Maintenance Superintendent is responsible for maintaining the water distribution system and meter reading. The City Engineer is responsible for the design and construction of water system capital improvement projects.

The City receives untreated imported water from Contra Costa Water District (CCWD) via the Contra Costa Canal, which is part of the Central Valley Project developed by the U.S. Bureau of Reclamation. CCWD stores this water in the Martinez Reservoir, which is located at the terminus of the Contra Costa Canal and CCWD's Shortcut Pipeline. Martinez Reservoir is an open, earthen reservoir and is estimated to have a capacity of 79.6 million gallons (MG) based on a 2003 bathymetry. Some additional sedimentation has occurred since that time. Untreated water is conveyed from the reservoir to the City's water treatment plant by gravity flow. A pumping station is available to pump water from the reservoir to the treatment plant when reservoir water levels are not high enough to provide sufficient gravity flow rates to meet the City's needs.

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).

If the treatment plant cannot produce water due to an emergency condition, treated water can be diverted to the City's water distribution system from the CCWD water distribution system through two interties. One intertie is located at the City water treatment plant and another is located in the distribution system at Elderwood Drive and Alhambra Avenue. A third intertie can be assembled above grade on Glacier Drive south of Muir Road, with the use of temporary piping, valves, meters, and pump.

The City currently has six primary pump stations that supply water to four distribution system pressure zones; and eleven ground-level treated water storage reservoirs, which have a total capacity of 9.97 MG. The clearwell storage at the water treatment plant provides an additional 0.75 MG. Storage is primarily used for meeting diurnal fluctuations in demand; providing water for fire protection; and providing water during emergency outages of normal water supply facilities, i.e. pump stations and the treatment plant.

3.2 Service Area Boundary Map

The City of Martinez's water service area encompasses over 10,300 acres. The City water service area boundaries and City limits are shown on Figure 3-1 and is discussed in Section 3.1.

3.3 Service Area Climate

The Martinez service area generally has hot, dry summers and cool, wet winters. In the summer, a steady marine wind blows through the Golden Gate Bridge and up the Carquinez Strait. Velocities of 15 to 25 knots or more are common in the late afternoon and in the evening. In the morning, 10 knots or less can be expected. In December and January, tulle fog is common and may last for several days at a time. The average monthly evapotranspiration, rainfall, and temperatures are listed in Table 3-1A.

The average annual precipitation varies across the City from the rain shadow effect of the East Bay Hills. The higher elevations in the southwestern part of the service area have an annual average precipitation of about 22.5 inches per year. The lower elevation areas to the northeast along the waterfront have an annual average precipitation of about 15 inches per year.

The local and regional climates are being impacted by climate change which, in turn, has an impact on water demands, supplies, and supply reliability. Scientists and water purveyors are already observing the effects of climate change and the resulting risks related to water planning. A discussion of the effects of climate change on water demands, supplies, and reliability are discussed in later sections of this UWMP.

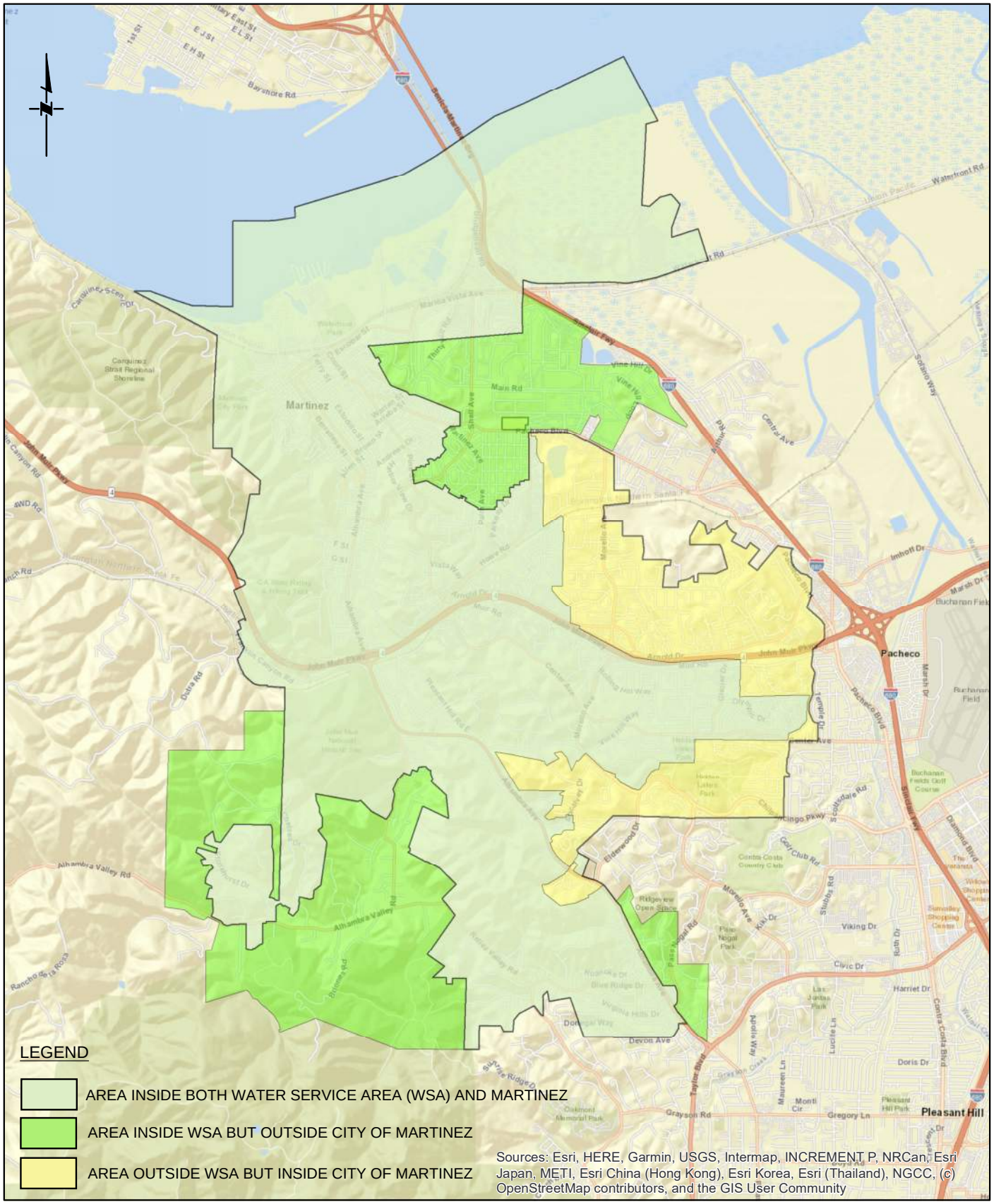


FIGURE 3-1
WATER SERVICE AREA BOUDNARY

Table 3-1A: Historical City Climate Characteristics

Historical City Climate Characteristics				
Month	**Standard Average ETo[a] (inches)**	**Average Rainfall[b] (inches)**	**Average Max Temperature[b] (degrees F)**	**Average Min Temperature[c] (degrees F)**
January	1.27	3.90	55.65	38.23
February	1.96	3.61	61.17	41.07
March	3.32	2.89	66.20	43.76
April	4.68	1.24	71.85	45.72
May	6.32	0.45	78.84	49.29
June	7.25	0.10	85.48	53.01
July	7.52	0.01	89.09	54.19
August	6.66	0.05	87.87	54.04
September	4.98	0.18	84.75	52.79
October	3.36	0.90	76.32	48.44
November	1.75	2.46	64.12	42.71
December	1.11	3.50	55.95	37.85
Annual	50.18	19.27	73.07	46.85

a) Standard Average ETo from California Irrigation Management Information System (CIMIS) Station 170, Concord, CA. Station 170 is CIMIS station closest to the City of Martinez. Actual ETo in Martinez is likely slightly lower than values measured at Station 170; Average for 4/6/2001 through 5/31/2021.
b) Data obtained from Western Regional Climate Center (WRCC), Desert Research Institute, Reno, Nevada https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca5378); data extracted from monitoring Station 045378 at Martinez Water Plant; Average for Jan 1970 through Dec 2019.

3.4 Service Area Population and Demographics

For the preparation of the 2020 UWMP, the DWR Population Tool was utilized to estimate the City's water service area population by inputting single-family and multi-family residential water service connections for years 1990, 2000, 2010, and 2020 along with the water service area boundary in electronic (KML) format.

Historical and current City population, as reported by the Census (2000 and 2010) and the California Department of Finance (DOF) (2005, 2015, and 2020), is shown in Table 3-1B compared with historical and current population for the City's water service area (WSA) as determined by the DWR Population tool. As shown, the population of the water service area ranged from 78.6 to 82.0 percent of the City population with an average of 80 percent.

Table 3-2B: Population - Historical and Current

Population – Historical and Current					
Area	**2000**	**2005**	**2010**	**2015**	**2020**
Within City[a]	35,866	36,061	35,924	35,890	35,760
Water Service Area[b]	29,406	28,837	28,673	28,471	28,095
WSA/City %	82.0%	80.0%	79.8%	79.3%	78.6%
(a) Reported census and/or DOF data (b) DWR Population Tool					

Projected City population (within the City boundaries) was taken from CCWD 2020 UWMP, which compiles the data for its service area. These were in turn based on data from the Department of Finance Population Estimates using Association of Bay Area Governments (ABAG) Bay Area Plan Projections 2019 growth percentages. The City population projections were multiplied by a factor of 0.79 to estimate projected populations for the City's water service area, which are shown in Table 3-1. The 0.79 factor is based on the percentage of the service area population within the City in 2020. The water service area population is projected to increase from 28,250 in 2020 to 31,632 in 2045, which is a 12 percent increase.

Table 3-1: Population - Historical and Current

Population - Current and Projected						
Population Served	**2020**	**2025**	**2030**	**2035**	**2040**	**2045**
	28,095	28,985	29,657	30,099	30,857	31,632

From the City of Martinez Demographic Profile, the City has a tradition of high occupancy rates with approximately 96% owner occupied. Also, the per capita and median household income is higher than the County, State, and Federal averages with approximately 36% of the population having a bachelor's degree or higher. Largely built out, the population growth rate is lower compared to the rest of the County and the San Francisco Metropolitan area.

3.5 Land Uses within Service Area

Water consumption is projected by understanding the type of use and customer type creating the demand. Developing local water use profiles helps to identify quantity of water used, and by whom within the agency's service area. Knowledge of water use by customer type enables the City to develop more effective water conservation programs and to project the future benefit of those programs. Water consumption in this UWMP is evaluated by the following customer classes:

- Single-family Residential
- Multi-family Residential
- Commercial/Institutional
- Industrial
- Irrigation

The predominant residential land use is Residential Low (RL), which has an allowed housing density of 1 to 5 dwelling units per acre. RL includes both rural residential neighborhoods

developed under the County's jurisdiction, as well as neighborhoods of custom and semi-custom single-family homes, on relatively larger lots, that are suited to the hills of southern Martinez. Development within these areas is limited to single-family homes and related accessory uses that have low intensity characteristics.

Of the 9,970 City water service connections in 2020, 9,274 are residential connections (88.4%). Of the 9,274 residential connections, 8,817 are single family (95.1%) and 457 are multi-family (4.9%).

Based on 2020 population and housing estimates from the DOF, the average number of people per dwelling unit inside the City limits is 2.50. Of the estimated 15,265 housing units inside the City limits, 9,577 (62.7%) are single-detached houses, 2,221 (14.5%) are single-attached; and 1,330 (8.7%) are 2- to 4-unit residences.

Projected land use was developed from coordination with the City's planning department along with projected growth forecasts from DOF and ABAG. The water service area is mostly built out, and only infill and re-development projects are on-going or planned for the future.

4 SYSTEM WATER USE CHARACTERIZATION

California's urban water demand has been largely shaped by the efforts to comply with SBx7-7. This law requires all California retail urban water suppliers serving more than 3,000 acre-feet per year (AFY) or 3,000 service connections to achieve a 20 percent water demand reduction (from a historical baseline) by 2020. The City has been actively engaged in efforts to reduce water use in its service area to meet the final 2020 water use target. Meeting this target is critical to ensure the City's eligibility to receive future state water grants and loans.

In April 2015 Governor Brown issued an Executive Order as a result of one of the most severe droughts in California's history, requiring a collective reduction in statewide urban water use of 25 percent by February 2016, with each agency in the state given a specific reduction target by DWR. In response to the Governor's mandate, the City adopted a Drought Management Plan and adjusted treated water consumption pricing to achieve its demand reduction target of 20 percent. The City was able to meet the mandated water use reduction from June 2015 through February 2016.

On May 9, 2016 Governor Brown issued Executive Order B-37-16 that builds on temporary statewide emergency water restrictions to establish longer-term water conservation measures, including permanent monthly water use reporting, new permanent water use standards in California communities and bans on clearly wasteful practices. Through a public process and working with partners such as urban water suppliers, local governments, and environmental groups, DWR and the SWRCB will develop new water use efficiency targets as part of a long-term conservation framework for urban water agencies. These targets go beyond the 20% reduction in per capita urban water use by 2020 that was embodied in SBx7-7 and will be customized to fit the unique conditions of each water supplier.

In 2018, Governor Brown signed into law the water conservation bills AB 1668 and SB 606. These bills were a result of an Executive Order from the Governor during the recent drought which required State agencies to develop and recommend a long-term water conservation framework to ensure adequate water supplies for the State now and in the future. The two bills establish guidelines for efficient water use and a framework for implementation and oversight of the new standards, which must be in place by 2022.

This section analyzes the City's current water demands by customer type, factors that influence those demands, and projections of future water demand for the next 25 years.

4.1 Recycled Versus Potable and Raw Water Demand

The City receives untreated imported water from Contra Costa Water District (CCWD) via the Contra Costa Canal, which is part of the Central Valley Project developed by the U.S. Bureau of Reclamation. 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.

4.2 Water Uses by Sector

4.2.1 Water Use Sectors Listed in Water Code

The City purchases raw untreated surface water from CCWD and then treats the water at its treatment plant before pumping the water into the distribution system as potable drinking water. This represents 100 percent of the water supply for the City's water service area. City water use by customer sector plus system water losses represent 100 percent of the water demands for the City's water system.

The following sections of this UWMP provide an overview of the City's water consumption by customer account type as follows:

- Single-family Residential
- Multi-family Residential
- Commercial/Institutional
- Industrial
- Irrigation
- Non-Revenue Water

Non-revenue water, including temporary fire use, is identified as a separate water use sector. There is no agricultural use category within the City's service area and the City does not sell or exchange water to other agencies.

4.2.2 Past and Current Water Use

Historical water service connections by customer sector are shown in Table 4-1A. The total number of water service connections has increased from 9,708 in 2000 to 9,970 in 2020 for a modest increase of 2.7 percent. Single-family residential accounts for approximately 88.4 percent of total water service connections.

Table 4-1A: Population - Historical Water Service Connections

Historical City Water Service Connections					
Customer Sector	**2000**	**2005**	**2010**	**2015**	**2020**
Single Family	8,485	8,493	8,595	8,754	8,817
Multi Family	465	458	464	457	457
Commercial/Institutional	594	533	528	525	524
Industrial	22	12	10	10	9
Irrigation	142	159	167	158	163
Total	9,708	9,655	9,764	9,904	9,970

Historical metered and billed water use by customer sector is shown in Table 4-1B. Total water demand, excluding system losses, decreased from 3,837 AFY in 2010 to 3,211 AFY in 2015; then increased to 3,823 AFY in 2020, similar to the 2010 demand. Water use for 2018 and 2019 are also included in Table 4-1B to compare with 2020 for potential impacts from COVID-19. Residential and total use increased in 2020 in comparison to the previous two years which would

be expected as a result of stay-at-home orders. The City's primary water use sector is residential, accounting for approximately 70 percent of the total water demand, with single family residential water use accounting for approximately 55 to 61 percent of total water demand.

Table 4-1B: Historical Water Use by Sector

Table 4-1B: Historical Water Use and Water Loss					
User Class	**2010**	**2015**	**2018**	**2019**	**2020**
Single-Family Residential	2,299	1,777	2,119	2,097	2,340
Multi-Family Residential	434	366	378	377	402
Total Residential	2,733	2,142	2,497	2,474	2,742
Commercial	684	637	721	689	646
Industrial	172	180	170	118	158
Irrigation	248	194	263	250	277
Other	-	58	7	6	
Total CII	1,104	1,069	1,161	1,063	1,081
Total Demand	**3,837**	**3,211**	**3,658**	**3,537**	**3,823**
Population	28,801	28,471	28,433	28,208	28,095

4.3 Distribution System Water Losses

System water losses, also called non-revenue water, is defined by the International Water Association (IWA) and American Water Works Association (AWWA) as the difference between distribution systems input volume (i.e. production) and billed authorized consumption. Non-revenue water consists of three components: unbilled authorized consumption (e.g. hydrant flushing and firefighting), real losses (e.g. leakage in mains and service lines), and apparent losses (unauthorized consumption and customer metering inaccuracies).

Distribution system water loss is to be quantified for each of the five years preceding the UWMP update. Losses are reported in accordance with a worksheet approved or developed by DWR through a public process. The water loss quantification worksheet is based on the water system balance methodology developed by the AWWA and meets the requirements of SB 1420 that was signed into law in September 2014. Understanding and controlling water loss from a distribution system is an effective way for the City to achieve regulatory standards and manage their existing resources. The volume of water loss quantified in the City's Water Audits for the past five years are summarized in Table 4-1C.

Water losses have been increasing since 2015, with significant increases in 2017, 2018 and 2019. The City is investigating the cause of the reported water loss volumes and the significant increase. Potential causes are errors in the meter data and actual water loss due to leaks and breaks which would require mitigation. Water demands (sales) have not changed substantially over the past five years so the primary increase in water supply is due to losses.

Table 4-1C: Water Loss Audit Reporting Data

Water Loss Audit Reporting Data			
Reporting Period	Water Supplied	Volume of Water Loss	% Water Loss
2015	3,524	313	8.9%
2016	3,809	405	10.6%
2017	4,419	790	17.9%
2018	4,712	1,040	22.1%
2019	4,924	1,376	27.9%

4.4 Projected Water Use

Table 4-1D shows historic and current per-capita water demand by residential and non-residential customer class, excluding water losses. City water demand dropped approximately 15 percent from 2010 to 2015. At least a portion of this reduction was due to water use restrictions in place during 2015 drought conditions. Since 2015, water demand has increased, with 2020 per capita demand slightly higher than 2010. However, 2020 demand is not considered to be representative of typical conditions. The City's 2020 water use, which is primarily residential, would likely have increased due to COVID-19 stay-at-home orders. Water demands for 2018 and 2019 demand were lower than 2020 but still higher than 2015, showing a bounce back in water use after drought restrictions ended. For these reason, 2018 and 2019 water use is considered the appropriate starting point for projecting future normal year demands. The average per capita water demand for 2018 and 2019 is 12.6% higher than 2015 and 6.7% lower than 2020.

California's Green Building Code will have a direct impact on home building and water conservation in the State, resulting in increased water savings for new developments when compared to existing use. 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 Model Water Efficient Landscape Ordinance (MWELO), which was adopted by the State in 2015.

Population projections presented in Section 3.4 were used to drive the demand forecast. The major focus was on single-family (SF) and multi-family (MF) residential demand as the primary water demand in the City and the relative consistency of commercial, institutional, and industrial (CII) demands over the years.

As discussed above, the normal water demand base-year was chosen as an average of 2018 and 2019. The base-year demands were divided by the population to determine per-capita use in gallons per day. The existing indoor use was estimated using a current efficiency rate of 55.6 gallons per capita per day (gpcd), calculated using pre-2010 plumbing code efficiency levels (estimated at 58.8 gpcd), post-2010 plumbing code efficiency levels (estimated at 50.6 gpcd), and a weighted average using number of homes built since 2010. The existing outdoor use was determined by subtracting the indoor use from the total billed residential use. It is estimated that water conservation retrofits will continue for existing homes consistent with replacements with efficient plumbing and irrigation appurtenances

In projecting future demands for existing homes, the per capita indoor water use was ramped down to 55 gpcd by 2025 and 50.6 gpcd by 2040. For new homes, the residential water use was set equal to 50.6 gpcd through the entire planning period. For existing homes, the outdoor use rate is projected to decrease by 5 percent over the next 20 years. For new homes, the per-capita outdoor use is set equal to 95 percent of the existing outdoor rate (or a 5 percent reduction). Table 4-1D shows the projected per capita residential use, to be applied to the population growth forecast, to calculate future residential demands.

The City's CII demand is estimated to increase by 5 percent over the next 20 years based on the projected increase in employment numbers as forecast for the City by ABAG. Projected irrigation demands were set equal to current levels for the forecast period, with a projected increase in irrigated area but also more efficient landscaping to counteract the increased area.

As shown in Table 4-1D, it is estimated that total City per-capita water demand will decrease from the average of 113.4 gpcd for 2020 (the average of 2018 and 2019) to 102.0 in 2045 (approximately a 9 percent decrease), excluding losses.

Table 4-1D: Historical and Projected Per-Capita Water Demand

Historical & Projected City Per-Capita Water Demand											
Per-Capita Water Demand (gpcd)	**2010**	**2015**	**2018**	**2019**	**2020 Actual**	**2020 Adjusted**	**2025**	**2030**	**2035**	**2040**	**2045**
Existing Households											
Residential	84.7	67.2	78.4	78.3	87.1	78.4	75	72.8	71.1	69.4	69.4
Non-Residential	34.2	33.5	36.5	33.6	34.3	35.0	34.6	34.1	33.9	33.4	32.6
Total	118.9	100.7	114.9	111.9	121.4	113.4	109.6	106.9	105.0	102.8	102.0
New Households											
Residential	-	-	-	-	-	-	69.4	69.4	69.4	69.4	69.4
Non-Residential	-	-	-	-	-	-	32.6	32.6	32.6	32.6	32.6
Total	-	-	-	-	-	-	102.0	102.0	102.0	102.0	102.0

Based on per-capita water use developed for existing and new development in Table 4-1D, projected City water demands were projected and are shown in Table 4-1E (and Table 4-2 in Section 4.5, Worksheets and Reporting Tables). Per-capita water uses related to SB x7-7 targets and compliance are discussed in detail in Chapter 5. It is assumed for future water use that distribution system water losses will decrease from an estimated 25% in 2020 to 10% by 2040, similar to 2015 and 2016 loss levels shown in Table 4-1C. The City is investigating the continued increase in reported system losses since 2015 and will work to mitigate excessive water loss as discussed in Chapter 9.

Table 4-1E: Projected Water Use

Projected Water Use										
User Class	**Base 2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2030**	**2035**	**2040**	**2045**
Single-Family Residential	2,091	2,081	2,069	2,057	2,046	2,034	2,032	2,015	2,019	2,070
Multi-Family Residential	374	373	371	368	366	364	364	361	362	371
Total Residential	2,465	2,454	2,440	2,425	2,412	2,398	2,396	2,376	2,381	2,441
Commercial/Institutional	706	707	709	711	713	715	723	732	741	741
Industrial	143	143	144	144	144	145	146	148	150	150
Irrigation	254	254	254	254	254	254	254	254	254	254
Total Demand	3,568	3,558	3,547	3,534	3,523	3,512	3,519	3,510	3,526	3,586
Water Losses	1,190	1,139	1,090	1,041	994	948	747	560	392	398
Water Loss %	25%	24%	24%	23%	22%	21%	18%	14%	10%	10%
Total	4,758	4,697	4,637	4,575	4,517	4,460	4,266	4,070	3,918	3,984
Population	28,095	28,228	28,362	28,495	28,628	28,761	29,428	29,867	30,619	31,387
NOTE: 'Base 2020' is calculated using the average per capita use for 2018 and 2019.										

Total water use is projected to decrease from 5,152 AFY in 2020 (actual 2020 water use from Table 4-1, Section 4.5) to 3,984 AFY in 2045. The primary reason for the water use decrease is the assumed reduction in system water losses, which are estimated to equal approximately 25.8 percent of water use in 2020 based on metered customer demands and the volume pumped from the treatment plant into the distribution system.

Table 4-1E also shows projected water demands for the upcoming five-year period, from 2021 through 2025, as part of the Drought Risk Assessment (DRA) detailed in Section 7.4. Demand projections for the next five years are interpolated between the base year demand (the average of 2018 and 2019 water demand) and projected 2025 demand. New development within the next five years is consistent with the projected population growth as forecasted by ABAG and reflected in the demand projections shown in Table 4-1E.

4.5 Worksheets and Reporting Tables

City water system demands for potable water for 2020 are shown in Table 4-1. Projected demands, as discussed in Section 4.4, are shown in Tables 4-2 and 4-3. Recycled water is not anticipated as a source of supply, as detailed in Section 6.5, resulting in zero projected recycled water demand shown in Table 4-3.

Table 4-1: Demands for Potable Water – 2020 Actual

Demands for Potable Water – 2020 Actual		
Use Sector/Type	**Level of Treatment When Delivered**	**Volume (AFY)**
Single Family	Drinking Water	2,340
Multi-Family	Drinking Water	402
Commercial/Institutional	Drinking Water	646
Industrial	Drinking Water	158
Landscape	Drinking Water	277
Losses	Drinking Water	1,329
Total		5,152

Table 4-2: Demands for Potable Water - Projected

Demands for Potable Water Projected					
Use Type	**Projected Water Use**				
	2025	2030	2035	2040	2045
Single Family	2,034	2,032	2,015	2,019	2,070
Multi-Family	364	364	361	362	371
Commercial/Institutional	715	723	732	741	741
Industrial	145	146	148	150	150
Landscape	254	254	254	254	254
Losses	948	747	560	392	398
Total	4,460	4,266	4,070	3,918	3,984

Table 4-3: Total Water Demands

Total Water Demands						
	2020	2025	2030	2035	2040	2045
Potable Water Demand	5,152	4,460	4,266	4,070	3,918	3,984
Recycled Water Demand	0	0	0	0	0	0
Total Water Demand	5,152	4,460	4,266	4,070	3,918	3,984

In accordance with CWC, distribution system water losses are quantified in Table 4-4 using the values calculated in the AWWA worksheet and submitted to DWR for each of the five years prior to this UWMP update. The water loss quantification worksheet is based on the water system balance methodology developed by AWWA and approved by DWR through a public process. The individual water loss audit reports are included in Appendix D.

Table 4-4: Last Five Years Water Loss Audit Reporting

Last Five Years of Water Loss Audit Reporting	
Reporting Period Start Date (mm/yyyy)	**Volume of Water Loss (AF)**
01/2015	313
01/2016	405
01/2017	790
01/2018	1,040
01/2019	1,376

4.6 Water Use for Lower Income Households

For planning and funding purposes, the State Department of Housing and Community Development (HCD) categorizes households into five income groups based on the County Area Median Income (AMI):

- Extremely Low Income - up to 30 percent of AMI
- Very Low Income - 31 to 50 percent of AMI
- Low Income - 51 to 80 percent of AMI
- Moderate Income - 81 to 120 percent of AMI
- Above Moderate Income — greater than 120 percent of AMI

Combined, extremely low, very low, and low-income households are often referred to as lower income households.

State Housing Element law requires that a local jurisdiction accommodate a share of the region's projected housing needs for the planning period. This share, called the Regional Housing Needs Allocation (RHNA), is important because State law mandates that a jurisdiction provide sufficient land to accommodate a variety of housing opportunities for all economic segments of the community. Compliance with this requirement is measured by the jurisdiction's ability in providing adequate land with adequate density and appropriate development standards to accommodate the RHNA. The Association of Bay Area Governments (ABAG), as the regional planning agency, is responsible for allocating the RHNA to individual jurisdictions within the region.

ABAG assigned a RHNA of 1,345 units to the City of Martinez for the 2023-2031 RHNA period, in the following income distribution:

- Extremely Low/Very Low Income: 350 units
- Low Income: 201 units
- Moderate Income: 221 units
- Above Moderate Income: 573 units

The lower income households total 551 units, which are 41% of the ABAG-assigned units for 2023-2031. The City must ensure the availability of residential sites at adequate densities and appropriate development standards to accommodate these units by income category.

The population of the City's water service area is approximately 79 percent of the City population. Assuming 435 lower income housing units will be provided within the City's water service area,

which is 79 percent of 551, and based on an estimated 2.50 people per dwelling unit and the projected per-capita residential water usage of 69.4 gpcd, the water demand for these 435 lower income housing units is estimated at 84.5 AFY. With an assumed 25 percent water loss, the total use is equal to 103.9 AFY, which is included in water demand projections in this UWMP.

Confirmation that future water savings and demands for lower income households are included in demand projections is provided in Table 4-5.

Table 4-5: Inclusion in Water Use Projections

Inclusion in Water Use Projections	
Are Future Water Savings Included in Projections?	Yes
If "Yes" to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, etc., utilized in demand projections are found.	Section 4.4 2020 UWMP
Are Lower Income Residential Demands Included In Projections?	Yes

4.7 Climate Change

Regional climate change impacts strategies to mitigate and adapt to climate change were presented in the East Contra Costa County (ECCC) Integrated Regional Water Management Plan Update 2019 (IRWMP), prepared by the East County Water Management Association which includes CCWD. Over the coming decades, California's Bay-Delta system will feel impacts of global climate change from shifts in biological communities, a rising sea level, and modified water supplies.

Together, the San Francisco Bay, San Francisco Watershed, and the Delta form an interconnected and valuable resource system. Evidence confirms the San Francisco Bay is already rising and impacting the Delta, and this is projected to continue. In fact, today's flood is expected to be the future's high tide. Areas that currently flood every 10 to 20 years during extreme weather and tides will begin to flood regularly. The consequences may be severe.

ECCC is composed of substantial low-elevation acreage that is within the drainage of Mount Diablo and sits adjacent to the Delta. Both localized floods from stormwater runoff and regional/catastrophic flooding due to levee failure are real and present threats. Of the past 11 president-declared natural disasters in the region, all but one involved storms and flooding. Climate change is only likely to increase these risks.

The Bay-Delta system is also the primary ECCC water supply. Sea-level rise and extreme weather can impact water quality through introduction of salinity into freshwater supplies, increased runoff and pollutants entering the system, increased turbidity and sediments, and the potential for low elevation critical infrastructure to be inundated.

Beyond the immediate concerns of managing altered and increased flows, the timing and volume of flows are likely to change due to changing temperature patterns in upper elevations. The entire interconnected State and federal water projects and other systems are designed and operated on basic assumptions about snowpack and predictable weather patterns. This means it is likely that ECCC water supply and water quality will be impacted by both floods and drought and changes in

the timing of the hydrological cycle, and that traditional systems for water delivery will be less reliable.

As resource managers develop strategies to protect the Bay-Delta system, and the critical resources it provides, they need to understand how global climate change will affect the system and implement adaptation actions that will reduce the vulnerability of the built and natural environment to the effects of climate change. State and local agencies are already engaged in a number of efforts designed to improve California's ability to cope with a changing climate.

To this end, DWR developed a standard to ensure that IRWMP plans describe, consider, and address the effects of climate change on their regions and disclose, consider, and reduce when possible greenhouse gas (GHG) emissions when developing and implementing projects (DWR, 2010). To provide guidance for implementing the IRWMP Climate Change Standard and incorporating climate change analyses into the IRWMP planning processes, DWR and its partners USACE, EPA, and Resources Legacy Fund, developed the Climate Change Handbook for Regional Water Planning (Handbook) (DWR, 2011).

ECCC IRWMP participants recognize the importance of managing for climate change in the region. Management strategies include both mitigation and adaptation. Mitigation involves actions to reduce GHG emissions, while adaptation involves responding to the effects of climate change.

Strategies already in place in the region include:

- Consumer education
- Conservation
- Water and wastewater management
- Green buildings
- GHG reductions
- Expansion of recycled water systems
- Community involvement

A potential adaptation strategy to increase water supply reliability is to develop infrastructure to tie into the water supply systems of nearby water agencies, such as East Bay Municipal Utility District (EBMUD), to reduce reliance on the Delta. A detailed list and descriptions of ongoing and planned mitigation and adaptation actions in the region are included in Appendix E of the 2019 ECCC IRWMP.

CCWD participated as a stakeholder in the development of several other plans which consider and address climate change. These include the East Contra Costa Adapt to Rising Tide study completed in 2020, the draft Delta Adapts: Creating a Climate Resilient Future, and the 2018 Local Hazard Mitigation Plan (LHMP) led by Contra Costa County. With these studies, CCWD has evaluated the potential changes in water supplies and supply reliability using the CalSim II model with future climate projections in 2030 and 2070. CCWD also considers climate change impacts to complete assessments on the availability of supplies to meet projected demands, including supply to the City of Martinez. City demand is assumed to be driven by population and water use efficiency practices as presented in Section 4.4, even under climate change considerations.

5 SB X7-7 BASELINES AND TARGETS

The Water Conservation Act of 2009, also known as Senate Bill (SB)x7-7, signed into law on February 3, 2010, requires the State of California to reduce urban water use by 20 percent by the year 2020. The City must determine baseline water use during their baseline period and water use targets for the years 2015 and 2020 to meet the State's water reduction goal. The City may choose to comply with SBx7-7 individually or as a region in collaboration with other retail water suppliers. Under the regional compliance option, the City is still required to report its individual water use targets. The City is required to comply with SBx7-7 either individually or as part of the alliance, or demonstrate they have a plan or have secured funding to be in compliance to be eligible for water related state grants and loans on and after July 16, 2016.

In the 2015 UWMP, the City demonstrated compliance with its 2015 water use target to indicate that they were on track to meeting the 2020 water use target. The City also revised their baseline per capita water use calculations using 2010 U.S. Census data in the 2015 UWMP. Changes in the baseline calculations also resulted in updated per capita water use targets. This 2020 UWMP will utilize the final 2020 water use target established in the 2015 UWMP.

DWR also requires the submittal of SBx7-7 Compliance Forms, a set of standardized tables to demonstrate compliance with the Water Conservation Act in this 2020 UWMP. These are included in Appendix E.

5.1 Baseline Water Use

The first step to calculating the City's water use targets is to determine its base daily per capita water use (baseline water use). This baseline water use is essentially the City's gross water use divided by its service area population, reported in GPCD. Water suppliers must report baseline water use for two baseline periods, the 10- to 15-year baseline (baseline GPCD) and the five-year baseline (target confirmation) as described below. Baseline water use and targets were determined in the 2015 UWMP and are utilized in determining 2020 compliance.

5.1.1 Baseline Period

The City currently does not produce or receive recycled water supply, and therefore, a 10-year baseline period is used as opposed to a 15-year baseline period. The baseline period must end no earlier than December 31, 2004 and no later than December 31, 2010. The most advantageous sequence of years for calculating per-capita water use is the sequence that generates the highest per-capita water use, making subsequent water conservation easier to achieve. Accordingly, the 10-year period 1997 through 2006 was selected as the average per-capita water use baseline for the 2015 UWMP, as shown in Table 5-1A.

Table 5-1A: Baseline Daily Per-Capita Water Use

Baseline Daily Per-Capita Water Use				
Base Period		From DWR Population Tool	Daily System Gross Water Use (AFY)	Annual Daily Per Capita Water Use (gpcd)
Sequence Year	Calendar Year			
1	1997	28,786	5,505	170.6
2	1998	28,991	5,018	154.4
3	1999	29,212	5,013	153.1
4	2000	29,406	5,359	162.6
5	2001	29,308	5,285	160.9
6	2002	29,183	5,269	161.1
7	2003	29,073	5,350	164.2
8	2004	28,948	5,405	166.6
9	2005	28,837	5,233	161.9
10	2006	28,801	5,453	168.9
Baseline Daily Per Capita Water Use:				162.4

If the average baseline daily per-capita water use is greater than 100 gpcd for a defined 5-year baseline period, the legislation's minimum water use reduction requirement must also be met. Per SBx7-7, the minimum water use reduction baseline period must end no earlier than December 31, 2007 and no later than December 31, 2010 and the minimum reduction shall be no less than 5 percent of this 5-year base daily per capita water use.

A 5-year minimum water use reduction baseline period between 2004 through 2008 was selected to calculate the most advantageous 5-year minimum water use reduction target as shown in Table 5-1B. The minimum 5-year water use reduction baseline period is used to calculate the legislation's minimum water use reduction requirement.

Table 5-1B: Minimum Baseline Daily Per-Capita Water Use

Minimum Baseline Daily Per-Capita Water Use				
Base Period		Water Service Area Population	Daily System Gross Water Use (AFY)	Annual Daily Per Capita Water Use (gpcd)
Sequence Year	Calendar Year			
1	2004	28,948	4.822	166.6
2	2005	28,837	4.669	161.9
3	2006	28,801	4.865	168.9
4	2007	28,766	4.947	172
5	2008	28,741	4.744	165.1
Minimum Baseline Daily Per Capita Water Use:				166.9

5.1.2 Service Area Population

The City's baseline populations were recalculated in the 2015 UWMP utilizing the DWR Population Tool. The Population Tool worksheets are included in the Appendix E. The DWR Population Tool was also utilized to determine 2020 population for 2020 Target compliance.

5.1.3 Gross Water Use

The baseline water use is the City's gross water use divided by its service area population, reported in gallons per capita per day (GPCD). Gross water use is a measure of water that enters the distribution system of the supplier over a 12-month period with certain allowable exclusions. These exclusions are:

- Recycled water delivered within the service area
- Indirect recycled water
- Water placed in long term storage
- Water conveyed to another urban supplier
- Water delivered for agricultural use
- Process water

For the baseline and minimum baseline periods, almost all water supplied to the City comes from CCWD with less than 0.5% supplied by one City well that in the past irrigated Hidden Lakes Park. The CCWD water is used to supply all water service area demands. There is no recycled water supply; no indirect recycled water use; no water placed in long-term storage; no water delivered to another urban supplier; no water delivered for agricultural use; and no significant process water use. Gross water use for the baseline and minimum baseline periods are shown in Tables 5-1A and 5-1B, respectively.

As shown in Table 5-1A, the baseline per-capita water use is calculated to be 162.4 gpcd. As shown in Table 5-1B, the minimum baseline per-capita water use is calculated to be 166.9 gpcd.

5.2 SBx7-7 Water Use Targets

In the 2020 UWMP, the City may update its 2020 water use target by selecting a different target method than what was used in 2015. The target methods and determination of the 2020 target are described below.

5.2.1 SBx7-7 Target Methods

Each urban retail water supplier is required to develop a target daily per-capita water use for 2020 that is 20% less than the baseline daily per-capita water use utilizing one of four methods provided; with the target reduction for 2020 greater than the legislation's minimum water use reduction requirement.

The City is required to adopt one of the four methods to comply with SBx7-7 requirements. These methods are:

- Method 1: Eighty percent of the water supplier's baseline per capita water use
- Method 2: Per capita daily water use estimated using the sum of performance standards applied to indoor residential use; landscape area water use; and commercial, industrial, and institutional uses
- Method 3: Ninety-five percent of the applicable state hydrologic region target as stated in the State's April 30, 2009, draft 20x2020 Water Conservation Plan

- Method 4: A BMP Option based on standards that are consistent with the California Urban Water Conservation Council's (CUWCC) best management practices (BMPs).

The City selected to comply with Method 4, consistent with the 2015 UWMP.

5.2.2 2020 Target

Under Compliance Method 4, the City's 2020 target is 130 gpcd as determined in the 2015 UWMP and summarized in Table 5-1. The 2020 target of 130 gpcd meets the minimum of 5 percent reduction from the five-year baseline of 159 gpcd (95% of 167).

Table 5-1: Baselines and Targets Summary

Baselines and Targets Summary				
Baseline Period	**Start Year**	**End Year**	**Average Baseline GPCD***	**Confirmed 2020 Target***
10-15 year	1997	2006	163	130
5 Year	2004	2008	167	
*All values are in Gallons per Capita per Day (GPCD)				
NOTES: From SB X7-7 Verification Form				

5.3 2020 Compliance

5.3.1 City Per-Capita Water Use

Table 5-2 compares the City's 2020 water use target to the actual 2020 consumption. The City's 2020 water service area population was determined using the DWR population tool with the output included in Appendix E. Water supply for 2020 was based on metered pumping data for water entering into the distribution system. The 2020 target compliance allows for adjustments due to extraordinary events. City's per-capita water use for 2020 was 163.7 gpcd, which exceeds the 2020 target of 130.6 gpcd as shown in Table 5-2. The City will meet the requirements of SBx7-7 as part of a regional alliance as described below.

Table 5-2: 2020 Individual Compliance

2020 Compliance *Retail Agency*		
Actual 2020 GPCD*	**2020 Target GPCD***	**Did Supplier Achieve Targeted Reduction for 2020? Y/N**
164	130	No
**All values are in Gallons per Capita per Day (GPCD)*		
NOTES: From SB X7-7 2020 Compliance Form. The City complies with SB X7-7 requirement through Regional Alliance.		

5.3.2 Regional Alliance

The City of Martinez has developed an individual UWMP that reports solely on its service area; addresses all requirements of the CWC; and notifies and coordinates with appropriate regional agencies and constituents. However, the City is part of a regional alliance headed by CCWD that

also includes the City of Antioch, the City of Pittsburg, Diablo Water District, and Golden State Water Company (Bay Point).

CCWD prepared a SBx7-7 analysis for the regional alliance, which allows the City of Martinez to comply with SBx7-7 on an individual or regional basis. For CCWD's total service area, the baseline per capita consumption is 263 gpcd with a 2020 target of 210 gpcd. The actual 2020 per capita consumption for the Regional Alliance was 186 gpcd, thus the Regional Alliance has met its 2020 target. As such, the City is in compliance with SBx7-7 requirements. The CCWD Regional Alliance compliance is documented in the CCWD 2020 UWMP.

This page intentionally blank

6 SYSTEM SUPPLIES

6.1 Purchased or Imported Water

The City receives untreated imported water from Contra Costa Water District (CCWD) via the Contra Costa Canal, which is part of the Central Valley Project developed by the U.S. Bureau of Reclamation. The water is sold to Martinez based on CCWD's rate structure per unit of water delivered. This represents 100 percent of the water supply for the City's water service area.

CCWD stores the raw water in the Martinez Reservoir, which is located at the terminus of the Contra Costa Canal and CCWD's Shortcut Pipeline. Martinez Reservoir is an open, earthen reservoir and is estimated to have a capacity of approximately 80 million gallons (MG). The raw water is conveyed from the reservoir to the City's water treatment plant by gravity flow. A pumping station is available to pump water from the reservoir to the treatment plant when reservoir water levels are not high enough to allow gravity flow.

The water is treated to Title 22 drinking water standards at the City's water treatment plant, which is a conventional treatment plant with pre-ozonation, coagulation, flocculation, sedimentation, mixed media GAC (granular activated carbon) filtration and intermediate ozonation (after sedimentation). Upgrades to the treatment plant are planned during the winter of 2021/22. Ozone treatment was added to the plant in 1990 to provide primary disinfection for public health protection. The system has performed reliably but is 30 years old with certain components reaching the end of their useful life and in need of replacement. In addition, some electronic components are obsolete. In response, the City has undertaken the Ozone System Improvement Project to continue reliable disinfection, improve taste and odor control, and to modernize and improve system efficiency.

Since a contract does not exist between CCWD and the City of Martinez for a fixed delivery amount, water supply has been set equal to projected demand. During periods of drought, CCWD has established supply limits based on a percentage of the demand from the previous years.

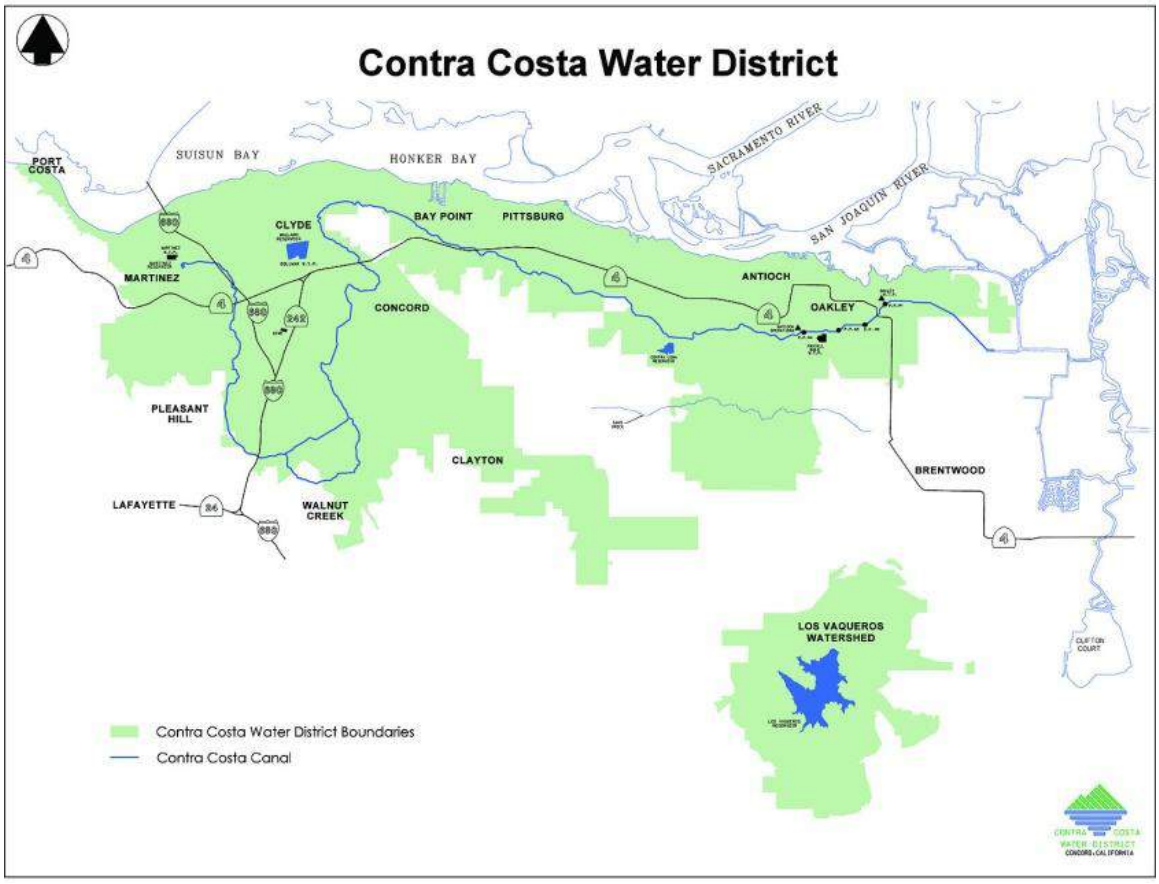
6.1.1 Contra Costa Water District (CCWD)

CCWD provides water to approximately 500,000 people in Contra Costa County. CCWD's service area is shown in Figure 6-1 and encompasses most of central and northeastern Contra Costa County, a total area of more than 140,000 acres (including the Los Vaqueros watershed area of approximately 19,100 acres). CCWD operates and maintains a complex system of water transmission, treatment, and storage facilities to supply both treated and untreated (raw) water to its customers. Formed in 1936 to provide water for irrigation and industry, CCWD is now one of the largest urban water districts in California and a leader in drinking-water treatment technology and protection of the Sacramento-San Joaquin Delta (Delta).

CCWD is a retail provider of treated water to approximately 205,000 residents in Clayton, Clyde, Concord, Pacheco, Port Costa and parts of Martinez, Pleasant Hill, and Walnut Creek. In addition, wholesale treated water is provided to the cities of Antioch and Brentwood as well as the Golden State Water Company in Bay Point. CCWD sells untreated water to the cities of Antioch, Pittsburg, and Martinez and Diablo Water District (DWD). Retail untreated water is also provided to industrial and irrigation customers by CCWD.

CCWD pumps water from four intakes in the Sacramento-San Joaquin Delta. The intakes are located at Rock Slough, on Old River, on Victoria Canal and at Mallard Slough. The backbone of the District's water conveyance system is the 48-mile Contra Costa Canal, which starts at Rock Slough and ends at the Martinez Reservoir.

Figure 6-1: Contra Costa Water District Service Area



For the first 25 years of its existence, CCWD's main responsibility was the purchase and distribution of untreated water through the Contra Costa Canal. The cities and other water utilities within CCWD were responsible for treating water used by their customers. However, in the late 1950s, many citizens and public officials became concerned about the quality and cost of the water in the central County area. To solve this problem, CCWD purchased the California Water Service Company's Concord-area treatment, pumping, storage, and distribution facilities.

In 1968, CCWD replaced the old treatment facilities with the construction of its own Ralph D. Bollman Water Treatment Plant in Concord. In 1992, CCWD completed the Randall-Bold Water Treatment Plant in Oakley that is jointly owned with the Diablo Water District (DWD).

The Randall-Bold plant provides treated water to DWD, and by contract, to the Cities of Brentwood and Antioch and the Golden State Water Company (Bay Point). Additionally, the Multi-Purpose Pipeline, constructed in 2003, allows CCWD to serve new customers in the central County Treated Water Service Area (TWSA) from the Randall-Bold plant. Combined, the Bollman and Randall-Bold water treatment plants provide treated water to approximately 200,000 people

in the central County area. CCWD's service area also includes a large industrial base that includes oil refineries, steel mills, and chemical manufacturing facilities. Large industrial water use accounts for approximately one-third of total water use within CCWD.

In 2004, CCWD entered into an agreement to treat water for a major new customer, the City of Brentwood. Under the agreement, CCWD constructed and is operating a 16.5 million gallons per day (mgd) treatment plant adjacent to the Randall-Bold Water Treatment Plant. The plant will ultimately be expanded to 30 mgd to meet future needs of the City of Brentwood.

CCWD is almost entirely dependent on the Sacramento-San Joaquin Delta for its water supply. CCWD's primary source is the United States Bureau of Reclamation's Central Valley Project (CVP). CVP water consists of unregulated and regulated flows from storage releases from Shasta, Folsom, and Clair Engle reservoirs into the Sacramento River. Other sources include the San Joaquin River, Mallard Slough, recycled water, a minor amount of local well water, and water transfers.

6.1.1.1 Central Valley Project Supply

The CVP is the CCWD's primary water source obtained under contract with the United States Bureau of Reclamation which was converted into a facilities repayment contract in 2020. The contract provides for a maximum delivery of 195,000 AFY from the CVP, with a reduction in deliveries during water shortages including regulatory restrictions and drought. The Municipal and Industrial (M&I) Water Shortage Policy defines the reliability of CCWD's CVP supply and was developed by the United States Bureau of Reclamation to establish CVP water supply levels that would sustain urban areas during severe or continuing droughts and provide for minimum health and safety.

The M&I Water Shortage Policy provides for a minimum allocation of 75 percent of adjusted historical use until irrigation allocations fall below 25 percent. Historical use is defined by the M&I Water Shortage Policy as the average quantity of CVP water put to beneficial use within the service area during the last three years of water deliveries, unconstrained by the availability of CVP water.

6.1.1.2 Los Vaqueros Water Rights

CCWD obtained additional water rights for surplus Delta flows as part of the Los Vaqueros Project. Between November 1st of a given year to June 30th of the succeeding year, up to 95,980 acre-feet may be diverted for storage in Los Vaqueros Reservoir under Water Rights Permit No. 20749. The Los Vaqueros Water Rights supply can be used in lieu of the CVP supply. Little or no Los Vaqueros Water Rights water is available for diversion to storage in dry years.

CCWD expanded its Los Vaqueros Reservoir in 2012 from 100,000 acre-feet to 160,000 acre-feet. The dam has increased in height by 34 feet and is now 226-feet high. The additional water storage will help ensure high-quality water deliveries to customers, reliability during drought and protections for Delta fisheries and the environment. Based on modeling completed for the Phase 1 Los Vaqueros Reservoir Expansion Project Environmental Impact Report, up to 10,000 AF can be used in any year to offset previously planned transfer water from other sources, an assumption included in the CCWD water supply assessment. During a single dry year, it is assumed up to 20,000 AFY from the reservoir would be used to meet demand. In an extended five-year drought, that supplies from the expanded reservoir would provide an average of 13,000 AFY to meet demands. In addition to enlarging the dam, the District purchased more than 5,000

acres of land in Contra Costa, Alameda and San Joaquin counties to provide habitat for several endangered species.

When Los Vaqueros Water Rights water is used, CVP supplies are reduced by an equivalent amount. In 1994, the State Water Resources Control Board (SWRCB) authorized a combined deliveries limit of Los Vaqueros Water Rights water and CVP water of 195,000 AFY. This limit was reduced in the 2009 Incidental Take Permit (ITP) issued by the California Department of Fish and Wildlife (CDFW) to 177,000 AFY. The lower limit was based on the amount included in the environmental document for CCWD's Alternative Intake Project, which constructed the Middle River Intake.

The Phase 2 Los Vaqueros Reservoir Expansion Project (Phase 2 Expansion) is a regional water storage and conveyance project, led by CCWD, that will improve Delta ecosystem conditions and reduce conflict among beneficial uses of Delta water supplies. The primary purposes of the Phase 2 Expansion are to develop water supplies for environmental benefits; improve operational flexibility and result in more reliable supplies for urban and agricultural partners; and increase the San Francisco Bay Area's ability to respond to drought and other emergencies. The Phase 2 Expansion includes construction of new facilities, such as raise the existing Los Vaqueros dam to increase capacity from 160 TAF to 275 TAF and a new interconnection between CCWD's system and the California Aqueduct.

CDFW will issue a new ITP for CCWD's Phase 2 Los Vaqueros Reservoir Expansion Project. Since the environmental document for this project covers the original 195,000 AFY delivery limit, CCWD plans to petition the SWRCB to reinstate the original limit.

6.1.1.3 Mallard Slough Supply

CCWD has additional water rights at Mallard Slough for a maximum diversion of Delta water of up to 26,700 AFY. Diversions from Mallard Slough are unreliable due to frequently poor water quality in the San Joaquin River at this point of diversion. Water quality conditions have restricted diversions from Mallard Slough to approximately 1,200 AFY (on average) with none available in dry years. When Mallard Slough supplies are used, CVP diversions are reduced by an equivalent amount.

6.1.1.4 Antioch Diversions

The City of Antioch maintains pre-1914 water rights for diversion from the San Joaquin River for use within the City's limits. However, seawater intrusion limits the use of the intake to times when the Dela has sufficient outflow to maintain salinity at acceptable levels for treatment. Antioch is constructing a new desalination treatment facility which is scheduled to be operational in 2023. This will allow for the diversion of water at higher salinity levels.

6.1.1.5 Industrial Diversions

Inland Container (formerly Gaylord Container) and Marathon (formerly Tesoro) have rights to divert up to 28,000 AFY and 16,650 AFY, respectively, from the San Joaquin River. Other industries that hold rights to water from the San Joaquin River are Dupont and USS-Posco. These supplies, like the Mallard Slough and Antioch diversions, are variable because of poor water quality due to seawater intrusion.

6.1.1.6 Groundwater

Groundwater resources in the CCWD service area do not supply significant amounts of water to meet or augment untreated water demands. There are an undetermined number of wells throughout the CCWD service area owned by industries, private individuals, and public municipal water utilities. CCWD does not manage groundwater and does not have figures as to how much water is pumped from these wells but estimates total use within the CCWD service area at approximately 6,500 AFY.

6.1.1.7 East Contra Costa Irrigation District

CCWD entered into an agreement with the East Contra Costa Irrigation District (ECCID) in 2000 to purchase surplus irrigation water to be used for M&I purposes in ECCID's service area. Only a portion of ECCID is within the existing CCWD service area (estimated current demand of 6,000 AFY). The current ECCID agreement allows CCWD to purchase up to 8,200 AFY for service in the areas common to both districts. The agreement also includes an option for up to 4,000 AFY of groundwater (by exchange) when the CVP is in a shortage situation. The groundwater exchange water was utilized during the 2007-2009 drought and in 2015. This exchange water can be used anywhere within CCWD's service area. Water delivered by CCWD to the City of Brentwood is purchased by the City from ECCID under a separate contract.

6.1.1.8 Recycled Water

CCWD has several agreements in place with wastewater agencies that provide recycled water supplies for industrial uses, wildlife enhancement, and landscape irrigation within CCWD's service area. Currently, 10,000 AFY of recycled water is put to direct beneficial use, with up to 17,000 AFY projected to be used by 2045.

6.1.1.9 Bay Area Regional Reliability Partnership

CCWD, together with seven other Bay Area water agencies, are participating in the Bay Area Regional Reliability (BARR) partnership to improve water supply reliability in the Bay Area. Benefits of this regional approach include leveraging infrastructure investments, facilitating water transfers, enhancing emergency preparedness, and improving climate change resiliency. The partners are working the Shared Water Access Program to develop a guide for sharing resources to improve regional resilience and reliability.

6.1.1.10 Water Quality

Delta water quality is highly variable depending upon the season, the water year, and the intake location. During dry years and seasons, Delta supplies contain high concentrations of total dissolved solids (TDS), chloride, and bromide. Total organic carbon (TOC) concentrations in Delta supplies are also highly variable, with increases generally corresponding to periods of increased runoff. These concerns are discussed in detail in the Delta Region Drinking Water Quality Management Plan. The Los Vaqueros Reservoir is owned and operated by CCWD and is used to improve the water quality delivered to its customers. Water is pumped into Los Vaqueros Reservoir during spring and early summer months when Delta water quality is good.

During the late summer and fall, when Delta water quality is poor, Delta supplies are blended with the high-quality water stored in Los Vaqueros Reservoir to improve the water quality delivered to CCWD's untreated and treated water customers. CCWD expanded the Los Vaqueros Reservoir capacity in 2012 from 100 TAF to 160 TAF. The Phase 2 Expansion includes construction of new

facilities, such as raise the existing Los Vaqueros dam to increase capacity from 160 TAF to 275 TAF and a new interconnection between CCWD's system and the California Aqueduct.

The quality of Delta water is dependent on maintaining the Delta levee system as well as land and water management activities throughout the Delta and its larger watershed. Failure of the Delta levee system could dramatically increase levels of chloride, bromide, and TOC in the water and potentially render the water supply unusable for municipal or agricultural purposes. Similarly, changes in Delta land-use and water management practices, including many identified by CALFED and the Bay Delta Conservation Plan (BDCP), could increase levels of undesirable constituents at East Contra Costa County (ECCC) intake locations. ECCC is particularly vulnerable to these changes since Delta water makes up the majority of the region's water supply.

CCWD imported water is treated to Title 22 drinking water standards at the City of Martinez's water treatment plant prior to entering the City's water distribution system.

6.2 Groundwater

Up until 2010, the City produced approximately 7.84 AFY of groundwater from their lone well at the Hidden Lakes Park for park irrigation purposes. Currently that well is out of service. The City has no other groundwater production facilities for water supply, and there are no major groundwater basins underlying the City. As such, DWR Table 6-1, reporting the groundwater volume pumped over the past five years, has been excluded. The nearest groundwater basin is the Ygnacio Valley groundwater basin (Basin 2-6) on the east side of Interstate 680. Due to high estimated unit costs relative to their current imported water supply, groundwater production is not considered a significant future water supply for the City.

6.3 Surface Water

The City does not use, or plan to use, self-supplied water as part of its water supply. The City purchases surface water from CCWD, which is not self-supplied.

6.4 Stormwater

The City is currently not using stormwater to meet local water supply demands. At this time, there are no plans to utilize stormwater, but that could change in the future.

6.5 Wastewater and Recycled Water

Central Contra Costa Sanitary District (CCCSD) collects and treats approximately two-thirds of the wastewater generated within the Martinez water service area, with the remainder collected and treated by the Mountain View Sanitary District (MVSD). The amount of wastewater generated from the City's water service area is not known due to the complexity of the overlapping boundaries for the City, the City's water service area, and the sanitary districts serving both the City of Martinez and other areas. The volume of wastewater collected in 2020 is estimated as 65 percent of the potable demand within the service area.

CCCSD has been providing tertiary-treated recycled water for in-plant usage, irrigation customers and a range of commercial uses since 1996. CCCSD currently serves recycled water to some sites inside the City of Martinez, but outside the City of Martinez's water service area. MVSD

treated effluent does not meet Title 22 requirements for unrestricted landscape irrigation and is currently used to maintain an adjacent wetland. City wastewater collection and treatment characteristics are shown in Table 6-2.

Table 6-2: Wastewater Collected Within Service Area in 2020

Wastewater Collected Within Service Area in 2020					
Wastewater Collection			Recipient of Collected Wastewater		
Wastewater Collection Agency	Wastewater Volume Metered or Estimated?	Volume of Wastewater Collected in 2020	Wastewater Treatment Agency	Treatment Plant Name	Is WWTP Located Within UWMP Area?
CCCSD	Estimated	1,665	CCCSD	CCCSD WWTP	No
MVSD	Estimated	820	MVSD	MVSD WWTP	No
Total		2,485			
NOTES: Volume estimated based on 65% of City's total potable demand					

6.5.1 CCCSD Wastewater and Recycled Water Systems

All wastewater is treated and discharged outside of the City's service area. CCCSD currently provides sanitary sewer collection and treatment services for portions of the cities of Martinez, Concord, Clayton, Pleasant Hill, Orinda, Lafayette, Walnut Creek, Moraga, Alamo, Danville, San Ramon, and unincorporated communities within central Contra Costa County. Opened in 1948 and upgraded several times in its 70+ year history, the Central Contra Costa Sanitary District Treatment Plant, which is located at the intersection of I-680 and Highway 4, treats an average of approximately 34 million gallons of wastewater per day generated in a 145-square mile area by nearly a half a million residents and more than 3,000 businesses.

Wastewater moves through the District's 1,500 miles of sewer lines to the plant's headworks to begin treatment. The plant has a treatment capacity of 54 million gallons per day (mgd) and 240 mgd of wet weather flow. The plant operations building houses the control center, a state-of-the-art computerized system that monitors and controls every phase of the treatment process. The facility is staffed 24 hours a day, 365 days a year.

Most of the wastewater is treated to a secondary level, disinfected by ultraviolet light, and then discharged into Suisun Bay. Approximately 600 million gallons per year are treated to a tertiary level through additional filtration and disinfection before being distributed as Title 22 recycled water that meets all the requirements of the State Water Resources Control Board's Division of Drinking Water and the San Francisco Regional Water Quality Control Board for unrestricted landscape irrigation. Approved uses include irrigation at schools, parks, playgrounds, median strips and playing fields, as well as dust control and industrial process uses.

CCCSD currently provides approximately 700 AFY to recycled water customers within the Cities of Pleasant Hill, Concord and Martinez (outside the City's service area), with an agreement which allows for up to 1,630 AFY of dry year demand to be met with recycled water in specified areas. CCCSD also uses almost 900 AFY of recycled water internally at its own facilities for process water at its treatment plant and landscape irrigation.

CCCSD is working in collaboration with CCWD and Valley Water to evaluate the feasibility of providing recycled water to major industrial customers within CCWD's service area. The Industrial Recycled Water Project could serve up to 3 MGD of recycled water, offsetting a like amount of Delta diversions, and has potential to increase over time.

The cost to construct new recycled water treatment and conveyance facilities can be high. For example, recycled water projects often require construction of purple pipelines through congested urban areas or require additional treatment facilities to increase capacity. When all of these costs are added together, the unit cost of recycled water often exceeds the cost of other available, but less-sustainable, water supplies. Despite these challenges, CCCSD continues to seek opportunities and partnerships to cost-effectively expand recycled water use, add new customers, and obtain financial assistance to build additional recycled water facilities.

CCCSD currently serves recycled water to some sites inside the City of Martinez, but outside the City of Martinez's water service area. The current CCSD recycled water transmission system parallels the City of Martinez's water service area to the east. The future path of the CCCSD transmission system is largely dictated by economics, i.e. viably large recycled water demand sites in the same direction and areas. At this time, there are no plans to route the transmission system inside the City's water service area, but the City will work with CCCSD to potentially make this happen in the future.

6.5.2 MVSD Wastewater and Recycled Water Systems

The Mt. View Sanitary District (MVSD), established in 1923, provides wastewater collection, treatment, and disposal services for the northeasterly portion of the City of Martinez and adjacent unincorporated areas to the northeast. MVSD serves approximately 21,100 residents, treating an average flow rate 1.25 mgd.

The MVSD Wastewater Treatment Plant is located near the Shell Oil Refinery on unincorporated land near the City of Martinez. The District currently operates a wastewater filtration system with an ultraviolet disinfection system, which was the first full-scale operation of this type in Northern California when constructed. The District's initial sewer system fed into a large community septic tank. In 1951, the District installed primary treatment units. Secondary treatment began in 1968 with the addition of a secondary clarifier, digester, thickener, and a high rate biofilter.

To meet effluent disposal limits outlined by the Regional Water Quality Board in 1974, the District reclaimed valuable wetlands in the vicinity of the treatment site, rather than discharging into a deep-water outfall line. All wastewater treated by the MVSD is discharged into a series of marshes starting west of I-680 then flowing to Peyton Slough, which then combines with surface runoff and tidal flows supplying a natural marshland east of I-680, before ultimately discharging to the Carquinez Strait . Moorhen Marsh is a 21-acre constructed wetland and was the first on the West Coast to use treated effluent as its primary water source. McNabney Marsh is a 130-acre restored, tidal wetland, dominated by water from Carquinez Strait. All of MWSD's effluent is reclaimed and directed through the marsh system which provides environmental beneficial use through wildlife habitat and wetland enhancement. The MVSD plant is permitted to discharge 3.2 mgd.

The plant effluent does not meet Title 22 requirements for unrestricted landscape irrigation and there are no current plans to upgrade tertiary treatment to meet Title 22 requirements. If the plant were to be upgraded in the future, there would be potential recycled water demand in the City's water service area.

Note that DWR Tables 6-4, 6-5, and 6-6 are to show historical, existing, and projected recycled water use. As the City does not currently have and does not project recycled water use, these Tables were not included.

6.6 Desalinated Water Opportunities

CCWD, Alameda County Water District (ACWD), Zone 7 Water Agency (Zone 7), EBMUD, San Francisco Public Utilities Commission (SFPUC), and Valley Water jointly developed a regional brackish water desalination pilot project called the Bay Area Regional Desalination Project (BARDP) to evaluate ways to improve the region's water supply reliability, especially during droughts and emergencies. In 2007, a Feasibility Study identified three potential Bay Area locations for a regional desalination project. A pilot study was conducted in 2009-2010 at CCWD's Mallard Slough Pump Station that demonstrated that desalination is technically feasible, pending any constraints related to institutional issues, environmental impacts, water rights, and water conveyance. Through 2014, the partners performed site-specific hydraulic studies to determine available capacity in transmission lines, water quality changes, and storage optimization. A broader coalition of Bay Area water agencies is currently evaluating the project as part of a regional reliability study. Desalination will continue to be evaluated as a potential water supply alternative as part of the CCWD's regular updates to its long-term water supply planning.

6.7 Exchanges or Transfers

There is currently no transfer or exchange of untreated water into or out of the water service area. The City has an agreement with CCWD in which the City provides treated water to the Port Costa community west of Martinez in exchange for an equal amount of treated water delivered from the CCWD water service area into the City water service area. The delivery of CCWD treated water to the City is metered at the Pacheco intertie location between the two systems.

The City and CCWD entered into a supplemental "Temporary Use of Treated Water Capacity" agreement on March 30, 2016, which supplements the 1972 Memorandum of Understanding and sets the groundwork for sharing water for "non-emergency" use such as major maintenance.

Through agreement between Contra Costa County, CCWD and the City, the City agreed to provide water from a connection to the City system, in lieu of CCWD construction of a new service line through the City for service to Port Costa. Under the terms of the agreement, CCWD provides a volume of treated water, approximately equal to that used by Port Costa community, to the City of Martinez system through the metered Elderwood intertie connection. Flow control at the intertie consists of a partially opened valve. Metered flows are monitored on a monthly basis and valve position changes are made as necessary to balance the volume of treated water provided to Port Costa with that received from CCWD. Port Costa average daily demands are small in comparison with City demands.

6.8 Future Water Projects

A regional strategy to increase water supply reliability is to develop infrastructure to tie into the water supply systems of nearby water agencies, such as East Bay Municipal Utility District (EBMUD), to reduce reliance on the Delta. As identified in East Contra Costa County Integrated Regional Water Management Plan Update 2019, is to construct an intertie from EBMUD to the City of Martinez to improve City supply reliability during an emergency.

DWR Table 6-7 is to show future water supply projects or programs that provide a quantifiable increase to an agency's water supply. As there are no future CCWD or City water supply projects or programs that provide a quantifiable increase to City water supply at this time, this table was omitted.

6.9 Summary of Existing and Planned Sources of Water

The City receives untreated imported water from Contra Costa Water District (CCWD) via the Contra Costa Canal, which is part of the Central Valley Project developed by the U.S. Bureau of Reclamation. 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.

Sanitary wastewater from the City's water service area is treated at the CCCSD and MVSD treatment plants. However, the City's water service area currently does not receive any recycled water supply. CCSD currently serves recycled water to some sites inside the City of Martinez, but outside the City of Martinez's water service area. At this time, there are no plans to route the CCCSD recycled water transmission system inside the City's water service area, but the City will work with CCCSD to potentially make this happen in the future.

MVSD treated effluent does not meet Title 22 requirements for unrestricted landscape irrigation and is currently used to maintain adjacent wetlands. There are no current plans to upgrade tertiary treatment to meet Title 22 requirements. If the plant were to be upgraded in the future, there would be potential recycled supply for sites inside the City's water service area.

The City is currently not using stormwater to meet local water supply demands. At this time, there are no plans to utilize stormwater, but that could change in the future. The City does not currently have any water supply via desalination treatment facilities; however, potential regional desalination facilities are currently being evaluated by CCWD, East Bay Municipal Utility District (EBMUD), and other agencies. There is currently no transfer or exchange of untreated water into or out of the water service area.

Summaries of actual (2020) and projected (2025-2045) City water supplies are shown in Table 6-8 and Table 6-9, respectively.

Table 6-8: Water Supplies - Actual

Water Supplies — Actual			
Water Supply	Additional Detail on Water Supply	2020	
		Actual Volume	Water Quality
Purchased or Imported Water	Purchased raw treated at City WTP	5,152	Drinking Water
Total		5,152	

Table 6-9: Water Supplies - Projected

Water Supplies — Projected						
Water Supply	Additional Detail	Projected Water Supply				
		2025	2030	2035	2040	2045
Purchased or Imported Water	Purchased raw treated at City WTP	4,460	4,266	4,070	3,918	3,984
Total		4,460	4,266	4,070	3,918	3,984

6.10 Climate Change Impacts to Supply

Climate change impacts and regional activities related to climate change concerns are discussed in Section 4.7.

6.11 Energy Intensity

New to this 2020 UWMP, suppliers must provide information that can be used to calculate the energy intensity of their water service. Energy intensity is a ratio of energy consumed per unit volume of water supplied. Required information is limited to that which is readily obtainable by the supplier for their operations which includes acquiring, treating, and distributing water supplies. The City's potable water system energy use for 2020 was provided by water supply facility name and location as shown in Table 6-10A using energy billing data.

Table 6-10A: Water Supplies - Projected

Metered Energy Use - 2020		
Facility Name	Location	2020 kWh
Thomas Hill pump station	1320 Thomas Drive	9,977
Raw Water pump station	3300 Pacheco Blvd	378
Martinez WTP - ozone building	3003 Pacheco	596,121
Martinez WTP - administrative building	3003 Pacheco	2,001,669
St. Mary's pump station	3907 Saint Mary's St	27,486
Shady Glen reservoir	853 Shady Glen	359
Howe Road pump station	2911 Howe Road	332,691
Arnold Dr pump station	911 Arnold Dr	488,973
Muir Station reservoir	4880 Kendall Ct	15,136
Sage Drive pump station	2394 Reliez Valley Rd	14,089
Webster Drive pump station	564 Webster	9,107
MacAlvey reservoir	1417 Stonecreek Ct	276
Stonehurst pump station	230 Stone Valley Ct	32,475
Alhambra Valley Ranch reservoir	180 Rolling Ridge Way	368
Almond reservoir	5129 Chelsea Dr	1,088
Castle Creek pump station	5224 Alhambra Valley Road	53,264
Total		**3,583,458**

The energy usage intensity is calculated using the total utility approach as described in Appendix O of the DWR's UWMP Guidebook. The treatment plant processes are metered together with distribution pump stations located at the treatment plant and therefore cannot be separated by process. Table 6-11A shows the energy usage intensity for the City's water system. The energy intensity reporting table is included in Appendix F.

Table 6-11A: Energy Reporting – Total Utility Approach

Table O-1B: Recommended Energy Reporting - Total Utility Approach				
Enter Start Date for Reporting Period	1/1/2020	Urban Water Supplier Operational Control		
End Date	12/31/2020			
Water Volume Units Used	*AF*	Total Utility	Hydropower	Net Utility
Volume of Water Entering Process (volume unit)		*5,152*		*5,152*
Energy Consumed (kWh)		*3,583,458*		*3,583,458*
Energy Intensity (kWh/vol. converted to MG)		*2,134.6*		*2,134.6*
Data Quality *(Estimate, Metered Data, Combination of Estimates and Metered Data)*				
Metered Data				
Narrative:				
Energy consumed is metered use for the City's treatment plant and booster pump stations from PGE billing data. Volume entering the distribution system is metered at the treatment plant pump stations and excludes process water returning to the plant.				

7 WATER SUPPLY RELIABILITY ASSESSMENT

7.1 Factors Impacting Reliability

Every urban water supplier is required to assess the reliability of their water service to its customers under normal, dry, and multiple dry water years. Two of the most significant constraints on water supply for the City, and for California, in recent years have been drought and issues related to the Sacramento-San Joaquin River Delta ecosystem.

The City relies on imported CVP water from CCWD. Many factors could result in decreased reliability of the City's water supply from CCWD including water quality and climatic conditions. Potential impacts to water supply were considered the development of CCWD's supply reliability analysis presented in their 2020 UWMP.

7.1.1 Constraints on Delta Supply

The Delta is CCWD's primary source of water. The quality of water in the Delta continues to deteriorate despite efforts to improve it. Delta water quality problems are being compounded by increased water use and greater wastewater, storm water, and agricultural discharges from statewide development and growth. Climate change is projected to further impact CCWD's water supplies. Changes in rainfall and temperatures could affect the availability of fresh surface water. Additionally, sea level rise could result in increases in Delta salinity which would further limit the amount and duration of water with quality suitable for municipal use. Further discussion on climate change is included in Section 4.7.

Delta regulations have affected the reliability and availability of Delta supplies in recent years. In 2019, the Fish & Wildlife Service issued a biological opinion on the Reinitiation of Consultation on the Long-Term Operation of the CVP and in 2020 issued an Incidental Take Permit for the Long-Term Operation of the SWP. The Service determined that the continued operation of these two water projects, as described in the Operational Criteria and Plan (OCAP), was likely to jeopardize the continued existence of the delta smelt and adversely modify its critical habitat. Since that determination, pumping has been reduced or curtailed on both CVP and SWP during critical times to maintain adequate species protection. This and other biological opinions can significantly affect the timing and availability of supplies from the CVP, affecting CCWD's supply availability and reliability.

7.1.2 Supply Reliability Improvements

CCWD continues to evaluate options to maintain and improve water supply and quality for its customers and to meet increasingly stringent drinking water quality standards. CCWD has completed several projects in the past ten years and continues to evaluate other options to maintain and improve supply as summarized below.

- EBMUD-CCWD untreated water intertie – This intertie enables CCWD to divert up to 3,200 AFY of its CVP supply and provide for the sharing of water supplies between agencies during emergency conditions or planned maintenance.
- Advanced Treatment Demonstration Project – In 2004, CCWD formed a regional partnership with local water agencies to research a project on advanced water treatment processes which examined a full-scale application of disinfectants and advanced filtration

and to improve understanding of Delta source water quality with results documented in a report in March 2011.

- Middle River Intake – In 2010, CCWD completed the Middle River Intake to move some of its pumping to a new intake in the Delta to enable CCWD to divert water of higher quality during dry periods, including droughts, without increasing the amount of water pumped.
- Phase 1 Los Vaqueros Reservoir Expansion – CCWD completed an expansion of 2012 increasing the capacity of the reservoir from 100,000 AF to 160,000 AF, improving water quality and water supply reliability for a net environmental benefit to the Delta. CCWD is leading the Phase 2 Expansion to provide added reliability benefits.
- Canal Replacement Project – CCWD is implementing a project to replace approximately four miles of the unlined Contra Costa Canal from the Rock Slough Intake to Pumping Plant No. 1. The project will improve source water quality and increase public safety and flood control. Four out of five phases of the project are completed with 1.5 miles of replacement remaining.

7.2 Reliability by Type of Year

The City receives untreated imported water from CCWD via the Contra Costa Canal, which is part of the Central Valley Project developed by the U.S. Bureau of Reclamation. Since a contract does not exist between CCWD and the City of Martinez for a fixed delivery amount, water supply has been set equal to projected demand. During periods of drought, CCWD has established supply limits based on a percentage of the demand from the previous years.

CCWD prepared its 2020 UWMP as a Public Draft in April 2021. In conformance with California Water Code, CCWD prepared an assessment of its water supply reliability. This analysis was provided to all wholesale municipal customers of the District including the City of Martinez for use in the preparation of their UWMPs.

The water supply reliability assessment considers total availability of all water supplies during normal, single-dry, and multiple dry years, defined in the DWR Guidebook as follows:

- Normal Year – Defined as the year that most closely represents the average water supply available
- Single-Dry Year – Defined as the year that represents the lowest water supply available
- Multiple-Dry Year – Defined as the driest historical consecutive 5-year period of water supply availability

CCWD does not anticipate any supply deficits in normal years or single-dry years throughout the planning horizon. This is primarily due to the success of the District's past water use efficiency measures, the existing contract for CVP water, and the long-term water transfer agreement with East Contra Costa Irrigation District (ECCID). In future years, multiple-dry year conditions may result in supply shortfalls of up to approximately 15% of demand (or approximately 30,000 AF). CCWD's water supply reliability goal is to meet 100 percent of demand in normal years and a minimum of 85 percent of demand during a drought. Any potential supply shortfalls experienced during dry year conditions will be met through a short-term demand management program, consistent with CCWD's Board policy.

CCWD projected water supply reliability as a percentage of demand for the planning period 2025 through 2045 as shown in Table 7-1A. For example, in the year 2045, the District anticipates it could supply at least 85 percent of its municipal customers' demands in the fourth and fifth year of a multiple-year drought. The water supply reliability goal approved by the District's Board of Directors is to meet 100 percent of demand in normal years and at least 85 percent of demand during drought conditions. The remaining 15% would be met by short-term water purchases and a short-term conservation program.

Table 7-1A: CCWD Projected Supply Reliability (% of Demand)

CCWD Projected Supply Reliability (% of Demand)					
Year Type	**2025**	**2030**	**2035**	**2040**	**2045**
Average Year	100%	100%	100%	100%	100%
Single-Dry Year	100%	100%	100%	100%	100%
Multiple-Dry Years 1st Year	100%	100%	100%	100%	100%
Multiple-Dry Years 2nd Year	100%	100%	100%	100%	100%
Multiple-Dry Years 3rd Year	95%	95%	95%	90%	90%
Multiple-Dry Years 4th Year	90%	90%	90%	85%	85%
Multiple-Dry Years 5th Year	85%	85%	85%	85%	85%

The basis of water year data was provided in CCWD's 2020 UWMP and is used to determine supply availability for the District's combined wholesale and retail operations, as shown in Table 7-1B. Historical CVP allocations designated as wet, above normal, and below normal were averaged between 1922 and 2020 to determine an average year availability, which is used as the bases for the normal year type. Similarly, historical CVP allocations during the same period designated as dry and critically dry years were averaged to determine the supply available in a single dry year. The period from 1929 through 1933 had the lowest supply available for a consecutive 5-year period and was used as the bases for the five-year drought period. These quantities represent the percent of supply available to CCWD compared to a normal year and not the percent available to their wholesale and retail customers. Table 7-1C shows CCWD's projected supply reliability as presented in the CCWD 2020 UWMP. As shown, the District projects surplus supply during normal year, single-dry year, and at least the first two years of a 5-year drought.

Table 7-1B: CCWD Wholesale Supply - Basis of Water Year Data

CCWD Wholesale Supply - Basis of Water Year Data		
Year Type	**Base Year**	**Available Supplies if Year Type Repeats**
		% of Average Supply
Average Year	1922-2020	100%
Single-Dry Year	1922-2020	80%
Multiple-Dry Years 1st Year	1932	80%
Multiple-Dry Years 2nd Year	1930	75%
Multiple-Dry Years 3rd Year	1931	70%
Multiple-Dry Years 4th Year	1933	65%
Multiple-Dry Years 5th Year	1929	60%

Table 7-1C: CCWD Supply and Demand Comparison

CCWD Supply and Demand Comparison						
		2025	2030	2035	2040	2045
Normal Year	Supply totals	216,600	235,500	240,700	242,200	243,100
	Demand totals	147,300	157,300	165,000	171,500	175,900
	Difference	69,300	78,200	75,700	70,700	67,200
Single-Dry Year	Supply totals	174,000	189,100	193,100	194,400	194,900
	Demand totals	147,300	157,300	165,000	171,500	175,900
	Difference	26,700	31,800	28,100	22,900	19,000
Multiple Dry Years						
Year 1	Supply totals	175,900	191,700	195,800	197,100	197,600
	Demand totals	147,300	157,300	165,000	171,500	175,900
	Difference	28,600	34,400	30,800	25,600	21,700
Year 2	Supply totals	166,400	181,500	185,400	186,700	187,200
	Demand totals	147,300	157,300	165,000	171,500	175,900
	Difference	19,100	24,200	20,400	15,200	11,300
Year 3	Supply totals	148,000	161,700	165,300	171,500	175,900
	Demand totals	147,300	157,300	165,000	171,500	175,900
	Difference	700	4,400	300	0	0
Year 4	Supply totals	147,300	157,300	165,000	171,500	175,900
	Demand totals	147,300	157,300	165,000	171,500	175,900
	Difference	0	0	0	0	0
Year 5	Supply totals	147,300	157,300	165,000	171,500	175,900
	Demand totals	147,300	157,300	165,000	171,500	175,900
	Difference	0	0	0	0	0

The basis of water year data for the City and the range of supply as a percentage of average projected demand for average year, single-dry year, and multiple-dry years are shown in Table 7-1. Supply reliability from CCWD to the City, as shown in Table 7-1, is based on the reliability percentages provided to the City from CCWD and shown in Table 7-1A. The percentages shown in Table 7-1 do not reflect CCWD estimated surplus supplies during years with 100% supply reliability as shown in Table 7-1C.

Table 7-1: Basis of Water Year Data

Table 7-1: Basis of Water Year Data		
Year Type	Base Year	% of Average Demand
Average Year	1922-2020	100%
Single-Dry Year	1922-2020	100%
Multiple-Dry Years 1st Year	1932	100%
Multiple-Dry Years 2nd Year	1930	100%
Multiple-Dry Years 3rd Year	1931	90% to 95%
Multiple-Dry Years 4th Year	1933	85% to 90%
Multiple-Dry Years 5th Year	1929	85%

7.3 Regional Supply Management

The City relies entirely on water supply from CCWD. As such, the management strategies implemented by CCWD directly relate to the City's own reliability. CCWD strategies include utilizing dry-year agreements with other water providers, the implementation of conservation programs including percent reduction actions, and the increased use of local storage supplies.

Additionally, CCWD is collaborating with other Bay Area agencies to improve regional water management and planning. CCWD participates and plays a leadership role in the East Contra Costa County IRWMP process which has, to date, utilized over $30 million in grant funding for projects to offset water supply from the Delta. The BARR partnership is a collaboration of eight Bay Area water agencies centered on improving water supply reliability through infrastructure investments, facilitating the transfer of water during shortages, bolstering emergency preparedness, and improving climate change resiliency. In 2017, the BARR partnership developed a Drought Contingency Plan that identified mitigation measures and response actions that could be implemented regionally. The Shared Water Access Program seeks to implement pilot projects in 2021 consisting of two short-term water transfers and/or exchanges between BARR members to gain insights on the sharing of resources to improve regional reliability.

7.4 Supply and Demand Assessment

Projected normal-year average-annual City supplies and demands as developed in Table 6-9 and Table 4-3, respectively, are shown in Table 7-2. Projected single-dry-year average-annual City supplies and demands are shown in Table 7-3. Projected multiple dry-year average-annual City supplies and demands are shown in Table 7-4. It is estimated that a projected CCWD supply deficit in a given year is met with a matching percent short-term City demand reduction through water conservation as discussed in Chapter 8, Water Shortage Contingency Plan. Supply reliability has been realized through water conservation during times of drought and other caused water supply shortages. The City of Martinez experienced water supply shortages in 1977, 1991, 2009, and 2015. In response to each shortage, the City was successful in achieving water reduction beyond the necessary limits in each year.

Table 7-2: Normal Year Supply and Demand Comparison

Normal-Year Supply and Demand Comparison					
	2025	**2030**	**2035**	**2040**	**2045**
Supply totals ***(from Table 6-9)***	4,460	4,266	4,070	3,918	3,984
Demand totals ***(from Table 4-3)***	4,460	4,266	4,070	3,918	3,984
Difference	0	0	0	0	0

Table 7-3: Single-Dry Year Supply and Demand Comparison

Single-Dry Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045
Supply totals	4,460	4,266	4,070	3,918	3,984
Demand totals	4,460	4,266	4,070	3,918	3,984
Difference	0	0	0	0	0

Table 7-4: Multiple Dry Years Supply and Demand Comparison

Multiple Dry Years Supply and Demand Comparison						
		2025	2030	2035	2040	2045
First year	Supply totals	4,460	4,266	4,070	3,918	3,984
	Demand totals	4,460	4,266	4,070	3,918	3,984
	Difference	0	0	0	0	0
Second year	Supply totals	4,460	4,266	4,070	3,918	3,984
	Demand totals	4,460	4,266	4,070	3,918	3,984
	Difference	0	0	0	0	0
Third year	Supply totals	4,237	4,053	3,867	3,526	3,586
	Demand totals	4,237	4,053	3,867	3,526	3,586
	Difference	0	0	0	0	0
Fourth year	Supply totals	4,014	3,839	3,663	3,330	3,386
	Demand totals	4,014	3,839	3,663	3,330	3,386
	Difference	0	0	0	0	0
Fifth year	Supply totals	3,791	3,626	3,460	3,330	3,386
	Demand totals	3,791	3,626	3,460	3,330	3,386
	Difference	0	0	0	0	0

7.5 Drought Risk Assessment

CWC requires every urban water supplier to include, as part of its UWMP, a drought risk assessment (DRA) for its water service as part of information considered in developing its demand management measures and water supply projects and programs. The DRA allows suppliers to consider how to manage water supplies during dry hydrologic conditions in relation to variations in demand for the upcoming five-year period, from 2021 through 2025. This process helps a supplier evaluate its Water Shortage Contingency Plan (WSCP) and anticipate appropriate shortage response actions prior to an actual extended drought period. The CWC requires the DRA to be based on the driest five-year historic sequence for the agency's water supply.

The five-year drought period for the City's DRA is evaluated in a similar manner to the multiple dry year supply and demand assessment presented in Section 7.4. The DRA differs from the above assessment in that demand projections must be unconstrained, meaning they exclude any water savings associated with dry year conservation or other constraints on water use. The drought period is represented based on the driest five consecutive year hydrology from 1929 to 1933 as provided in CCWD's UWMP.

CCWD's supply forecast takes into consideration historical drought hydrology, projected supplies and demands under climate change conditions, and anticipated regulatory changes. CCWD's DRA is presented in their 2020 UWMP and is summarized in Table 7-5A below. Projected water demands utilized in CCWD's DRA consider historical water use and projected population and economic growth resulting in projected water use under unconstrained demand conditions. As shown Table 7-5A, it is anticipated that short-term demand management measures (DMMs) up to 7 percent would be needed by 2025 to address supply shortfall under drought conditions. Estimated water savings from both percent reduction in demand and/or supply augmentation actions may be utilized to mitigate potential shortfalls in supplies.

Table 7-5A: CCWD Five-Year Drought Risk Assessment

CCWD Five-Year Drought Risk Assessment					
	2021	2022	2023	2024	2025
Gross Water Use	126,300	126,300	126,300	126,300	126,300
Total Supplies	159,700	151,200	134,200	125,700	117,200
Surplus/Shortfall w/o WSCP Action	33,400	24,900	7,900	(600)	(9,100)
Planned WSCP Actions (use reduction and supply augmentation)					
WSCP - supply augmentation benefit					
WSCP - use reduction savings benefit				600	9,100
Revised Surplus/(shortfall)	33,400	24,900	7,900	0	0
Resulting % Use Reduction from WSCP action	0	0	0	0.48%	7.2%

The City's dry year unconstrained demand for the DRA period is estimated to equal projected normal year demand for the same period. The normal year demand forecast is described in Chapter 4 and is based ABAG demographic projections and per capita use with anticipated baseline conservation. The normal year demand for the DRA period, from 2021 through 2025, is

calculated as discussed in Section 4.4 and shown in Table 4-1E. Water supply availability to the City for the DRA period is estimated based on CCWD's projected surplus and shortfall data provided in their DRA as shown in Table 7-5A, with surplus supply in the first three years, a 0.5% shortfall in 2024, and a 7.2% shortfall in 2025.

The City's DRA is presented in Table 7-5 which demonstrates adequate supply in the first three years and projected shortfalls in the subsequent two years during a long-term drought scenario that occurs over the next five years. Projected water shortages would trigger Water Shortage Contingency Plan response actions as described in Chapter 8. This DRA will be modified as needed during interim periods between each UWMP cycle should information become available that changes the forecasted supply.

Table 7-5: Five-Year Drought Risk Assessment

Five-Year Drought Risk Assessment					
	2021	**2022**	**2023**	**2024**	**2025**
Gross Water Use	4,697	4,637	4,575	4,517	4,460
Total Supplies	4,697	4,637	4,575	4,494	4,139
Surplus/Shortfall w/o WSCP Action	0	0	0	23	321
Planned WSCP Actions (use reduction and supply augmentation)					
WSCP - supply augmentation benefit					
WSCP - use reduction savings benefit				23	321
Revised Surplus/(shortfall)	0	0	0	0	0
Resulting % Use Reduction from WSCP action	0	0	0	0.50%	7.2%

8 WATER SHORTAGE CONTINGENCY PLANNING

Water supplies may be interrupted or reduced by droughts, earthquakes, and power outages which hinder a water agency's ability to effectively deliver water. Drought impacts increase with the length of a drought, as supplies in reservoirs and other storage programs are depleted and water levels in groundwater basins decline. The ability to manage water supplies in times of drought or other emergencies is an important part of water resource management for a community. In anticipation of such water supply challenges; the Water Code requires suppliers to prepare and adopt a Water Shortage Contingency Plan (WSCP), which includes water shortage response actions that they would take in response to six standard levels of water shortage. This WSCP describes the water supply shortage policies the City has in place to respond to events including reductions and catastrophic interruption in water supply.

The City of Martinez plans for water supply shortages caused by drought where CCWD limits supply or by emergency failures in conveyance or treatment facilities. The greatest water shortage experienced by the City occurred in 1977 when CCWD imposed a 30 percent supply restriction to the City due to the drought. The City's water shortage contingency planning takes into account potential supply shortages up to a 50 percent reduction in supply with greater supply shortages addressed through the Emergency Response Plan (ERP).

The City developed its first formal Urban Water Shortage Contingency Plan (WSCP) in 1992 and submitted it to DWR. The Plan was developed based on experience obtained during water shortages in 1977 and 1991. The WSCP is used by the City to mitigate impacts caused by potential water supply shortages and is updated in this chapter to address additional State requirements as included in the CWC. The City's 1992 WSCP is provided in Appendix G.

8.1 City Ordinances and Resolutions Responding to Water Shortages

The City has historically enacted ordinances and resolutions to restrict water waste and promote water conservation in response to droughts and other water shortage conditions in which CCWD imposed water supply reductions to the City and other retail customers, typically by a percentage of water used in the previous years.

CCWD supply reductions occurred during drought conditions in 1977, 1991, 2009, and 2015. In 1977, CCWD reduced water supply to the City by 30 percent as measured by 1976 water demand. This was the first time CCWD imposed supply reduction on the City. In response, the City enacted a resolution establishing mandatory water rationing and prohibiting water waste. A 34 percent water use reduction was achieved by implementing these measures.

On March 6, 1991, CCWD passed a resolution that included reducing water supply to the City by 25 percent. This reduction was based on a 50 percent reduction in the USBR contract entitlement for CCWD, which resulted in approximately 25 percent reduction from the prior year deliveries. Because of CCWD's water supply reduction, the Martinez City Council adopted Resolution No. 47-91 on April 3, 1991, which established mandatory water use reductions commencing on May 1, 1991, varying by customer classification, for all customers of the Martinez water system.

On June 26, 1991, CCWD amended the Emergency Water Reduction Plan. The revised program provided for a voluntary 15 percent water reduction by all of the District's untreated water customers. This change in allocation was made possible by the demand reduction actions of

CCWD water users, CCWD's securing of State of California Water Bank water, reductions in use by Gaylord Paper in Antioch, and by a more favorable revised reduction in water supply allotment imposed on CCWD by the USBR. On July 17, 1991, the City of Martinez changed from a mandatory water rationing program to a voluntary water conservation program.

During the period from May to July of 1991 when a mandatory reduction of 25 percent in water use was imposed, the City of Martinez reduced water use by 30 percent. The water reduction achieved during the entire 1991 calendar year was 24 percent of the water use in 1990.

In 2009, CCWD allocated the City of Martinez Water System 85 percent of the historical average used in 2005, 2006, and 2007. To adhere to CCWD's reduction, the City of Martinez Council adopted Resolutions No. 044-09 and 010-10. These resolutions established mandatory water use reductions of 15 percent, to take effect June 1, 2009. Customers failing to meet the requirements of the resolutions were penalized with increased rates for their usage in excess of the requirements. During the reduction period, the City was able to reduce its water usage by approximately 22 percent and the City did not incur any penalties from CCWD.

CCWD lifted all of the restrictions on their customers effective May 1, 2010 and the Martinez City Council lifted water restrictions effective the first billing cycle to follow. Resolution No. 032-10 rescinded the mandatory reductions required by Resolutions 044-09 and 010-10 and promoted voluntary water conservation. The City has historically rescinded water use restrictions after CCWD supply reductions were lifted.

On May 6, 2015, Governor Brown signed Executive Order B-29-15 mandating the California State Water Resources Control Board (SWRCB) to impose restrictions to achieve a statewide mandatory 25% reduction in potable urban water usage through February 28, 2016. Cities and water agencies were assigned various reduction goals, and the City of Martinez's reduction goal was set at 20%.

In July 2015, the City responded by adopting Resolution No. 092-15 that adjusted water consumption pricing up to $0.50 per unit of treated water used, establishing the proposed pricing adjustment, and amending Section 14, Schedule of Fees and Rates, of the City of Martinez Regulations Governing Water Service. The City also adopted Resolution No. 093-15 establishing the City of Martinez 25% Drought Management Plan. In August 2015 the City adopted Ordinance No. 1387, amending Section 7 of the City's Regulations Governing Water Service, to reserve the right to allocate water to its customers and to establish fines and penalties for wasteful use during temporary drought conditions. Both of these Resolutions and the City Ordinance are included in the Appendix G. City water use decreased a cumulative 30.9% for the first eight recording months (June 2015 through February 2016) relative to year 2013 water usage in response to the City's conservation goal of 20% set by the State.

8.2 Water Supply Reliability Analysis

Every urban water supplier is required to assess the reliability of their water service to its customers under normal, dry, and five consecutive dry water years. There are various factors that may impact reliability of supplies such as environmental, regulatory, water quality and climatic, which are discussed in Chapter 7 of the 2020 UWMP.

The City's source of water supply is raw water provided by CCWD. In turn, CCWD's primary water supply source is the CVP which is obtained under contract with the United States Bureau of Reclamation and provides for a maximum delivery of 195,000 AFY of CVP supply. CVP supply is subject to reduction during shortages, including regulatory restrictions and drought, which provides for a minimum allocation of 75 percent of adjusted historical use until agricultural contractors' allocations fall below 25 percent. Reclamation will deliver CVP water to CCWD at no less than a public health and safety level during a water shortage emergency, provided it is available.

CCWD does not anticipate any supply deficits in normal years or single-dry years throughout the planning horizon. This is primarily due to the success of the District's past water use efficiency measures, the existing contract for CVP water, and the long-term water transfer agreement with East Contra Costa Irrigation District (ECCID). In future years, multiple-dry year conditions may result in supply shortfalls of up to approximately 15% of demand. CCWD's water supply reliability goal is to meet 100 percent of demand in normal years and a minimum of 85 percent of demand during a drought. Any potential supply shortfalls experienced during dry year conditions will be met through a short-term demand management program, consistent with CCWD's Board policy.

It is estimated that a projected CCWD supply deficit in a given year is met with a matching percent short-term City demand reduction through water conservation. Supply reliability has been realized through water conservation during times of drought and other caused water supply shortages. The City of Martinez experienced water supply shortages in 1977, 1991, 2009, and 2015. In response to each shortage, the City was successful in achieving water reduction beyond the necessary limits in each year.

8.3 Annual Water Supply and Demand Assessment Procedures

Beginning in 2022, each supplier is required to prepare and submit to DWR an Annual Water Supply and Demand Assessment (Annual Assessment) on or before July 1 of each year. The Annual Assessment and associated reporting are to be conducted based on procedures outlined in this section.

8.3.1 Decision-Making Process

The Annual Assessment will be prepared by the City Engineer and presented to the Director of Community Development for approval. During the Annual Assessment, or any unexpected water shortage period, the Department will determine the extent of any potential water shortage based on water supply availability from CCWD. In the event of a water shortage, the Department will recommend the adoption of a water reduction plan, in the City's WSCP, that is necessary to address the anticipated level of shortage. The WSCP was originally adopted in 1992 with reductions enacted by temporary City Resolution to remain in place for the duration of a water shortage. The water shortage stages and response actions are described in Section 8.5. In the event of a water shortage, the City Council will be requested to enact a water reduction plan to address the level or shortage.

CCWD's Annual Assessment will be presented to the District's Operations and Engineering Committee for approval. In the event the Assessment identifies a potential shortage and recommended response action, the Assessment findings will be presented to the CCWD Board for consideration and approval of response actions to address potential shortages and adoption

of ordinance(s), as needed. Given that CCWD is the City's primary source of water supply, the City will incorporate the District's approved response actions into its own shortage response actions for approval by City Council.

The Annual Assessment process will begin in January with the evaluation of supply and demand data and of current water supply conditions. The analysis will be completed by the City Engineer to determine any necessary shortage response actions. The Annual Assessment Report will be completed and presented to the Community Development Director for approval by June for submittal to DWR by the July 1 deadline. See Table 8-1A below for procedures and timeline.

Table 8-1A: Annual Assessment Timeline and Procedures

Annual Assessment Timeline and Procedures	
Month(s)	**Activities**
Data Phase	
Jan-Feb	Collect water supply by source for current year: Describe and quantify sources by provider along with any current constraints and related adjustments
Jan-Feb	Determine unconstrained water demand for current year: Describe and quantify demand and any influencing factors on demand along with related adjustments
Jan-Mar	Quantify "Dry Year" supplies and demands based on historical hydrologic data and input from CCWD
Feb-Mar	Calculate the water supply reliability by comparing expected dry year supplies and demands to identify potential shortage.
Feb-Apr	Determine any shortage and related actions
Decision Phase	
May	Draft Annual Assessment Report including water shortage response actions as needed
Jun	Present report and shortage response actions to Community Development Director for approval
1-Jul	Send Final Annual Assessment Report to DWR
As Needed	If shortages are determined, use WSCP to determine water shortage response actions based on shortage level
As Needed	Implement water shortage response actions as approved by City Council

8.3.2 Data and Methodologies

The purpose of the Annual Assessment is to evaluate the water supply reliability for the coming year by conservatively assuming conditions will be dry and to determine how a perceived shortage may relate to WSCP shortage stage response actions. This information will be based on information available to the City at the time of the analysis. The Annual Assessment will utilize information from CCWD for expected supply. The assessment will also consider the unconstrained water demand, planned water use, and infrastructure conditions. The analysis will look at current year water supply and demand conditions and assumed dry year conditions for the following year. The conditions of what defines a dry year will be determined based on current information from CCWD and will likely involve historic hydrology as is typically used in the dry-year analysis for the UWMP. The balance between projected water supplies and anticipated demand will be used to determine, what, if any, shortage stage is expected under the WSCP framework.

The following steps outline the procedures for completing the Annual Assessment:

1. Water Supply - Quantify water supply for the current year and anticipated supply for the subsequent year. The City will rely on coordination with CCWD for projected imported supply availability.

2. Unconstrained Water Demands - Quantify unconstrained customer demand for the current year and one year to follow. Use current year water demand by sector (available from monthly billing data) and adjust as needed to account for weather, prior-year conditions, anticipated new demands for the coming year, and any other factors pertinent to the land use and customer use patterns.

3. Subsequent Dry Year Analysis - Determine how the following year's supply and demand quantities will be impacted anticipating that the year will be dry. Determine dry year conditions using methods similar to those used in the UWMP which consider historical hydrology, data from CCWD, and any additional sources available at the time.

4. Infrastructure Considerations - Evaluate infrastructure capabilities and any constraints within the City and CCWD supplies that may affect the ability to deliver water to meet expected demand in the coming year, including anticipated capital improvement projects.

5. Other Factors - Address any other applicable factors that can influence or disrupt supplies.

6. Evaluation - Compare the anticipated supply and demand that have been calculated for the following year assuming dry conditions to determine any potential shortage in supply and the appropriate response action as developed in the WSCP.

The steps above will be documented with supporting text including coordination with other agencies, sources of data, and assumptions.

8.4 Six Standard Water Shortage Stages

A new requirement of the CWC is that the WSCP be framed around six standard shortage levels that correspond to progressive ranges of up to 10, 20, 30, 40, and 50 percent shortages, and greater than 50 percent shortages. Each of the six shortage levels represents an increasing gap between the City's estimated supplies and the unconstrained demand as determined in the Annual Assessment or the gap between supply and demand at any time due to drought or an unforeseen event that interrupts water supplies. A suppliers existing water shortage contingency plan that uses different water shortage levels may comply with these six levels by developing a cross-reference relating the existing categories to the six standard water shortage levels. The City has four existing shortage level categories included in its WSCP that will be utilized and cross-referenced to the State's standard levels. Depending on the severity of the water shortage, the City Engineer will recommend to City Council the adoption of a Water Reduction Plan as detailed in the WSCP that is necessary to address the level of water shortage. Shortage levels greater

than 50% will activate the City's Emergency Response Plan which outlines response and recovery responsibilities during catastrophic water supply interruptions.

Table 8-1B shows the cross-reference between the City's water shortage levels and their relationship to the six standard water shortage levels prescribed by the Water Code. The City's adopted shortage levels and response actions are discussed in Section 8.5.

Table 8-2B: Water Shortage Contingency Plan Levels

Water Shortage Contingency Plan Levels			
State's Standard Shortage Levels		**City of Martinez Corresponding Shortage Levels**	
Shortage Level	Shortage Percent	City Shortage Level	City Water Reduction Plan
1	Up to 10 %	Mild Water Shortage	Plan I
2	Up to 20%	Water Alert	Plan II
3	Up to 30%	Water Alert	Plan II
4	Up to 40%	Water Emergency	Plan III
5	Up to 50%	Water Crisis	Plan IV
6	Greater than 50%	Catastrophic Supply Interruption	Plan IV plus activating ERP

8.5 Shortage Response Actions

CWC directs that the WSCP contain shortage response actions that align with the defined shortage levels, and include:

- Supply Augmentation Actions
- Demand Reduction Actions
- Operational Changes
- Additional, mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions and appropriate to the local conditions
- An estimate of the extent to which the gap between supplies and demand will be reduced by implementation of each action.

8.5.1 CCWD Shortage Response Actions

CCWD's WSCP Shortage Response Actions are included in their 2020 UWMP. Demand reduction measures will be implemented to mitigate shortage levels by asking customers to modify specific water use in a manner that creates water use reductions. The actions and levels are summarized in Table 8-1C below and incorporate measures the District utilized in recent droughts. As a customer of CCWD, the City will mirror the response actions implemented by the District where applicable.

Table 8-3C: CCWD WSCP Demand Reduction Actions

CCWD Demand Reduction Actions				
Shortage Level	**Demand Reduction Actions**	**Shortage Reduction**	**Additional Explanation or Reference**	**Penalty, Charge, or Other Enforcement**
All	Landscape - Other landscape restriction or prohibition	0-10%	CCWD has a permanent list of water waste prohibitions. Financial penalties can be applied for repeated offenses. However, generally the District uses notification and education.	Yes
All	Expand Public Information Campaign	0-10%	The District will progressively expand its Outreach Campaign as needed	No
All	Offer Water Use Surveys	0-10%	The District will expand its Water Wise House Call program to meet demands	No
All	Provide Rebates for Landscape Irrigation Efficiency	5-15%	The District will expand its rebate programs to meet demands	No
All	Provide Rebates for Turf Replacement	5-15%	The District will expand its rebate program to meet demands	No
All	Water Features - Restrict water use for decorative water features, such as fountains	5-15%	Prohibit the use of decorative fountains or filling decorative lakes or ponds. No penalty for Levels 1 or 2.	Yes
All	Other - Prohibit use of potable water for construction and dust control	5-15%	Recycled water must be used for construction and dust control unless not available. No penalty for Levels 1 or 2.	No
2 - 6	CII - Lodging establishment must offer opt out of linen service	5-15%	Commercial, Industrial, and Institutional (CII) customer classes including operators of hotels and motels shall prominently display a notice in each bathroom. No penalty for Level 2.	No
2 - 6	CII - Restaurants may only serve water upon request	5-15%	No penalty for Level 2	No
3 - 6	Decrease Line Flushing	0-10%	The District will decrease line flushing only to the level it does not impact water quality	No
3 - 6	Increase Water Waste Patrols	0-10%	The District will expand its use of water waste patrols as needed	No
3 - 6	Implement or Modify Drought Rate Structure or Surcharge	15-30%	The District will implement a "Temporary Drought Charge" or other rate modification to discourage water waste and encourage water use efficiency	Yes
3 - 6	Landscape - Limit landscape irrigation to specific days	15-30%	The District will utilize progressively more restrictive "day of the week" watering restrictions as needed	Yes
3 - 6	Landscape - Prohibit certain types of landscape irrigation	15-30%	Landscape irrigation is limited to use of drip/soaker irrigation only	Yes
5, 6	Moratorium or Net Zero Demand Increase on New Connections	30-40%	CCWD will suspend the addition of new connections that cannot demonstrate a net zero demand increase	No
6	Landscape - Prohibit all landscape irrigation	30-40%	Landscape irrigation is limited to use of drip/soaker irrigation for trees only	Yes

8.5.2 City Shortage Response Actions

The City's WSCP addresses a four-stage reduction sequence that includes water rationing up to a 50 percent reduction. The WSCP includes Resolution No 47-91, "Establishing Water Conservation Measures and Reducing the Use of Water Furnished by the Martinez Water System during the Water Shortage Emergency." This resolution was first implemented in 1991 to meet the 25-percent reduction in untreated water supply from CCWD. The resolution establishes restrictions on new service connections, prohibits and enforces water waste and non-essential water use, outlines water rationing restrictions, billing changes and penalties, and establishes exceptions and appeal procedures.

The City's four-stage rationing plan involves both voluntary and mandatory rationing of 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. Table 8-1D outlines each of the four City reduction stages.

Table 8-4D: Stages of WSCP

Stages of Water Shortage Contingency Plan		
Stage	**Percent Supply Reduction**	**Water Supply Condition**
I	15%	Voluntary Conservation - Up to a 15% reduction in water use is required to meet short- or long-term water availability requirements
II	30%	Water Alert - A 15-30% reduction in water use is mandatory to meet short- or long-term water availability requirements
III	40%	Water Emergency - A 30-40% reduction in water use is mandatory to meet short- or long-term water availability requirements
IV	50%	Water Crisis - A 50% reduction in water use is mandatory to meet short- or long-term water availability requirements

Water shortages beyond 50% would be addressed utilizing a combination of a Stage IV reduction response and the City's Community Water System Emergency Response Plan (ERP).

Table 8-1 includes the City's water shortage response actions classified at the State's six standard shortage levels. The response actions correspond to the City's established stages of water shortage as shown in Table 8-1B and also the City's Emergency Response Plan for shortage levels above 50 percent. Response actions are also implemented by CCWD as summarized in Table 8-1C. The City's shortage response actions are further detailed below and in Table 8-2.

Table 8-1 Water Shortage Contingency Plan Levels

Water Shortage Contingency Plan Levels		
State Shortage Level	**Percent Shortage Range**	**Shortage Response Actions**
1	Up to 10%	City declares Stage I shortage: Up to 15% reduction in water use to meet short- or long-term water availability requirements.
2	Up to 20%	City declares Stage II shortage: City Council adopts ordinance or resolution for water use reduction up to 30% of baseline water use to meet short- or long-term water availability requirements.
3	Up to 30%	City declares Stage II shortage: City Council adopts ordinance or resolution for water use reduction up to 30% of baseline water use to meet short- or long-term water availability requirements.
4	Up to 40%	City declares Stage III shortage: City Council adopts ordinance or resolution for water use reduction up to 40% of baseline water use to meet short- or long-term water availability requirements.
5	Up to 50%	City declares Stage IV shortage: City Council adopts ordinance or resolution for water use reduction up to 50% of baseline water use to meet short- or long-term water availability requirements.
6	>50%	City declares Stage IV shortage and activates Emergency Response Plan. All restrictions of Stage IV, ERP standardized response and recovery protocol, and contact planning partnerships as part of regional response to catastrophic supply interruption.
NOTE: The City will adopt water shortage response actions implemented by CCWD.		

The City will implement various restrictions and prohibitions on end uses for the following four stages indicated in Table 8-1.

- Stage I - Voluntary Conservation: Stage I involves voluntary rationing up to 15 percent. This is similar to rationing imposed in 1991. Stage I usage reduction is instigated through public information from numerous sources. The Martinez water system customers responded with a concerted effort in reducing their water use during the 1991 water shortage. A reduction of 25 percent was achieved during the 1991 calendar year, even though the goal was 15 percent.
- Stage II - Mandatory Rationing: Stage II rationing requires rationing efforts between 15 and 30 percent. This program was implemented in 1977, for a short period in 1991, in 2009, and again in 2015 to meet water supply reductions. The City of Martinez believes a 30 percent reduction in water use is possible through increased public information efforts and water conservation regulations outlined in Resolution No. 47-91.
- Stage III - Mandatory Rationing: Mandatory rationing for a Stage III water supply shortage is necessary to reduce water use between 30 and 40 percent. These levels are reached by reducing water allocations for each customer sector to lower percentages than those required by Stage II rationing. The City of Martinez has not been faced with rationing at these levels in the past. Penalties for non-compliance would be similar to or more severe than those imposed by Resolution 47-91 in 1991.

- Stage IV - Mandatory Rationing: A Stage IV mandatory rationing program requires water use to be reduced by 40 to 50 percent. This stage requires drastic reductions in water use by all customer sectors. Penalties for non-compliance with Stage IV rationing would be more severe than was shown in Resolution 47-91 for rationing in 1991 due to the extreme supply shortfall.
- Catastrophic Supply Interruption: A Stage IV mandatory rationing program, as described above, and the City's Emergency Response Plan, as described in Section 8.6, would be implemented for water supply shortages beyond 50%.

8.5.2.1 Demand Reduction Actions

The City has historically passed ordinances to restrict water waste and promote water conservation in response to droughts and other water shortage conditions in which CCWD imposed water supply reductions to the City and other retail customers typically by a percentage of water used in the previous years. See Section 8.1.1 for a summary of historical City ordinances and resolutions responding to water shortages. The City historically has rescinded water use restrictions after CCWD supply reductions were lifted.

Ordinance No. 1387, Regulations Governing Water Service to Establish Fines and Penalties for Wasteful Use of Treated Water During Temporary Drought Conditions, included in Appendix G, allows for the establishment of restrictions during drought conditions.

Water conservation measures become more restrictive with each progressive drought stage to address the increasing differential between water supply and demand. During water shortages, the City mandates prohibition of water waste and non-essential use of water through a resolution or ordinance tailored for a specific water reduction percentage consistent with one of the stages of the WSCP. The mandated 25% reduction in 2015 was in part achieved by the Drought Management Plan that prohibits the following wasteful use of water as established in Ordinance No. 1387:

Single Family and Multi-Family Residential customers

a. Outside watering with City-furnished water resulting in excessive flooding or runoff into a gutter, drain, patio, driveway, walkway, or street.
b. Outside watering of landscaping during the daylight hours of 9 a.m. to 5 p.m.
c. Washing a vehicle, trailer or boat with City-furnished water using a hose without a shut off nozzle.
d. Washing paved or other hard-surfaced areas, including sidewalks, walkways, driveways, patios, and parking areas with City-furnished water.
e. Using City-furnished water for non-recirculation decorative fountains or filling decorative lakes or ponds.
f. Watering outdoor landscapes during and up to 48 hours after measurable rainfall.
g. Watering of outdoor landscapes more than two days per week unless the City grants an exception. Examples include newly planted drip irrigated drought tolerant landscaping, and vegetable gardens.

h. Watering of landscape of newly constructed homes and buildings not delivered by drip or micro-spray systems.

Non-residential customers

a. Outside watering with City-furnished water resulting in excessive flooding or runoff into a gutter, adjacent properties, drain, patio, driveway, walkway, structures, parking lots or street.

b. Outside watering of landscaping during the daylight hours of 9 a.m. to 5 p.m.

c. Using City-furnished water for non-recalculating decorative fountains or for filling decorative lakes or ponds.

d. Washing paved or other hard-surfaced areas, including sidewalks, walkways, driveways, patios, and parking areas with City-furnished water.

e. Washing a vehicle, trailer or boat with City-furnished water using a hose without a shut off nozzle.

f. Watering outdoor landscapes during and up to 48 hours after measurable rainfall.

g. Watering of outdoor landscapes more than two days per week unless the City grants an exception. Examples include newly planted drip irrigated drought tolerant landscaping, and vegetable gardens.

h. Watering of landscape of newly constructed homes and buildings is not delivered by drip or micro-spray systems.

In general terms, a resolution specifying a specific stage of water reduction can prohibit or restrict water use as shown in Table 8-2. The City will work in conjunction with CCWD to implement water shortage plans that are effective on a regional level. City Resolution 47-91 states that when there is a water supply deficiency, CCWD sets the limits for their wholesale customers and that the City would use CCWD shortage stages as a reference to adopt water conservation that is coordinated with and similar to the plan adopted by CCWD. As such, applicable CCWD response actions have been included in Table 8-2.

Table 8-2 Demand Reduction Actions

Demand Reduction Actions				
State Shortage Level	Demand Reduction Actions	Shortage Reduction	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
1	Expand Public Information Campaign	0-10%	The City will progressively expand its public information campaign as needed	No
1	Landscape - Other landscape restriction or prohibition	0-10%	CCWD has a permanent list of water waste prohibitions. Financial penalties can be applied for repeated offenses.	Yes

1	Water Features - Restrict water use for decorative water features, such as fountains	1-5%	Prohibit the use of decorative fountains or filling decorative lakes or ponds. No penalty for Levels 1 or 2.	No
1	Other - Require automatic shut of hoses	1%	Prohibit washing of motor vehicles, trailer, or boat with a hose except when used with a shut-off nozzle	No
1	Other - Prohibit use of potable water for washing hard surfaces	1%	Except for public safety and sanitary purposes	No
1	Other water feature or swimming pool restriction	1%	Prohibit filling of pools installed after notice of conservation stage or complete refilling of pools	No
2	Other	10-15%	All demand reduction actions of Shortage Level 1 are enforced	Yes
2	Other	15%	Adopt ordinance or resolution for water use reduction up to 30% of baseline water use.	Yes
2	CII - Lodging establishment must offer opt out of linen service	5%	Commercial, Industrial, and Institutional (CII) customer classes including operators of hotels and motels shall prominently display a notice in each bathroom. No penalty for Level 2.	No
2	CII - Restaurants may only serve water upon request	5%	No penalty for Level 2	No
3	Other	30%	Same as Shortage Level 2	Yes
3	Increase Water Waste Patrols	0-10%	CCWD will expand its use of water waste patrols as needed	No
3	Implement or Modify Drought Rate Structure or Surcharge	10-30%	Implement a "Temporary Drought Charge" or other modified rate to discourage water waste and encourage water use efficiency	Yes
3	Landscape - Limit landscape irrigation to specific days	10-30%	Utilize progressively more restrictive "day of the week" watering restrictions as needed	Yes
3	Landscape - Prohibit certain types of landscape irrigation	10-30%	Landscape irrigation is limited to use of drip/soaker irrigation only	Yes
4	Other	30%	All previous demand reduction actions enforced	Yes

4	Other	10%	Adopt ordinance or resolution for water use reduction up to 40% of baseline water use. Priority to health and safety needs. Subsequent water uses are prioritized to maintain and expand commerce, then to enhance the aesthetics of the environment, and then to facilitate construction activities.	Yes
5	Other	40%	All previous demand reduction actions enforced	Yes
5	Other	10%	Adopt ordinance or resolution for water use reduction up to 50% of baseline water use. Priority to health and safety needs. Subsequent water uses are prioritized to maintain and expand commerce, then to enhance the aesthetics of the environment, and then to facilitate construction activities.	Yes
5	Landscape - Prohibit all landscape irrigation	30-40%	Landscape irrigation is limited to use of drip/soaker irrigation for trees only	Yes
6	Other	50%	All previous demand reduction actions enforced	Yes
6	Other	Ration water supplies as needed	ERP response and recovery protocol to catastrophic supply interruption	Yes
NOTES: (1) The demand reduction actions are shown using the six standard State shortage levels. Table 8-1B shows how the State levels relate to the City's four WSCP levels; (2) The City will mirror CCWD actions. Applicable CCWD response actions have been included; (3) Reduction measures are subject to refinement after monitoring observed outcomes in order to achieve the required demand reduction.				

The City in concert with CCWD has developed a number of consumption reduction programs, also discussed in Chapter 9 (Demand Management Measures), that include:

- Public Information Campaign
- Customer Billing
- Frequency of Meter Reading
- Water Use Surveys
- Rebates or Giveaways of Plumbing Fixtures and Devices
- Rebates for Landscape Irrigation Efficiency
- Reduction of Water System Loss

Table 8-3A presents the various consumption reduction methods employed by CCWD and the City at all shortage levels to reduce water use.

Table 8-3A: Consumption Reduction Methods

Stages of WSCP - Consumption Reduction Methods		
Stage	**Consumption Reduction Methods[a]**	**Additional Explanation or Reference**
All	Expand Public Information Campaign	The City provides public information through water bill inserts or messages, City newsletter articles, and brochures.
All	Offer Water Use Surveys	The City and CCWD have developed water survey programs for both commercial and residential customers. The City's water surveys are aimed at developing customer water use efficiency for both landscape and indoor water use.
All	Provide Rebates on Plumbing Fixtures and Devices	CCWD offers rebates to both single family and multi-family residential customers to encourage them to replace older high-volume fixtures with new high-efficiency models. Also offered rebates to residential customers who purchase clothes washers with a minimum water use efficiency
All	Provide Rebates for Turf Replacement	Developed as part of the California statewide program to convert turf to low water use landscapes by removal and replacement of the turf.
All	Other	Replacing a standard clock timer with a WaterSense labeled irrigation controller to allow watering schedules to better match plants' water needs
All	Other	Provide discount coupons for the use of mulch as bedding material for outdoor landscaped areas. The concept is that mulch will assist in retaining moisture thereby reducing irrigation needs and conserving water
All	Other	Provide discount coupons to approved car wash establishments to encourage the use of Car Wash companies that recycle water in the car washing process.

8.5.2.2 Supply Augmentation Actions

The City's one primary source of supply is imported water from CCWD. The reliability of this supply and the response to shortages has been integrated into the City's normal water management planning. If there is a specified shortage in supply as shown in Table 8-1, then it is assumed that all sources are limited to the extent to cause such a shortage. As no alternative sources are available, supply is not a response triggered by the WSCP's shortage level, but already represented in the determination of any gap between supply and customer water use.

8.5.2.3 Operational Changes

Operational response actions for a non-catastrophic water shortage may include but not be limited to the following:

- Alterations in maintenance cycles and plans in order to expedite infrastructure repairs and improve system efficiency.
- Improved monitoring, analysis, and tracking of customer water usage to aid in locating waste.

8.5.2.4 Additional Mandatory Restrictions

There are no additional mandatory restrictions other than those outlined in Section 8.5.2.1, Demand Reduction Actions.

A summary of demand reduction response actions is shown in reporting Table 8-2 along with the anticipated percentage that each action will reduce the shortage gap.

8.6 Catastrophic Supply Interruption

8.6.1 Emergency Response Plan

Since natural disasters or major accidents can occur at any time, whether they are caused by nature or man-made, the City of Martinez has developed a Community Water System Emergency Response Plan (ERP) for the water system. The plan was first created in 1994 with the latest update completed in 2019 and another update underway. The ERP is a series of documents and worksheets that provide valuable information to be used in the event of an emergency.

The ERP identifies the City's emergency planning, organization, and response policies and procedures. The ERP provides a framework for directing City-wide responses to a number of emergency situations including those associated with natural disasters such as earthquakes, technological incidents, and terrorist operations. It also provides the framework for coordination of response and recovery efforts within the city in coordination with local, State, and Federal agencies. A summary of the ERP relating to the water system is included in Appendix H.

The ERP provides valuable information to be used in the event of an emergency. In addition to providing contact information, water system information, and procedural information, the ERP provides insight into personnel safety and training, and background information on State and Federal emergency operations systems.

The ERP is reviewed and updated often to ensure that the information is not out of date. Martinez Water System staff and supervisors are familiar with the information and procedures outlined in these documents. The ERP is considered a living document that is constantly evolving and revised as the functions, facilities, and personnel of the water system change.

This plan is intended to set in motion, automatically and without direct orders, the preliminary steps required to provide customers the maximum amount of potable water necessary to ensure healthful standards. The ERP manual contains pertinent information such as guidelines for prioritizing water distribution and interconnecting with other water systems.

Loss of power will impact water supply operations. The plant site has emergency power available as treatment plant power needs are supplied by two generators, one for the pumps and one for the ozone generation system, should a power failure occur. However, the plant capacity and distribution system pumping capacities may be limited since generators do not provide complete power needs. The plant operation with use of generator power alone is tested annually to ensure system operation.

The City has also purchased a total of 6 portable power generators for the pump stations to increase power resiliency during public safety power shutoff events. Additionally, the City has installed manual transfer switches and quick disconnects throughout the field pump stations to facilitate the use of the portable generators.

Since CCWD is the sole source of untreated water for the City, a loss of untreated water supply for CCWD would also impact the City. The City service area receives its untreated water supply from Martinez Reservoir, which provides a few days of water supply storage should deliveries from the canal system become interrupted by loss of canal or CCWD's shortcut pipeline facilities.

The number of days of supply will be dependent on City water use which would be primarily governed by the season and Shell refinery withdrawals from Martinez Reservoir.

A City treatment plant failure could cause a loss of treated water supply to the City water service area. Potential emergency conditions include:

- Failure (leakage, collapse, or rupture) of the untreated water delivery pipeline to City treatment plant
- Failure of City water treatment plant

If the treatment plant cannot produce water due to any of the emergency conditions listed, treated water can be diverted to the City distribution system from the CCWD distribution system through three interties. One intertie is located at the City water treatment plant in Pressure Zone 1. A second is located in the City's Zone 2 at Elderwood Drive and Alhambra Avenue. The third intertie, also located in Zone 2, can be assembled above grade on Glacier Drive south of Muir Road, with the use of temporary piping, valves, meters, and pump. Each intertie is expected to provide about 1,400 gpm of treated water to the City water service area.

8.6.2 Seismic Risk Assessment and Mitigation

As the result of legislation signed into law by former Governor Brown on October 9, 2015, CWC now requires that the suppliers UWMP include a seismic risk assessment and mitigation plan to assess the vulnerability of each of the various facilities of a water system and mitigate those vulnerabilities. Recognizing that conducting a seismic risk assessment can be a lengthy and complex process, an urban supplier may comply with this section of the Code by submitting a copy of the most recent adopted local hazard mitigation plan or multi-hazard mitigation plan under the federal Disaster Mitigation Act of 2000 if the local hazard mitigation plan addresses seismic risk.

The US Geological Survey has estimated a 62% probability of a major earthquake in the San Francisco Bay Area by the year 2032. The City of Martinez lies near the Hayward Fault, Mt. Diablo Thrust Fault, Calaveras Fault, and Concord-Green Valley Fault. The potential impact on water supply due to natural disasters is discussed above in Section 8.6.1 relating to the ERP. The City relies on raw water supply from CCWD along with treatment and distribution from the City's treatment plant, both of which pose the greatest vulnerability to City water supply.

The City has contracted with Brown and Caldwell to provide a Seismic Risk Assessment of the distribution system treated water reservoirs (to be completed in 2021) and is currently in the initial phase of the project.

The City is complying with CWC seismic risk assessment and mitigation requirements by referencing Contra Costa County's Local Hazard Mitigation Plan (HMP) that was adopted in 2012. The plan is currently in the process of being updated with a final draft version dated January 2018 available for public review. The hazard mitigation plan was developed in partnership with local governments, including the City of Martinez, to reduce future losses resulting from disasters in the region.

The HMP assesses the risks for several hazards, including seismic, to identify programs, projects, and other activities to reduce the risk. Findings of the assessment determined earthquakes are of high risk to the region. Additionally, in 1997, CCWD completed the Seismic Reliability and Improvements Project (SRIP) which assessed the reliability of District facilities and

identified projects to increase reliability.

As a result of the SRIP and previous HMPs, CCWD has completed several projects to improve the capacity and reliability of the water system. These projects include improvements to the District's main administration building, seismic improvements at the Water Treatment Plants, construction of the new transmission pipeline, bypass system connections at fault crossings, isolation valves at key treated water reservoirs, improvements to the Canal to address seismic vulnerabilities, Mallard Slough Pump Station improvements, and emergency generators at treated water facilities. The 2018 HMP update identifies several projects to further reduce seismic vulnerabilities which include the Phase 2 Los Vaqueros Expansion and several improvements to the untreated and treated water system.

The City's ERP provides a comprehensive description of the City's critical water facilities and processes, reliance on these assets, and measures taken to reduce risk. As discussed above, the City's treatment plant site has emergency power available that can provide uninterrupted service for 72 or more hours should a power failure occur, provided no incidents with the power generators. The plant operation with use of generator power alone is tested annually to ensure system operation. If the treatment plant cannot produce water due to emergency conditions, treated water can be diverted to the City distribution system from the CCWD distribution system through three interties.

8.7 Communication Protocols

In the event of a water shortage, the City Engineer will direct City personnel to provide notices to all water users within the City's service area, advising them of the water supply conditions and required actions. The City will communicate any current or predicted water shortage, water shortage actions, and customer use restrictions to their customers and the general public through an expansion of the public education and outreach programs described in Section 9.2. Information will be provided using billing inserts and publications in newsletters, local newspapers, and the City's water website. Water conservation information will be displayed in the City libraries, community centers, and police stations. The City will communicate and coordinate with local, regional, and state governments on current or predicted water shortages and shortage response actions through the Annual Assessment process and on an as needed basis.

8.8 Compliance and Enforcement

The City Engineer is authorized to monitor compliance among users, including a review of customer usage records and field observation or any other steps deemed necessary to enforce mandatory water conservation. Water waste violators will be contacted directly to resolve the issue.

During water shortages, the City of Martinez mandates prohibition of water waste and non-essential use of water through a resolution or ordinance tailored for a specific water reduction percentage, consistent with one of the four stages of their WSCP, and imposes fines for violations of the resolution or ordinance. Remedies for the prevention of water waste shall be in accordance with Chapter 7 of the Regulations Governing Water Service (Regulations). In addition to the remedies in the Regulations, and in order to enforce the water use prohibitions, the City has the discretionary ability to impose fines for the wasteful use of City treated water as follows:

a. First offence: At the City's discretion the City will issue a Warning Notice and at the City's option fines up to $250 for each offence.

b. Second offence: At the City's discretion the City will issue a Warning Notice and at the City's option fines up to $500 for each offence.

c. Subsequent offences: At the City's discretion the suspension of service under existing City of Martinez Regulations Governing Water Service Chapter 7, Section 7.6, Prevention of Waste.

d. Fines may be appealed to the City Manager of the City of Martinez.

If a customer fails to take action to stop wasteful use, the City may suspend delivery of water or install a device to restrict the flow of water to the customer or terminate service until the City determines that there will be no further waste. Violations may be subject to criminal, civil, and administrative penalties, and remedies, which will be defined by resolution or ordinance to address the water shortage. The City may penalize those who continue to willfully waste water by using an escalating series of remedies, up to discontinuing water service or installing flow-restricting devices.

Under extraordinary circumstances, such as for medical purposes, the City of Martinez Water Superintendent may wave all or portions of penalties for customers on a case-by-case basis.

8.9 Legal Authorities

Under California law, including CWC Chapters 3, 3.3 and 3.5 of Division 1, Parts 2.55 and 2.6 of Division 6, Division 13, and Article X, Section 2 of the California Constitution, the City Council is authorized to implement the water shortage actions outlined in this WSCP. In all water shortage cases, shortage response actions to be implemented will be at the discretion of the City Council and will be based on an assessment of the supply shortage, customer response, and need for demand reductions. The City is also authorized to address shortage responses pursuant to the Martinez City Code and contracts with CCWD.

It is noted that upon proclamation by the Governor of a state of emergency under the California Emergency Services Act (Chapter 7 (commencing with Section 8550) of Division 1 of Title 2 of the Government Code) based on drought conditions, the state will defer to implementation of locally adopted water shortage contingency plans to the extent practicable. The City will coordinate with regional and local water suppliers for which it provided water supply services for possible proclamation of a local emergency as necessary.

Within the City Regulations Governing Water Service, the City has legal authority to implement and enforce its shortage response actions. The City will declare a water shortage emergency condition to prevail within the service area whenever it finds and determines that the ordinary demands and requirements of water consumers cannot be satisfied without depleting the water supply to the extent that there would be insufficient water for human consumption, sanitation, and fire protection. Additionally, the City shall coordinate with Contra Costa County for the possible proclamation of a local emergency under California Government Code, California Emergency Services Act.

8.10 Financial Consequences of WSCP

A reduction in water consumption could result in loss of revenues needed to maintain and operate the water system. 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. 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.

8.11 Monitoring and Reporting

The City water service area is fully metered and excessive water use is identified through meter data. Untreated water supplied to the Martinez Water Treatment Plant is metered as it enters the facilities and potable water produced from the plant also metered. The Water Superintendent evaluates the water production in relation to the allotted water supply. If the rationed allotment is exceeded, the Water Superintendent will contact the Public Works Director, who will then inform the City Council so corrective action can be taken.

The City Engineer acts as the City's Water Conservation Coordinator. Since many of the DMMs are implemented by CCWD, the City will coordinate with CCWD on most water conservation efforts.

8.12 WSCP Refinement Procedures

The WSCP is prepared and implemented as an adaptive management plan. Based on the monitoring and reporting program presented in Section 8.11, the City will evaluate the need to revise its WSCP. The WSCP will be refined as needed to ensure risk tolerance is adequate and that the shortage response actions are effective and produce the desired results. If potential refinements or new actions are identified, the City will evaluate the effectiveness and incorporate them into the WSCP if deemed appropriate. The action will be identified and implemented at the appropriate water shortage level. Refinements to the WSCP will be presented by the Public Works Department to the City Council for approval and adoption, including any necessary additions or revisions to the Municipal Code.

8.13 Special Water Feature Distinction

For purposes of this WSCP, water features that are not pools or spas are analyzed and defend separately from pools and spas. Non-pool and non-spa water features may use or be able to use recycled water, whereas pools and spas must use potable water for health and safety considerations. In this WSCP, the term 'pool' refers to both pools and spas that must use potable water and the them 'water feature' or 'decorative water feature' refers to non-pool and non-spa features. Any actions for these two classifications are designated separately in this WSCP.

8.14 Plan Adoption, Submittal, and Availability

This WSCP was adopted and implemented with the 2020 UWMP. The adoption process included external coordination and outreach activities carried out by the City and their corresponding dates shown in Chapter 10 of the UWMP.

The City encouraged community and public interest involvement in the UWMP update and the WSCP development through a public hearing and inspection of the draft document. The public hearing was conducted on July 21, 2021. Public hearing notifications were published in local newspapers. A copy of the published Notice of Public Hearing is included in Appendix C. The hearing provided an opportunity for all residents and employees in the service area to learn and ask questions about their water supply in addition to the City's plans for providing a reliable, safe, high-quality water supply. Copies of the draft plan were made available for public inspection on the City's website and upon email request.

The City Council approved the 2020 UWMP and WSCP on July 21, 2021. See Appendix C for the resolution approving the Plan.

The City's Adopted 2020 UWMP and WSCP were filed with DWR within 30 days of adoption as required by CWC. Additionally, within 30 days of adoption the City's 2020 UWMP and WSCP was filed with California State Library, Contra Costa County, and cities within its service area, if applicable. The City will make the plan available for public review no later than 30 days after electronically filing with DWR.

9 DEMAND MANAGEMENT MEASURES

The City of Martinez is a customer (retailer) of CCWD, which receives water supply through the Contra Costa Canal. CCWD is an urban water supplier and a member of the California Water Efficiency Partnership (CalWEP), formerly the California Urban Water Conservation Council (CUWCC). As a CUWCC member, the District implemented BMPs and submitted annual reports to CUWCC in accordance with the requirement of a MOU. Annual reporting was discontinued under CalWEP but CCWD continues to implement a full suite of DMMs and conservation programs consistent with the goals of the former programmatic BMPs.

In October 1993, the CCWD Board voted to implement Demand Management Measures (DMMs) throughout their wholesale service area, including the retail water service areas of the City of Martinez, Diablo Water District (DWD), Antioch, Pittsburg, and Southern California Water Company serving Bay Point. These five retailer water suppliers work in conjunction with CCWD to implement and coordinate the DMMs.

Prior to 1993, the City of Martinez program consisted of single-family surveys and low flow showerhead distribution. These continued to be implemented by CCWD in coordination with the City after 1993. In 1994, the ultra-low-flow toilet replacement program was instituted. The CCWD program now includes surveys for all customer classes and incentive programs for numerous water saving devices. Both the surveys and the replacement programs have been improved over the years to increase program effectiveness and water savings. The CCWD Water Conservation Program is comprised of several key elements, each of which targets a specific customer base and satisfies the requirements of specific DMMs.

A summary of current Demand Management Measures (DMMs) being implemented within the City water service area by either the City or CCWD is provided herein, with the City's current program described for each DMM. Further information on the CCWD Water Conservation Program is included in the CCWD's 2020 UWMP.

The section of the California Water Code (CWC 10631) addressing DMMs was significantly modified in 2014, based on recommendations from the Independent Technical Panel (ITP) to the legislature. The ITP was formed by DWR to provide information and recommendations to DWR and the Legislature on new demand management measures, technologies, and approaches to water use efficiency. In its report to the Legislature, the ITP recommended that the UWMP Act should be amended to simplify, clarify, and update the demand management measure reporting requirements. The ITP recommended, and the legislature enacted, streamlining the retail requirements from 14 specific measures to six more general requirements plus an "other" category:

CWC 10631

(f)(A) The narrative shall describe the water demand management measure that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.20.

(B) The narrative pursuant to this paragraph shall include descriptions of the following water demand management measures:

i. Water waste prevention ordinances.

ii. Metering.

iii. Conservation pricing.

iv. Public education and outreach.

v. Programs to assess and manage distribution system real loss.

vi. Water conservation program coordination and staffing support.

vii. Other demand management measures that have a significant impact on water use as measured in gallons per capita per day, including innovative measures, if implemented.

9.1 Demand Management Measures for Retail Agencies

9.1.1 Water Waste Prevention Ordinances

The City has historically passed ordinances to restrict water waste and promote water conservation in response to droughts and other water shortage conditions in which CCWD imposed water supply reductions to the City and other retail customers typically by a percentage of water used in the previous years. See Section 8.1.1 for a summary of historical City ordinances and resolutions responding to water shortages. The City of Martinez experienced water supply shortages in 1977, 1991, 2009, and 2015. In response to each shortage, the City was successful in achieving water reduction beyond the necessary limits in each year.

The City historically has rescinded water use restrictions after CCWD supply reductions were lifted. However, a "water waste prevention ordinance" should be in place at all times and is not dependent upon a water shortage for implementation. Nevertheless, a water waste ordinance may include increasingly restrictive prohibitions that may be implemented in response to shortages. A water waste ordinance explicitly states that the waste of water is to be prohibited. The ordinance may prohibit specific actions that waste water, such as excessive runoff from landscape irrigation, or use of a hose outdoors without a shut off nozzle.

The City has a Water Conservation Plan, included in the Regulations Governing Water Service Update 2016, adopted by Resolution No. 063-16 as a result of the 2015-16 drought and prohibiting the following wasteful uses of water:

- failing to repair a leak in a customer's water system;
- permitting excess water run-off; watering outdoor landscapes in a manner that causes runoff;
- watering outdoor landscapes during or within 48 hours after measurable precipitation;
- watering of outdoor landscapes between the hours of 9:00 a.m. and 5:00 p.m.;
- washing vehicles with hoses not equipped with a shutoff valve;
- washing sidewalks, driveways, and other hard surfaces (except as required for health and safety);
- using potable water in non-recirculating fountains or decorative water features;
- irrigating ornamental turf on public street medians with potable water;
- irrigating landscapes of newly constructed homes/buildings in a manner inconsistent with state regulations; and
- otherwise failing to put water received from the City to reasonable and beneficial use.

These wasteful uses are also prohibited by CCWD and formally adopted in 2016 as part of its Ordinance 16-01.

9.1.2 Metering

All service connections within the Martinez water service area are provided with water meters. There are no unmetered water service connections within the City. The City's meters are classified into one of nine sectors, which were reduced to six customer sectors for the UWMP. The nine sectors include single family, multi-family, commercial, industrial, fire service, public City facilities, public facilities other than City facilities, City irrigation, and irrigation other than City uses.

9.1.3 Conservation Pricing

The City of Martinez currently has a uniform rate structure for water service within its service area, as opposed to a conservation pricing structure. A common example of conservation pricing is a tiered rate structure, where efficient water use is billed at a low unit price and higher water use billed at progressively higher prices.

The City has implemented temporary pricing adjustments during water shortages. The City responded to Governor Brown's signed Executive Order B-29-15 that mandated the SWRCB to achieve a statewide mandatory 25% reduction in potable urban water usage, where the City of Martinez's reduction goal was set at 20%, by adopting a resolution that adjusted water consumption pricing up to $0.50 per unit of treated water used, establishing the proposed pricing adjustment, and amending Section 14, Schedule of Fees and Rates, of the City of Martinez Regulations Governing Water Service. Section 14 was amended with the addition of the following:

14.3.15 Temporary Pricing Adjustment

Quantity Charge, $/hundred cubic feet

Current Consumption Rate[1.] Jan. 1, 2015	*Temporary Adjustment[2.]*	*Effective July 1, 2015*
$3.46	*$0.50*	*$3.96*

[1.] Effective January 1, 2016 Consumption Rate will be annually adjusted by the same percentage of increase of untreated water costs. Increases are limited to annual changes in rates between 0% and 5% in any one year.

[2.] Temporary Adjustment shall be in effect until the State of California eliminates water use reductions requirements and the City Council adopts a resolution terminating the Temporary Pricing Adjustment. Temporary adjustments will be credited from billing for single family residential water customers using less than 200 gallons per day.

The Temporary pricing adjustment was one part to the City's 2015 25% Drought Management Plan. Similar temporary pricing adjustments can be anticipated during future water supply restrictions.

9.1.4 Public Education and Outreach

The City of Martinez promotes water conservation through public information. The City provides public information through water bill inserts or messages, City newsletter articles, brochures, demonstration gardens, and the City's website (www.cityofmartinez.com). The City also provides funding for water use efficiency education to New Leaf Collaborative, a nonprofit whose mission is to provide hands-on learning in science, nature, and ecology. A total of $20 thousand is allocated on annual basis for these youth education programs ($10K from the water fund and $10K from the Clean Water Program). Prior to the pandemic the City also provided students with tours of the water plant.

CCWD provides supporting services to the City of Martinez's public information program on a service area-wide basis. The District hosts and sponsors workshops each year aimed at educating homeowners about water-wise landscaping and irrigation and sponsors the Qualified Water Efficient Landscaper (QWEL) Training series for professional gardeners. CCWD uses a variety of outreach mediums including mailed newsletters and customer bill inserts, social media posts, direct emails, banners in the community, and press releases.

CCWD school education program reaches students in private and public schools with information on water issues and conservation. CCWD provides school education programs within the Martinez water service area which include school assembly programs and Los Vaqueros school tours and is a sponsor of the Delta Discovery Voyage. These programs review a variety of water topics, including water use efficiency.

9.1.5 Programs to Assess and Manage Distribution System Real Loss

The methodology presented in the American Water Works Association's "Manual of Water Supply Practices, Water Audits and Leak Detection" (AWWA M36) is desirable in reducing water lost to leaks. Many of the recommendations noted in the manual are currently integrated into the City's regular operations and maintenance procedures. For example, the City has in the past conducted a pre-screening system audit to determine the need for a full-scale system audit. The pre-screening audit consists of determining metered sales, other system verifiable uses, and the total supply in the system. The metered sales plus verifiable uses are subtracted from the total supply into the system to arrive at an estimated loss of water due to leaks.

Over the past five years, the City has replaced pipelines, meters, and other water system appurtenances in a regular program to limit system leakage and to more accurately record water usage. Despite these efforts, City water losses continue to increase (as discussed in Section 4.3). City staff attributes the increase in losses to pipeline leaks and breaks and the need for a more aggressive pipeline and meter replacement schedule. The City is looking into grant and other funding opportunities to accelerate system improvements and mitigate extensive losses.

9.1.6 Water Conservation Program Coordination and Staffing Support

The City Engineer acts as the City's Water Conservation Coordinator. Since many of the DMMs are implemented by CCWD, the City's Water Conservation Coordinator and the City coordinate with CCWD on most water conservation efforts.

9.1.7 Other Demand Management Measures

In coordination with CCWD, the City also participates in the following water conservation programs:

- Water Wise House Calls: During a Water Wise House Call, a CCWD Water Efficiency Technician evaluates a customer's irrigation system, provides recommendations for repairs and system upgrades, provides a site-specific irrigation schedule, demonstrates how to check toilets for leaks, explains how to read the water meter, and provides tips on avoiding high water bills.
- Lawn to Garden Program: The Lawn to Garden Rebate Program provides an incentive to customers to replace lawns with water wise landscaping. Residential customers can receive up to $1,000 and commercial properties up to $20,000. The program aims to encourage sustainable, water-wise landscaping. Participants in the Lawn to Garden Rebate Program are eligible to receive two hours of professional design assistance. Participants pay $150 up front and are reimbursed upon project completion.
- Lawn to Garden Workshops: CCWD provides in-person or webinar workshops aimed at assisting customers replace their lawns with water wise landscaping. The key topics covered include: Lawn to Garden Rebate Program Overview, Drip Irrigation 101, Landscape Design Ideas, and How to Remove your Lawn.
- Smart Irrigation Timer Rebates: Smart irrigation timers save water by allowing the irrigation schedule to be automatically updated with changes in the weather. Many of the new models allow homeowners to manage their irrigation using an app on their smart phone. CCWD provides a rebate up to 50% of the list cost of the irrigation timer.
- Commercial and Multi-Family Surveys: CCWD conducts water efficiency surveys for commercial buildings, apartments, HOAs, and other non-residential properties. The goal of the survey is to develop recommendations for more water efficient fixtures and appliances and recommendations for improving the management of the on-site water user.
- Pool Cover Rebates: Pool covers save water by reducing the amount of water that is evaporated when the pool is not in use. CCWD provides a rebate of $50 to customer who purchase a new pool cover.
- Greywater Rebate: CCWD offers a $50 rebate as an incentive for homeowners to install "simple" grey water system at their homes.
- Free Showerheads and Faucet Aerators: CCWD provides free high efficiency showerheads and aerators for its customers in an effort to improve indoor water efficiency.
- Mulch Coupons: CCWD provides coupons to customers to receive discounts on mulch from local vendors. Mulch is beneficial because it reduces evaporation, reduces weeds, and insulates the plant roots from extreme temperatures.
- Car Wash Coupons: CCWD provides coupons to customers to receive discounts on car washes from vendors that recycle some of their water. Professional car washes use less water than washing from home and eliminate runoff from going into local streams.

Educating customers on the benefits of water use efficiency is an integral component of the water efficiency program. Due to the COVID-19 Pandemic, events were curtailed or changed to be virtual. Below is a summary of the events offered:

- Bringing Back the Natives Garden Tour: CCWD sponsors an annual garden tour that promotes sustainable, water wise landscaping. The tour, which focuses on residential landscapes, is extremely popular, with several thousand attendees each year.
- Sustainable Contra Costa: CCWD sponsors Sustainable Contra Costa (SCOCO), a local non-profit. Each year SCOCO holds numerous events including their Sustainability Live Program, workshops on Home Composting, Smart Homes, and Drip Irrigation, and other outreach events.
- Ruth Bancroft Garden: CCWD sponsors the Ruth Bancroft Garden (RBG) to promote landscape water efficiency through the organization's educational programs.

The City of Martinez adopted a Model Landscape Ordinance 1195 C.S. on January 11, 1993. These regulations are incorporated into the City's Building and Planning Department plan reviews and permitting processes. The Model Water Efficient Landscape Ordinance (MWELO) was adopted by the State on July 15, 2015, and was adopted by the City on December 1, 2015, by default. The City also works with nurseries, landscape designers, contractors, and new homeowners, to provide water efficient landscapes.

9.2 Implementation Over the Past Five Years

The DMMs described in Section 9.1 are current programs which have also been implemented within the past five years. The City participates with CCWD on many of the water conservation programs. Appendix I provides a summary of implementation for itemized residential, landscape, and commercial water conservation programs implemented in the City and by the City in association with CCWD for fiscal years 2016 through 2020.

9.3 Planned Implementation

In order to achieve these lower demand projections, the City will participate in water conservation programs independently and in conjunction with CCWD similar to the efforts of the past five years. Additionally, the City will look to accelerate its pipeline and meter replacement programs by seeking grants or other funding opportunities. This is necessary to curtail water losses which have been increasing over the past five years. It is apparent that the current program is not keeping up with the City's aging system.

California's green building code will have a direct impact on new home building and water conservation in the City. The new code aims to cut indoor water consumption through more efficient indoor water fixtures. For a three-bedroom house, the savings 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.

10 PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION

Recognizing that close coordination among other relevant public agencies is key to the success of its UWMP, the City worked closely with CCWD, its wholesaler, in the development and updating of this planning document. The City also encouraged public involvement by holding a public hearing for residents to learn and ask questions about their water supply.

This section provides the information required in the Water Code related to adoption and implementation of the UWMP. Table 2-4 A included in Chapter 2 of this UWMP, summarized external coordination and outreach activities carried out by the City and the corresponding levels of participation by those parties. A copy of the UWMP checklist, which was used to confirm compliance with the Water Code, is provided in Appendix A.

10.1 Inclusion of all 2020 Data

All water usage and planning data referenced in this report for the current year is for the calendar year beginning on January 1, 2020 and ending on December 31, 2020.

10.2 Notice of Public Hearing

The City encouraged community and public interest involvement in the plan update through a public hearing and inspection of the draft document. The public hearing was conducted on July 21, 2021. Public hearing notifications were published in local newspapers. A copy of the published Notice of Public Hearing is included in Appendix C. The hearing provided an opportunity for all residents and employees in the service area to learn and ask questions about their water supply in addition to the City's plans for providing a reliable, safe, high-quality water supply. Copies of the draft plan were made available for public inspection prior to the public hearing both on the Cities website and also by email request.

Table 10-1: Notification to Cities and Counties

Notification to Cities and Counties		
City Name	**60 Day Notice**	**Notice of Public Hearing**
Martinez	Yes	Yes
City of Pleasant Hill	Yes	Yes
County Name	**60 Day Notice**	**Notice of Public Hearing**
Contra Costa County	Yes	Yes

10.3 Public Hearing and Adoption

As part of the public hearing, the City provided information on their baseline values, water use targets, and implementation plan required in the Water Conservation Act of 2009. The public hearing on the UWMP and WSCP took place before the adoption of the plans, which allowed the City the opportunity to modify the plans in response to public input before adoption. The public

hearing was held in the City of Martinez Council Chambers on July 21, 2021at the City Council meeting. The City must formally adopt the UWMP and WSCP before submitting the plans to DWR. At the conclusion of that public hearing, the City Council adopted this UWMP along with the WSCP by Resolution No. 120-21. A copy of the Resolution is included in Appendix C.

10.4 Plan Submittal

The City's 2020 UWMP, including the WSCP, will be submitted to DWR within 30 days of adoption. UWMP submittal will be done electronically through WUEdata, an online submittal tool. After the UWMP has been submitted, DWR will review the plan and decide as to whether or not the UWMP addresses the requirements of the CWC. The DWR reviewer will contact the water supplier as needed during the review process. Upon completion of the Plan review, DWR will issue a letter to the agency with the results of the review.

No later than 30 days after adoption, the City will submit a CD or hardcopy of the adopted 2020 UWMP, including the adopted WSCP, to the California State Library. No later than 30 days after adoption, the City will also submit a copy of the adopted 2020 UWMP to Contra Costa County, which can be an electronic copy.

10.5 Public Availability

Not later than 30 days after filing a copy of its plan with DWR, the City will make the UWMP, including the WSCP, available for public review during normal business hours by placing a copy of the UWMP at the front desk of the City's Public Works office, and by posting the UWMP on the City's website for public viewing.

10.6 Amending the Adopted UWMP

If the City amends the adopted UWMP and/or WSCP, each of the steps for notification, public hearing, adoption, and submittal will also be followed for the amended plan. If revised, a copy of the WSCP will be submitted to DWR within 30 days of adoption.

REFERENCES

Association of Bay Area Governments, May 2019. Bay Area Plan Projections 2019.

Antioch, Brentwood, Martinez, Pittsburg, CCWD, and DWD, 2014. Final Regional Capacity Study.

Association of Bay Area Governments, May 2021. Draft Regional Housing Needs Allocation (RHNA) Plan: San Francisco Bay Area, 2023-2031.

CALFED Bay-Delta Program, June 2005. Delta Region Drinking Water Quality Management Plan. https://www.ccwater.com/DocumentCenter/View/384/Delta-Region-Water-Quality-Management-Plan-PDF?bidId=

California, Department of Finance. May 2021. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2021 with 2010 Census Benchmark. https://www.dof.ca.gov/Forecasting/Demographics/Estimates/e-5/

California Department of Water Resources. March 2021. 2020 Urban Water Management Plan Guidebook for Urban Water Suppliers.

City of Martinez, 2009. Emergency Operations Plan. https://www.cityofmartinez.org/civicax/filebank/blobdload.aspx?blobid=6127

Contra Costa Water District, April 2021. 2020 Urban Water Management Plan, Draft. https://www.ccwater.com/409/Water-Supply

Delta Stewardship Council, January 2021. Delta Adapts: Creating a Climate Resilient Future. https://deltacouncil.ca.gov/pdf/delta-plan/2021-01-15-delta-adapts-public-draft-vulnerability-assessment.pdf

East Contra Costa County, March 2019. Integrated Regional Water Management Plan. https://www.eccc-irwm.org/s/Plan_East-County-IRWM_March-2019-Update-with-App-A-H-reduced.pdf

East Contra Costa County, April 2020. Adapting to Rising Tides: East Contra Costa County Vulnerability Assessment & Adaptation Project.

East County Water Management Association, 2019. East Contra Costa County IRWMP Update.

Tetra Tech, May 2011. Contra Costa County Hazard Mitigation Plan Update. https://www.contracosta.ca.gov/6416/Current-Local-Hazard-Mitigation-Plan

Tetra Tech, January 2018. Contra Costa County Hazard Mitigation Plan, Final Draft. https://www.contracosta.ca.gov/6842/Draft-Local-Hazard-Mitigation-Plan-Updat

This page intentionally blank

CITY OF MARTINEZ
2020 UWMP
APPENDICES

THIS PAGE INTENTIONALLY BLANK

APPENDIX A

DWR UWMP Checklist

THIS PAGE INTENTIONALLY BLANK

2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
Chapter 1	10615	A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities.	Introduction and Overview	Section 1.1
Chapter 1	10630.5	Each plan shall include a simple description of the supplier's plan including water availability, future requirements, a strategy for meeting needs, and other pertinent information. Additionally, a supplier may also choose to include a simple description at the beginning of each chapter.	Summary	Section 1.2
Section 2.2	10620(b)	Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.	Plan Preparation	Section 2.1
Section 2.6	10620(d)(2)	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	Plan Preparation	Section 2.4
Section 2.6.2	10642	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan and contingency plan.	Plan Preparation	Section 2.4
Section 2.6, Section 6.1	10631(h)	Retail suppliers will include documentation that they have provided their wholesale supplier(s) - if any - with water use projections from that source.	System Supplies	Section 2.4
Section 2.6	10631(h)	Wholesale suppliers will include documentation that they have provided their urban water suppliers with identification and quantification of the existing and planned sources of water available from the wholesale to the urban supplier during various water year types.	System Supplies	N/A
Section 3.1	10631(a)	Describe the water supplier service area.	System Description	Sections 3.1 and 3.2
Section 3.3	10631(a)	Describe the climate of the service area of the supplier.	System Description	Section 3.3
Section 3.4	10631(a)	Provide population projections for 2025, 2030, 2035, 2040 and optionally 2045.	System Description	Section 3.4
Section 3.4.2	10631(a)	Describe other social, economic, and demographic factors affecting the supplier's water management planning.	System Description	Section 3.4
Sections 3.4 and 5.4	10631(a)	Indicate the current population of the service area.	System Description and Baselines and Targets	Section 3.4
Section 3.5	10631(a)	Describe the land uses within the service area.	System Description	Section 3.5
Section 4.2	10631(d)(1)	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System Water Use	Chapter 4
Section 4.2.4	10631(d)(3)(C)	Retail suppliers shall provide data to show the distribution loss standards were met.	System Water Use	Sections 4.3 and 4.5
Section 4.2.6	10631(d)(4)(A)	In projected water use, include estimates of water savings from adopted codes, plans and other policies or laws.	System Water Use	Section 4.4
Section 4.2.6	10631(d)(4)(B)	Provide citations of codes, standards, ordinances, or plans used to make water use projections.	System Water Use	Section 4.4
Section 4.3.2.4	10631(d)(3)(A)	Report the distribution system water loss for each of the 5 years preceding the plan update.	System Water Use	Sections 4.3 and 4.5
Section 4.4	10631.1(a)	Include projected water use needed for lower income housing projected in the service area of the supplier.	System Water Use	Section 4.6
Section 4.5	10635(b)	Demands under climate change considerations must be included as part of the drought risk assessment.	System Water Use	Sections 4.7 and 7.5
Chapter 5	10608.20(e)	Retail suppliers shall provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	Baselines and Targets	Chapter 5
Chapter 5	10608.24(a)	Retail suppliers shall meet their water use target by December 31, 2020.	Baselines and Targets	Chapter 5
Section 5.1	10608.36	Wholesale suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their retail water suppliers achieve targeted water use reductions.	Baselines and Targets	N/A
Section 5.2	10608.24(d)(2)	If the retail supplier adjusts its compliance GPCD using weather normalization, economic adjustment, or extraordinary events, it shall provide the basis for, and data supporting the adjustment.	Baselines and Targets	N/A
Section 5.5	10608.22	Retail suppliers' per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use of the 5 year baseline. This does not apply if the suppliers base GPCD is at or below 100.	Baselines and Targets	Chapter 5
Section 5.5 and Appendix E	10608.4	Retail suppliers shall report on their compliance in meeting their water use targets. The data shall be reported using a standardized form in the SBX7-7 2020 Compliance Form.	Baselines and Targets	Chapter 5
Sections 6.1 and 6.2	10631(b)(1)	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought.	System Supplies	Chapter 6
Sections 6.1	10631(b)(1)	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought, *including changes in supply due to climate change.*	System Supplies	Chapters 6 and 7
Section 6.1	10631(b)(2)	When multiple sources of water supply are identified, describe the management of each supply in relationship to other identified supplies.	System Supplies	N/A
Section 6.1.1	10631(b)(3)	Describe measures taken to acquire and develop planned sources of water.	System Supplies	Chapter 6
Section 6.2.8	10631(b)	Identify and quantify the existing and planned sources of water available for 2020, 2025, 2030, 2035, 2040 and optionally 2045.	System Supplies	Section 6.9
Section 6.2	10631(b)	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	Section 6.2
Section 6.2.2	10631(b)(4)(A)	Indicate whether a groundwater sustainability plan or groundwater management plan has been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	System Supplies	N/A
Section 6.2.2	10631(b)(4)(B)	Describe the groundwater basin.	System Supplies	N/A
Section 6.2.2	10631(b)(4)(B)	Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the supplier has the legal right to pump.	System Supplies	N/A
Section 6.2.2.1	10631(b)(4)(B)	For unadjudicated basins, indicate whether or not the department has identified the basin as a high or medium priority. Describe efforts by the supplier to coordinate with sustainability or groundwater agencies to achieve sustainable groundwater conditions.	System Supplies	N/A
Section 6.2.2.4	10631(b)(4)(C)	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years	System Supplies	N/A
Section 6.2.2	10631(b)(4)(D)	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	System Supplies	N/A
Section 6.2.7	10631(c)	Describe the opportunities for exchanges or transfers of water on a short-term or long- term basis.	System Supplies	Section 6.7
Section 6.2.5	10633(b)	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	System Supplies (Recycled Water)	Section 6.5
Section 6.2.5	10633(c)	Describe the recycled water currently being used in the supplier's service area.	System Supplies (Recycled Water)	Section 6.5
Section 6.2.5	10633(d)	Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.	System Supplies (Recycled Water)	Section 6.5
Section 6.2.5	10633(e)	Describe the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected.	System Supplies (Recycled Water)	N/A
Section 6.2.5	10633(f)	Describe the actions which may be taken to encourage the use of recycled water and the projected results of these actions in terms of acre-feet of recycled water used per year.	System Supplies (Recycled Water)	Section 6.5
Section 6.2.5	10633(g)	Provide a plan for optimizing the use of recycled water in the supplier's service area.	System Supplies (Recycled Water)	Section 6.5
Section 6.2.6	10631(g)	Describe desalinated water project opportunities for long-term supply.	System Supplies	Section 6.6
Section 6.2.5	10633(a)	Describe the wastewater collection and treatment systems in the supplier's service area with quantified amount of collection and treatment and the disposal methods.	System Supplies (Recycled Water)	N/A
Section 6.2.8, Section 6.3.7	10631(f)	Describe the expected future water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and for a period of drought lasting 5 consecutive water years.	System Supplies	Section 6.8
Section 6.4 and Appendix O	10631.2(a)	The UWMP must include energy information, as stated in the code, that a supplier can readily obtain.	System Suppliers, Energy Intensity	Section 6.11
Section 7.2	10634	Provide information on the quality of existing sources of water available to the supplier and the manner in which water quality affects water management strategies and supply reliability	Water Supply Reliability Assessment	Chapters 6 and 7
Section 7.2.4	10620(f)	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	Water Supply Reliability Assessment	Chapters 6 and 7
Section 7.3	10635(a)	Service Reliability Assessment: Assess the water supply reliability during normal, dry, and a drought lasting five consecutive water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years.	Water Supply Reliability Assessment	Chapter 7
Section 7.3	10635(b)	Provide a drought risk assessment as part of information considered in developing the demand management measures and water supply projects.	Water Supply Reliability Assessment	Section 7.5
Section 7.3	10635(b)(1)	Include a description of the data, methodology, and basis for one or more supply shortage conditions that are necessary to conduct a drought risk assessment for a drought period that lasts 5 consecutive years.	Water Supply Reliability Assessment	Section 7.5

2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location
Section 7.3	10635(b)(2)	Include a determination of the reliability of each source of supply under a variety of water shortage conditions.	Water Supply Reliability Assessment	Sections 7.4 and 7.5
Section 7.3	10635(b)(3)	Include a comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.	Water Supply Reliability Assessment	Sections 7.4 and 7.5
Section 7.3	10635(b)(4)	Include considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.	Water Supply Reliability Assessment	Chapter 7
Chapter 8	10632(a)	Provide a water shortage contingency plan (WSCP) with specified elements below.	Water Shortage Contingency Planning	Chapter 8
Chapter 8	10632(a)(1)	Provide the analysis of water supply reliability (from Chapter 7 of Guidebook) in the WSCP	Water Shortage Contingency Planning	Section 8.2
Section 8.10	10632(a)(10)	Describe reevaluation and improvement procedures for monitoring and evaluation the water shortage contingency plan to ensure risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented.	Water Shortage Contingency Planning	Section 8.12
Section 8.2	10632(a)(2)(A)	Provide the written decision-making process and other methods that the supplier will use each year to determine its water reliability.	Water Shortage Contingency Planning	Section 8.3
Section 8.2	10632(a)(2)(B)	Provide data and methodology to evaluate the supplier's water reliability for the current year and one dry year pursuant to factors in the code.	Water Shortage Contingency Planning	Section 8.3
Section 8.3	10632(a)(3)(A)	Define six standard water shortage levels of 10, 20, 30, 40, 50 percent shortage and greater than 50 percent shortage. These levels shall be based on supply conditions, including percent reductions in supply, changes in groundwater levels, changes in surface elevation, or other conditions. The shortage levels shall also apply to a catastrophic interruption of supply.	Water Shortage Contingency Planning	Section 8.4
Section 8.3	10632(a)(3)(B)	Suppliers with an existing water shortage contingency plan that uses different water shortage levels must cross reference their categories with the six standard categories.	Water Shortage Contingency Planning	Section 8.4
Section 8.4	10632(a)(4)(A)	Suppliers with water shortage contingency plans that align with the defined shortage levels must specify locally appropriate supply augmentation actions.	Water Shortage Contingency Planning	Section 8.5
Section 8.4	10632(a)(4)(B)	Specify locally appropriate demand reduction actions to adequately respond to shortages.	Water Shortage Contingency Planning	Section 8.5
Section 8.4	10632(a)(4)(C)	Specify locally appropriate operational changes.	Water Shortage Contingency Planning	Section 8.5
Section 8.4	10632(a)(4)(D)	Specify additional mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions are appropriate to local conditions.	Water Shortage Contingency Planning	Section 8.5
Section 8.4	10632(a)(4)(E)	Estimate the extent to which the gap between supplies and demand will be reduced by implementation of the action.	Water Shortage Contingency Planning	Section 8.5
Section 8.4.6	10632.5	The plan shall include a seismic risk assessment and mitigation plan.	Water Shortage Contingency Plan	Section 8.6
Section 8.5	10632(a)(5)(A)	Suppliers must describe that they will inform customers, the public and others regarding any current or predicted water shortages.	Water Shortage Contingency Planning	Section 8.7
Section 8.5 and 8.6	10632(a)(5)(B) 10632(a)(5)(C)	Suppliers must describe that they will inform customers, the public and others regarding any shortage response actions triggered or anticipated to be triggered and other relevant communications.	Water Shortage Contingency Planning	Section 8.7
Section 8.6	10632(a)(6)	Retail supplier must describe how it will ensure compliance with and enforce provisions of the WSCP.	Water Shortage Contingency Planning	Section 8.8
Section 8.7	10632(a)(7)(A)	Describe the legal authority that empowers the supplier to enforce shortage response actions.	Water Shortage Contingency Planning	Section 8.9
Section 8.7	10632(a)(7)(B)	Provide a statement that the supplier will declare a water shortage emergency Water Code Chapter 3.	Water Shortage Contingency Planning	Section 8.9
Section 8.7	10632(a)(7)(C)	Provide a statement that the supplier will coordinate with any city or county within which it provides water for the possible proclamation of a local emergency.	Water Shortage Contingency Planning	Section 8.9
Section 8.8	10632(a)(8)(A)	Describe the potential revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	Section 8.10
Section 8.8	10632(a)(8)(B)	Provide a description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	Section 8.10
Section 8.8	10632(a)(8)(C)	Retail suppliers must describe the cost of compliance with Water Code Chapter 3.3: Excessive Residential Water Use During Drought	Water Shortage Contingency Planning	Section 8.10
Section 8.9	10632(a)(9)	Retail suppliers must describe the monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance.	Water Shortage Contingency Planning	Section 8.11
Section 8.11	10632(b)	Analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas.	Water Shortage Contingency Planning	Section 8.13
Sections 8.12 and 10.4	10635(c)	Provide supporting documentation that Water Shortage Contingency Plan has been, or will be, provided to any city or county within which it provides water, no later than 30 days after the submission of the plan to DWR.	Plan Adoption, Submittal, and Implementation	Sections 8.14 and 10.4
Section 8.12	10632(c)	Make available the Water Shortage Contingency Plan to customers and any city or county where it provides water within 30 after adopted the plan.	Water Shortage Contingency Planning	Sections 8.14 and 10.5
Sections 9.1 and 9.3	10631(e)(2)	Wholesale suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and supplier assistance program.	Demand Management Measures	N/A
Sections 9.2 and 9.3	10631(e)(1)	Retail suppliers shall provide a description of the nature and extent of each demand management measure implemented over the past five years. The description will address specific measures listed in code.	Demand Management Measures	Chapter 9
Chapter 10	10608.26(a)	Retail suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets (recommended to discuss compliance).	Plan Adoption, Submittal, and Implementation	Section 10.2
Section 10.2.1	10621(b)	Notify, at least 60 days prior to the public hearing, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. Reported in Table 10-1.	Plan Adoption, Submittal, and Implementation	Section 10.2
Section 10.4	10621(f)	Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021.	Plan Adoption, Submittal, and Implementation	Section 10.2
Sections 10.2.2, 10.3, and 10.5	10642	Provide supporting documentation that the urban water supplier made the plan and contingency plan available for public inspection, published notice of the public hearing, and held a public hearing about the plan and contingency plan.	Plan Adoption, Submittal, and Implementation	Sections 10.2 and 10.3 and Appendix C
Section 10.2.2	10642	The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water.	Plan Adoption, Submittal, and Implementation	Section 10.2
Section 10.3.2	10642	Provide supporting documentation that the plan and contingency plan has been adopted as prepared or modified.	Plan Adoption, Submittal, and Implementation	Section 10.3 and Appendix C
Section 10.4	10644(a)	Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library.	Plan Adoption, Submittal, and Implementation	Section 10.4
Section 10.4	10644(a)(1)	Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption.	Plan Adoption, Submittal, and Implementation	Section 10.4
Sections 10.4.1 and 10.4.2	10644(a)(2)	The plan, or amendments to the plan, submitted to the department shall be submitted electronically.	Plan Adoption, Submittal, and Implementation	Section 10.4
Section 10.5	10645(a)	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	Section 10.5
Section 10.5	10645(b)	Provide supporting documentation that, not later than 30 days after filing a copy of its water shortage contingency plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	Sections 8.13 and 10.5
Section 10.6	10621(c)	If supplier is regulated by the Public Utilities Commission, include its plan and contingency plan as part of its general rate case filings.	Plan Adoption, Submittal, and Implementation	N/A
Section 10.7.2	10644(b)	If revised, submit a copy of the water shortage contingency plan to DWR within 30 days of adoption.	Plan Adoption, Submittal, and Implementation	Section 10.6

APPENDIX B

UWMP Standardized Submittal Tables

THIS PAGE INTENTIONALLY BLANK

Submittal Table 2-1 Retail Only: Public Water Systems			
Public Water System Number	Public Water System Name	Number of Municipal Connections 2020	Volume of Water Supplied 2020 *
Add additional rows as needed			
CA0710006	City of Martinez	9,977	5,152
	TOTAL	9,977	5,152
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*			
NOTES:			

Submittal Table 2-2: Plan Identification			
Select Only One	**Type of Plan**		**Name of RUWMP or Regional Alliance** *if applicable* (select from drop down list)
☑	**Individual UWMP**		
	☐	Water Supplier is also a member of a RUWMP	
	☑	Water Supplier is also a member of a Regional Alliance	Contra Costa Water District Alliance
☐	**Regional Urban Water Management Plan (RUWMP)**		
NOTES: City of Martinez is submitting an individual UWMP. The City of Martinez is also participating in the Contra Costa Water District Regional Alliance. The Regional Alliance Report and verification forms have been submitted by CCWD on behalf of the regional alliance member agencies.			

Submittal Table 2-3: Supplier Identification	
Type of Supplier (select one or both)	
☐	Supplier is a wholesaler
☑	Supplier is a retailer
Fiscal or Calendar Year (select one)	
☑	UWMP Tables are in calendar years
☐	UWMP Tables are in fiscal years
If using fiscal years provide month and date that the fiscal year begins (mm/dd)	
Units of measure used in UWMP * (select from drop down)	
Unit	AF
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*	
NOTES:	

Submittal Table 2-4 Retail: Water Supplier Information Exchange
The retail Supplier has informed the following wholesale supplier(s) of projected water use in accordance with Water Code Section 10631.
Wholesale Water Supplier Name
Add additional rows as needed
Contra Costa Water District
NOTES:

Submittal Table 3-1 Retail: Population - Current and Projected						
Population Served	2020	2025	2030	2035	2040	2045*(opt)*
	28,095	28,985	29,657	30,099	30,857	31,632
NOTES:						

Submittal Table 4-1 Retail: Demands for Potable and Non-Potable [1] Water - Actual			
Use Type	2020 Actual		
Drop down list May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool	Additional Description (as needed)	Level of Treatment When Delivered Drop down list	Volume[2]
Add additional rows as needed			
Single Family	Drinking Water	Drinking Water	2,340
Multi-Family	Drinking Water	Drinking Water	402
Commercial/Institutional	Drinking Water	Drinking Water	646
Industrial	Drinking Water	Drinking Water	158
Landscape	Drinking Water	Drinking Water	277
Losses	Drinking Water	Drinking Water	1,329
		TOTAL	5,152

[1] *Recycled water demands are NOT reported in this table. Recycled water demands are reported in Table 6-4.*

[2] *Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.*

NOTES:

Submittal Table 4-2 Retail: Use for Potable and Non-Potable[1] Water - Projected						
Use Type	Additional Description (as needed)	Projected Water Use[2] *Report To the Extent that Records are Available*				
Drop down list May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool		2025	2030	2035	2040	2045 (opt)
Add additional rows as needed						
Single Family		2,034	2,032	2,015	2,019	2,070
Multi-Family		364	364	361	362	371
Commercial/Institutional		715	723	732	741	741
Industrial		145	146	148	150	150
Landscape		254	254	254	254	254
Losses		948	747	560	392	398
TOTAL		4,460	4,266	4,070	3,918	3,984

[1] Recycled water demands are NOT reported in this table. Recycled water demands are reported in Table 6-4. *[2] Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.*

NOTES:

Submittal Table 4-3 Retail: Total Water Use (Potable and Non-Potable)						
	2020	2025	2030	2035	2040	2045 (opt)
Potable Water, Raw, Other Non-potable *From Tables 4-1R and 4-2 R*	5,152	4,460	4,266	4,070	3,918	3,984
Recycled Water Demand[1] *From Table 6-4*	0	0	0	0	0	0
Optional Deduction of Recycled Water Put Into Long-Term Storage[2]						
TOTAL WATER USE	5,152	4,460	4,266	4,070	3,918	3,984

[1] Recycled water demand fields will be blank until Table 6-4 is complete

*[2] Long term storage means water placed into groundwater or surface storage that is not removed from storage in the same year. Supplier **may** deduct recycled water placed in long-term storage from their reported demand. This value is manually entered into Table 4-3.*

NOTES:

Submittal Table 4-4 Retail: Last Five Years of Water Loss Audit Reporting	
Reporting Period Start Date (mm/yyyy)	Volume of Water Loss [1,2]
01/2015	313
01/2016	405
01/2017	790
01/2018	1,040
01/2019	1,376
[1] *Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet.* [2] ***Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*	
NOTES:	

Submittal Table 4-5 Retail Only: Inclusion in Water Use Projections	
Are Future Water Savings Included in Projections? (Refer to Appendix K of UWMP Guidebook) *Drop down list (y/n)*	Yes
If "Yes" to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, or otherwise are utilized in demand projections are found.	Section 4.4 2020 UWMP
Are Lower Income Residential Demands Included In Projections? *Drop down list (y/n)*	Yes
NOTES:	

Submittal Table 5-1 Baselines and Targets Summary
From SB X7-7 Verification Form
Retail Supplier or Regional Alliance Only

Baseline Period	Start Year *	End Year *	Average Baseline GPCD*	Confirmed 2020 Target*
10-15 year	*1997*	*2006*	*163*	*130*
5 Year	*2004*	*2008*	*167*	

**All cells in this table should be populated manually from the supplier's SBX7-7 Verification Form and reported in Gallons per Capita per Day (GPCD)*

NOTES: From 2015 UWMP SB X7-7 Verification Form

Submittal Table 5-2: 2020 Compliance
From SB X7-7 2020 Compliance Form
Retail Supplier or Regional Alliance Only

2020 GPCD			2020 Confirmed Target GPCD*	Did Supplier Achieve Targeted Reduction for 2020? Y/N
Actual 2020 GPCD*	2020 TOTAL Adjustments*	Adjusted 2020 GPCD* *(Adjusted if applicable)*		
164	*0*	*164*	*130*	*No*

**All cells in this table should be populated manually from the supplier's SBX7-7 2020 Compliance Form and reported in Gallons per Capita per Day (GPCD)*

NOTES: From SB X7-7 2020 Compliance Form. The City complies with SB X7-7 requirements through Regional Alliance.

Submittal Table 6-1 Retail: Groundwater Volume Pumped						
☑	Supplier does not pump groundwater. The supplier will not complete the table below.					
☐	All or part of the groundwater described below is desalinated.					
Groundwater Type ***Drop Down List*** *May use each category multiple times*	Location or Basin Name	2016*	2017*	2018*	2019*	2020*
Add additional rows as needed						
TOTAL		0	0	0	0	0
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES:						

Submittal Table 6-2 Retail: Wastewater Collected Within Service Area in 2020						
☐	There is no wastewater collection system. The supplier will not complete the table below.					
	Percentage of 2020 service area covered by wastewater collection system *(optional)*					
	Percentage of 2020 service area population covered by wastewater collection system *(optional)*					
Wastewater Collection			**Recipient of Collected Wastewater**			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated? *Drop Down List*	Volume of Wastewater Collected from UWMP Service Area 2020 *	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area? *Drop Down List*	Is WWTP Operation Contracted to a Third Party? *(optional)* *Drop Down List*
CCCSD	Estimated	1,665	CCCSD	CCCSD WWTP	No	
MVSD	Estimated	820	MVSD	MVSD WWTP	No	
Total Wastewater Collected from Service Area in 2020:		2,485				
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3* **.**						
NOTES:						

Submittal Table 6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 2020

☑ **No wastewater is treated or disposed of within the UWMP service area.** The supplier will not complete the table below.

Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number *(optional)* [2]	Method of Disposal ***Drop down list***	Does This Plant Treat Wastewater Generated Outside the Service Area? ***Drop down list***	Treatment Level ***Drop down list***	2020 volumes [1]				
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area	Instream Flow Permit Requirement
						Total	0	0	0	0	0

[1] **Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.

[2] If the **Wastewater Discharge ID Number** is not available to the UWMP preparer, access the SWRCB CIWQS regulated facility website at https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/CiwqsReportServlet?inCommand=reset&reportName=RegulatedFacility

NOTES:

Submittal Table 6-4 Retail: Recycled Water Direct Beneficial Uses Within Service Area

☑ Recycled water is not used and is not planned for use within the service area of the supplier.
The supplier will not complete the table below.

Name of Supplier Producing (Treating) the Recycled Water:	
Name of Supplier Operating the Recycled Water Distribution System:	
Supplemental Water Added in 2020 (volume) *Include units*	
Source of 2020 Supplemental Water	

Beneficial Use Type *Insert additional rows if needed.*	**Potential** Beneficial Uses of Recycled Water (Describe)	Amount of **Potential** Uses of Recycled Water (Quantity) *Include volume units* [1]	General Description of 2020 Uses	Level of Treatment *Drop down list*	2020 [1]	2025 [1]	2030 [1]	2035 [1]	2040 [1]	2045 [1] (opt)
Agricultural irrigation										
Landscape irrigation (exc golf courses)										
Golf course irrigation										
Commercial use										
Industrial use										
Geothermal and other energy production										
Seawater intrusion barrier										
Recreational impoundment										
Wetlands or wildlife habitat										
Groundwater recharge (IPR)										
Reservoir water augmentation (IPR)										
Direct potable reuse										
Other (Description Required)										
				Total:	0	0	0	0	0	0
				2020 Internal Reuse						

[1] ***Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*

NOTES:

Submittal Table 6-5 Retail: 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual		
☑	Recycled water was not used in 2015 nor projected for use in 2020. The supplier will not complete the table below. If recycled water was not used in 2020, and was not predicted to be in 2015, then check the box and do not complete the table.	
Beneficial Use Type	**2015 Projection for 2020 [1]**	**2020 Actual Use[1]**
Insert additional rows as needed.		
Agricultural irrigation		
Landscape irrigation (exc golf courses)		
Golf course irrigation		
Commercial use		
Industrial use		
Geothermal and other energy production		
Seawater intrusion barrier		
Recreational impoundment		
Wetlands or wildlife habitat		
Groundwater recharge (IPR)		
Reservoir water augmentation (IPR)		
Direct potable reuse		
Other (Description Required)		
Total	0	0
[1] **Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.		
NOTE:		

Submittal Table 6-6 Retail: Methods to Expand Future Recycled Water Use			
☑	Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.		
Section 6.5	Provide page location of narrative in UWMP		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use *
Add additional rows as needed			
		Total	0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*			
NOTES:			

Submittal Table 6-7 Retail: Expected Future Water Supply Projects or Programs						
☑	No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Supplier will not complete the table below.					
☐	Some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.					
	Provide page location of narrative in the UWMP					
Name of Future Projects or Programs	Joint Project with other suppliers?		Description (if needed)	Planned Implementation Year	Planned for Use in Year Type *Drop Down List*	Expected Increase in Water Supply to Supplier* *This may be a range*
	Drop Down List (y/n)	*If Yes, Supplier Name*				
Add additional rows as needed						
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES:						

Submittal Table 6-8 Retail: Water Supplies — Actual				
Water Supply	Additional Detail on Water Supply	2020		
Drop down list May use each category multiple times.These are the only water supply categories that will be recognized by the WUEdata online submittal tool		Actual Volume*	Water Quality Drop Down List	Total Right or Safe Yield* (optional)
Add additional rows as needed				
Purchased or Imported Water	Purchased raw treated at City WTP	5,152	Drinking Water	
	Total	5,152		0
Units of measure (AF, CCF, MG) *must remain consistent throughout the UWMP as reported in Table 2-3.*				
NOTES:				

Submittal Table 6-9 Retail: Water Supplies — Projected						
Water Supply	Additional Detail on Water Supply	Projected Water Supply * Report To the Extent Practicable				
Drop down list May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool		**2025**	**2030**	**2035**	**2040**	**2045** (opt)
		Reasonably Available Volume	Reasonably Available Volume	Reasonably Available Volume	Reasonably Available Volume	Reasonably Available Volume
Add additional rows as needed						
Purchased or Imported Water	Purchased raw treated at City WTP	4,460	4,266	4,070	3,918	3,984
	Total	4,460	4,266	4,070	3,918	3,984
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES						

Submittal Table 7-1 Retail: Basis of Water Year Data (Reliability Assessment)			
Year Type	**Base Year** If not using a calendar year, type in the last year of the fiscal, water year, or range of years, for example, water year 2019-2020, use 2020	**Available Supplies if Year Type Repeats**	
		☐	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location _____
		☑	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available *	**% of Average Supply**
Average Year	1922-2020		100%
Single-Dry Year	1922-2020		100%
Consecutive Dry Years 1st Year	1932		100%
Consecutive Dry Years 2nd Year	1930		100%
Consecutive Dry Years 3rd Year	1931		90% to 95%
Consecutive Dry Years 4th Year	1933		85% to 90%
Consecutive Dry Years 5th Year	1929		85%

Supplier may use multiple versions of Table 7-1 if different water sources have different base years and the supplier chooses to report the base years for each water source separately. If a Supplier uses multiple versions of Table 7-1, in the "Note" section of each table, state that multiple versions of Table 7-1 are being used and identify the particular water source that is being reported in each table.

***Units of measure (AF, CCF, MG**) must remain consistent throughout the UWMP as reported in Table 2-3.*

NOTES:

Submittal Table 7-2 Retail: Normal Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045 *(Opt)*
Supply totals (*autofill from Table 6-9)*	4,460	4,266	4,070	3,918	3,984
Demand totals *(autofill from Table 4-3)*	4,460	4,266	4,070	3,918	3,984
Difference	0	0	0	0	0
NOTES:					

Submittal Table 7-3 Retail: Single Dry Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045 (Opt)
Supply totals*	4,460	4,266	4,070	3,918	3,984
Demand totals*	4,460	4,266	4,070	3,918	3,984
Difference	0	0	0	0	0
Units of measure (AF, CCF, MG) *must remain consistent throughout the UWMP as reported in Table 2-3.*					
NOTES:					

Submittal Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison						
		2025*	2030*	2035*	2040*	2045* (Opt)
First year	Supply totals	4,460	4,266	4,070	3,918	3,984
	Demand totals	4,460	4,266	4,070	3,918	3,984
	Difference	0	0	0	0	0
Second year	Supply totals	4,460	4,266	4,070	3,918	3,984
	Demand totals	4,460	4,266	4,070	3,918	3,984
	Difference	0	0	0	0	0
Third year	Supply totals	4,237	4,053	3,867	3,526	3,586
	Demand totals	4,237	4,053	3,867	3,526	3,586
	Difference	0	0	0	0	0
Fourth year	Supply totals	4,014	3,839	3,663	3,330	3,386
	Demand totals	4,014	3,839	3,663	3,330	3,386
	Difference	0	0	0	0	0
Fifth year	Supply totals	3,791	3,626	3,460	3,330	3,386
	Demand totals	3,791	3,626	3,460	3,330	3,386
	Difference	0	0	0	0	0
Sixth year *(optional)*	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES:						

Submittal Table 7-5: Five-Year Drought Risk Assessment Tables to address Water Code Section 10635(b)

2021	Total
Total Water Use	4,697
Total Supplies	4,697
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0%

2022	Total
Total Water Use	4,637
Total Supplies	4,637
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0%

2023	Total
Total Water Use	4,575
Total Supplies	4,575
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0%

2024	Total
Total Water Use	4,517
Total Supplies	4,494
Surplus/Shortfall w/o WSCP Action	(23)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	23
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	1%

2025	Total
Total Water Use	4,460
Total Supplies	4,139
Surplus/Shortfall w/o WSCP Action	(321)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	321
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	7%

Submittal Table 8-1
Water Shortage Contingency Plan Levels

Shortage Level	Percent Shortage Range	Shortage Response Actions (*Narrative description*)
1	Up to 10%	City declares Stage I shortage: Up to 15% reduction in water use to meet short- or long-term water availability requirements.
2	Up to 20%	City declares Stage II shortage: City Council adopts ordinance or resolution for water use reduction up to 30% of baseline water use to meet short- or long-term water availability requirements.
3	Up to 30%	City declares Stage II shortage: City Council adopts ordinance or resolution for water use reduction up to 30% of baseline water use to meet short- or long-term water availability requirements.
4	Up to 40%	City declares Stage III shortage: City Council adopts ordinance or resolution for water use reduction up to 40% of baseline water use to meet short- or long-term water availability requirements.
5	Up to 50%	City declares Stage IV shortage: City Council adopts ordinance or resolution for water use reduction up to 50% of baseline water use to meet short- or long-term water availability requirements.
6	>50%	City declares Stage IV shortage and activates Emergency Response Plan. All restrictions of Stage IV, ERP standardized response and recovery protocol, and contact planning partnerships as part of regional response to catastrophic supply interruption.

NOTES: The City will adopt water shortage response actions implemented by CCWD.

Submittal Table 8-2: Demand Reduction Actions

State Shortage Level	Demand Reduction Actions	Shortage Reduction	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
1	Expand Public Information Campaign	0-10%	The City will progressively expand its public information campaign as needed	No
1	Landscape - Other landscape restriction or prohibition	0-10%	CCWD has a permanent list of water waste prohibitions. Financial penalties can be applied for repeated offenses.	Yes
1	Water Features - Restrict water use for decorative water features, such as fountains	1-5%	Prohibit the use of decorative fountains or filling decorative lakes or ponds. No penalty for Levels 1 or 2.	No
1	Other - Require automatic shut of hoses	1%	Prohibit washing of motor vehicles, trailer, or boat with a hose except when used with a shut-off nozzle	No
1	Other - Prohibit use of potable water for washing hard surfaces	1%	Except for public safety and sanitary purposes	No
1	Other water feature or swimming pool restriction	1%	Prohibit filling of pools installed after notice of conservation stage or complete refilling of pools	No
2	Other	10-15%	All demand reduction actions of Shortage Level 1 are enforced	Yes
2	Other	15%	Adopt ordinance or resolution for water use reduction up to 30% of baseline water use.	Yes
2	CII - Lodging establishment must offer opt out of linen service	5%	Commercial, Industrial, and Institutional (CII) customer classes including operators of hotels and motels shall prominently display a notice in each bathroom. No penalty for Level 2.	No
2	CII - Restaurants may only serve water upon request	5%	No penalty for Level 2	No
3	Other	30%	Same as Shortage Level 2	Yes
3	Increase Water Waste Patrols	0-10%	CCWD will expand its use of water waste patrols as needed	No
3	Implement or Modify Drought Rate Structure or Surcharge	10-30%	Implement a "Temporary Drought Charge" or other rate modification to discourage water waste and encourage water use efficiency	Yes
3	Landscape - Limit landscape irrigation to specific days	10-30%	Utilize progressively more restrictive "day of the week" watering restrictions as needed	Yes
3	Landscape - Prohibit certain types of landscape irrigation	10-30%	Landscape irrigation is limited to use of drip/soaker irrigation only	Yes
4	Other	30%	All previous demand reduction actions enforced	Yes
4	Other	10%	Adopt ordinance or resolution for water use reduction up to 40% of baseline water use. Priority to health and safety needs. Subsequent water uses are prioritized to maintain and expand commerce, then to enhance the aesthetics of the environment, and then to facilitate construction activities.	Yes
5	Other	40%	All previous demand reduction actions enforced	Yes
5	Other	10%	Adopt ordinance or resolution for water use reduction up to 50% of baseline water use. Priority to health and safety needs. Subsequent water uses are prioritized to maintain and expand commerce, then to enhance the aesthetics of the environment, and then to facilitate construction activities.	Yes
5	Landscape - Prohibit all landscape irrigation	30-40%	Landscape irrigation is limited to use of drip/soaker irrigation for trees only	Yes
6	Other	50%	All previous demand reduction actions enforced	Yes
6	Other	Ration water supplies as needed	ERP response and recovery protocol to catastrophic supply interruption	Yes

NOTES: (1) The demand reduction actions are shown using the six standard State shortage levels. Table 8-1B shows how the State levels relate to the City's four WSCP levels; (2) The City will mirror CCWD actions. Applicable CCWD response actions have been included; (3) Reduction measures are subject to refinement after monitoring observed outcomes in order to achieve the required demand reduction.

Submittal Table 8-3: Supply Augmentation and Other Actions			
Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool*	How much is this going to reduce the shortage gap? *Include units used (volume type or percentage)*	Additional Explanation or Reference *(optional)*
Add additional rows as needed			
NOTES: If there is a specified shortage in supply as shown in Table 8-1, then it is assumed that CCWD sources are limited to the extent to cause such a shortage. As no alternative sources are available, supply is not a response triggered by the WSCP's shortage level, but already represented in the determination of any gap between supply and customer water use.			

Submittal Table 10-1 Retail: Notification to Cities and Counties		
City Name	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
Martinez	Yes	Yes
City of Pleasant Hill	Yes	Yes
County Name *Drop Down List*	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
Contra Costa County	Yes	Yes
NOTES:		

APPENDIX C

Notice of Public Hearing and Resolution for Plan Adoption

THIS PAGE INTENTIONALLY BLANK

CITY OF MARTINEZ

525 Henrietta Street, Martinez, CA 94553-2394

May 27, 2021

Brian Balbas
Director of Public Works
Contra Costa County
255 Glacier Drive
Martinez, CA 94553

RE: CITY OF MARTINEZ 2020 URBAN WATER MANAGEMENT PLAN UPDATE

Dear Mr. Balbas:

This letter serves as notification that the City of Martinez is currently (a) updating its Urban Water Management Plan (2020 UWMP) and preparing its Water Shortage Contingency Plan (WSCP) in accordance with the Urban Water Management Planning Act of the California Water Code, and (b) amending its 2015 Urban Water Management Plan (2015 UWMP Amendment) to demonstrate consistency with Delta Plan Policy WR P1, (Title 23 of the California Code Regulations section 5003). The Act requires urban water suppliers supplying more than 3,000 acre-feet of water annually or providing water to more than 3,000 customers to update their UWMP every five years.

A draft of the City's 2020 UWMP with WSCP and the 2015 UWMP Amendment will be available for review prior to the public hearing, which is scheduled for July 21, 2021. Please contact us if you would like to have a draft sent to you when available, otherwise, the draft will be available for viewing on the City's website at least three weeks prior to the hearing at http://www.cityofmartinez.org.

If you would like more information or have any questions, please contact me at (925) 519-9144 or via email at rleptien@cityofmartinez.org.

Sincerely,

Randolph W. Leptien
Acting City Engineer

CITY OF MARTINEZ

525 Henrietta Street, Martinez, CA 94553-2394

May 27, 2021

Mario Moreno
Director of Public Works/City Engineer
City of Pleasant Hill
100 Gregory Lane
Pleasant Hill, CA 94523

RE: CITY OF MARTINEZ 2020 URBAN WATER MANAGEMENT PLAN UPDATE

Dear Mr. Moreno:

This letter serves as notification that the City of Martinez is currently (a) updating its Urban Water Management Plan (2020 UWMP) and preparing its Water Shortage Contingency Plan (WSCP) in accordance with the Urban Water Management Planning Act of the California Water Code, and (b) amending its 2015 Urban Water Management Plan (2015 UWMP Amendment) to demonstrate consistency with Delta Plan Policy WR P1, (Title 23 of the California Code Regulations section 5003). The Act requires urban water suppliers supplying more than 3,000 acre-feet of water annually or providing water to more than 3,000 customers to update their UWMP every five years.

A draft of the City's 2020 UWMP with WSCP and the 2015 UWMP Amendment will be available for review prior to the public hearing, which is scheduled for July 21, 2021. Please contact us if you would like to have a draft sent to you when available, otherwise, the draft will be available for viewing on the City's website at least three weeks prior to the hearing at http://www.cityofmartinez.org.

If you would like more information or have any questions, please contact me at (925) 519-9144 or via email at rleptien@cityofmartinez.org.

Sincerely,

Randolph W. Leptien
Acting City Engineer

Affidavit of Publication

STATE OF CALIFORNIA.)
County of Contra Costa) ss.

NPH Urban Water Management Plan

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a party to or interested in the above entitled matter. I am the legal advertising clerk of MARTINEZ NEWS-GAZETTE, a newspaper of general circulation, published in the city of Martinez, County of Contra Costa, and which newspaper has been adjudged to be a newspaper of general circulation by the Superior Court of the County of Contra Costa, State of California, under the date of August 10, 1977, Decree No. 130417. I declare that the notice, of which the annexed is a true printed copy, has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:
Date(s):

July 2, 9, 2021

I certify (or declare) under the penalty of perjury under the laws of the State of California that the foregoing is true and correct:

Executed at Martinez, Contra Costa County, California, on
Date: July 12, 2021

Rick Jones, Legals Editor

Martinez News-Gazette
802 Alhambra Ave
Martinez, CA 94553

See attached

PUBLIC HEARING NOTICE
JULY 21, 2021

Notice of Public Hearing on the City of Martinez Draft 2020 Urban Water Management Plan, the Draft 2015 Urban Water Management Plan Addendum, the Draft 2020 Water Shortage Contingency Plan and Public Hearing Procedures. Due to COVID-19. *This notice is being published two weeks early per Govt. Code Section 6066.* Full public hearing notices follow:

Notice of Public Hearing on the City of Martinez Draft 2020 Urban Water Management Plan, the Draft 2015 Urban Water Management Plan Addendum, the Draft 2020 Water Shortage Contingency Plan and Public Hearing Procedures.

This is to advise the public, customers and stakeholders that the Martinez City Council will conduct public hearings at its meeting on July 21, 2021 at 7:00 p.m. to consider the matter listed below. Currently, due to physical distancing requirement related to the Covid-19 emergency, public hearings are being held through videoconferencing at 7:00 p.m. You may access the hearings through Zoom or phone call. Visit https://www.cityofmartinez.org/gov/meetings.asp , call (925) 372-3515, or email cityclerk@cityofmartinez.org after July 6th for Zoom links and call-in information. Public comments can be submitted through email, Zoom (verbal comments), or E-comment (on website). Public comments submitted through email should be sent to cityclerk@cityofmartinez.org, no later than 4:00 pm noon on July 21, 2021. During the meeting, public comments can be provided verbally using Zoom and are limited to 3 minutes. As state and local guidelines regarding attendance at and conducting public meetings is changing rapidly concerning the Covid-19 emergency, please visit https://www.cityofmartinez.org/gov/meetings.asp concerning the most up to date information concerning meeting attendance and participation. The Mayor may reduce the amount of time based on the number of persons wishing to speak. E-Comments can be submitted online no later than 4:00pm the day of the meeting. As required by the Urban Water Management Planning Act, California Water Code, section 10610, et. seq.("UWMP Act"), this is to notify the public that at its meeting to begin at 7 p.m. on July 21, 2021, the City Council of the City of Martinez plans to conduct a public hearing on, and consider adoption of, the City's draft 2020 Urban Water Management Plan ("2020 UWMP"), the City's draft 2020 Water Shortage Contingency Plan ("2020 WSCP"), and the City's 2015 UWMP Addendum. The agenda and public hearing materials can be found at https://www.cityofmartinez .org/gov/meetings.asp. The City of Martinez is required to notify cities and counties within its service area that it is preparing its 2020 UWMP, 2020 WSCP, and the 2015 UWMP Addendum updates at least 60 days prior to holding a public hearing. The draft 2020 UWMP and 2015 UWMP Addendum were prepared pursuant to the requirements of the UWMP Act and updates the City's 2015 Urban Water Management. The draft 2020 UWMP, 2020 WSCP, and 2015 UWMP Addendum will be available for review prior to the hearing and can be requested by email at yzhang@cityofmartinez.org. For more information about this notice, please contact George Pavlov, City Water Superintendent by email at gpavlov@cityofmartinez.org or call (925) 372-3587. If you would like a copy of the agenda, please reach out to the City Clerk's Office by email at cityclerk@cityofmartinez.org, by phone at (925) 372-3512, or by mail, 525 Henrietta Street, Martinez CA 94553. Written information regarding these agenda items must be received in the City Clerk's Office by 5:00 pm on July 14, 2021, to be included in the agenda packet. Materials submitted after the 5:00 pm Monday deadline will be given to the City Council the night of the meeting, provided the materials are received in the City Clerk's Office by 12:00 pm on the day of the Council meeting. If you challenge these items in court, you may be limited to raising only those issues you or someone else raised at the public hearing, or in written correspondence delivered at, or prior to, the public hearing. Note: if these actions are subject to the Code of Civil Procedure, Section 1094.5, and you choose to challenge these actions in court, you must seek judicial review within the time specified in the Code of Civil Procedure, Section 1094.6. All interested persons are invited to attend.

Dated: July 1, 2021
Richard G. Hernandez, City Clerk
Publish: July 2 and July 9, 2021

RESOLUTION NO. 120-21

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF MARTINEZ, ADOPTING THE 2020 URBAN WATER MANAGEMENT PLAN, WATER SHORTAGE CONTINGENCY PLAN, AND AN AMENDMENT TO THE 2015 URBAN WATER MANAGEMENT PLAN

WHEREAS, California Water Code Section 10610 et seq under the Urban Water Management Planning Act ("Act") requires that an urban water supplier prepare and adopt an Urban Water Management Plan (UWMP). Once adopted, the Water Code requires the UWMP be updated every five years in years ending in "0" or "5"; and

WHEREAS, the City has prepared the 2020 UWMP dated July 2021, which includes Chapter 8, a Water Shortage Contingency Plan (WSCP), and an amendment to the 2015 UWMP (Appendix J of the 2020 UWMP), which has been circulated for public review and may be modified following input from the Council or public; and

WHEREAS, the City Council held a public hearing to hear, consider, and accept review comments as required under the Act.

NOW THEREFORE, BE IT RESOLVED that the City Council of the City of Martinez hereby resolves as follows:

Section 1. The City Council adopt the City's 2020 Urban Water Management Plan, Water Shortage Contingency Plan (Chapter 8 of the 2020 UWMP), and the Amendment to the 2015 UWMP (Appendix J of the 2020 UWMP), and directs the Director of Public Works and/or his/her designee to incorporate public comments into the City's UWMP as directed by the Council, and file copies of the 2020 UWMP (including Chapter 8 – Water Shortage Contingency Plan), and amendment to the 2015 UWMP (Appendix J of the 2020 UWMP) with the State Department of Water Resources, the California State Library, the City of Pleasant Hill, and the County of Contra Costa. If the State Department of Water Resources requires any revisions prior to acceptance of the UWMP, any such UWMP revisions shall be approved by the Director of Public Works and his/her designee prior to resubmittal.

Section 2. The City Clerk shall certify to the adoption of this resolution and shall cause this resolution and its certification to be entered in the Book of Resolutions of the Council of this City.

* * * * *

I HEREBY CERTIFY that 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 the 21st day of July, 2021, by the following vote:

AYES: Councilmembers Lara DeLaney, Mark Ross, Brianne Zorn; Vice Mayor Debbie McKillop, Mayor Rob Schroder

NOES: None

ABSTAIN: None

ABSENT: None

RICHARD G. HERNANDEZ, CITY CLERK
CITY OF MARTINEZ

Martinez City Council Meeting, July 21, 2021 – UWMP Discussion Notes

Martinez City Council requested that a record of discussion on the UWMP be included in the UWMP documentation. Based on the Council meeting and public hearing there were no changes to the UWMP report other than including these notes.

- Mayor Schroder stated that he didn't realize Pleasant Hill was in the City's water service area. Mayor Schroder expressed concern with the increase in water losses and questioned if it is due to water mains and laterals in poor condition with several breaks each year. He asked if public works has looked into the cause. Stated that Los Vaqueros makes drought conditions a little easier for everyone in the District (CCWD) compared to other counties in the area.

  Randy Leptien, Acting City Engineer, replied that Pleasant Hill service is limited and located off of Alhambra Ave on the southern end of the service area. Water loss has been discussed among City staff and Psomas but the cause has not been determined. It is likely a combination of things and staff is going to look into it. There has been recent changes in personnel that could have resulted in inconsistencies in bookkeeping. Normal losses occur due to leaks and breaks but this likely doesn't account for a majority of it. Need to look into meter accuracy at the plant and to customers. Suggest replacing meters to lower the discrepancy. Acknowledged that Los Vaqueros has worked out very well for CCWD customers.

- Vice Mayor McKillop stated that a while back the City purchased or considered purchasing a proactive analysis software to evaluate the water system to target areas that need replacement to reduce water breaks and leaks and asked if that tool being utilized. Noted that 27% is really high with a lot of room to improve.

  Randy Leptien replied that Fracta software was purchased which allows pipe failure prediction to be incorporated into GIS. The City has not used the software yet but plans to use it to identify and prioritize the pipeline replacement projects. This will help with losses from failing pipes and joints. Also, replacing meters may pay for itself in saved water if it's determined that meters are a significant cause of water loss. Will focus on older parts of the City for meter replacement.

  Vice Mayor McKillop stated that we are in a drought with voluntary conservation of 10-15% but the City needs to do its part by reducing water loss.

- Councilmember Zorn asked for clarification on how near- and long-term normal water year reliability shows no significant change in water use. Stated that the City has voluntary efficiency and reduction and asked if there are any actions that the City takes or can take to encourage more water use efficiency.

  Mike Swan responded that new homes have water conserving fixtures which results in lower per capita use. Older homes will replace fixtures to continue conservation. At the same time population goes up so the result is no real change in water use. Recommends that the City continue to use CCWD conservation programs which include rebates and education. As prices go up people will also conserve.

- Councilmember DeLaney noted that the service area population is smaller than she thought and that highly populated areas are not in water service area. Though a larger portion of the City was in the water service area. Asked if there is a chance that the service provider boundary could shift in the future. Councilmember DeLaney believes that water meters are a source of the water loss problem. There have been customer reports over time that metered usage does not reflect what they see in their lives and there are changes in use that are inexplicable to them. Vendors have presented material on changing water meters and have pitched the need for replacement for many years now. Really need to look into the meters and the cause because 27% loss is unacceptable.

  Randy Leptien replied that a change in water provider would be very challenging and need consensus from both agencies. Mike Swan confirmed that the cause of water losses really need to be determined. Added that it is also difficult to change service provider because of the existing water facilities in place.

- Councilmember Ross stated that there have been some issues with the school district in the past with unmetered use and asked if it is uncommon for people to illegally tap into the system unmetered.

  Randy Leptien replied that there was an issue with the schools but now it's metered and paid for. As far as water theft, we don't have statistics or knowledge.

  Mike Swan suggested that pump stations and reservoir can be sub-metered to check if there are certain areas that are causing the problem. Becomes an accounting procedure.

Councilmember Ross stated that he would like to look into using submeters and illegal tapping into the water lines. The volume of loss seems to be more than inaccurate meters and leaks. Really concerned with large user theft.

Dave Scola, Director of Public Works stated that meter readers and maintenance crews are constantly checking for theft. They do catch people stealing water out of hydrants pretty regularly but does not think it is enough to account for large losses. Have had a lot of water main breaks. The City has an annual water main replacement program and the superintendent keeps a list of problem mains. Feels the largest contributor to losses is incorrect meter readings. The superintendent has spent a lot of time on this and there is a lot of underreading along with main breaks.

- Public Hearing Questions

Public Question – As we move forward, what is the City doing to promote water savings when issuing new permits for houses that are being remodeled or constructed? We did the CCWD rebate to hire a landscape architect but notice other homes that are being remodeled and landscaped and people are using grass. I don't think this drought is going away. In the 1976 drought everyone cut back and if we did not, we were fined. Is the City thinking about this? Water is a that is limited within the Delta. Is the City saying new developments need to have drought tolerant? How are we going to change the way we use water within our City limits?

Mayor Schroder – We do not have a comprehensive plan at this point. We do follow CCWD policy for water conservation and restrictions. Customers are eligible for water saving programs. I'm sure we will be working on a comprehensive plan for the City moving forward.

- Public Question – What is the benefit of getting 100% of our water from CCWD which is then supplied by the City rather than being supplied directly from CCWD? At a recent meeting it was stated that Martinez residents have done a great job in reducing the water use since the last drought so no more reductions are needed at this time.

Mayor Schroder – CCWD has a service area boundary line and some of that is in the City. The east gets water directly from CCWD. Most of Martinez is in the City water service area boundary and we have always treated the water and supplied customers. Maybe in the future CCWD would annex the City. Not likely but it isn't impossible. Historically, since the beginning of the water department, the City has been served by the City.

Randy Leptien – City reports show that water reduction is working. The current policy is voluntary reduction. The prediction is we have enough water to get through the current year.

- UWMP Adoption

Councilmember DeLaney noted that there are 4 existing shortage levels used in the WSCP and asked why the ERP is a response for levels greater than a 50% shortage. Would hope we don't wait until 50%. Are we tied to what CCWD does?

Mike Swan responded that beyond 50% indicates a major emergency. The City has never had to go that low due to drought. This represent more catastrophic type of emergency. We do act based on CCWD response program.

Council agreed that official public questions and comments were addressed and no changes are needed to UWMP documentation. Council asked that notes from this portion of the meeting be included in the document. No sections of the report need amending.

APPENDIX D

AWWA Water Loss Reporting Worksheets

THIS PAGE INTENTIONALLY BLANK

AWWA Free Water Audit Software:
Reporting Worksheet

WAS v5.0

? Click to access definition
+ Click to add a comment

Water Audit Report for: City of Martinez
Reporting Year: 2015 (1/2015 - 12/2015)

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: ACRE-FEET PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

					Pcnt:	Value:	
Volume from own sources:	n/a	0.000	acre-ft/yr				acre-ft/yr
Water imported:	8	3,524.000	acre-ft/yr	8			acre-ft/yr
Water exported:	n/a	0.000	acre-ft/yr				acre-ft/yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 3,524.000 acre-ft/yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

			Pcnt:	Value:	
Billed metered:	8	3,167.000	acre-ft/yr			
Billed unmetered:	n/a	0.000	acre-ft/yr			
Unbilled metered:	8	0.000	acre-ft/yr			
Unbilled unmetered:	8	44.050	acre-ft/yr	1.25%		acre-ft/yr

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

AUTHORIZED CONSUMPTION: 3,211.050 acre-ft/yr

Use buttons to select percentage of water supplied **OR** value

WATER LOSSES (Water Supplied - Authorized Consumption)

312.950 acre-ft/yr

Apparent Losses

			Pcnt:	Value:	
Unauthorized consumption:		8.810	acre-ft/yr	0.25%		acre-ft/yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	7	8.000	acre-ft/yr		8.000	acre-ft/yr
Systematic data handling errors:	7	7.918	acre-ft/yr	0.25%		acre-ft/yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 24.728 acre-ft/yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 288.223 acre-ft/yr

WATER LOSSES: 312.950 acre-ft/yr

NON-REVENUE WATER

NON-REVENUE WATER: 357.000 acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	7	100.0	miles
Number of active AND inactive service connections:	8	9,904	
Service connection density:		99	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure:	8	65.0	psi

COST DATA

Total annual cost of operating water system:	8	$11,500,000	$/Year	
Customer retail unit cost (applied to Apparent Losses):	8	$7.27	$/100 cubic feet (ccf)	
Variable production cost (applied to Real Losses):	8	$1,901.00	$/acre-ft	☑ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 75 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Water imported
2: Unauthorized consumption
3: Systematic data handling errors

AWWA Free Water Audit Software:
Reporting Worksheet

WAS v5.0

? Click to access definition
+ Click to add a comment

Water Audit Report for: City of Martinez (0710006)
Reporting Year: 2016 1/2016 - 12/2016

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

					Pcnt:	Value:	
Volume from own sources:	5	1,241.030	MG/Yr	3			MG/Yr
Water imported:	n/a	0.000	MG/Yr				MG/Yr
Water exported:	n/a	0.000	MG/Yr				MG/Yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 1,241.030 MG/Yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

				Pcnt:	Value:	
Billed metered:	4	1,106.023	MG/Yr			
Billed unmetered:	n/a	0.000	MG/Yr			
Unbilled metered:	n/a	0.000	MG/Yr			
Unbilled unmetered:	5	3.103	MG/Yr		3.103	MG/Yr

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION: 1,109.126 MG/Yr

WATER LOSSES (Water Supplied - Authorized Consumption) 131.904 MG/Yr

Apparent Losses

				Pcnt:	Value:	
Unauthorized consumption:		3.103	MG/Yr	0.25%		MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	3	46.084	MG/Yr	4.00%		MG/Yr
Systematic data handling errors:		2.765	MG/Yr	0.25%		MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 51.952 MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 79.953 MG/Yr

WATER LOSSES: 131.904 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 135.007 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	5	93.0	miles
Number of active AND inactive service connections:	8	10,022	
Service connection density:		108	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure:	5	60.0	psi

COST DATA

Total annual cost of operating water system:	10	$10,649,350	$/Year	
Customer retail unit cost (applied to Apparent Losses):	5	$4.09	$/100 cubic feet (ccf)	
Variable production cost (applied to Real Losses):	6	$680.79	$/Million gallons	☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 53 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Billed metered
3: Customer metering inaccuracies

AWWA Free Water Audit Software:
Reporting Worksheet

WAS v5.0

? Click to access definition
\+ Click to add a comment

Water Audit Report for: City of Martinez (0710006)
Reporting Year: 2017 | 1/2017 - 12/2017

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

					Pcnt:	Value:	
Volume from own sources:	5	1,445.069	MG/Yr	3			MG/Yr
Water imported:	5	3.679	MG/Yr	5			MG/Yr
Water exported:	5	8.863	MG/Yr	5			MG/Yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 1,439.885 MG/Yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

				Pcnt:	Value:	
Billed metered:	5	1,178.990	MG/Yr			
Billed unmetered:	n/a		MG/Yr			
Unbilled metered:	n/a		MG/Yr			
Unbilled unmetered:	5	3.600	MG/Yr		3.600	MG/Yr

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION: 1,182.590 MG/Yr

WATER LOSSES (Water Supplied - Authorized Consumption) 257.295 MG/Yr

Apparent Losses

			Pcnt:	Value:	
Unauthorized consumption:	3.600	MG/Yr	0.25%		MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	4	11.909	MG/Yr	1.00%	MG/Yr
Systematic data handling errors:		2.947	MG/Yr	0.25%	MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 18.456 MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 238.839 MG/Yr

WATER LOSSES: 257.295 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 260.895 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	5	163.2	miles
Number of active AND inactive service connections:	9	10,202	
Service connection density:		63	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure:	5	92.0	psi

COST DATA

Total annual cost of operating water system:	10	$12,060,011	$/Year
Customer retail unit cost (applied to Apparent Losses):	9	$4.18	$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	5	$549.78	$/Million gallons

☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 58 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Billed metered
3: Customer metering inaccuracies

AWWA Free Water Audit Software:
Reporting Worksheet

WAS v5.0

? Click to access definition
+ Click to add a comment

Water Audit Report for: City of Martinez (0710006)
Reporting Year: 2018 (1/2018 - 12/2018)

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

<---------- Enter grading in column 'E' and 'J' ---------->

Master Meter and Supply Error Adjustments

WATER SUPPLIED				Pcnt:	Value:	
Volume from own sources:	5	1,535.404	MG/Yr			MG/Yr
Water imported:	5	10.401	MG/Yr			MG/Yr
Water exported:	5	10.433	MG/Yr			MG/Yr
	3					
	5					
	5					

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 1,535.372 MG/Yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

				Pcnt:	Value:	
Billed metered:	5	1,192.705	MG/Yr			
Billed unmetered:	n/a		MG/Yr			
Unbilled metered:	n/a		MG/Yr			
Unbilled unmetered:	5	3.838	MG/Yr		3.838	MG/Yr

Use buttons to select percentage of water supplied **OR** value

AUTHORIZED CONSUMPTION: 1,196.543 MG/Yr

WATER LOSSES (Water Supplied - Authorized Consumption) 338.829 MG/Yr

Apparent Losses

			Pcnt:	Value:	
Unauthorized consumption:	3.838	MG/Yr	0.25%		MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	4	12.048	MG/Yr	1.00%	MG/Yr
Systematic data handling errors:		2.982	MG/Yr	0.25%	MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 18.868 MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 319.961 MG/Yr

WATER LOSSES: 338.829 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 342.667 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	7	161.0	miles
Number of active AND inactive service connections:	9	10,195	
Service connection density:		63	conn./mile main
Are customer meters typically located at the curbstop or property line?		Yes	
Average length of customer service line:			(length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure:	5	91.5	psi

COST DATA

Total annual cost of operating water system:	10	$12,562,527	$/Year
Customer retail unit cost (applied to Apparent Losses):	9	$4.39	$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	5	$571.67	$/Million gallons

☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 59 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Billed metered
3: Customer metering inaccuracies

AWWA Free Water Audit Software:
Reporting Worksheet

WAS v5.0

? Click to access definition
+ Click to add a comment

Water Audit Report for: City of Martinez (0710006)
Reporting Year: 2019 (1/2019 - 12/2019)

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

<---------- Enter grading in column 'E' and 'J' ---------->

Master Meter and Supply Error Adjustments

WATER SUPPLIED

					Pcnt:	Value:	
Volume from own sources:	5	1,603.760	MG/Yr	3			MG/Yr
Water imported:	5	9.976	MG/Yr	5			MG/Yr
Water exported:	5	9.119	MG/Yr	5			MG/Yr
WATER SUPPLIED:		**1,604.617**	MG/Yr				

Enter negative % or value for under-registration
Enter positive % or value for over-registration

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

				Pcnt:	Value:	
Billed metered:	5	1,152.318	MG/Yr			
Billed unmetered:	n/a		MG/Yr			
Unbilled metered:	n/a		MG/Yr			
Unbilled unmetered:	5	4.012	MG/Yr		4.012	MG/Yr
AUTHORIZED CONSUMPTION:		**1,156.330**	MG/Yr			

Use buttons to select percentage of water supplied **OR** value

WATER LOSSES (Water Supplied - Authorized Consumption)

448.287 MG/Yr

Apparent Losses

			Pcnt:	Value:	
Unauthorized consumption:	4.012	MG/Yr	0.25%		MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	4	11.640	MG/Yr	1.00%	MG/Yr
Systematic data handling errors:		2.881	MG/Yr	0.25%	MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: **18.532** MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: **429.756** MG/Yr

WATER LOSSES: **448.287** MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: **452.299** MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	7	139.9	miles
Number of active AND inactive service connections:	9	10,204	
Service connection density:		73	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure:	5	91.5	psi

COST DATA

Total annual cost of operating water system:	10	$14,335,292	$/Year
Customer retail unit cost (applied to Apparent Losses):	9	$4.60	$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	5	$564.82	$/Million gallons

☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 59 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Billed metered
3: Customer metering inaccuracies

THIS PAGE INTENTIONALLY BLANK

APPENDIX E

SBX7-7 Compliance Tables and DWR Population

THIS PAGE INTENTIONALLY BLANK

SB X7-7 Table 0: Units of Measure Used in 2020 UWMP* *(select one from the drop down list)*
Acre Feet
**The unit of measure must be consistent throughout the UWMP, as reported in Submittal Table 2-3.*
NOTES:

SB X7-7 Table 2: Method for 2020 Population Estimate	
Method Used to Determine 2020 Population (may check more than one)	
☐	**1. Department of Finance** (DOF) or **American Community Survey** (ACS)
☐	**2. Persons-per-Connection Method**
☑	**3. DWR Population Tool**
☐	**4. Other** DWR recommends pre-review
NOTES:	

SB X7-7 Table 3: 2020 Service Area Population	
2020 Compliance Year Population	
2020	28,095
NOTES:	

SB X7-7 Table 4: 2020 Gross Water Use							
		2020 Deductions					
Compliance Year 2020	**2020 Volume Into Distribution System** *This column will remain blank until SB X7-7 Table 4-A is completed.*	**Exported Water ***	**Change in Dist. System Storage*** (+/-)	**Indirect Recycled Water** *This column will remain blank until SB X7-7 Table 4-B is completed.*	**Water Delivered for Agricultural Use***	**Process Water** *This column will remain blank until SB X7-7 Table 4-D is completed.*	**2020 Gross Water Use**
	5,152			-		-	**5,152**
*** Units of measure (AF, MG , or CCF)** must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.							
NOTES:							

SB X7-7 Table 4-A: 2020 Volume Entering the Distribution System(s), Meter Error Adjustment

Complete one table for each source.

Name of Source	CCWD
This water source is *(check one)* **:**	
☐	The supplier's own water source
☑	A purchased or imported source

Compliance Year 2020	Volume Entering Distribution System [1]	Meter Error Adjustment [2] *Optional (+/-)*	Corrected Volume Entering Distribution System
	5,152	-	5,152

[1] ***Units of measure (AF, MG , or CCF)*** *must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.* [2] ***Meter Error Adjustment*** *- See guidance in Methodology 1, Step 3 of Methodologies Document*

NOTES

SB X7-7 Table 5: 2020 Gallons Per Capita Per Day (GPCD)		
2020 Gross Water *Fm SB X7-7 Table 4*	**2020 Population** *Fm SB X7-7 Table 3*	**2020 GPCD**
5,152	28,095	**164**
NOTES:		

SB X7-7 Table 9: 2020 Compliance

Actual 2020 GPCD[1]	Optional Adjustments to 2020 GPCD (Enter "0" if Adjustment Not Used)			TOTAL Adjustments[1]	Adjusted 2020 GPCD [1] *(Adjusted if applicable)*	2020 Confirmed Target GPCD [1, 2]	**Did Supplier Achieve Targeted Reduction for 2020?**
	Extraordinary Events[1]	Weather Normalization[1]	Economic Adjustment[1]				
164	-	-	-	-	164	130	**NO**

[1] *All values are reported in GPCD*

[2] ***2020 Confirmed Target GPCD*** *is taken from the Supplier's SB X7-7 Verification Form Table SB X7-7, 7-F.*

NOTES: 2020 Confirmed Target taken from 2015 UWMP SB X7-7 Verification Form.

CONTRA COSTA WATER DISTRICT

January 21, 2021

Scott Alman
City Engineer
City of Martinez
525 Henrietta Street
Martinez, CA 94553

Subject: 2020 Urban Water Management Plan – Supply Reliability Analysis and Senate Bill x7-7 Requirements

Dear Mr. Alman:

The Contra Costa Water District (District) is currently preparing an update to its Urban Water Management Plan (UWMP). In conformance with California Water Code Division 5, Part 2.6, Section 10635, the District has prepared an assessment of its water supply reliability. This analysis is being provided to all wholesale municipal customers of the District for use in the preparation of their UWMPs.

A summary of the water supply reliability assessment results is proved in Table 1 below shown as a percentage of demand. For example, in the year 2040, the District anticipates it could supply at least 90 percent of its municipal customers' demands in the third year of a multiple year drought. The water supply reliability goal approved by the District's Board of Directors is to meet 100 percent of demand in normal years and at least 85 percent of demand during drought conditions. The remaining 15 percent would be met by a combination of short-term water purchases and a short-term conservation program.

Table 1 Water Supply Reliability Information (% of Demand)

Year Type	2025	2030	2035	2040	2045
Normal Year	100%	100%	100%	100%	100%
Single-Dry Year	100%	100%	100%	100%	100%
Multi-Year Drought, Year 1	100%	100%	100%	100%	100%
Multi-Year Drought, Year 2	100%	100%	100%	100%	100%
Multi-Year Drought, Year 3	95%	95%	95%	90%	90%
Multi-Year Drought, Year 4	90%	90%	90%	85%	85%
Multi-Year Drought, Year 5	85%	85%	85%	85%	85%

Additionally, the District and its wholesale municipal customers are required to comply with Senate Bill x7-7 (SBx7-7), which requires water suppliers demonstrate compliance with their water use target.

As discussed during our meeting in December 2020, the District will prepare a SBx7-7 analysis for its regional alliance. The regional alliance will include the District and its wholesale municipal customers (Cities of Martinez, Antioch, and Pittsburg, Diablo Water District, and Golden State Water Company) as it did for the 2015 UWMP. Each agency is required to report its individual water use target as well as include a statement in its UWMP that the agency is a member of the District's regional alliance. The District will submit a letter to the Department of Water Resources with the list of members in its regional alliance.

If you would like to discuss this, or have any questions or concerns please contact me at (925) 688-8127 or jmosley@ccwater.com. The District looks forward to continuing to work with you are we complete the 2020 UWMP update.

Sincerely,

Jill Mosley
Senior Engineer

JM /kh

Please print this page to a PDF and include as part of your UWMP submittal.

Confirmation Information

Generated By	Water Supplier Name	Confirmation #	Generated On
Kimberly Alexander	Martinez City Of	8510907828	5/28/2021 10:28:54 AM

Boundary Information

Census Year	Boundary Filename	Internal Boundary ID
1990	WaterBoundary_line_FeatureTo.kml	521
2000	WaterBoundary_line_FeatureTo.kml	521
2010	WaterBoundary_line_FeatureTo.kml	521
1990	WaterBoundary_line_FeatureTo.kml	521
2000	WaterBoundary_line_FeatureTo.kml	521
2010	WaterBoundary_line_FeatureTo.kml	521
1990	WaterBoundary_line_FeatureTo.kml	521
2000	WaterBoundary_line_FeatureTo.kml	521
2010	WaterBoundary_line_FeatureTo.kml	521
1990	WaterBoundary_line_FeatureTo.kml	521
2000	WaterBoundary_line_FeatureTo.kml	521
2010	WaterBoundary_line_FeatureTo.kml	521
1990	WaterBoundary_line_FeatureTo.kml	521
2000	WaterBoundary_line_FeatureTo.kml	521
2010	WaterBoundary_line_FeatureTo.kml	521

Baseline Period Ranges

10 to 15-year baseline period

Number of years in baseline period:	10
Year beginning baseline period range:	1997
Year ending baseline period range[1]:	2006

5-year baseline period

Year beginning baseline period range:	2004
Year ending baseline period range[2]:	2008

[1] The ending year must be between December 31, 2004 and December 31, 2010.

[2] The ending year must be between December 31, 2007 and December 31, 2010.

Persons-Per-SF Connection and Persons-Per-MF/GQ Connection

	Census Block Group Level	Census Block Level						
Year	% Population in SF Housing	Service Area Population	Population in SF Housing (calculated)	Population in MF/GQ Housing (calculated)	# SF Connections	# MF/GQ Connections	Persons per SF Connection	Persons per MF/GQ Connection
1990	77.74%	27,273	21,202	6,071	8450	450	2.51	13.49
1991	-	-	-	-	-	-	2.54	13.36
1992	-	-	-	-	-	-	2.57	13.23
1993	-	-	-	-	-	-	2.60	13.09
1994	-	-	-	-	-	-	2.63	12.96
1995	-	-	-	-	-	-	2.65	12.83
1996	-	-	-	-	-	-	2.68	12.70
1997	-	-	-	-	-	-	2.71	12.57
1998	-	-	-	-	-	-	2.74	12.43
1999	-	-	-	-	-	-	2.77	12.30
2000	80.75%	29,406	23,747	5,659	8485	465	2.80	12.17
2001	-	-	-	-	-	-	2.78	12.24
2002	-	-	-	-	-	-	2.77	12.31
2003	-	-	-	-	-	-	2.75	12.38
2004	-	-	-	-	-	-	2.74	12.45
2005	-	-	-	-	-	-	2.72	12.53
2006	-	-	-	-	-	-	2.70	12.60
2007	-	-	-	-	-	-	2.69	12.67
2008	-	-	-	-	-	-	2.67	12.74
2009	-	-	-	-	-	-	2.66	12.81
2010	79.16%	28,673	22,698	5,975	8595	464	2.64	12.88
2011	-	-	-	-	-	-	2.62	12.95
2012	-	-	-	-	-	-	2.61	13.02
2013	-	-	-	-	-	-	2.59	13.09

2014	-	-	-	-	-	-	2.58	13.16
2015	-	-	-	-	-	-	2.56	13.23
2020	-	-	-	-	-	-	2.48 *	13.58 *

Population Using Persons-Per-SF Connection and Persons-Per-MF/GQ Connection

Year		# SF Connections	# MF/GQ Connections	Persons per SF Connection	Persons per MF/GQ Connection	SF Population	MF/GQ Population	Total Population
10 to 15 Year Baseline Population Calculations								
Year 1	1997	8475	461	2.71	12.57	22,993	5,793	28,786
Year 2	1998	8478	462	2.74	12.43	23,247	5,745	28,991
Year 3	1999	8482	464	2.77	12.30	23,504	5,708	29,212
Year 4	2000	8485	465	2.80	12.17	23,747	5,659	29,406
Year 5	2001	8487	464	2.78	12.24	23,628	5,680	29,308
Year 6	2002	8488	462	2.77	12.31	23,495	5,688	29,183
Year 7	2003	8490	461	2.75	12.38	23,364	5,709	29,073
Year 8	2004	8491	459	2.74	12.45	23,231	5,716	28,948
Year 9	2005	8493	458	2.72	12.53	23,101	5,736	28,837
Year 10	2006	8513	459	2.70	12.60	23,019	5,782	28,801
5 Year Baseline Population Calculations								
Year 1	2004	8491	459	2.74	12.45	23,231	5,716	28,948
Year 2	2005	8493	458	2.72	12.53	23,101	5,736	28,837
Year 3	2006	8513	459	2.70	12.60	23,019	5,782	28,801
Year 4	2007	8534	460	2.69	12.67	22,939	5,827	28,766
Year 5	2008	8554	462	2.67	12.74	22,856	5,885	28,741
2020 Compliance Year Population Calculations								
2020		8817	457	2.48 *	13.58 *	21,888	6,207	28,095

Hide Print Confirmation

THIS PAGE INTENTIONALLY BLANK

APPENDIX F

Energy Use Reporting

THIS PAGE INTENTIONALLY BLANK

Urban Water Supplier: *City of Martinez*

Water Delivery Product

Retail Potable Deliveries

Table O-1B: Recommended Energy Reporting - Total Utility Approach				
Enter Start Date for Reporting Period	1/1/2020	**Urban Water Supplier Operational Control**		
End Date	12/31/2020			
Is upstream embedded in the values reported?		**Sum of All Water Management Processes**	**Non-Consequential Hydropower**	
Water Volume Units Used	*AF*	Total Utility	Hydropower	Net Utility
Volume of Water Entering Process (volume unit)		*5,152*		*5,152*
Energy Consumed (kWh)		*3,583,458*		*3,583,458*
Energy Intensity (kWh/vol. converted to MG)		*2,134.6*		*2,134.6*

Quantity of Self-Generated Renewable Energy

kWh

Data Quality *(Estimate, Metered Data, Combination of Estimates and Metered Data)*

Metered Data

Data Quality Narrative:

Energy consumed is metered use for the City's treatment plant and booster pump stations from PGE billing data. Volume entering the distribution system is metered at the treatment plant pump stations and excludes process water returning to the plant.

Narrative:

Energy consumed is metered use for the City's treatment plant and booster pump stations from PGE billing data. Volume entering the distribution system is metered at the treatment plant pump stations and excludes process water returning to the plant.

THIS PAGE INTENTIONALLY BLANK

APPENDIX G

City of Martinez Water Shortage Response Resolutions

THIS PAGE INTENTIONALLY BLANK

D R A F T 6/4/92

Urban Water Shortage Contingency Plan

Introduction

Supply

Reduction Stages

Stage I Voluntary Conservation

Stage II Voluntary Conservation

Stage III Mandatory Rationing

Stage IV Mandatory Rationing

Revenue Analysis

Resolution 47-91 "Establishing Water Conservation Measures and Reducing the Use of Water Furnished by the Martinez Water System During the Water Shortage Emergency."

Resolution 105-91 "Rescinding Resolution No. 47-91 ... and Establishing Voluntary Water Conservation Measures for Water Furnished by the Martinez Water System During the Water Shortage."

Assembly Bill No. 11

D R A F T 6/4/92

Urban Water Shortage Contingency Plan

INTRODUCTION

The State of California has required, by AB 11, that urban water suppliers providing municipal water directly to more than 3,000 customers, must prepare and adopt, and send an Urban Water Shortage Contingency Plan (Plan) to the California Department of Water Resources. An urban water supplier that does not submit an amendment to its urban water management plan is ineligible to receive drought assistance from the state until the plan is submitted (see AB 11).

Refer to the 1991 City of Martinez Urban Water Management Plan for a discussion of water use characteristics.

The City of Martinez has incorporated "no-waste" and penalties for waste of water as part of Resolution No. 105-91, adopted July 17, 1991.

SUPPLY

The City of Martinez Water System is supplied with water from the Sacramento-San Joaquin River Delta through a canal operated by Contra Costa Water District (CCWD). CCWD is a customer of the United State Bureau of Reclamation (USBR). Our supply is therefore dependent upon the supply that CCWD obtains from USBR or from supplemental sources.

When there is a water supply deficiency, CCWD sets the limits for their wholesale customers, under a staged process. The stages go from Stage I to Stage IV shortages, which is up to a 50% reduction in the water supply. The City of Martinez Water System would use the CCWD stages as a reference would probably adopt a water conservation that is coordinated with and similar to the plan that is adopted by CCWD.

The worse case for supply would be an allocation of 25% of normal usage (75% reduction). This is based on a number of factors, including an extremely dry year following a period of drought, such as we have had in 1986-91.

Refer to the CCWD Urban Water Shortage Contingency Plan (January 1992) for a more comprehensive discussion of water supply.

METERING

The City of Martinez Water system serves approximately 9,100 service connections (customers). All of these customers are metered. Meters are generally read bi-monthly.

REDUCTION STAGES

Stage I - Voluntary Conservation (up to 15% reduction)

A Stage I reduction would be similar to what has occurred in 1987 to 1990. Through public information, coming from many sources, customers have been made aware of the need to reduce water consumption. Martinez Water System customers, upon being made aware of a need to reduce usage have always responded with a concerted effort. The City of Martinez Water System has only had to resort to using penalties on about ten bills, only in 1977, to meet water conservation goals.

A Stage I program would be similar to what was in effect in the second half of 1991. A stage II program would be similar to was adopted in 1977 and the first part of 1991.

Stage II - Voluntary Conservation (up to 30% reduction)

The City of Martinez is submitting the mandatory water conservation plan that was implemented in 1991 to meet a 25% reduction in use. It was changed to a voluntary 15% conservation program in July 1991. Our water consumption reduction for 1991 vs. 1990 was 24% with the voluntary water conservation program. The City of Martinez feels that up to a 30% consumption reduction (vs. 1990) through increased public information efforts can be obtained with the existing water conservation regulations (attached).

This Stage II allocation shows a total amount that is higher then the 70% reduction goal. This is because many customers, primarily residential, exceed their rationing goals in a voluntary program. The 60 million gallons in miscellaneous are for water losses through unauthorized usage and water leaks, primarily water main breaks.

A reduction of more than 30% would require mandatory rationing and penalties for exceeding allocations.

Stage II
1990 Water Usage vs Allocation - up to 30% reduction

Customer class	Customer number	1990 Water usage*	Allocation	Water available*
Single family	7,867	894	280**	804
Multifamily	436	188	85%	160
Commercial	357	142	75%	106
Public	189	189	75%	142
Industrial	17	125	85%	106
Irrigation	54	91	25%	23
Temporary, Fire Services, misc.	101	109	0	60
total	9021	1738		1423
			goal	1217

* million gallons
** gallons per dwelling unit per day

(wcp.220)

Stage III - Mandatory Rationing (40% Reduction)

Rationing amounts are based on 22,000 people in 7867 single family dwellings and 6,000 people in 2850 multifamily dwellings. There is some duplication in the multifamily dwelling unit (mfdu) allocations. The extra 20 gpcpd for the first person in a mfdu is for irrigation uses. Some mfdu have separate irrigation meters and would be allocated water separately. These units would get 50 gpcpd only for inside usage.

Penalties could be similar to those adopted in the 1991 water rationing plan, Resolution 47-91 (attached).

Stage III
1990 Water Usage vs Allocation - 30 to 40% reduction

Customer class	Customer number	1990 Water usage*	Allocation	Water available*
Single family	7,867	894	90 (first)** 50	546
Multifamily	436	188	70 (first) 50	131
Commercial	357	142	70%	99
Public	189	189	70%	132
Industrial	17	125	75%	94
Irrigation	54	91	25%	23
Temporary, Fire Services, misc.	101	109	0	60
total	9021	1738		1057
			goal	1043

* million gallons
** gallons per capita per day
(first amount for first person per dwelling unit,
50 for each additional person per dwelling unit)

Stage IV - Mandatory Rationing (50% Reduction)

Rationing amounts are based on 22,000 people in 7867 single family dwellings and 6,000 people in 2850 multifamily dwellings.

Penalties could be more severe than those adopted in Stage III.

Stage IV
1990 Water Usage vs Allocation - 40 to 50% reduction

Customer class	Customer number	1990 Water usage*	Allocation	Water available*
Single family	7,867	894	50**	402
Multifamily	436	188	50**	110
Commercial	357	142	60%	85
Public	189	189	60%	113
Industrial	17	125	70%	94
Irrigation (Parks only)	54	91	5%	5
Temporary, Fire Services, misc.	101	109	0	60
total	9021	1738		869
			goal	869

* million gallons
** gallons per capita per day

Revenue Analysis
(3/6/92)

The City of Martinez Water System budget is based in 1991-92 and probably in 1992-93 on 80% of normal water usage. This would be about 1400 million gallons into the system. Revenue reduction caused by a reduction in water usage could taken out of reserves, or could be made up with a drought surcharge as was done in 1991. The table below list possible revenue changes that could occur with different water use possibilities.

Cost of producing water - $1,600 per million gallons (mg).

raw water	$1,282 / mg
power	250 / mg
chemicals	68 / mg

Cost received for water - $1,965 per million gallons

$1.47 per hundred cubic feet (hcf)

Water sold (million gallons)	% of normal	Revenue reduction	Drought surcharge (per hcf)
1216 mg	70%	67,160	$0.07
1043 mg	60%	$130,305	$0.17
700 mg	50%	$255,500	$0.48

(wcp.220)

RESOLUTION NO. 092-15

RESOLUTION FINDING THERE HAS BEEN NO MAJORITY PROTEST TO PROPOSED WATER CONSUMPTION PRICING ADJUSTMENT OF UP TO $0.50 PER UNIT OF TREATED WATER USED AND AMENDING SECTION 14, SCHEDULE OF FEES AND RATES, OF THE CITY OF MARTINEZ REGULATIONS GOVERNING WATER SERVICE TO ADD A $0.50 PER UNIT TEMPORARY PRICING ADJUSTMENT TO THE WATER QUANTITY CHARGE

WHEREAS, California is in the midst of a severe and extraordinary four-year drought; and

WHEREAS, on July 15, 2014, the State Water Resources Control Board (SWRCB) approved emergency regulations mandating residents and water suppliers take certain action relative to water use and use of potable water for irrigation purposes and on March 17, 2015, the SWRCB, in light of California entering a fourth year of extraordinary drought conditions, reauthorized the emergency regulations adopted in 2014, and approved additional mandates requiring water suppliers and businesses to take certain further actions relative to water use and use of potable water for irrigation purposes, including the imposition of fines up to $500 per day for each violation of the SWRCB emergency regulations, and the imposition of fines of up to $10,000 per day against urban water suppliers found to be non-compliant with the SWRCB rules and regulations; and

WHEREAS, the California Governor formally declared April 1, 2015, by Executive Order B-29-15 a continued state of emergency exists due to water shortage and drought conditions, and the orders and provisions of Executive Order B-26-14 and B-28-14 remain in full force and effect subject to modifications by Executive Order B-29-15, and he is directing SWRCB to impose additional water use restrictions to achieve a statewide 25% reduction in potable urban water usage through February 28, 2016; and

WHEREAS, the SWRCB is developing additional, but currently unpublished, regulations to implement Executive Order B-29-15; and

WHEREAS, the United States Bureau of Reclamation (Reclamation) has announced its initial 2015 water year allocation for the Central Valley Project (CVP) and has forecast the water supply available for the City's untreated water supplier, Contra Costa Water District (CCWD), is to be no more than an historical low of 25% of its past use under a median forecast; and

WHEREAS, drought conditions contribute to further uncertainty regarding regulatory conditions in the Sacramento–San Joaquin Delta affecting the amount and quality of water can be legally moved from Reclamation's reservoirs to pumping plants in the Delta, including CCWD's; and

WHEREAS, California Water Code Section 350 et seq. authorizes the City Council to declare a water shortage emergency condition to exist upon the making of appropriate findings after notice of a public hearing is published and a public hearing is conducted at which time testimony may be presented regarding the water shortage emergency condition; and

WHEREAS, California Water Code Section 375 et seq. authorizes the City Council to adopt and enforce a water conservation program to reduce the quantity of water used for the purpose of conserving the water supplies of the City after notice of a public hearing is published and a public hearing is conducted at which time testimony may be presented regarding the water conservation program; and

WHEREAS, it has been determined a temporary water consumption pricing adjustment is needed to trigger customers' behavior to reduce water use and to pay for the cost of implementing the City of Martinez 25% Drought Management Plan (Plan) as mandated by the Governor of California under Executive Order B-29-15; and

WHEREAS, the City of Martinez has mailed proper notice at least 45 days in advance to the owners of all properties served by, and to customers of, the water system of temporary water service charges being proposed to be established beginning July 1, 2015 and the owners' or tenants' rights to submit written protests to the proposed charges at a public hearing on July 1, 2015 in the Council Chambers, in accordance with Article XIIID Section 6(a) of the California Constitution; and

WHEREAS, The City Council of the City of Martinez took public testimony and continued the Public Hearing to July 15, 2015; and

WHEREAS, the number of written protests to the proposed water service charges properly submitted to the City before the closing of the public hearing on July 15, 2015 did not comprise a majority of the properties served by the City's water system; and

WHEREAS, the City Council finds that: 1) revenues from the proposed rate increase adjustment will not exceed the additional costs of the Drought Management Program and the increased raw water charges as described in the Notice of Public Hearing and Notice of Continued Public Hearing on the Drought Program Resolution and Temporary Rate Increase contained in the staff materials; 2) the rate increase adjustment will not place a greater burden upon any owner than that owner's proportionate share of the increased costs of the program and the increased raw water charges that shall be incurred by the City; and 3) the revenues will not be used for any other purpose than to pay the additional costs of the program and increased water charges that shall be incurred by the City.

NOW, THEREFORE, BE IT RESOLVED on July 15, 2015, at approximately 6:00 P.M. in the Council Chambers, a public hearing was held at which written protests submitted by property owners or tenants to the water service rates contained within the public notice attached hereto were received and counted and all objections to the proposed water service rates were heard. At which time, it was determined the number of properties on which behalf written protests were submitted did not comprise a majority of the properties served by the City's water system; and

BE IT FURTHER RESOLVED all of the recitals contained hereinabove are hereby incorporated by this reference; and

BE IT FURTHER RESOLVED Section 14.3 of the CITY OF MARTINEZ WATER SYSTEM REGULATIONS GOVERNING WATER SERVICE is removed and replaced to read as follows:

14.3 Consumption Rate

Payments for water consumption shall be made in accordance with the provisions of these regulations and as follows:

14.3.1 Regular Service

Quantity Charge, $/hundred cubic feet

Effective May 1, 2007	Effective Jan. 1, 2008	Effective Jan. 1, 2009
$2.55	$2.72	$2.89

Effective January 1, 2010 Quantity charges will be annually adjusted by the same percentage of increase of untreated water costs. Increases are limited to annual changes in rates between 0% and 5% in any one year.

14.3.15 Temporary Pricing Adjustment

Quantity Charge, $/hundred cubic feet

Current Consumption Rate[1.] Jan. 1, 2015	**Temporary Adjustment[2.]**	**Effective July 1, 2015**
$3.46	**$0.50**	**$3.96**

[1.] Effective January 1, 2016 Consumption Rate will be annually adjusted by the same percentage of increase of untreated water costs. Increases are limited to annual changes in rates between 0% and 5% in any one year.

[2.] Temporary Adjustment shall be in effect until the State of California eliminates water use reductions requirements and the City Council adopts a resolution terminating the Temporary Pricing Adjustment. Temporary adjustments will be credited from billing for single family residential water customers using less than 200 gallons per day.

BE IT FURTHER RESOLVED:

Severability. If any section, subsection, sentence, clause, phrase or portion of this resolution is for any reason held invalid or unconstitutional, such decision shall not affect the validity of the remaining portions of this resolution.

The City Council hereby declares it would have passed this and each section, subsection, phrase or clause thereof irrespective of the fact any one or more sections, subsections, phrase or clauses be declared unconstitutional on their face or as applied; and

BE IT FURTHER RESOLVED:

Effective date. This Resolution is effective and operative immediately upon its adoption.

* * * * * *

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 the 15th day of July, 2015, by the following vote:

AYES: Councilmembers AnaMarie Avila Farias, Lara DeLaney, Debbie McKillop, Vice Mayor Mark Ross and Mayor Rob Schroder

NOES: None

ABSENT: None

RICHARD G. HERNANDEZ, CITY CLERK
CITY OF MARTINEZ

RESOLUTION NO. 093-15

ESTABLISHING THE CITY OF MARTINEZ 25% DROUGHT MANAGEMENT PLAN

WHEREAS, California is in the midst of a severe and extraordinary four-year drought; and

WHEREAS, on July 15, 2014, the State Water Resources Control Board (SWRCB) approved emergency regulations mandating residents and water suppliers take certain action relative to water use and use of potable water for irrigation purposes and on March 17, 2015, the SWRCB, in light of California entering a fourth year of extraordinary drought conditions, reauthorized the emergency regulations adopted in 2014, and approved additional mandates requiring water suppliers and businesses to take certain further actions relative to water use and use of potable water for irrigation purposes, including the imposition of fines up to $500 per day for each violation of the SWRCB emergency regulations, and the imposition of fines of up to $10,000 per day against urban water suppliers found to be non-compliant with the SWRCB rules and regulations; and

WHEREAS, the California Governor formally declared April 1, 2015, by Executive Order B-29-15 a continued state of emergency exists due to water shortage and drought conditions, and the orders and provisions of Executive Order B-26-14 and B-28-14 remain in full force and effect subject to modifications by Executive Order B-29-15, and he is directing SWRCB to impose additional water use restrictions to achieve a statewide 25% reduction in potable urban water usage through February 28, 2016; and

WHEREAS, the SWRCB is developing additional, but currently unpublished, regulations to implement Executive Order B-29-15; and

WHEREAS, the United States Bureau of Reclamation (Reclamation) has announced its initial 2015 water year allocation for the Central Valley Project (CVP) and has forecast the water supply available for the City's untreated water supplier, Contra Costa Water District (CCWD), is to be no more than an historical low of 25% of its past use under a median forecast; and

WHEREAS, drought conditions contribute to further uncertainty regarding regulatory conditions in the Sacramento–San Joaquin Delta affecting the amount and quality of water, which can be legally moved from Reclamation's reservoirs to pumping plants in the Delta, including CCWD's; and

WHEREAS, as of the date of enactment of this resolution and based on current and historic water supply availability and CCWD projects, the City of Martinez' water supply will be impacted in 2015-2016 as a result of drought conditions; and

WHEREAS, conservation and waste prevention measures are necessary to manage demands within the City to comply with emergency regulations of the State of California and to ensure sufficient water is available for critical domestic, municipal and industrial water needs of the City's customers in 2015-2016, and to ensure water supplies are not depleted in the event the following year is also dry; and

WHEREAS, while the City's water conservation efforts, recycled water, and CCWD's supplemental water purchases have stretched CCWD available water supplies, discretionary outdoor water use will require further reductions pursuant to the actions and requirements of the Governor and SWRCB; and

WHEREAS, California Water Code Section 350 et seq. authorizes the City Council to declare a water shortage emergency condition to exist upon the making of appropriate findings after notice of a public hearing is published and a public hearing is conducted at which time testimony may be presented regarding the water shortage emergency condition; and

WHEREAS, California Water Code Section 375 et seq. authorizes the City Council to adopt and enforce a water conservation program to reduce the quantity of water used for the purpose of conserving the water supplies of the City after notice of a public hearing is published and a public hearing is conducted at which time testimony may be presented regarding the water conservation program; and

WHEREAS, notice of a public hearing to consider the establishment of a 25% Drought Management Plan was published in accordance with California Water Code Sections 350 and 375 et seq. in advance of a public hearing commenced on July 1 and continued on July 15, at which times members of the public wishing to give testimony at the public hearing were given the opportunity to do so prior to the public hearing being closed on July 15.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Martinez determines:

1. Based upon the facts recited above, and upon the authority contained in Water Code §350 et seq., §375 et seq., §31021 et seq., § et seq., and §31026 et seq., drought conditions exist, which can affect water supply and quality available to the City as a Contra Costa Water District untreated water customer; and

2. Conservation measures to prevent waste and unreasonable use are necessary to manage demands so reasonable water needs of District customers can be met in 2015; and

3. The City intends to meet the overall 25% water use reduction requirement by requiring the following water use reductions as follows:

    a. Industrial customers are hereby required to reduce water use 5% and to be conservation-minded in their everyday use of water, with water use during 2013 used as the baseline for reduction; and

    b. Irrigation/Agricultural customers are hereby required to reduce outdoor landscape irrigation water use 40%, and to be conservation-minded in everyday use of water, with water use during 2013 used as the baseline for reduction; and

c. All other customer classes are hereby required to reduce water use 25% and to be conservation-minded in everyday use of water, with water use during 2013 used as the baseline for reduction.

4. The water use "Prohibited Practices", attached hereto as described in Exhibit A, City of Martinez 25% Drought Management Plan (Plan), and incorporated herein as if fully set forth, are necessary to conserve water, promote effective water supply planning, assure reasonable and beneficial use of water, prevent waste and unreasonable use of water, and prevent unreasonable methods of use of water within the City of Martinez Water District; and said water use prohibitions are necessary to ensure sufficient supplies of water will be available to meet the needs of, and to protect the health and safety of, the City's customers and other members of the public; and

5. The Plan, as described in Exhibit A, is hereby approved and shall be in effect until the State of California eliminates water use reductions requirements and the City Council adopts a resolution terminating the Plan; and

6. This Resolution is effective and operative immediately upon its adoption.

* * * * * *

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 the 15th day of July, 2015, by the following vote:

AYES: Councilmembers AnaMarie Avila Farias, Lara DeLaney, Debbie McKillop, Vice Mayor Mark Ross and Mayor Rob Schroder

NOES: None

ABSENT: None

RICHARD G. HERNANDEZ, CITY CLERK
CITY OF MARTINEZ

Exhibit "A"

City of Martinez 25% Drought Management Plan (Plan)

I PROHIBITED PRACTICES

The following uses of water supplied by the City of Martinez have been determined to be wasteful and are prohibited at any time when a 25% Drought Management Program is in effect:

Single Family and Multi-Family Residential customers

a. Outside watering with City-furnished water result in excessive flooding or runoff into a gutter, drain, patio, driveway, walkway or street.
b. Outside watering of landscaping during the daylight hours of 9 a.m. to 5 p.m.
c. Washing a vehicle, trailer or boat with City-furnished water using a hose without a shut off nozzle.
d. Washing paved or other hard-surfaced areas, including sidewalks, walkways, driveways, patios, and parking areas with City-furnished water.
e. Using City-furnished water for non-recirculation decorative fountains or filling decorative lakes or ponds.
f. Watering outdoor landscapes during and up to 48 hours after measurable rainfall.
g. Watering of outdoor landscapes more than two days per week unless the City grants an exception. Examples include newly planted drip irrigated drought tolerant landscaping, and vegetable gardens.
h. Watering of landscape of newly constructed homes and buildings is not delivered by drip or micro-spray systems.

Non-residential customers

a. Outside watering with City-furnished water result in excessive flooding or runoff into a gutter, adjacent properties, drain, patio, driveway, walkway, structures, parking lots or street.
b. Outside watering of landscaping during the daylight hours of 9 a.m. to 5 p.m.
c. Using City-furnished water for non-recalculating decorative fountains or for filling decorative lakes or ponds.
d. Washing paved or other hard-surfaced areas, including sidewalks, walkways, driveways, patios and parking areas with City-furnished water.
e. Washing a vehicle, trailer or boat with City-furnished water using a hose without a shut off nozzle.
f. Watering outdoor landscapes during and up to 48 hours after measurable rainfall.
g. Watering of outdoor landscapes more than two days per week unless the City grants an exception. Examples include newly planted drip irrigated drought tolerant landscaping, and vegetable gardens.
h. Watering of landscape of newly constructed homes and buildings is not delivered by drip or micro-spray systems.

II REDUCTION REQUIREMENTS BY CUSTOMER CLASSIFICATION:

The City intends to meet the overall 25% water use reduction requirement by requiring the following water use reductions as follows:

a. Industrial customers are required to reduce their water use by 5% and to be conservation minded in their everyday use of water, with water use during 2013 used as the baseline for reduction.
b. Irrigation/Agricultural customers are required to reduce their outdoor landscape irrigation water use by 40%, and to be conservation minded in their everyday use of water, with water use during 2013 used as the baseline for reduction.
c. All other customer classes are required to reduce their water use by 25% and to be conservation minded in their everyday use of water, with water use during 2013 used as the baseline for reduction.

III CITY INCENTIVES

In accordance California Governor Executive Order B-29-15 the City shall:

Mandatory

a. In coordination with the Department of Water Resources and Contra Costa Water District (CCWD) the City shall provide incentives for customers to convert lawns and ornamental turf to drought tolerant landscapes.
b. In coordination with the California Energy Commission, jointly with the California Department of Water Resources and the Water Board and CCWD provide appliance rebate programs for the replacement of inefficient household devices.

Current/Optional Programs

a. Coupons for mulch for use in landscaping and for local car washes using recycled water
b. Free conservation site surveys
c. Outreach programs, workshops, and educational materials.
d. Rebates for water efficient fixtures and landscape conversions
e. Recycled water fill stations offered free of charge by local sanitary districts

IV TEMPORARY PRICING ADJUSTMENT

In accordance with Proposition 218 the City will implement temporary pricing adjustments to signal to customers the need to achieve the prescribed water use reductions. The pricing adjustments will result in a $0.50 per unit (748 gallons) increase in treated water quantity charges. This level establishes the price signal anticipated to achieve desired conservation behaviors. Customers meeting the 25% reduction requirement will experience a reduction in the water bill compared to current billing levels, thereby incentivizing them to conserve. Residential customers using less than 200 gallons per day averaged over the billing cycle are considered to be efficiently using water based on district wide typical customer use and will be credited the pricing adjustment. Multifamily structures, served with a single water meter, using 200 or more gallons per day are subject to the pricing adjustment.

V VIOLATIONS

Remedies for the prevention of water waste shall be in accordance with Chapter 7 of the Regulations Governing Water Service (Regulations). In addition to the remedies in the Regulations, and in order to enforce the water use prohibitions, the City has the discretionary ability to impose fines for the wasteful use of City treated water as follows:

a. First offence: At the City's discretion the City will issue a Warning Notice and at the City's option fines up to $250 for each offence.
b. Second offence: At the City's discretion the City will issue a Warning Notice and at the City's option fines up to $500 for each offence.
c. Subsequent offences: At the City's discretion the suspension of service under existing City of Martinez Regulations Governing Water Service Chapter 7, Section 7.6, Prevention of Waste.
d. Fines may be appealed to the City Manager of the City of Martinez.

VI EXCEPTIONS

Under extraordinary circumstances such as for medical purposes the City of Martinez Water Superintendent may wave all or portions of this Plan for customers on a case-by-case basis.

ORDINANCE NO. 1387 C.S.

AMENDING SECTION 7 OF THE CITY OF MARTINEZ REGULATIONS GOVERNING WATER SERVICE TO ESTABLISH FINES AND PENALTIES FOR WASTEFUL USE OF TREATED WATER DURING TEMPORARY DROUGHT CONDITIONS

WHEREAS, California is in the midst of a severe and extraordinary four-year drought; and

WHEREAS, on July 15, 2014, the State Water Resources Control Board (SWRCB) approved emergency regulations mandating residents and water suppliers take certain action relative to water use and use of potable water for irrigation purposes and on March 17, 2015, the SWRCB, in light of California entering a fourth year of extraordinary drought conditions, reauthorized the emergency regulations adopted in 2014, and approved additional mandates requiring water suppliers and businesses to take certain further actions relative to water use and use of potable water for irrigation purposes, including the imposition of fines up to $500 per day for each violation of the SWRCB emergency regulations, and the imposition of fines of up to $10,000 per day against urban water suppliers found to be non-compliant with the SWRCB rules and regulations; and

WHEREAS, the California Governor formally declared April 1, 2015, by Executive Order B-29-15 a continued state of emergency exists due to water shortage and drought conditions, and the orders and provisions of Executive Order B-26-14 and B-28-14 remain in full force and effect subject to modifications by Executive Order B-29-15, and he is directing SWRCB to impose additional water use restrictions to achieve a statewide 25% reduction in potable urban water usage through February 28, 2016; and

WHEREAS, the SWRCB is developing additional, but currently unpublished, regulations to implement Executive Order B-29-15; and

WHEREAS, the United States Bureau of Reclamation (Reclamation) has announced its initial 2015 water year allocation for the Central Valley Project (CVP) and has forecast the water supply available for the City's untreated water supplier, Contra Costa Water District (CCWD), is to be no more than an historical low of 25% of its past use under a median forecast; and

WHEREAS, drought conditions contribute to further uncertainty regarding regulatory conditions in the Sacramento–San Joaquin Delta affecting the amount and quality of water can be legally moved from Reclamation's reservoirs to pumping plants in the Delta, including CCWD's; and

WHEREAS, as of the date of enactment of this ordinance and based on current and historic water supply availability, CCWD projects, and in turn the City of Martinez's, water supplies will be impacted in 2015-2016 as a result of drought conditions; and

WHEREAS, conservation and waste prevention measures are necessary to manage demands within the City to comply with emergency regulations of the State of California and to ensure sufficient water is available for critical domestic, municipal and industrial water needs of the City's customers in 2015-2016, and to ensure water supplies are not depleted in the event the following year is also dry; and

WHEREAS, while the City's water conservation efforts, recycled water, and CCWD's supplemental water purchases have stretched CCWD available water supplies, discretionary outdoor water use will require further reductions pursuant to the actions and requirements of the Governor and SWRCB; and

WHEREAS, California Water Code Section 350 et seq. authorizes the City Council to declare a water shortage emergency condition to exist upon the making of appropriate findings after notice of a public hearing is published and a public hearing is conducted at which time testimony may be presented regarding the water shortage emergency condition; and

WHEREAS, California Water Code Section 375 et seq. authorizes the City Council to adopt and enforce a water conservation program to reduce the quantity of water used for the purpose of conserving the water supplies of the City after notice of a public hearing is published and a public hearing is conducted at which time testimony may be presented regarding the water conservation program.

NOW, THEREFORE, the City Council of the City of Martinez does find and ordain as follows:

SECTION 1. The City Council finds:

1. Based upon the facts recited above, and upon the authority contained in Water Code §350 et seq., §375 et seq., §31021 et seq., § et seq., and §31026 et seq., drought conditions exist, which can affect water supply and quality available to the City as a Contra Costa Water District untreated water customer; and

2. Conservation measures to prevent waste and unreasonable use are necessary to manage demands so reasonable water needs of District customers can be met in 2015; and

3. The City intends to meet the overall 25% water use reduction requirement by requiring the following water use reductions as follows:

    a. Industrial customers are hereby required to reduce water use 5% and to be conservation-minded in their everyday use of water, with water use during 2013 used as the baseline for reduction; and

    b. Irrigation/Agricultural customers are hereby required to reduce outdoor landscape irrigation water use 40%, and to be conservation-minded in everyday use of water, with water use during 2013 used as the baseline for reduction; and

    c. All other customer classes are hereby required to reduce water use 25% and to be conservation-minded in everyday use of water, with water use during 2013 used as the baseline for reduction.

4. The water use "Prohibited Practices", attached hereto as described in Exhibit A, City of Martinez 25% Drought Management Plan (Plan), and incorporated herein as if fully set forth, are necessary to conserve water, promote effective water supply planning, assure reasonable and beneficial use of water, prevent waste and unreasonable use of water, and prevent unreasonable methods of use of water within the City; and said water use prohibitions are necessary to ensure sufficient supplies of water will be available to meet the needs of, and to protect the health and safety of, the City's customers and other members of the public; and

SECTION 2. Section 7 of the CITY OF MARTINEZ WATER SYSTEM REGULATIONS GOVERNING WATER SERVICE REGULATIONS GOVERNING WATER SERVICE is removed and replaced to read as follows:

SECTION 7

WATER SUPPLY AND INTERRUPTION OF SERVICE

7.1 General – The City will exercise reasonable diligence and care to deliver a continuous and sufficient supply of water under proper pressure. However, the City will not be liable for any loss or damage occasioned by interruption, shortage, or insufficiency of supply.

7.2 Suspending Service – For purposes of making repairs or installing improvements to the system, the City has the right to temporarily suspend the delivery of water. Insofar as practicable, repairs or improvements will be performed rapidly, and at times will cause minimal inconvenience to the customers concerned. The City will not be liable for any loss or damage occasioned by suspensions of service.

7.3 Maintenance of Pressures – The City does not guarantee to maintain any specific water pressure or range of pressures for any service, and no damages relating to pressure will give any right of claim against the City.

7.4 Service Outside Corporate Limits – The City Council reserves the right to discontinue water service to any or all premises outside the corporate limits, at any time the City may cease to have an adequate supply of water.

d. Localized Improvements

It has been determined improvements to the system are required in certain localized areas to provide the desired level of service for existing and future developments. Applicants for water service in these localized areas shall pay the water connection fees and install the additional improvements required to serve these localized areas, or deposit a proportionate cost share of the improvements or enter into a deferred improvement agreement as required by the City.
These localized areas and the requirement for service are listed in Appendix A at the end of Section 14.

7.5 Water Shortages – The City reserves the right to fix the time and rate of flow of all deliveries of water to each customer and, in the event of shortage, to allocate between its customers the water supply from time to time available to the City and to establish such priorities to the available supply the City shall consider necessary and in the public interest.

7.6 Prevention of Waste – If the City finds a customer is wasting water by failing to repair a leak in the customer's water system, by permitting water to run off the customer's premises, or by failing to put water received from the City to reasonable and beneficial use, the City shall notify the customer to cease the waste. If the customer fails to take prompt, reasonable action to stop the waste, the City may, in its sole discretion, suspend delivery of water to the customer or install a device to restrict the flow of water to the customer until the City determines there will be no further waste of water by the customer.

In addition, and at the sole discretion of the City, the City may levy Administrative Citations, as provided for in Chapter 1.15 of the Martinez Municipal Code, of up to $250 for a first offense, and up to $500 for a second offence for the wasting of water.

7.7 Water Conservation Encouraged – The City encourages the installation of water conserving landscaping and water-saving devices in plumbing and water conserving appliances.

SECTION 3. Severability. If any section, subsection, sentence, clause, phrase or portion of this ordinance is for any reason held invalid or unconstitutional, such decision shall not affect the validity of the remaining portions of this ordinance.

The City Council hereby declares it would have passed this and each section, subsection, phrase or clause thereof irrespective of the fact any one or more sections, subsections, phrase or clauses be declared unconstitutional on their face or as applied.

SECTION 4. Effective date. This ordinance shall become effective 30 days after the date of adoption.

SECTION 5. Posting. At least five (5) days prior to its final adoption, a certified copy of the full text of this ordinance shall be posted in the office of the City Clerk.

Within 15 days after adoption the City Clerk shall publish a summary of this ordinance with the names of those City Council members voting for and against the ordinance in a newspaper of general circulation published and circulated in the City of Martinez.

APPROVED:_____
Rob Schroder, Mayor

ATTEST:_____
Deputy City Clerk

* * * * * *

I HEREBY CERTIFY the foregoing ordinance was duly and regularly introduced at a Regular Meeting of the City Council of the City of Martinez, held on the 15th day of July, 2015, and duly passed and adopted at an Adjourned Regular Meeting of said City Council held on the 19th day of August, 2015, by the following vote:

AYES: Councilmembers AnaMarie Avila Farias, Lara DeLaney, Debbie McKillop, Vice Mayor Mark Ross and Mayor Rob Schroder

NOES: None

ABSENT: None

ABSTAIN: None

RICHARD G. HERNANDEZ, CITY CLERK
CITY OF MARTINEZ

Attachment A

City of Martinez 25% Drought Management Plan (Plan)

I PROHIBITED PRACTICES

The following uses of water supplied by the City of Martinez have been determined to be wasteful and are prohibited at any time when a 25% Drought Management Program is in effect:

Single Family and Multi-Family Residential customers

a. Outside watering with City-furnished water result in excessive flooding or runoff into a gutter, drain, patio, driveway, walkway or street.
b. Outside watering of landscaping during the daylight hours of 9 a.m. to 5 p.m.
c. Washing a vehicle, trailer or boat with City-furnished water using a hose without a shut off nozzle.
d. Washing paved or other hard-surfaced areas, including sidewalks, walkways, driveways, patios, and parking areas with City-furnished water.
e. Using City-furnished water for non-recirculating decorative fountains or filling decorative lakes or ponds.
f. Watering outdoor landscapes during and up to 48 hours after measurable rainfall.
g. Watering of outdoor landscapes more than two days per week unless the City grants an exception. Examples include newly planted drip irrigated drought tolerant landscaping, and vegetable gardens.
h. Watering of landscape of newly constructed homes and buildings is not delivered by drip or microspray systems.

Non-residential customers

a. Outside watering with City-furnished water result in excessive flooding or runoff into a gutter, adjacent properties, drain, patio, driveway, walkway, structures, parking lots or street.
b. Outside watering of landscaping during the daylight hours of 9 a.m. to 5 p.m.
c. Using City-furnished water for non-recalculating decorative fountains or for filling decorative lakes or ponds.
d. Washing paved or other hard-surfaced areas, including sidewalks, walkways, driveways, patios and parking areas with City-furnished water.
e. Washing a vehicle, trailer or boat with City-furnished water using a hose without a shut off nozzle.
f. Watering outdoor landscapes during and up to 48 hours after measurable rainfall.
g. Watering of outdoor landscapes more than two days per week unless the City grants an exception. Examples include newly planted drip irrigated drought tolerant landscaping, and vegetable gardens.
h. Watering of landscape of newly constructed homes and buildings is not delivered by drip or microspray systems.

II REDUCTION REQUIREMENTS BY CUSTOMER CLASSIFICATION:

The City intends to meet the overall 25% water use reduction requirement by requiring the following water use reductions as follows:

a. Industrial customers are required to reduce their water use by 5% and to be conservation minded in their everyday use of water, with water use during 2013 used as the baseline for reduction.
b. Irrigation/Agricultural customers are required to reduce their outdoor landscape irrigation water use by 40%, and to be conservation minded in their everyday use of water, with water use during 2013 used as the baseline for reduction.
c. All other customer classes are required to reduce their water use by 25% and to be conservation minded in their everyday use of water, with water use during 2013 used as the baseline for reduction.

III CITY INCENTIVES

In accordance California Governor Executive Order B-29-15 the City shall:

Mandatory

a. In coordination with the Department of Water Resources and Contra Costa Water District (CCWD) the City shall provide incentives for customers to convert lawns and ornamentalturf to drought tolerant landscapes.
b. In coordination with the California Energy Commission, jointly with the California Department of Water Resources and the Water Board and CCWD provide appliance rebate programs for the replacement of inefficient household devices.

Current/Optional Programs

a. Coupons for mulch for use in landscaping and for local car washes using recycled water
b. Free conservation site surveys
c. Outreach programs, workshops, and educational materials.
d. Rebates for water efficient fixtures and landscape conversions
e. Recycled water fill stations offered free of charge by local sanitary districts

IV TEMPORARY PRICING ADJUSTMENT

In accordance with Proposition 218 the City will implement temporary pricing adjustments to signal to customers the need to achieve the prescribed water use reductions. The pricing adjustments will result in a $0.50 per unit (748 gallons) increase in treated water quantity charges. This level establishes the price signal anticipated to achieve desired conservation behaviors. Customers meeting the 25% reduction requirement will experience a reduction in the water bill compared to current billing levels, thereby incentivizing them to conserve. Residential customers using less than 200 gallons per day averaged over the billing cycle are considered to be efficiently using water based on district wide typical customer use and will be credited the pricing adjustment. Multifamily structures, served with a single water meter, using 200 or more gallons per day are subject to the pricing adjustment.

V VIOLATIONS

In order to enforce the water use prohibitions, the City has the discretionary ability to impose fines for the wasteful use of City treated water as follows:

a. First offence: At the City's discretion the City will issue a Warning Notice and at the City's option fines up to $250 for each offence.
b. Second offence: At the City's discretion the City will issue a Warning Notice and at the City's option fines up to $500 for each offence.
c. Subsequent offences: At the City's discretion the suspension of service under existing City of Martinez Regulations Governing Water Service Chapter 7, Section 7.6, Prevention of Waste.
d. Fines may be appealed to the City of Martinez City Manager

VI EXCEPTIONS

Under extraordinary circumstances such as for medical purposes the City of Martinez Water Superintendent may wave all or portions of this Plan for customers on a case-by-case basis.

RESOLUTION NO. 063-16

RESCINDING MANDATORY WATER CONSERVATION RESOLUTIONS 091-15 (25% DROUGHT PLAN) AND 092-15 (TEMPORARY PRICE ADJUSTMENT) AND ESTABLISHING PERMANENT PROHIBITIONS ON WATER WASTE AND MAINTAIN FINES FOR VIOLATIONS IN SUPPORT OF LONG-TERM WATER CONSERVATION

WHEREAS, Article X, section 2 of the California Constitution declares that waters of the State are to be put to beneficial use, that waste, unreasonable use, or unreasonable method of use of water be prevented, and that water be conserved for the public welfare, and further declares that it is self-executing; and

WHEREAS, the City is authorized pursuant to Water Code sections Water Code §350 et seq., §375 et seq., §31021 et seq., § et seq., and §31026 et seq., to establish and enforce rules and regulations for the sale, distribution, and use of water; and to enact rules and regulations to restrict the use of water during any water emergency caused by drought, or other threatened or existing water shortage, and to prohibit the wastage of City water or the use of City water during such periods, for any purpose other than household uses or such other restricted uses as may be determined to be necessary by the City and may prohibit use of such water during such periods for specific uses which the City may from time to time find to be non-essential; and

WHEREAS, the California Governor formally declared a condition of statewide drought related emergency conditions on January 17, 2014, encouraging local water agencies to promote water conservation, and on April 25, 2014, by Executive Order, Governor Brown announced that he was strengthening the State's ability to respond to ongoing drought conditions and directed the State Water Resources Control Board (SWRCB) to notify urban water suppliers not already implementing drought contingency plans to limit outdoor irrigation and other wasteful practices; and

WHEREAS, on July 15, 2014, the SWRCB approved emergency regulations mandating that residents and water suppliers take certain action relative to water use and use of potable water for irrigation purposes and on March 17, 2015, the SWRCB, in light of California entering a fourth year of extraordinary drought conditions, reauthorized the emergency regulations adopted in 2014, and approved additional mandates requiring water suppliers and businesses to take certain further actions relative to water use and use of potable water for irrigation purposes, including the imposition of fines of up to $500 per day for each violation of the SWRCB emergency regulations, and the imposition of fines of up to $10,000 per day against urban water suppliers found to be non-compliant with the SWRCB rules and regulations; and

WHEREAS, On May 9, 2016, the Governor issued Executive Order B-37-16 stating that, despite winter precipitation, drought conditions may persist in some parts of the state into 2017 and beyond; and directing the State Water Resources Control Board (State Board) to update its temporary, emergency water restrictions and transition to permanent, long-term improvements in water use; and

WHEREAS, Contra Costa Water District, the City's provider of raw water, intends to self-certify that water supplies are sufficient to meet customer demands, including all retail and wholesale customers based on criteria contained in the draft SWRCB regulations, and allow continued filling of Los Vaqueros Reservoir; and

WHEREAS, on July 15, 2015 the City Council of the City of Martinez did adopt Resolution No. 091-15, establishing The City of Martinez 25% Drought Management Plan; and

WHEREAS, on July 15, 2015 the City Council of the City of Martinez did adopt Resolution No. 092-15, Amending Section 14, Schedule of Fees and Rates, of the City of Martinez Regulations Governing Water Service to add a $0.50 Per Unit Temporary Pricing Adjustment to Water Quantity Charge; and

WHEREAS, said Resolutions were adopted pursuant to the mandatory reduction of 25% by the State of California enforceable through severe monetary penalties; and

WHEREAS, long term water conservation is need, and required by the State, to ensure the availability of drinking water now and in the future; and

WHEREAS, the City has established permanent water use prohibitions, including those established by the State Water Board, to prevent wasteful water use of City-furnished water, which are listed in "Exhibit A", Water Conservation Plan; and

WHEREAS, The City Council delegates to the City Manger the authority to impose additional prohibitions, or to suspend enforcement of any prohibition, depending on water supply conditions or actions of the Governor or State Water Board.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Martinez, that Temporary Pricing Adjustment of $0.50 per hundred cubic feet (748 gallons) of water used will terminate starting with the first monthly billing cycle on June 30, 2016 and the first bi-monthly billing cycle starting July 12, 2016.

BE IT FURTHER RESOLVED by the City Council of the City of Martinez that the "Violations" section of the "City of Martinez 25% Drought Plan", shall remain in effect; and

BE IT FURTHER RESOLVED by the City Council of the City of Martinez in consideration of the above, Resolutions No. 092-15 is herby rescinded at the conclusion of the temporary pricing adjustment billing cycles described above and Resolutions No. 091-15 is herby rescinded, excluding the Violations section of the "City of Martinez 25% Drought Plan", effective upon the adoption of this resolution; and

BE IT FURTHER RESOLVED, the City Council establishing permanent prohibitions on water waste and maintain fines for violations in support of long-term water conservation as indicated in Exhibit A, "Water Conservation Plan."

******

III VIOLATIONS

Remedies for the prevention of water waste shall be in accordance with Chapter 7 of the Regulations Governing Water Service (Regulations). In addition to the remedies in the Regulations, and in order to enforce the water use prohibitions, the City has the discretionary ability to impose fines for the wasteful use of City treated water as follows:

a. First offence: At the City's discretion the City will issue a Warning Notice and at the City's option fines up to $250 for each offence.
b. Second offence: At the City's discretion the City will issue a Warning Notice and at the City's option fines up to $500 for each offence.
c. Subsequent offences: At the City's discretion the suspension of service under existing City of Martinez Regulations Governing Water Service Chapter 7, Section 7.6, Prevention of Waste.
d. Fines may be appealed to the City Manager of the City of Martinez.

If a customer fails to take action to stop wasteful use, the City may suspend delivery of water or install a device to restrict the flow of water to the customer, or terminate service until the City determines that there will be no further waste. All applicable fees for the installation or removal of a water restricting device or for disconnection or reconnection of service shall be borne by the customer.

IV EXCEPTIONS

Under extraordinary circumstances such as for medical purposes the City of Martinez Water Superintendent may wave all or portions of this Plan for customers on a case-by-case basis.

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 the 15th day of June, 2016, by the following vote:

AYES: Councilmembers Lara DeLaney, Debbie M[c]Killop, Mark Ross, Vice Mayor AnaMarie Avila Farias, and Mayor Rob Schroder

NOES: None

ABSENT: None

RICHARD G. HERNANDEZ, CITY CLERK
CITY OF MARTINEZ

Exhibit "A"

Water Conservation Plan (Plan)

I PROHIBITED PRACTICES

The following uses of water supplied by the City of Martinez have been determined to be wasteful and are prohibited at any time:

a. failing to repair a leak in a customer's water system;
b. permitting excess water run-off; watering outdoor landscapes in a manner that causes runoff;
c. watering outdoor landscapes during or within 48 hours after measurable precipitation;
d. watering of outdoor landscapes between the hours of 9:00 a.m. and 5:00 p.m.;
e. washing vehicles with hoses not equipped with a shutoff valve;
f. washing sidewalks, driveways, and other hard surfaces (except as required for health and safety);
g. using potable water in non-recirculating fountains or decorative water features;
h. irrigating ornamental turf on public street medians with potable water;
i. irrigating landscapes of newly constructed homes/buildings in a manner inconsistent with state regulations; and
j. otherwise failing to put water received from the City to reasonable and beneficial use.

II CITY INCENTIVES

In accordance California Governor Executive Order B-29-15 the City shall:

Mandatory

a. In coordination with the Department of Water Resources and Contra Costa Water District (CCWD) the City shall provide incentives for customers to convert lawns and ornamental turf to drought tolerant landscapes.
b. In coordination with the California Energy Commission, jointly with the California Department of Water Resources and the Water Board and CCWD provide appliance rebate programs for the replacement of inefficient household devices.

Current/Optional Programs

a. Coupons for mulch for use in landscaping and for local car washes using recycled water
b. Free conservation site surveys
c. Outreach programs, workshops, and educational materials.
d. Rebates for water efficient fixtures and landscape conversions
e. Recycled water fill stations offered free of charge by local sanitary districts

THIS PAGE INTENTIONALLY BLANK

APPENDIX H

City of Martinez Emergency Response Plan Summary

THIS PAGE INTENTIONALLY BLANK

City of Martinez Water System Emergency Response Plan Summary

The City of Martinez Emergency Response Plan (ERP) is a series of documents and worksheets that provide valuable information that should be used in the event of an emergency. In addition to providing contact information, water system information, and procedural information, the ERP provides insight into personnel safety and training, and background information on state and federal emergency operations systems.

The ERP should be reviewed and updated often to ensure that the information does not go out of date. Martinez Water System staff and supervisors should be familiar with the information and procedures outlined in these documents. The ERP should be thought of as a living document that is constantly evolving and added to as the functions, facilities and personnel of the water system change.

The ERP is broken into sections to provide quick access to the desired information. The following is a summary of what is included in each of the sections.

WATER SYSTEM INFORMATION

Included in the Water System Information section is quick access to general information about the City of Martinez Water system. The following can be found in this section:

- A map of the water system boundaries, pump station and tank locations;
- A table of reservoir capacities and pump station descriptions;
- A list of Interconnections with outside water systems;
- Lists of treatment chemicals and other inventory;
- A general description of the water system.

The information in this section should be updated as the water system changes.

ERP ACTIVATION/MOBILIZATION

This section describes the various levels of emergencies that the water system may encounter. This section also covers the chain of command and basic levels of management of the water system during an emergency.

CONCEPT OF OPERATIONS

This section outlines the procedures that should be followed by water system personnel and City staff in the event of an emergency. It is broken down into various subsections as follows:

- Initial Response: Briefly outlines the actions staff should take in the event of an emergency
- Preliminary Damage Inspection List: A list of items that should be inspected after a threatened or actual emergency.
- Emergency Operations Procedures, General: A general description of the emergency operations procedures, scope, priorities, and goals.
- Emergency Operations Procedures, Phase A: Describes the initial measures that should be taken at the onset of an emergency.

- Emergency Operations Procedures, Phase B: Describes the operating procedures that should be followed under a continuing or major emergency.
- Emergency Operations Procedures, Phase C: Describes the administrative decisions and implementation procedures.
- Water Utility -Task Assignments: Describes individual tasks that should be undertaken by water utility personnel.

COMMUNICATION PROCEDURES AND CONTACT INFORMATION

This section includes documents that describe the various communication procedures and contact information that will be utilized in the event of an emergency. These sheets should be updated frequently to ensure that the information does not go out of date. Also in this section are examples of *"00* not drink" and *"00* not use" water orders, and a CADHS water quality emergency notification plan document.

SEMS/ICS INTEGRATION

This section provides a general description and summary of the state of California Standardized Emergency Management System (SEMS) and the Incident Command System (ICS). These systems are common emergency response systems that will be utilized by various agencies and departments in the event of multi-jurisdiction emergencies in the state of California.

This information is provided to give City of Martinez Water System personnel a basic understanding of how they may be called upon to interact with outside agencies, in the event of a large scale emergency.

WATER QUALITY SAMPLING

This section describes methods and procedures that should be followed in the event of water system contamination. The CADHS provides equipment and resources to assist the water system with water quality sampling.

DAMAGE ASSESMENT AND RESTORATION SCHEDULE

This section outlines the restoration process that should be utilized after an emergency event. Also included in this section are documents that provide information regarding disinfection of the water system, and procedures that should be followed in the event of a chemical spill.

EMERGENCY RESPONSE TRAINING

This section summarizes the current safety and emergency training for the City of Martinez Water System staff.

PERSONNEL SAFETY PROCEDURES

This section provides information regarding safety procedures for water system staff and personnel. Included are documents that cover what individuals should do to protect themselves and others during an emergency event or situation. Also included in this section is a description of the water treatment plant evacuation procedure, and copies of evacuation routes. Also in this section is a copy of the accident/near miss report that should be filled out by employees after an accident or emergency. This information should be reviewed with staff during initial safety training and should be made available to staff at all times.

ACTION PLANS

This section includes documents that summarize the emergency response and recovery procedures specific to certain acts. These sheets can easily be copied and dispersed or taken to an emergency site for reference.

THIS PAGE INTENTIONALLY BLANK

APPENDIX I

Summary of Conservation Best Management Practices for City of Martinez

THIS PAGE INTENTIONALLY BLANK

CCWD Water Efficiency Services Provided within City of Martinez Service Area					
PROGRAM ELEMENT	**# ACTIVITIES PER CALENDAR YEAR**				
Survey Programs	**2016**	**2017**	**2018**	**2019**	**2020**
Single Family Water Wise House Calls	9	9	8	7	2
MF Unit Surveys (# of dwelling units)	0	0	0	0	0
Large Landscape Surveys (# of Accounts)	2	3	0	0	0
CII Surveys (# of Accounts)	2	3	2	0	0
Rebate Programs					
Total Showerheads	18	86	31	5	4
Total Faucet Aerators	184	132	214	11	4
Pool Cover Rebates	0	0	4	12	7
Greywater Rebates	0	0	0	0	0
CII Flushometer Toilet Rebates	0	0	0	0	0
CII Flushometer Urinal Rebates	0	0	0	0	0
MF/CII Clothes Washer Rebates	0	0	0	0	0
Pre-Rinse Spray Valves	3	8	0	0	0
Smart Irrigation Controller Rebates (# of Controllers)	1	1	8	0	4
Drip Retrofit Rebates (sq. ft. removed)	0	0	0	0	0
Rotator Nozzle Rebates (# nozzles)	0	0	0	0	0
Sprinkler Replacement Rebates (# heads)	0	0	0	0	0
Lawn to Garden Rebates (# rebates)	45	30	10	4	6
Lawn to Garden Rebates (sq. ft.)	36,582	37,734	5,911	2,690	3,753
Landscape Design Consultations	23	14	5	2	4
Other Programs					
Landscape Mulch Coupons	✓	✓	✓	✓	✓
Car Wash Coupons	✓	✓	✓	✓	✓
Workshops and other Events	✓	✓	✓	✓	✓
Website: contracosta.watersavingplants.com	✓	✓	✓	✓	✓
Website: ccwater.com/conserve	✓	✓	✓	✓	✓

THIS PAGE INTENTIONALLY BLANK

APPENDIX J

Reduced Reliance on the Delta

THIS PAGE INTENTIONALLY BLANK

REDUCED RELIANCE ON THE DELTA

1.0 BACKGROUND

An urban water supplier that anticipates participating in or receiving water from a proposed project (covered action) in the Sacramento-San Joaquin Delta (Delta) should provide information in their 2015 and 2020 Urban Water Management Plans (UWMP's) that can be used to demonstrate consistency with the Delta Plan Policy WR P1, *Reduced Reliance on the Delta Through Improved Regional Water Self-Reliance*. A covered action includes projects such as a multi-year water transfer, conveyance facility, or new diversion that involves transferring water through, exporting water from, or using water in the Delta.

Under the Sacramento-San Joaquin Delta Reform Act of 2009, prior to implementation of a covered action, agencies must prepare a written certification of consistency, including detailed findings, as to whether the covered action is consistent with applicable Delta Plan policies. Delta Plan Policy WR P1 identifies UWMPs as the tool to demonstrate consistency with state policy to reduce reliance on the Delta. The information on reduced reliance provided in the UWMP can then be used in the covered action process to demonstrate consistency.

WR P1 details what is needed for a covered action to demonstrate consistency with reduced reliance. WR P1 subsection (a) states:

(a) Water shall not be exported from, or transferred through, or used in the Delta if <u>all</u> of the following apply:

(1) One or more water suppliers that would receive water as a result of the export, transfer or use have failed to adequately contribute to reduced reliance on the Delta and improved regional self-reliance consistent with all of the requirements listed in paragraph (1) of subsection (c);
(2) That failure has significantly caused the need for the export, transfer, or use; and
(3) That export, transfer, or use would have a significant adverse environmental impact in the Delta.

WR P1 subsection (c)(1) further defines what adequately contributing to reduced reliance on the Delta means in terms of (a)(1) above.

(c)(1) Water suppliers that have done all of the following are contributing to reduced reliance on the Delta and improved regional self-reliance and are therefore consistent with this policy:

(A) Completed a current Urban or Agricultural Water Management Plan (Plan) which has been reviewed by the California Department of Water Resources for compliance with the applicable requirements of the Water Code;

(B) Identified, evaluated, and commenced implementation, consistent with the implementation schedule set forth in the Plan, of all programs and projects included in the Plan that are locally cost effective and technically feasible which reduce reliance on the Delta; and

(C) Included in the Plan, commencing in 2015, the expected outcome for measurable reduction in Delta reliance and improvement in regional self-reliance. The expected outcome for measurable reduction in Delta reliance and improvement in regional self-reliance shall be reported in the Plan as the reduction in the amount of water used, or in percentage of water used, from the Delta watershed. For purposes of reporting, water efficiency is considered a new source of water supply, consistent with the Water Code.

This appendix to the UWMP provides the analysis and documentation to demonstrate the City of Martinez improved regional self-reliance and measurable reduction in reliance on Delta water supplies, consistent with Delta Plan Policy WR P1, to support a certification of consistency for a future covered action.

The City receives untreated imported water from Contra Costa Water District (CCWD) via the Contra Costa Canal, which is part of the Central Valley Project developed by the U.S. Bureau of Reclamation. The water is sold to Martinez based on CCWD's rate structure per unit of water delivered. This represents 100 percent of the water supply for the City's water service area.

CCWD stores the raw water in the Martinez Reservoir, which is located at the terminus of the Contra Costa Canal and CCWD's Shortcut Pipeline. Martinez Reservoir is an open, earthen reservoir and is estimated to have a capacity of approximately 80 million gallons (MG). The raw water is conveyed from the reservoir to the City's water treatment plant by gravity flow. A pumping station is available to pump water from the reservoir to the treatment plant when reservoir water levels are not high enough to allow gravity flow.

Since a contract does not exist between CCWD and the City of Martinez for a fixed delivery amount, water supply has been set equal to projected demand. During periods of drought, CCWD has established supply limits based on a percentage of the demand from the previous years.

2.0 SUMMARY OF CCWD EXPECTED OUTCOMES FOR REDUCED RELIANCE ON THE DELTA

As stated, WR P1 policy requires that, commencing in 2015, UWMPs include expected outcomes for the measurable reduction in Dela reliance and improved regional self-reliance with outcomes reported as the reduction in the amount of water used, or in the percentage of water used from the Delta.

The expected outcomes for Delta reliance and regional self-reliance are developed using the approach and guidance described in Appendix C of DWR's Urban Water Management Plan Guidebook 2020 (Guidebook Appendix C).

CCWD is almost entirely dependent on the Sacramento-San Joaquin Delta for its water supply. CCWD's primary source is the United States Bureau of Reclamation's Central Valley Project (CVP). CVP water consists of unregulated and regulated flows from storage releases from Shasta, Folsom, and Clair Engle reservoirs into the Sacramento River. Other sources include the San Joaquin River, Mallard Slough, recycled water, a minor amount of local well water, and water transfers.

The following provides a summary of the near-term (2025) and long-term (2045) expected outcomes for CCWD's regional self-reliance and Delta reduced reliance as documented in Appendix G their 2020 UWMP. The results show that, as a region, CCWD and its customers are measurably reducing reliance on the Delta and improving regional self-reliance.

Expected Outcomes for Regional Self-Reliance

- Near-term (2025) – Normal water year regional self-reliance is expected to increase by 5,450 AF from the 2010 baseline, representing about 9.7 percent of projected 2025 normal water year demands (CCWD Table C-3).
- Long-term (2045) – Normal water year regional self-reliance is expected to increase by more than 18,000 AF from the 2010 baseline, representing about 13.3 percent of projected 2045 normal water year demands (CCWD Table C-3).

Expected Outcomes for Reduced Reliance on Supplies from the Delta Watershed

- Near-term (2025) – Normal water year reliance on supplies from the Delta watershed are projected to decrease by 7.6 percent from the 2010 baseline (CCWD Table C-4).
- Long-term (2045) – Normal water year reliance on supplies from the Delta watershed are projected to decrease by 9.3 percent from the 2010 baseline (CCWD Table C-4).

CCWD, in partnership with other local agencies, continually works to improve Delta ecosystem conditions and reduce conflict among beneficial uses of Delta water supplies. The Phase 2 Los Vaqueros Reservoir Expansion Project is a regional water storage and conveyance project, led by CCWD, with the primary purposes of developing water supplies for environmental benefits; improving operational flexibility resulting in more reliable supplies for urban and agricultural partners; and increasing the San Francisco Bay Area's ability to respond to drought and other emergencies. The Phase 2 Expansion includes construction of new facilities, such as raise the existing Los Vaqueros dam to increase capacity from 160 TAF to 275 TAF and a new interconnection between CCWD's system and the California Aqueduct. CCWD's existing intakes are equipped with state-of-the art fish screens and would be used to store and/or convey water on behalf of the Local Agency Partners and wildlife Refuges. The Local Agency Partners of the Phase 2 Expansion include: Alameda County Water District (ACWD), East Bay Municipal Utility District (EBMUD), Grassland Water District, Santa Clara Valley Water District (SCVWD), San Francisco Public Utilities Commission (SFPUC), San Luis & Delta-Mendota Water Authority (SLDMWA), and Alameda County Flood Control and Conservation District, Zone 7 (Zone 7 Water Agency or Zone 7).

The Los Vaqueros Reservoir Phase 2 Expansion project is considered a "covered action" under the Delta Plan, for which a certification of consistency with the Delta Plan is required. As part of the certification of consistency, Delta Plan Policy WR P1 requires the covered action to have reduced reliance on the Delta through improved regional water self-reliance, as documented in CCWD's 2020 UWMP and addendum to their 2015 UWMP.

3.0 CITY OF MARTINEZ DEMONSTRATION OF REDUCED RELIANCE ON THE DELTA

The methodology used to determine the City's reduced Delta reliance is consistent with the approach detailed in DWR's 2020 UWMP Guidebook (Guidebook) Appendix C, including the use of narrative justifications for the accounting of supplies and the documentation of specific data sources. Some of the key documentation underlying the City's demonstration of reduced reliance include:

- Data obtained from the current 2020 UWMP and previously adopted UWMPs for supply and demand under average or normal water year conditions.
- Documentation of regional self-reliance by CCWD in Appendix G of CCWD's 2020 UWMP, Draft April 2021, reflecting the total contributions of CCWD and its customers.

3.1 Baseline and Expected Outcomes

To calculate the reduced reliance on the Delta, suppliers need to compare current and future normal water use with a baseline use. This baseline is the amount of water used historically under average or normal demand conditions. The comparison with the baseline is used to calculate how Delta use and regional self-reliance have changed over time. The Guidebook approach uses 2010 as the baseline year as the Delta Reform Act became effective in 2010. The Guidebook also recognizes that water demand varies from year to year due to hydrology and many other factors and that a single year of actual demand may not adequately characterize average water supplies.

Ideally, the baseline and expected outcomes would provide a basis that is consistent and reflects average or normal year conditions rather than actual conditions for a given year. As such, historic water use data was utilized in this analysis to select and estimate normal year conditions. This analysis uses a normal water year representation of 2010 as the baseline, consistent with the approach described in the Guidebook Appendix C. There was mandatory rationing in both 2009 and 2010, thus the 5-year period from 2004 through 2008 was selected to represent normal year conditions for 2010. This is also consistent with the City's SBx7-7 five-year baseline period. The average per capita water use for the 5-year period (167 gpcd) was multiplied by 2010 population to estimate normal use for that year.

Consistent with the 2010 baseline approach, the expected outcome for reduced Delta reliance for 2015 was calculated using the average of historic per capita use multiplied by the 2015 population. The 2015 normal year demand was calculated using the four-year average per-capita demand for 2011 through 2014, as there was mandatory rationing in 2015. The year 2011 was the beginning of a drought period that didn't end until 2016. These conditions do not necessarily represent a normal or average period, however, a significant reduction in demand wasn't realized until 2015 with mandatory conservation. As such, the period from 2011 through 2014 was selected and is considered the best representation of normal use for 2015.

The normal year expected outcomes for 2020 through 2045 were estimated using data consistent with the 2020 UWMP. As required by the California Water Code (CWC), the 2020 actual demand is reported in the UWMP and corresponding Reporting Tables. The 2020 "normal year" demand was also calculated during the UWMP process as a starting point in projecting future demands. The normal year 2020 demand was calculated using the average per-capita water use for 2018 and 2019 multiplied by the 2020 population. Actual water use for 2020 was not utilized to represent normal conditions due to the impacts of COVID-19 stay-at-home orders.

Expected outcomes for 2025 through 2045 are taken from the current 2020 UWMP which uses anticipated growth based on demographic data from the Association of Bay Area Governments (ABAG) and future passive water use efficiency. Passive water use efficiency assumes the gradual retrofitting of existing homes, the construction of new homes with water efficient fixtures, and gradually improved landscape irrigation efficiency. A gradual reduction in system water losses was also assumed for future water savings. The current and projected normal year demand calculations are documented in Section 4.4 of the City's 2020 UWMP.

3.2 Service Area Water Demands without Water Use Efficiency

In alignment with the Guidebook Appendix C, this analysis uses normal water year demands to calculate expected outcomes for reductions in reliance on the Delta. Because WR P1 considers water use efficiency savings as a source of water supply, the water supplier must make an adjustment to properly reflect normal water year demands by adding back in efficiency savings. The City does not explicitly calculate and report water use efficiency savings in their UWMP. As such, Table C-1 from the Guidebook, Optional Calculation of Water Use Efficiency (WUE), was utilized to estimate the City's WUE since the baseline period.

The demands shown in Table C-1 represent the total normal year water demand for the City's water service area including residential, commercial, institutional, industrial, irrigation, fire, and non-revenue water. The demand data was collected as described above from historical use and the City of Martinez 2020 UWMP:

- Baseline (2010) – Historic 2004 through 2009 data
- 2015 – Historic 2011 through 2014 data
- 2020 – Martinez 2020 UWMP; based on average of 2018 and 2019 per-capita use
- 2025-2045 – Martinez 2020 UWMP, Table 4-3: Total Water Demands

The water use efficiency estimate in Table C-1 is calculated using the reduction in per capita use for each of the expected outcomes when compared to the baseline per capita use. These reductions are attributed to efficiency savings and quantified into volumes based on service area population data.

The water use efficiency calculated using Table C-1 is then added back into the normal year demands to represent demands without water use efficiency savings using Guidebook Table C-2, Demands without

WUE. This analysis allows the supplier to use efficiency as a source of supply contributing to reduced reliance.

4.0 SUPPLIES CONTRIBUTING TO REGIONAL SELF-RELIANCE

For a covered action to demonstrate consistency with the Delta plan, WR P1 states that water suppliers must report the expected outcomes for measurable improvement in regional self-reliance. Water supplies that are assumed to contribute to regional self-reliance are the following:

- Water use efficiency
- Water recycling
- Stormwater capture and use
- Advanced water technologies
- Conjunctive use projects
- Local and regional water supply and storage programs
- Other programs and projects that contribute to regional self-reliance

Of these supply sources, the City participates in water use efficiency which is calculated in Table C-1 above. The expected water use efficiency is to be achieved through demand management measures (DMMs) as documented in Chapter 9 of the City's 2020 UWMP.

Regional water supply and storage programs are implemented by CCWD and accounted for in CCWD's 2020 UWMP and Reduced Reliance on the Delta as documented in their 2020 UWMP and Appendix F Addendum to their 2015 UWMP.

The City's contribution to regional self-reliance is calculated using Guidebook Table C-3.

5.0 DEMONSTRATION OF REDUCED RELIANCE ON WATER SUPPLIES FROM THE DELTA

To demonstrate consistency with the Delta Plan, WR P1, suppliers are required to report measurable reduction in supplies from the Delta watershed either by volume or as a percentage of their water supply portfolio. CCWD provides the City, and its other retail and wholesale customers, imported water supplies from the Delta. CCWD's service area, as a whole, reduces reliance on the Delta through coordination and investments in non-Delta water supplies, such recycling and storage projects, and regional and local demand management measures. Accordingly, reduced reliance on the Delta can be measured regionally, rather than by individual CCWD customers who indirectly reduce reliance on the Delta through their collective efforts as a cooperative.

CCWD has continued to develop and grow a water conservation program through the implementation of various DMMs. The water savings realized through conservation efforts has had a positive impact on the reliance of Delta supplies by reducing the need for additional Delta water supplies. CCWD also works collaboratively with several wastewater agencies to utilize recycled water supplies within the District's service area. Additionally, several District wholesale and retail customers use a small amount of groundwater to offset additional need for Delta supplies. These supplies are included in Appendix G of CCWD's 2020 UWMP (Table C-3) as Water Use Efficiency, Water Recycling, and Local and Regional Water Supply and Storage Projects, respectively.

Because of the integrated nature of CCWD's operations and the collective nature of CCWD's regional efforts, it is reasonable to quantify reduced reliance on a regional basis as opposed to each of CCWD's wholesale customers quantifying individual reliance on the Delta. As such, a complete picture of regional reduced reliance on water supplies from the Delta can be found in CCWD's 2020 UWMP, with results summarized above in Section 2.0 and in CCWD's 2020 UWMP (Appendix G, Table C-4).

Table C-1: Optional Calculation of Water Use Efficiency

Service Area Water Use Efficiency Demands (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Service Area Water Demands with Water Use Efficiency Accounted For	5,364	4,720	4,758	4,459	4,267	4,070	3,918	3,985
Non-Potable Water Demands	-	-	-	-	-	-	-	-
Potable Service Area Demands with Water Use Efficiency Accounted For	5,364	4,720	4,758	4,459	4,267	4,070	3,918	3,985

Total Service Area Population	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Service Area Population	28,673	28,471	28,095	28,761	29,428	29,867	30,619	31,387

Water Use Efficiency Since Baseline (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Per Capita Water Use (GPCD)	167	148	151	138	129	122	114	113
Change in Per Capita Water Use from Baseline (GPCD)		(19)	(16)	(29)	(38)	(45)	(53)	(54)
Estimated Water Use Efficiency Since Baseline		606	497	921	1,238	1,516	1,810	1,887

NOTES: (1) Unconstrained water use for 2010 based on average per-capita use for five-year period from 2004 to 2008 due to mandatory rationing in 2009 and 2010. Also equal to SBx7-7 5-year baseline. (2) Unconstrained water use for 2015 equal to average per-capita use for four-year period from 2011 to 2014 due to rationaing in 2010 and 2015. (3) Unconstrained water use for 2020 equal to average per-capita use for 2018 and 2019 due to impacts of COVID-19 stay-at-home orders. (4) Projected unconstrained water use for 2025 thorugh 2045 based on 2020 UWMP projections with baseline conservation.

Table C-2: Calculation of Service Area Water Demands Without Water Use Efficiency

Total Service Area Water Demands (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Service Area Water Demands with Water Use Efficiency Accounted For	5,364	4,720	4,758	4,459	4,267	4,070	3,918	3,985
Reported Water Use Efficiency or Estimated Water Use Efficiency Since Baseline		606	497	921	1,238	1,516	1,810	1,887
Service Area Water Demands without Water Use Efficiency Accounted For	5,364	5,326	5,256	5,380	5,505	5,587	5,728	5,871

Table C-3: Calculation of Supplies Contributing to Regional Self-Reliance

Water Supplies Contributing to Regional Self-Reliance (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Water Use Efficiency		606	497	921	1,238	1,516	1,810	1,887
Water Recycling								
Stormwater Capture and Use								
Advanced Water Technologies								
Conjunctive Use Projects								
Local and Regional Water Supply and Storage Projects								
Other Programs and Projects the Contribute to Regional Self-Reliance								
Water Supplies Contributing to Regional Self-Reliance	-	606	497	921	1,238	1,516	1,810	1,887

Service Area Water Demands without Water Use Efficiency (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Service Area Water Demands without Water Use Efficiency Accounted For	5,364	5,326	5,256	5,380	5,505	5,587	5,728	5,871

Change in Regional Self Reliance (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Water Supplies Contributing to Regional Self-Reliance	-	606	497	921	1,238	1,516	1,810	1,887
Change in Water Supplies Contributing to Regional Self-Reliance		606	497	921	1,238	1,516	1,810	1,887

Percent Change in Regional Self Reliance (As Percent of Demand w/out WUE)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Percent of Water Supplies Contributing to Regional Self-Reliance	0.0%	11.4%	9.5%	17.1%	22.5%	27.1%	31.6%	32.1%
Change in Percent of Water Supplies Contributing to Regional Self-Reliance		11.4%	9.5%	17.1%	22.5%	27.1%	31.6%	32.1%

To supplement this information, the City has provided individual reduction on water supplies from the Delta, which does not account for the regional efforts coordinated by CCWD and other regional partners. As shown in Table C-4, the City demonstrates reduced reliance on the Delta through water conservation practices alone.

Table C-4: Calculation of Reliance on Water Supplies from the Delta Watershed

Water Supplies from the Delta Watershed (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
CVP/SWP Contract Supplies (purchased through CCWD)	5,364	4,720	4,758	4,459	4,267	4,070	3,918	3,985
Delta/Delta Tributary Diversions								
Transfers and Exchanges								
Other Water Supplies from the Delta Watershed								
Total Water Supplies from the Delta Watershed	5,364	4,720	4,758	4,459	4,267	4,070	3,918	3,985

Service Area Water Demands without Water Use Efficiency (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Service Area Water Demands without Water Use Efficiency Accounted For	5,364	5,326	5,256	5,380	5,505	5,587	5,728	5,871

Change in Supplies from the Delta Watershed (Acre-Feet)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Water Supplies from the Delta Watershed	5,364	4,720	4,758	4,459	4,267	4,070	3,918	3,985
Change in Water Supplies from the Delta Watershed		(644)	(605)	(905)	(1,097)	(1,293)	(1,445)	(1,379)

Percent Change in Supplies from the Delta Watershed (As a Percent of Demand w/out WUE)	Baseline (2010)	2015	2020	2025	2030	2035	2040	2045 (Optional)
Percent of Water Supplies from the Delta Watershed	100.0%	88.6%	90.5%	82.9%	77.5%	72.9%	68.4%	67.9%
Change in Percent of Water Supplies from the Delta Watershed		-11.4%	-9.5%	-17.1%	-22.5%	-27.1%	-31.6%	-32.1%

THIS PAGE INTENTIONALLY BLANK