HAYWARD

2020 Water Shortage Contingency Plan

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LIST OF ABBREVIATIONS AND ACRONYMS

2020 UWMP	2020 Urban Water Management Plan
AB	Assembly Bill
AMI	Advanced Metering Infrastructure
BAWSCA	Bay Area Water Supply and Conservation Agency
CWC	California Water Code
DRA	Drought Risk Assessment
DSS Model	Least Cost Planning Decision Support System Model
DWR	California Department of Water Resources
EBMUD	East Bay Municipal Utilities District
ERP	Water System Emergency Response Plan
gpm	gallons per minute
MG	million gallons
MGD	million gallons per day
RCEC	Russell City Energy Center
RWS	Regional Water System
SFPUC	San Francisco Public Utilities Commission
SWRCB	State Water Resources Control Board
UWMP	Urban Water Management Plan
WARN	Water/Wastewater Agency Response Network
WPCF	Water Pollution Control Facility
WSCP	Water Shortage Contingency Plan
WUE	Water Use Efficiency

1 INTRODUCTION AND WSCP OVERVIEW

The Water Shortage Contingency Plan (WSCP) is a strategic planning document designed to prepare for and respond to water shortages. This WSCP complies with California Water Code (CWC) Section 10632, which requires that every urban water supplier shall prepare and adopt a WSCP as part of its urban water management plan (UWMP). A water shortage resulting in insufficient supply to meet the normally expected customer water use at a given point in time may occur due to a number of reasons, such as drought and catastrophic events. The WSCP provides a structured guide for the City to address water shortages, incorporating prescriptive information and standardized action levels, along with implementation actions in the event of a catastrophic supply interruption.

The WSCP is will be used to reduce the potential for catastrophic service disruptions through proactive, rather than reactive, management. As water shortage conditions arise, the City's governing body and staff, as well as the public can easily identify and efficiently implement pre-determined steps. The WSCP allows real-time water supply availability assessment and structured steps designed to respond to actual conditions, to allow for efficient management of any shortage with predictability and accountability.

The WSCP also describes the City's procedures for conducting the Annual Water Supply and Demand Assessment (Annual Assessment), as required by California Water Code (CWC) Section 10632.1, to be submitted to the California Department of Water Resources (DWR) on or before July 1 of each year, or within 14 days of receiving final allocations from the State Water Project, whichever is later. Hayward's 2020 WSCP is included as an appendix to its 2020 (UWMP). However, this WSCP is created separately from Hayward's 2020 UWMP and can be amended, as needed, without amending the UWMP. Furthermore, the CWC does not prohibit an urban water supplier from taking actions not specified in its WSCP, if needed, without having to formally amend its UWMP or WSCP.

1.1 Water Shortage Contingency Plan Requirements and Organization

The WSCP provides the steps and water shortage response actions to be taken in times of water shortage conditions. The WSCP has prescriptive elements, such as: an analysis of water supply reliability; the water shortage response actions for each of the six standard water shortage levels which correspond to water shortage percentages ranging from 10 percent to greater than 50 percent; the estimated potential for each measure to close the supply gap; protocols and procedures to communicate identified actions for any current or predicted water shortage conditions; procedures for an annual water supply and demand assessment; monitoring and reporting requirements to determine customer compliance; and reevaluation and improvement procedures for evaluating the WSCP.

This WSCP is organized into three main sections with Section 3 aligned with the CWC Section 16032 requirements.

Section 1 Introduction and WSCP Overview gives an overview of the WSCP fundamentals.

Section 2 Background provides a background on the City's water service area.

Section 3 Water Shortage Contingency Preparedness and Response Planning

Section 3.1 Water Supply Reliability Analysis provides a summary of the water supply analysis and water reliability findings from the 2020 UWMP.

Section 3.2 Annual Water Supply and Demand Assessment Procedures provide a description of procedures to conduct and approve the Annual Assessment.

Section 3.3 Six Standard Water Shortage Stages explains the WSCP's six standard water shortage levels corresponding to progressive ranges of up to 10, 20, 30, 40, 50, and more than 50 percent shortages.

Section 3.4 Shortage Response Actions describes the WSCP's shortage response actions that align with the defined shortage levels.

Section 3.5 Communication Protocols addresses communication protocols and procedures to inform customers, the public, interested parties, and local, regional, and state governments, regarding any current or predicted shortages and any resulting shortage response actions.

Section 3.6 Compliance and Enforcement describes customer compliance, enforcement, appeal, and exemption procedures for triggered shortage response actions.

Section 3.7 Legal Authorities is a description of the legal authorities that enable the City to implement and enforce its shortage response actions

Section 3.8 Financial Consequences of the WSCP provides a description of the financial consequences of and responses for drought conditions.

Section 3.9 Monitoring and Reporting describes monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance and to meet state reporting requirements**.**

Section 3.10 WSCP Refinement Procedures addresses reevaluation and improvement procedures for monitoring and evaluating the functionality of the WSCP.

Section 3.11 Special Water Feature Distinction.

Section 3.12 Plan Adoption, Submittal, and Availability provides a record of the process the City followed to adopt the WSCP and make it available.

1.2 Integration with Other Planning Efforts

As a retail water supplier in Alameda County, the City of Hayward considered other key entities in the development of this WSCP, including the San Francisco Public Utilities Commission (SFPUC) (regional wholesale supplier). The City developed this WSCP with input from coordination efforts led by Bay Area Water Supply and Conservation Agency[1] (BAWSCA) and City and County planning documents.

Key planning and reporting documents that were used to develop this WSCP are:

- American Water Infrastructure Act Risk and Resilience Assessment and Emergency Response Plan
- Alameda County Operational Hazard Mitigation Plan
- City of Hayward 2020 Urban Water Management Plan

[1] More information on the Bay Area Water Supply and Conservation Agency is available online: www.bawsca.org.

2 BACKGROUND INFORMATION

Hayward occupies an area of about 61 square miles. It is located in Southern Alameda County on the east shore of San Francisco Bay, 25 miles southeast of San Francisco, 14 miles south of Oakland, 26 miles north of San Jose, and 10 miles west of the valley communities surrounding Pleasanton. Hayward is surrounded by the unincorporated communities of San Lorenzo and Castro Valley in the north, the City of Union City in the south, City of Pleasanton in the east and the San Francisco Bay to the west. Most of Hayward is generally flat, except for the areas east of Mission Boulevard, where the elevation increases from 100 to 1,500 feet above sea level. Approximately 90% of the water deliveries in Hayward are made in the 100-foot zone.

Settlement in the City area began in about 1851 with the opening of a general store in what is now the downtown area. The City of Hayward was incorporated in 1876 and remained essentially a small agrarian town until the end of World War II. Since then, Hayward has undergone substantial changes. A major increase in population occurred in the 1950s and 1960s as a result of the post-war construction boom. Hayward experienced a surge in industrial development during the 1960s and 1970s, which created employment opportunities and balanced, to some extent, the housing that was developed in earlier decades. During the last four decades, Hayward has seen continued residential and industrial growth, mostly in the form of infill development and annexation of unincorporated "island" areas. Today Hayward enjoys a large and diverse industrial sector, including food and beverage, and high-technology manufacturing, along with a growing number of biotechnology firms.

Water service is provided by the City of Hayward for residential, commercial, industrial, governmental, and fire suppression uses. Wells were originally used to supply Hayward with water. During the 1940s and 1950s, the well water was supplemented by water purchased from San Francisco's Hetch Hetchy Regional Water System, owned and operated by the SFPUC. In 1962, Hayward entered into an agreement with the SFPUC to purchase all Hayward water from the SFPUC. Hayward constructed over 20 miles of aqueduct in order to deliver Hetch Hetchy water and ceased providing well water in 1963.

The City of Hayward is governed by a Council-Manager form of government. As a public water system, owned and operated by Hayward, the City Council also directs matters related to the municipal water system. The City Council is comprised of six elected councilmembers and a directly elected Mayor.

2.1 Hayward Service Area

Figure 2-1 and Figure 2-2 show an overview of Hayward's service area. Figure 2-2 provides further details regarding Hayward's water system and infrastructure.

Figure 2-1. Water Service Area

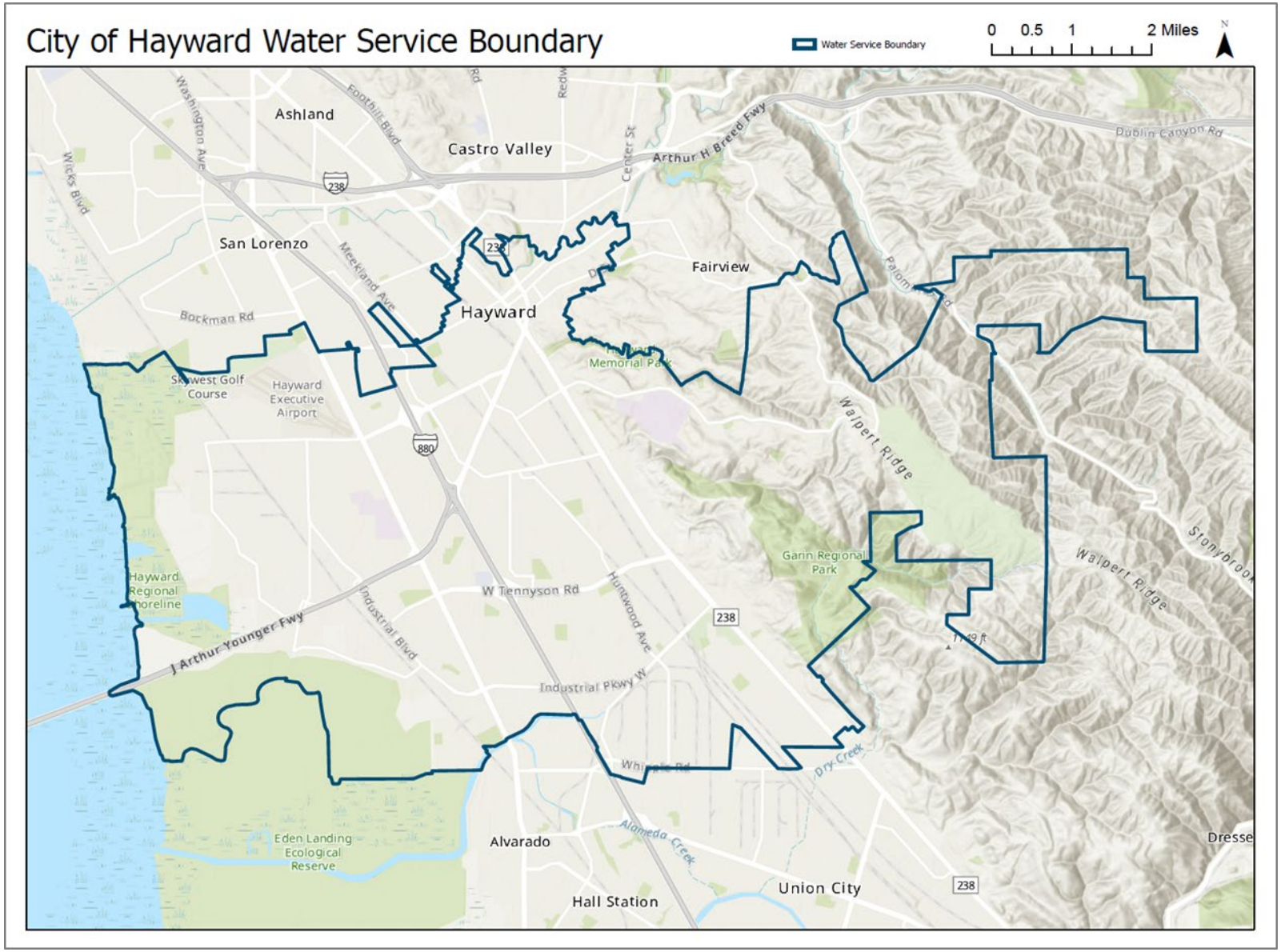
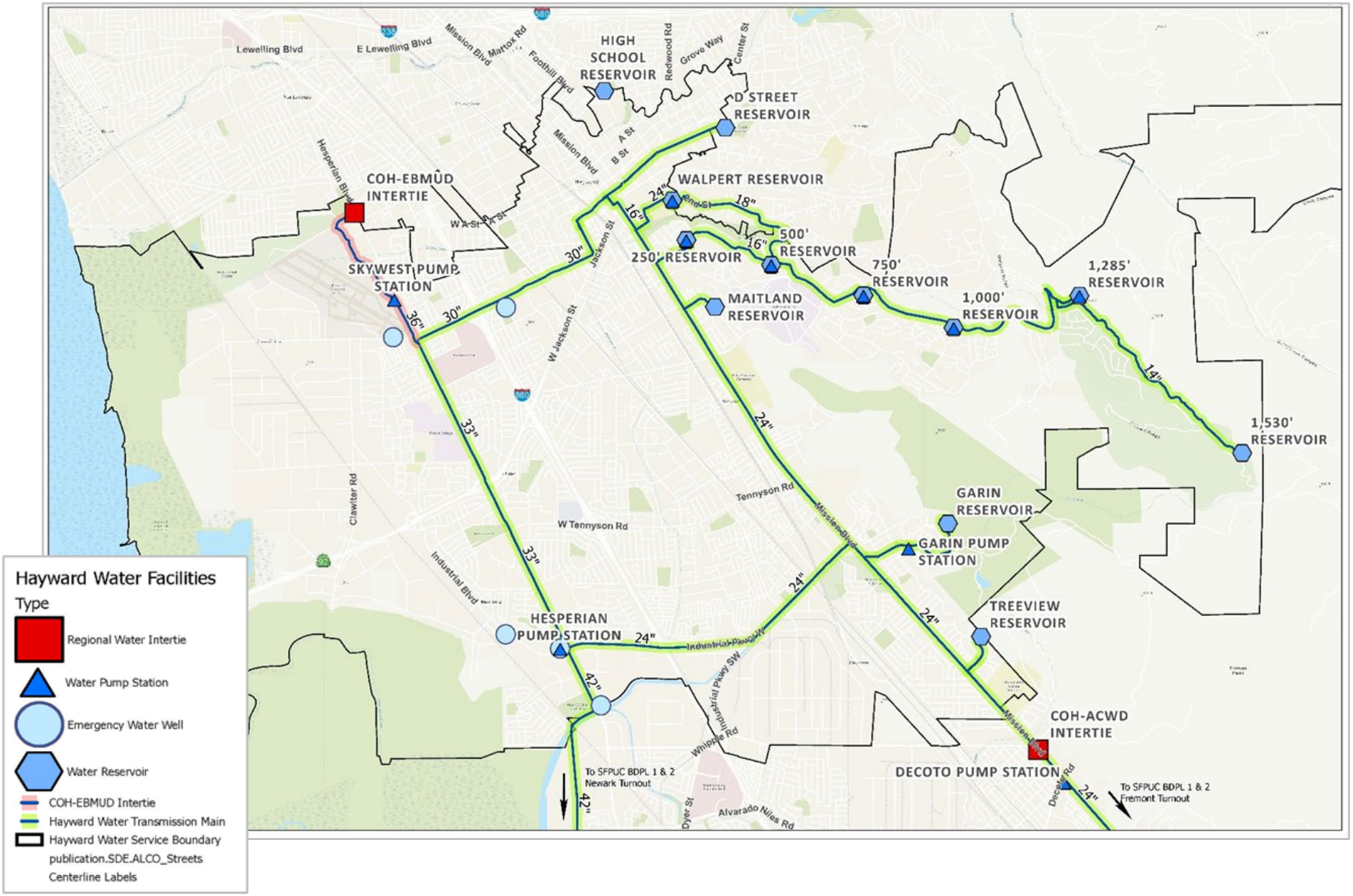


Figure 2-2. Public Water System(s)



2.2 Relationship to Wholesalers

The City of Hayward's sole source of potable water since 1963 has been purchased water from the City and County of San Francisco's Regional Water System (RWS), operated by the SFPUC. Hayward purchases water from the SFPUC RWS in accordance with the 2009 Water Supply Agreement between the City and County of San Francisco and Wholesale Customers in Alameda, San Mateo, and Santa Clara Counties, approved by the Commission on 28 April 2009.

2.3 Relationship with Wholesaler Water Shortage Planning

The WSCP is designed to be consistent with the water shortage contingency planning strategies of its wholesale water providers. The City will consider the following SFPUC documents when planning for water shortage:

- **SFPUC Water Shortage Contingency Plan** outlines SFPUC's plan for responding to a water shortage condition. This includes demand reduction actions that may affect the City supply during shortage. In addition, the SFPUC WSCP includes the procedures that will be used by SFPUC to conduct an annual water supply and demand assessment (annual assessment). The annual assessment will provide a description and quantification of each source of SFPUC's water supply compared to water demands for the current year and one subsequent dry year.

3 WATER SHORTAGE CONTINGENCY PLANNING

The City Water Shortage Contingency Plan (WSCP) provides pre-planned guidance for managing and mitigating a water supply shortage. Regardless of the reason for the shortage, the WSCP is based on adequate details of demand reduction and supply augmentation measures that are structured to match varying degrees of shortage and will help the relevant stakeholders understand what to expect during a water shortage situation.

3.1 Water Supply Reliability Analysis

Per CWC Section 10632 (a)(1), the WSCP must provide an analysis of water supply reliability conducted pursuant to CWC Section 10635, and the key issues that may create a shortage condition when looking at the City's water asset portfolio.

Understanding water supply reliability, factors that could contribute to water supply constraints, availability of alternative supplies, and what effect these have on meeting customer demands provides the City with a solid basis on which to develop appropriate and feasible response actions in the event of a water shortage. In the 2020 UWMP, the City conducted a Water Reliability Assessment to compare the total water supply sources available to the water supplier with long-term projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive water years. The City also conducted a Drought Risk Assessment to evaluate a drought period that lasts five consecutive water years starting from the year following when the assessment is conducted.

SFPUC Supply Reliability

The State Water Resources Board (SWRCB) has stated that it intends to implement the Bay-Delta Plan Amendment on the Tuolumne River by the year 2022, assuming all required approvals are obtained by that time; however implementation of the Bay Delta Plan Amendment is uncertain for multiple reasons explained in the 2020 UWMP.

For the 2020 UWMPs, SFPUC provided two scenarios, using hydrologic models with and without the Bay Delta Plan Amendment. Scenario 1, with Bay Delta Plan, includes severe water cutbacks of 60% (from normal year total wholesale agency supply of 184 mgd), starting with the second year of a multi-year drought, if the Bay Delta Plan cutbacks are applied to SFPUC's water supply. Scenario 2, without the Bay Delta Plan, assumes water supply reductions of approximately 28 percent (from normal year total wholesale agency supply of 184 mgd), starting with the fourth year of a multi-year drought, if the Bay Delta Plan Amendment cutbacks are not applied to SFPUC's water supply. Using the two SFPUC assumptions, BAWSCA developed water shortage cutback allocations for each BAWSCA water agency. The drought allocation cutback calculations use actual historic and forecast water demands through 2045.

For 2020 UWMPs, BAWSCA developed a new method to allocate SFPUC's wholesale available supply during dry years. BAWSCA's method results in an equal percent reduction shared across all wholesale customers when average wholesale customers' RWS shortages are 10 percent, or less, or greater than 20 percent.[2] This allocation method is intended to serve the purposes of the 2020 UWMP supply reliability analysis. It does not imply an agreement by BAWSCA member agencies as to the exact allocation methodology. BAWSCA member agencies are in discussions about jointly developing an allocation method that would consider additional multiple equity factors in the event that SFPUC is not able to deliver its contractual supply volume, and its cutbacks on RWS exceed 20 percent.

Given that the City relies exclusively on supplies from SFPUC, the Bay Delta Plan Amendment can significantly impact the City's water supply reliability. The City will be able to meet the projected water demands presented

[2] BAWSCA. (2021). BAWSCA Common Language, April 2021.

in normal years but would experience supply shortages in single dry years and multiple dry years. As such, implementation of the Bay Delta Plan will require rationing in all single dry years and multiple dry years.

The normal year supply for BAWSCA agencies is 100 percent of SFPUC's Supply Agreement, that is 184 mgd. SFPUC normal year supply will meet the City's projected demands for 2025, 2030, 2035, 240, and 2045. As detailed in Section 7 of the City's 2020 UWMP, for both single dry and multiple dry year scenarios, the City anticipates significant water supply cutbacks in SFPUC supplies (2020 UWMP). As documented in Table 7-2 in Section 7.1.3 of the 2020 UWMP, the City can expect a supply deficit of 64% during a single dry year and 55% during years 2 through 5.

Additional Reliability Constraints

In addition to regulatory changes, the amount of water available from SFPUC's RWS is constrained by climate, hydrology, facilities, and the institutional parameters that allocate the water supply from the Tuolumne River. Climate change may affect the snow-pack storage and water availability in future.

Constraints on the SFPUC supplies were discussed in more detail in Section 7.1.1. of the 2020 UWMP. The main long-term constraints on supply reliability are due to climate change and regulatory changes. Key factors impacting water supply for both wholesalers include:

- Changes in precipitation patterns, such as time of snowfall or rain, intensity, and duration.
- Changes in water quality as a result of changes in precipitation patterns and storage.

The below-noted constraints potentially will affect SFPUC's Hetch Hetchy watershed and management of the RWS water supply and its distribution.

- Fewer months of continuous below freezing (-32F) temperatures in the Sierra Nevada, resulting in less precipitation as snow, shorter duration for snowpack storage.
- Warmer temperatures leading to melt of the snowpack storage.
- Inadequate storage capacity to store the snowmelt water source.
- Regulatory changes affecting the SFPUC water supplies, such as implementation of the Bay Delta Plan Amendment that could reduce supply water for the SFPUC RWS by 60% in drought years.

Drought Risk Assessment

In the Drought Risk Assessment (DRA), the City includes its supply reliability using SFPUC scenario with Bay Delta Plan. The SFPUC projects that in multiple dry years, with the Bay Delta Plan, the wholesale volume available will range from 86 percent of normal in the first year, 72 percent in the second year, and starting the third year to fifth year 40 percent of normal (Data Sources: SFPUC: Regional Water Supply Reliability, Table 3).[3] The SFPUC's projections for available supplies for wholesale agencies translate to significant cutback allocations for all BAWSCA agencies (BAWSCA Attachment B: Updated 2020 UWMP Drought Cutbacks, Tables C, D, 3/1/2021).

The City will experience water significant supply shortfalls for multiple (five) dry years with the Bay Delta Plan. For the purpose of drought allocations for the DRA, the available RWS supply is assumed to remain static in 2023-2025 with percent cutbacks in 2023-2025 of 47%. A comparison of the water supply sources available to the City to the total projected water use for an assumed drought period of 2021 through 2025 results in a water supply shortfall in 2023, 2024, and 2025 of 42%, 44%, and 45% respectively. These shortfalls will invoke the City's WSCP in a multi-year drought scenario as outlined in the City's 2020 UWMP.

[3] SFPUC: January 22, 2021, Regional Water Supply Reliability, Table 3.

3.2 Annual Water Supply and Demand Assessment Procedures

Per CWC Section 10632.1, the City will conduct an annual water supply and demand assessment pursuant to subdivision (a) of Section 10632 and by July 1st of each year, beginning in 2022, submit an annual water shortage assessment with information for anticipated shortage, triggered shortage response actions, compliance and enforcement actions, and communication actions consistent with the supplier's water shortage contingency plan.

This section documents the decision-making process required for formal approval of the City's Annual Assessment determination of water supply reliability each year and the key data inputs and the methodologies used to evaluate the water system reliability for the coming year, while considering that the year to follow would be considered dry.

Decision-Making Process

The Annual Assessment will be predicated on outcome of the SFPUC Annual Assessment. Throughout the year, the City attends working meetings with BAWSCA and reviews water supply availability updates from SFPUC. SFPUC updates BAWSCA on January 1, February 1, and provides the final annual supply availability by April 15. A sample timeline for the City's Annual Assessment report is presented in Figure 3-1.

As required by CWC Section 10632(a)(2), the procedures the City will follow to conduct its Annual Assessment for water demand and supply and formally approve it include staff and City Council actions, such as:

- Review and analysis of monthly and annual (prior year) service area water consumption by sector.
- Comparison and analysis of monthly and annual City consumption to SFPUC production data.
- Review and analysis of actual consumption compared to forecast (i.e. Least Cost Planning Decision Support System (DSS) Model forecast), and, if changes are apparent, review of potential impacts on water use patterns (e.g., drought, COVID-19 pandemic, etc.).
- Review and analysis of SFPUC final SFPUC supply availability, issued annually on April 15, annual supply projections (SFPUC's hydrological and water availability forecast), and available related information.
- New regulatory requirements that could potentially impact water supply.
- Other related data and information including an analysis of water system reliability for the coming year with the presumption that the year would be dry.

The outcome of the Annual Assessment will determine the Annual Assessment approval process. If the City water supply availability is normal, without expected shortages, the Director of Public Works, or designee, will approve the Annual Assessment. If shortage conditions are expected, the City will present the Annual Assessment to the City Council and implements the WSCP. Following discussion, deliberations, and, if any, follow-up actions from staff, the WSCP will be implemented, and specific actions, such as communication with customers, implementation of shortage levels, and other necessary steps taken.

The City's routine annual demand and supply assessment and approval process includes interactions with BAWSCA and SFPUC. Figure 3-2 illustrates the annual demand and supply steps in the communication and decision-making process between the City, BAWSCA, and SFPUC.

Figure 3-1 Annual Assessment Reporting Timeline

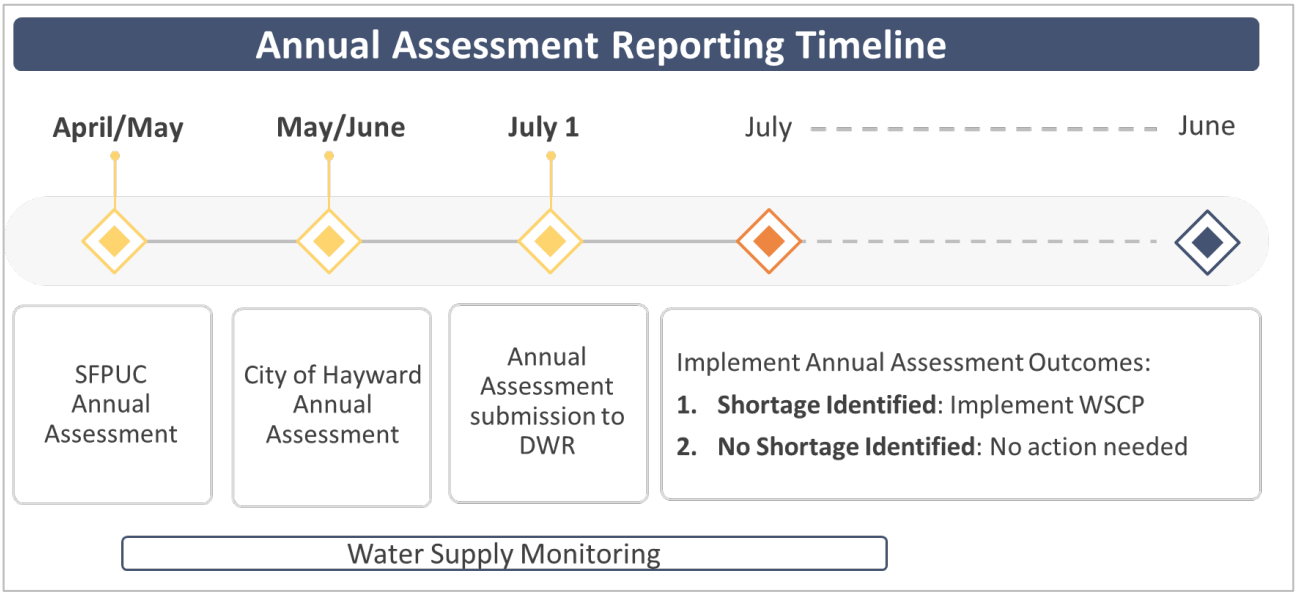
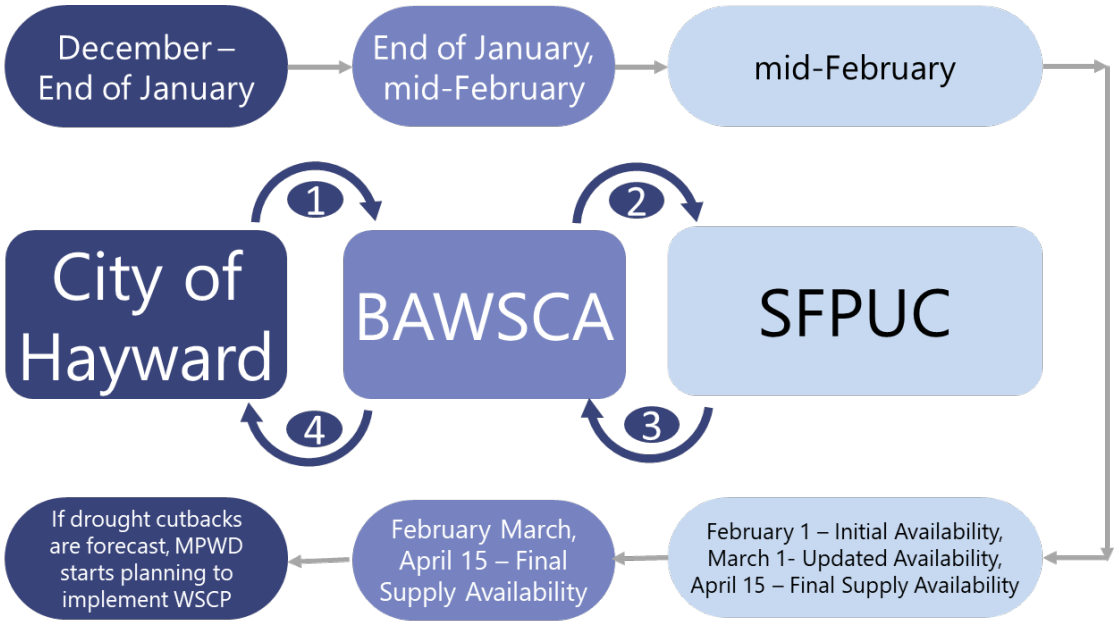


Figure 3-2 Annual Assessment Communication Steps



Data and Methodologies

The following paragraphs document the key data inputs and methodologies that are used to evaluate the water system reliability for the coming year, while considering that the year to follow would be considered dry, as defined below:

Evaluation Criteria

In Section 7.1.3 of the 2020 UWMP, the City conducted an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment compares the total water supply sources available to the water supplier with the long-term total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive water years. This assessment was based on the City service area, water sources, water supply reliability, and water use as described in CWC Section 10631, including available data from state, regional, or local agency population, land use development, and climate change projections within the service area of the City. The City will continue to monitor emerging supply and demand conditions and regulatory developments related to imported water from SFPUC and take appropriate actions consistent with the flexibility and adaptiveness inherent to the WSCP.

According to the Alameda County Hazard Mitigation Plan, the natural disaster with the greatest potential impact on Alameda County is an earthquake. Alameda County sits in one of the most historically seismically active regions in the United States. The County has been subjected to numerous seismic events, originating both on faults within the County and in other parts of the region. Six major Bay Area earthquakes have occurred since 1800 that have affected the County, and at least two of the faults that produced them run through or into Alameda County. Although there are 7 major regional faults that will have a significant impact on Alameda County and the entire western portion of the County is highly susceptible to an earthquake and earthquake damage, an earthquake on the Hayward Fault is currently estimated to be the most likely and has the potential to cause the most damage for Alameda County.

For the San Francisco Region, the likelihood of having an M 6.7 or greater earthquake over the next 30 years (starting from 2014) is 72 percent. Below are 30-year probabilities for the three major northern California faults:

- San Andreas Fault (northern): M 6.7 or greater, 6.4 percent chance
- Hayward Fault: M 6.7 or greater, 14.3 percent chance
- Calaveras Fault: M 6.7 or greater, 7.4 percent chance

Water Supply

The City of Hayward's water supply portfolio is described and quantified in the following sections, including imported supplies, groundwater, and recycled water.

Purchased or Imported Water

The City of Hayward's sole source of potable water since 1963 has been purchased water from the City and County of San Francisco's RWS, operated by the San Francisco Public Utilities Commission (SFPUC or Commission). Hayward purchases water from the SFPUC RWS in accordance with the 2009 Water Supply Agreement between the City and County of San Francisco and Wholesale Customers in Alameda, San Mateo, and Santa Clara Counties, approved by the Commission on 28 April 2009. Per the 2009 Water Supply Agreement, San Francisco has a perpetual commitment (Supply Assurance) to deliver 184 million gallons per day (MGD) to the 24 permanent Wholesale Customers, including the City of Hayward, collectively.

Groundwater

Local groundwater production wells were originally used to supply Hayward with water. However, in 1962, Hayward entered into an agreement with the SFPUC to purchase their entire water supply from the SFPUC RWS and ceased providing groundwater in 1963. Groundwater is now only used as an emergency supply by Hayward.

With the passage of the Sustainable Groundwater Management Act (SGMA) in 2014, and through Hayward's formation of a Groundwater Sustainability Agency (GSA) in 2017 to manage the portion of the East Bay Plain Subbasin which underlies Hayward,[4] Hayward will be evaluating the potential development of projects and management actions related to groundwater use and management as part of Groundwater Sustainability Plan (GSP) development.

Recycled Water

Hayward currently delivers secondary treated wastewater to the Russell City Energy Center (RCEC). The wastewater is further treated by RCEC and used as cooling water. In 2020, deliveries to RCEC averaged 0.66 MGD and did not meet expected volumes for various reasons outside of Hayward's control. There is potential, however, for increased volumes by 2025, and Hayward has assumed average deliveries to RCEC of 2.55 MGD in the future.

In addition to recycled water use at RCEC, Hayward will complete Phase 1 of its Recycled Water Project to deliver tertiary-treated wastewater to 31 other customers within an approximately two-mile radius of the Water Pollution Control Facility (WPCF) in mid-2021. The Phase 1 Recycled Water Project was initiated based on the findings from the 2013 Recycled Water Facilities Plan and revised in accordance with field conditions and additional customer analysis.

As discussed in Section 6.6.3, the Phase 1 Recycled Water Project included construction of a 1 MG storage tank and new pump station (completed in November 2019), approximately nine miles of new distribution pipeline and customer laterals and connections (completed in spring of 2019), and a new 0.5 MGD membrane treatment plant constructed at the WPCF (completed in early 2021).

Deliveries to Phase 1 customers are expected to begin in summer 2021. Hayward anticipates delivering an estimated 95 MG of recycled water per year, an annualized average of about 260,000 gallons per day, to 31 customers. All the Phase 1 customers plan to use the recycled water for irrigation. All the current and planned uses of recycled water, including use by RCEC and the Phase 1 Recycled Water Project customers, are direct beneficial uses in accordance with California CWC §13050(f).

Hayward will be evaluating the feasibility of expanding the use of recycled water to serve additional users in the within the next few years; however, this potential use has not yet been quantified.

Unconstrained Customer Demand

The WSCP and Annual Assessment define unconstrained demand as expected water use prior to any projected shortage response actions that may be taken under the WSCP. Unconstrained demand is distinguished from observed demand, which may be constrained by preceding, ongoing, or future actions, such as emergency supply allocations during a multi-year drought. WSCP shortage response actions to constrain demand are inherently extraordinary; routine activities such as ongoing conservation programs and regular operational adjustments are not considered as constraints on demands.

The DSS Model was used to projected long-term demand, through 2045, based on expected service area growth for both population and employment. Demand forecasts were developed for each agency to account for conservation from passive (i.e., from codes/standards) and active conservation programs. Based on this analysis, water demands were projected after accounting for the effects of the existing plumbing code and future active conservation savings.

Planned Water Use for Current Year Considering Dry Subsequent Year

CWC Section 10632(a)(2)(B)(ii) requires the Annual Assessment to determine "current year available supply, considering hydrological and regulatory conditions in the current year and one dry year." The Annual Assessment

[4] Hayward City Council Resolution 17-014
(https://www.hayward-ca.gov/sites/default/files/GSA%20Formation%20Resolution.pdf)

will include two separate estimates of Hayward's annual water supply and unconstrained demand using: 1) current year conditions, and 2) assumed dry year conditions.

The "single dry year" is characterized to resemble conditions as a year in which conditions reflect the lowest water supply available to the City.

- **Normal Year.** Normal Year. This condition represents the normal/average water supplies from SFPUC for BAWSCA agencies where 100% of normal supply is available.
- **Single Dry Year.** The single dry year represents the year with the lowest water supply available from SFPUC to the City. With Bay Delta Plan for each of the base years from SFPUC for the City, the available water supply in a single-dry year is 64% of normal supply.

Infrastructure Considerations

The Annual Assessment will include consideration of any infrastructure issues that may pertain to near-term water supply reliability, including repairs, construction, and environmental mitigation measures that may temporarily constrain capabilities, as well as any new projects that may add to system capacity.

Other Factors

For the Annual Assessment, any known issues related to water quality would be considered for their potential effects on water supply reliability.

3.3 Six Standard Water Shortage Levels

Per Water Code Section 10632 (a)(3)(A), the City must include the six standard water shortage levels that represent shortages from the normal reliability as determined in the Annual Assessment. The shortage levels have been standardized to provide a consistent regional and statewide approach to conveying the relative severity of water supply shortage conditions. This is an outgrowth of the severe statewide drought of 2012-2016, and the widely recognized public communication and state policy uncertainty associated with the many different local definitions of water shortage Levels.

The six standard water shortage levels correspond to progressively increasing estimated shortage conditions (up to 10-, 20-, 30-, 40-, 50-percent, and greater than 50-percent shortage compared to the normal reliability condition) and align with the response actions the Supplier would implement to meet the severity of the impending shortages.

Table 3-1. Retail: Water Shortage Contingency Plan Levels

Table 8-1 Retail Water Shortage Contingency Plan Levels		
Shortage Levels	Percent Shortage Range[1]	Water Shortage Condition
0	0% (Normal)	A Level 0 Water Supply Shortage –Condition exists when the Hayward notifies its water users that no supply reductions are anticipated in this year. Hayward proceeds with planned water efficiency best practices to support consumer demand reduction in line with state mandated requirements and local Hayward goals for water supply reliability. Permanent water waste prohibitions are in place as stipulated in the Hayward's Water Shortage Response Ordinance.
1	Up to 10%	A Level 1 Water Supply Shortage – Condition exists when the City notifies its water users that due to drought or other supply reductions, a consumer demand reduction of up to 10% is necessary to make more efficient use of water and respond to existing water conditions. The City shall implement the

Table 8-1 Retail Water Shortage Contingency Plan Levels		
Shortage Levels	Percent Shortage Range[1]	Water Shortage Condition
		mandatory Level 1 conservation measures identified in this Plan. The type of event that may prompt the City to declare a Level 1 Water Supply Shortage may include, among other factors, a finding that its wholesale water provider calls for extraordinary water conservation.
2	11% to 20%	A Level 2 Water Supply Shortage – Condition exists when the City notifies its water users that due to drought or other supply reductions, a consumer demand reduction of up to 20% is necessary to make more efficient use of water and respond to existing water conditions. Upon declaration of a Level 2 Water Supply Shortage condition, the City shall implement the mandatory Level 2 conservation measures identified in this Plan.
3	21% to 30%	A Level 3 Water Supply Shortage – Condition exists when the City declares a water shortage emergency condition pursuant to California Water Code section 350 and notifies its residents and businesses that up to 30% consumer demand reduction is required to ensure sufficient supplies for human consumption, sanitation and fire protection. The City must declare a Water Supply Shortage Emergency in the manner and on the grounds provided in California Water Code section 350.
4	31% to 40%	A Level 4 Water Supply Shortage – Condition exists when the City declares a water shortage emergency condition pursuant to California Water Code section 350 and notifies its residents and businesses that up to 40% consumer demand reduction is required to ensure sufficient supplies for human consumption, sanitation and fire protection. The City must declare a Water Supply Shortage Emergency in the manner and on the grounds provided in California Water Code section 350.
5	41% to 50%	A Level 5 Water Supply Shortage – Condition exists when the City declares a water shortage emergency condition pursuant to California Water Code section 350 and notifies its residents and businesses that up to 50% or more consumer demand reduction is required to ensure sufficient supplies for human consumption, sanitation and fire protection. The City must declare a Water Supply Shortage Emergency in the manner and on the grounds provided in California Water Code section 350.
6	>50%	A Level 6 Water Supply Shortage – Condition exists when the City declares a water shortage emergency condition pursuant to California Water Code section 350 and notifies its residents and businesses that greater than 50% or more consumer demand reduction is required to ensure sufficient supplies for human consumption, sanitation and fire protection. The City must declare a Water Supply Shortage Emergency in the manner and on the grounds provided in California Water Code section 350.
[1] One level in the Water Shortage Contingency Plan must address a water shortage of 50%.		

3.4 Shortage Response Actions

Water Code Section 10632 (a)(4) requires the WSCP to specify shortage response actions that align with the defined shortage levels. The City has defined specific shortage response actions that align with the defined shortage levels in Tables 3-4 and 3-5. These shortage response actions were developed with consideration to the system infrastructure and operations changes, supply augmentation responses, customer-class or water use-specific demand reduction initiatives, and increasingly stringent water use prohibitions

Demand Reduction

The demand reduction measures that would be implemented to address shortage levels are described in Table 3-2 (DWR Submittal Table 8-2). This table indicates which actions align with specific defined shortage levels and estimates the extent to which that action will reduce the gap between supplies and demands to demonstrate to the that choose suite of shortage response actions can be expected to deliver the expected outcomes necessary to meet the requirements of a given shortage level. This table also identifies the enforcement action, if any, associated with each demand reduction measure. The City may, at the direction of the Hayward City Council, add or substitute measure that would result in water reductions equivalent to or greater than the defined levels.

Table 3-2. Demand Reduction Actions

Table 8-2: Demand Reduction Actions				
Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap?	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
0	Other water feature or swimming pool restriction	Statewide Prohibition is Required	All decorative water features must re-circulate water or users must secure a waiver from Hayward.	Yes
0	Other	Statewide Prohibition is Required	Washing or hosing down vehicles is prohibited except by use of a hand held container, hose with an automatic shut off device, or at a commercial car wash.	Yes
0	Other - Prohibit use of potable water for washing hard surfaces	Statewide Prohibition is Required	Washing hard or paved surfaces is prohibited except to alleviate safety or sanitary hazards using a hand held container, hose with an automatic shut off device, or a low-volume high pressure cleaning machine that recycles used water.	Yes
0	Landscape - Restrict or prohibit runoff from landscape irrigation	Statewide Prohibition is Required	Watering vegetated areas in a manner that causes excessive water flow or runoff onto an adjoining sidewalk, driveway, street, alley, gutter, or ditch is prohibited.	Yes

Table 8-2: Demand Reduction Actions				
Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap?	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
0	Landscape - Other landscape restriction or prohibition	Statewide Prohibition is Required	Irrigating ornamental turf on public street medians is prohibited.	Yes
0	Landscape - Other landscape restriction or prohibition	Statewide Prohibition is Required	No landscape watering shall occur within 48 hours after measurable precipitation.	Yes
0	Landscape - Other landscape restriction or prohibition	On-going Long Term-Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	Any new planting should be performed with drought tolerant plants, as listed in Metropolitan's list of California friendly plants and Hayward's established Drought Tolerant Plant List.	Yes
0	CII - Restaurants may only serve water upon request	On-going Long Term-Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	CII - Restaurants may only serve water upon request	Yes
0	CII - Lodging establishment must offer opt out of linen service	On-going Long Term-Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	CII - Lodging establishment must offer opt out of linen service	Yes
0	CII - Other CII restriction or prohibition	On-going Long Term-Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	No single pass cooling systems may be installed in new or remodeled buildings.	Yes
0	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	On-going Long Term-Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	All new commercial car wash and laundry facilities must re-circulate the wash water or obtain a waiver from Hayward.	Yes
0	Other - Require automatic shut of hoses	On-going Long Term-Conservation Savings Measure.	Use a shutoff nozzle on hoses.	Yes

Table 8-2: Demand Reduction Actions				
Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap?	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
		Not applicable to Water Shortage Contingency Plan quantifiable savings.		
0	Other	On-going Long Term-Conservation Savings Measure. Not applicable to Water Shortage Contingency Plan quantifiable savings.	Unauthorized use of hydrants is prohibited. Authorization for use must be obtained from water supplier.	Yes
1	Expand Public Information Campaign	0-1%	Community Outreach and Messaging (Expand Public Information Campaign)	No
1	Expand Public Information Campaign	0-1%	Encourage customers to wash only full loads when washing dishes or clothes.	No
1	Expand Public Information Campaign	0-1%	Encourage customers to use pool covers to minimize evaporation.	No
1	Provide Rebates for Turf Replacement	0-1%	Provide Rebates for Turf Replacement	No
1	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	0-1%	Fix leaks or faulty sprinklers promptly/within 5 day(s).	Yes
1	Landscape - Limit landscape irrigation to specific times	0-5%	Watering or irrigation of vegetated areas is prohibited between 9 am and 6 pm except by use of a hand held device, hose equipped with an automatic shutoff device, or for adjusting or repairing an irrigation system for short periods of time.	Yes
1	CII - Other CII restriction or prohibition	0-1%	Commercial, industrial, institutional equipment must be properly maintained and in full working order.	Yes
1	Other	5-10%	Other Prohibited Uses: Hayward may implement other prohibited water uses as	Yes

Table 8-2: Demand Reduction Actions				
Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap?	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
			determined by Hayward, after notice to customers.	
2	Landscape - Prohibit certain types of landscape irrigation	0-1%	All non-essential water use for commercial and industrial use should cease.	Yes
2	Provide Rebates on Plumbing Fixtures and Devices	0-1%	Provide Rebates on Plumbing Fixtures and Devices	No
2	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	0-1%	Fix leaks or faulty sprinklers within 4 day(s).	Yes
2	Landscape - Limit landscape irrigation to specific days	5-10%	Irrigation shall be limited to 3 days per week turf watering when using potable water. Plant containers, trees, shrubs and vegetable gardens may be watered additional days using only drip irrigation or hand watering.	Yes
2	Water Features - Restrict water use for decorative water features, such as fountains	0-1%	Filling or refilling ornamental lakes and ponds is prohibited. Ornamental lakes and ponds that sustain aquatic life of significant value and were actively managed prior to the storage declaration are exempt.	Yes
2	Decrease Line Flushing	0-1%	Decrease Line Flushing	Yes
2	Pools and Spas - Require covers for pools and spas	0-1%	Pools and Spas - Require covers for pools and spas	Yes
2	Other	5-10%	Other Prohibited Uses: Hayward may implement other prohibited water uses as determined by Hayward, after notice to customers.	Yes
3	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	0-1%	Fix leaks or faulty sprinklers within 3 day(s).	Yes

Table 8-2: Demand Reduction Actions				
Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap?	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
3	Other water feature or swimming pool restriction	0-1%	Decorative water features that use potable water must be drained and kept dry.	Yes
3	Other - Prohibit use of potable water for construction and dust control	0-1%	Require a construction water use plan be submitted to the water supplier that addresses how impacts to existing water users will be mitigated (such as dust control).	Yes
3	Landscape - Limit landscape irrigation to specific days	5-15%	Irrigation shall be limited to 2 days per week turf watering when using potable water. Plant containers, trees, shrubs and vegetable gardens may be watered additional days using only drip irrigation or hand watering.	Yes
3	Other	5-10%	Other Prohibited Uses: Hayward may implement other prohibited water uses as determined by Hayward, after notice to customers.	Yes
4	Other water feature or swimming pool restriction	0-1%	Existing pools shall not be emptied and refilled using potable water unless required for public health and safety purposes.	Yes
4	Other water feature or swimming pool restriction	0-1%	No new permits for pools will be issued.	No
4	Landscape - Limit landscape irrigation to specific days	5-15%	Irrigation shall be limited to 1 days per week turf watering when using potable water. Plant containers, trees, shrubs and vegetable gardens may be watered additional days using only drip irrigation or hand watering.	Yes
5	Other	5-10%	Hayward may reduce water allocations in all categories to meet the available water supply.	Yes

Table 8-2: Demand Reduction Actions				
Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap?	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
5	Landscape - Prohibit certain types of landscape irrigation	0-1%	Watering of parks, school grounds, and recreation fields is prohibited, except for rare plant or animal species	Yes
5	Other	5-10%	Other Prohibited Uses: Hayward may implement other prohibited water uses as determined by Hayward, after notice to customers.	Yes
5	Moratorium or Net Zero Demand Increase on New Connections	0-2%	Moratorium or net zero demand on new connections	No
6	Landscape - Prohibit all landscape irrigation	0-5%	Hayward may shut off all non-essential water services. All irrigation is prohibited.	Yes
6	CII - Other CII restriction or prohibition	5-15%	Water for commercial, manufacturing, or processing purposes shall be reduced in volume by up to 50% or exceeded if necessary for public health and safety purposes.	Yes
6	Other	0-15%	Water use for public health and safety purposes only. Customer rationing may be implemented.	Yes

Supply Augmentation

The supply augmentation actions are described in Table 3-3 (DWR Submittal Table 8-3). These augmentations represent short-term management objectives triggered by the WSCP and do not overlap with the long-term new water supply development or supply reliability enhancement projects. The City relies on SFPUC's reliability portfolio of water supply programs including existing water transfers, storage and exchange agreements to supplement gaps in the City's supply/demand balance.

Catastrophic supply interruptions refer to occurrences of water supply interruptions due to an event such as an earthquake, regional power outage or other incidents in which water supplies are limited in a sudden and severe way. The City has taken significant steps to plan for supplement potable water supplies in the event of such an occurrence, with a diversity of options for meeting emergency demand.

Emergency Interties

Hayward has emergency water intertie agreements with two neighboring agencies, one of which, EMBUD, is fully independent of the SFPUC Regional Water System. The other agency, Alameda County Water District (ACWD) receives about 70% of its supply from sources other than SFPUC. In addition to the interties with other

agencies, Hayward also has a number of locations where adjacent fire hydrants have been constructed which can be connected with portable hose to provide water for firefighting or during emergencies.

A Regional Water System Intertie, owned jointly by SFPUC and EBMUD, and located in and operated by Hayward. The purpose of the intertie is to transfer water between SFPUC and EBMUD via Hayward's distribution system during emergency conditions. Up to 30 mgd of water can be delivered in either direction. During operation of the Regional Intertie, Hayward would be first supplied with sufficient water before the remaining water is delivered to either SFPUC or EBMUD.

Emergency Groundwater Wells

The City maintains five emergency groundwater wells with a combined theoretical short-term pumping capacity of about 9,400 gpm or nearly 13.6 mgd. In the event that SFPUC transmission lines are not able to meet the City's demands for a limited time, due to a short-term emergency, these wells can be activated. There is an emergency power generator located at each well site.

Table 3-3. Supply Augmentation and Other Actions

Table 8-3: Supply Augmentation and Other Actions			
Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier	How much is this going to reduce the shortage gap?	Additional Explanation or Reference
5	Other Purchases	Potential yield will depend on agency's ability to deliver water	Emergency Interties with EBMUD, ACWD and the Regional Emergency Intertie
5	Other Actions (describe)	Potential yield is 14 MGD	Hayward's emergency water supply system includes five emergency groundwater supply wells that collectively have 14 MGD potential yield [1].
NOTES: (1) Volume listed is the theoretical amount that could be obtained through the interties. Actual volumes will depend on the agency's ability to deliver water. (2) Emergency wells permitted for short-term (five consecutive days) use only.			

Operational Changes

During shortage conditions, operations may be affected by supply augmentation or demand reduction responses. Hayward considered their operational procedures to identify changes that can be implemented to address water shortage on a short-term basis, such as reduced amounts of water maintained in storage. All changes would be carefully evaluated to ensure sufficient supply and pressure to meet health and safety requirements, including fire suppression.

Additional Mandatory Restrictions

California Water Code Section 10632(a)(4)(D) calls for "additional, mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions and appropriate to the local conditions" to be included among the WSCP's shortage response actions. The City has identified additional mandatory restrictions in Hayward City Code Section. 11-2.47 – Prohibition of Wasteful Water Practices (Appendix A). The City reserves the right to add additional measures as needed to achieve water supply reductions.

Emergency Response Plan (Hazard Mitigation Plan)

A catastrophic water shortage would be addressed according to the appropriate water shortage level and response actions. It is likely that a catastrophic shortage would immediately trigger Shortage Level 6 and response actions have been put in place to mitigate a catastrophic shortage. In addition, there are several Plans that address catastrophic failures and align with the WSCP including the City of Hayward Emergency Response Plan and Alameda County Operational Area Hazard Mitigation Plan.

Hayward Emergency Response Plan

Hayward developed and maintains a comprehensive Water System Emergency Response Plan (ERP) to incorporate all aspects of emergency planning into one document. The ERP utilizes the Standardized Emergency Management System to identify roles and responsibilities during an emergency, and includes instructions for communicating with SFPUC and other key agencies. The ERP also describes methods for communicating with customers, including the following actions that could be taken in the event of catastrophic interruption in water supplies:

- Notify customers of the need to limit water consumption. Notification could be through media contact, social media, website updates, written notices posted in public places or hand delivered, and use of an emergency notification telephone system.
- Make contact with high water using businesses and other businesses through use of the "sensitive water users" list that the City maintains.

Hayward is a member of the Water Agency Response Network, or WARN, a mutual aid agreement with water agencies throughout the State of California. WARN supports and promotes statewide emergency preparedness, disaster response, and mutual assistance for water agencies.

The City will also refer to its current American Water Infrastructure Act Risk and Resilience Assessment and Emergency Response Plan in the event of a catastrophic supply interruption. This ERP contains sensitive infrastructure information and is therefore not included as an Appendix or available for public review.

Seismic Risk Assessment and Mitigation Plan

Per the Water Code Section 10632.5, Suppliers are required to assess seismic risk to water supplies as part of their WSCP. The plan also must include the mitigation plan for the seismic risk(s).

City of Hayward Seismic Assessment and Mitigation Efforts

Subsequent to the Loma Prieta seismic event in 1989, Hayward initiated a significant effort to assess and mitigate seismic vulnerabilities in the water distribution system, and to increase reliable emergency backup water supplies. Emergency supplies are discussed in the Supply Augmentation section of this Plan, and include interties with neighboring agencies and the construction of five emergency groundwater wells. The City also operates a regional emergency intertie, owned jointly by SFPUC and EBMUD, which can deliver emergency supplies between the two agencies, through Hayward, and from which Hayward may receive water supply on a short-term emergency basis.

In 1995, the City engaged Dames and Moore to prepare seismic performance requirements for the water system facilities, site specific geologic and seismic hazard evaluations, and seismic evaluations of all structures. The results of this study were incorporated into the City's Capital Improvement Program (CIP). G&E Engineering performed a seismic vulnerability assessment in 2003, which led to practical recommendations for retrofits and updated seismic design criteria. Also in 2003, the City prepared a pipeline assessment at 46 fault crossings to assess fault rupture hazards. As a result of this analysis, vulnerable pipeline was replaced with welded steel pipes, valving and piping was added for bypass or isolation, and fire hydrants were installed both sides of the fault line to allow for potable-rated water hoses.

Hayward continues to assess seismic vulnerabilities within the water distribution system and include projects as needed into the CIP to ensure reliability and redundancy in the event of an earthquake.

Alameda County Local Hazard Mitigation Plan

The City is located in the jurisdiction of Alameda County, which developed the Alameda County Local Hazard Mitigation Plan (LHMP). The LHMP is organized into 9 Sections, with Sections 4-7 address earthquakes and are described below for reference:

- Section 4: Hazard Assessment: A hazards analysis includes identifying, screening, and profiling each hazard. The hazards analysis encompasses natural, human-caused, and technological hazards.
- Section 5: Risk Assessment: predicts the extent of exposure that may result from a hazard event of a given intensity in a given area. The analysis provides quantitative data that may be used to identify and prioritize potential mitigation measures by allowing communities to focus attention on areas with the greatest risk of damage.
- Section 6: Capability Assessment: A capability assessment identifies and evaluates the human and technical, financial, and legal and regulatory resources available for hazard mitigation; and describes the current, ongoing, and recently completed mitigation projects.
- Section 7: Mitigation Strategy: A mitigation strategy includes the identification of mitigation goals and actions that will reduce the risks of each hazard and vulnerability to the local population and built environment for each local participant.

SFPUC Preparation for Catastrophic Supply Interruption

The SFPUC maintains various planning documents which collectively address its emergency preparedness and planned response in the event of a catastrophic interruption of water supplies due to power outages, earthquakes, or other disasters including Emergency Preparedness Plans, Emergency Drinking Water Planning, and Power Outage Preparedness and Response. Should a catastrophic interruption occur, the City will coordinate with SFPUC for the possible proclamation of a local emergency and emergency mitigation.

Shortage Response Action Effectiveness

For each specific Shortage Response Action identified in the plan, the WSCP also estimates the extent to which that action will reduce the gap between supplies and demands identified in Table 8-2. To the extent feasible, Hayward has estimated percentage savings for the chosen suite of shortage response actions, which can be anticipated to deliver the expected outcomes necessary to meet the requirements of a given shortage level.

3.5 Communication Protocols

Timely and effective communication is a key element of the WSCP implementation. In the context of water shortage response, the purpose may be an immediate emergency water shortage situation, such as may result from an earthquake, or a longer-term emergency shortage condition, such as may result from a drought. In an immediate emergency, the City will activate the communication protocol detailed in the Emergency Response Plan. In a longer-term emergency water shortage situation, the City will implement the communication protocols described below.

Per the Water Code Section 10632 (a)(5), the City has established communication protocols and procedures to inform customers, the public, interested parties, and local, regional, and state governments regarding any current or predicted shortages as determined by the Annual Assessment described pursuant to Section 10632.1; any shortage response actions triggered or anticipated to be triggered by the annual water supply and demand assessment described pursuant to Section 10632.1; and any other relevant communications.

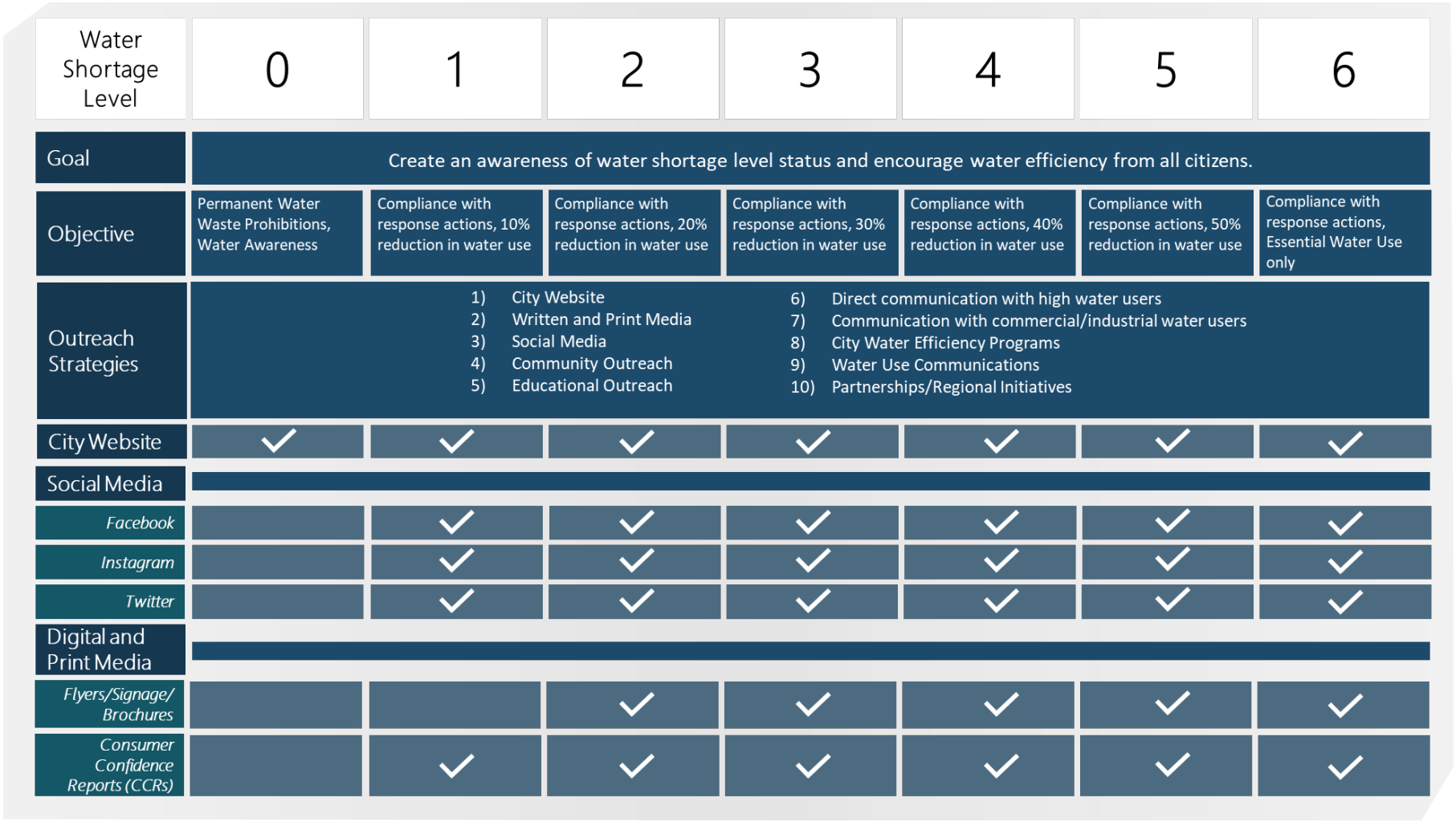
Communication protocols for longer-term water shortage conditions are focused on communicating the water shortage contingency planning actions that can be derived from the results of the Annual Assessment, and it would likely trigger based upon the decision-making process in Section 3.2. Prior to water shortage level

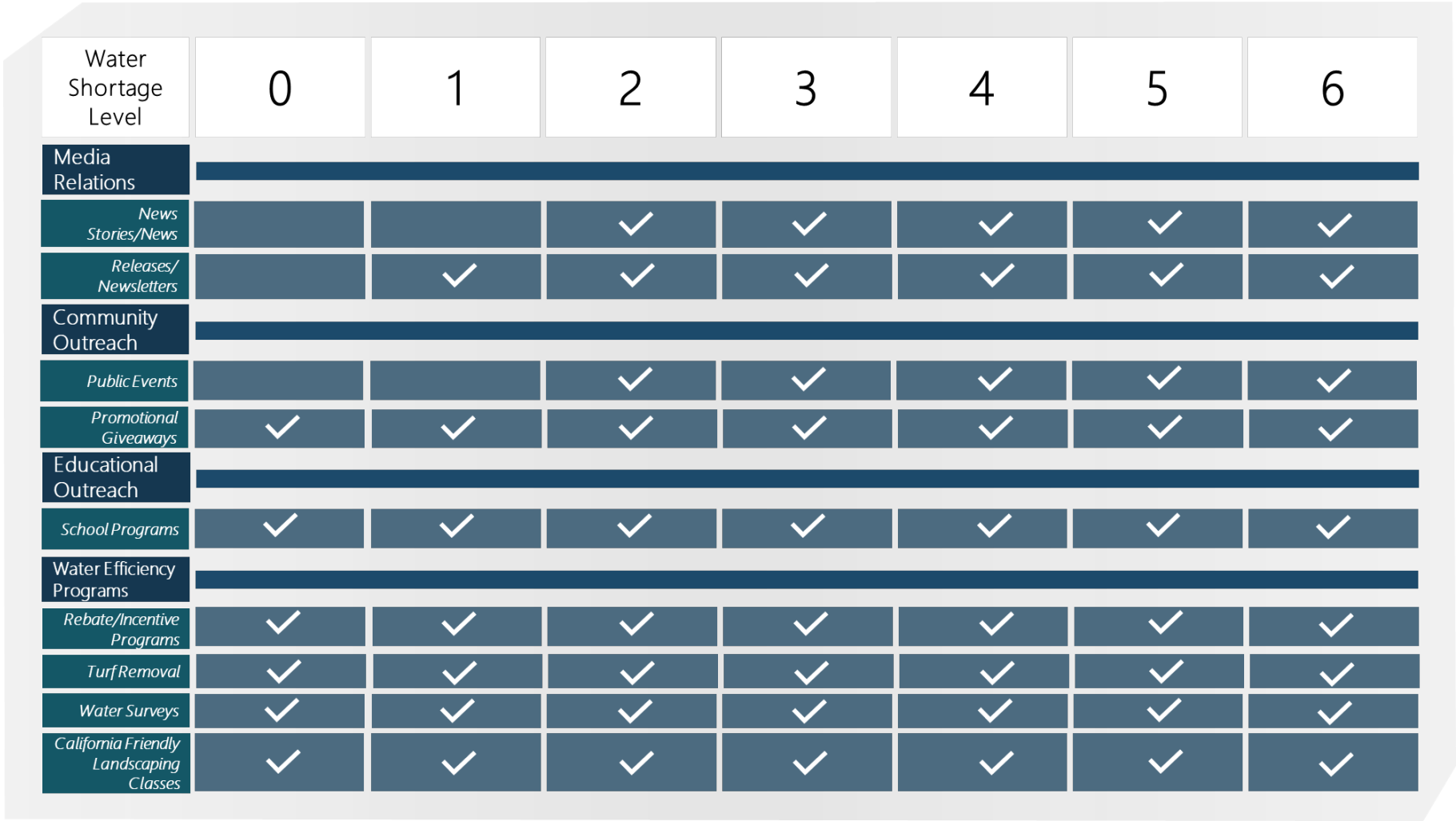
declaration, the City will pursue outreach to inform customers of water shortage levels and definitions, targeted water savings for each drought stage, guidelines that customers are to follow during each stage, and sources of current information on the City's supply and demand response status.

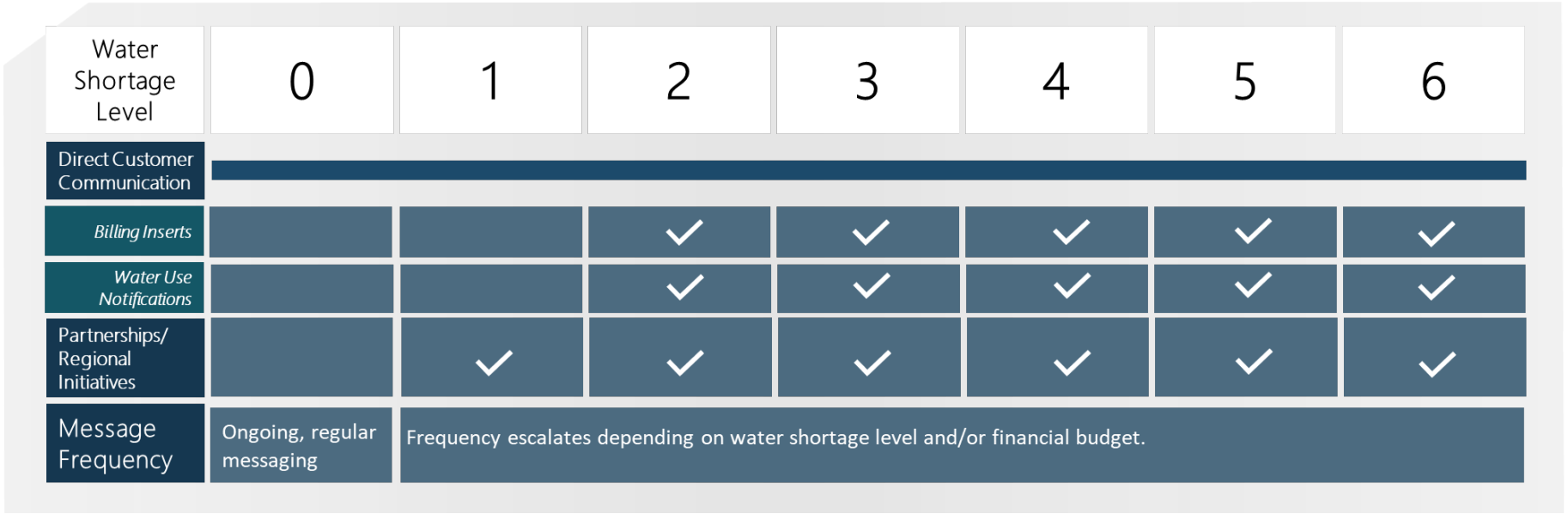
The type and degree of communication will vary with each shortage level. Predefined communication objectives and tools will ensure the City's ability to message necessary events and information to ensure compliance with shortage response actions. These communication objectives and tools are summarized in Figure 3-3 and Appendix B.

The City's Public Information Office will lead public information and outreach efforts. The City will share information and provide guidance to its customers as well as monitor the customer response and attitude toward both voluntary and mandatory customer response guidelines. The City's customer outreach is required to successfully achieve targeted water savings during each shortage level.

Figure 3-3. Communication Procedures




Water Shortage Level
0
1
2
3
4
5
6
Media Relations
News Stories/News
Releases/ Newsletters
Community Outreach
Public Events
Promotional Giveaways
Educational Outreach
School Programs
Water Efficiency Programs
Rebate/Incentive Programs
Turf Removal
Water Surveys
California Friendly Landscaping Classes


Water Shortage Level
0
1
2
3
4
5
6
Direct Customer Communication
Billing Inserts
Water Use Notifications
Partnerships/ Regional Initiatives
Message Frequency
Ongoing, regular messaging
Frequency escalates depending on water shortage level and/or financial budget.

3.6 Compliance and Enforcement

Per the CWC 10632 (a)(6), the City has defined customer compliance, enforcement, appeal, and exemption procedures for triggered shortage response actions the City Code Section. 11-2.47 – Prohibition of Wasteful Water Practices.

Enforcement of the WSCP ranges from written communications and warnings to administrative fines to restriction of water service, depending on the severity of the drought and the nature of the water waste. The City has provided the community with tools to easily report instances of water waste through a dedicated telephone line and email address, as well as through the City's on-line communication tool known as Access Hayward. In most cases, formal notification from the City to the property owner is sufficient to achieve compliance. If violations continue, the City may use door hangers to advise customers of the violation and potential consequences of non-compliance. The City has the authority to issue administrative fines for ongoing violations and egregious incidents of water waste, as well as the ability to terminate or restrict water service if necessary.

In the event of a Stage II shortage or higher, it is likely that excess use penalties would be implemented. During the most recent period of mandatory rationing, in the early 1990s customers were given water allocations, and excess use charges were implemented, set on a "graduated" basis. As an example, excess water use up to 10% over the allotment may be billed at a higher rate per unit, and an additional higher tier may be imposed for excess water use from 10% to 20% over the allotment, and so on. It is expected that some variation of this structure would be adopted in the event of future mandatory rationing, as approved by the City Council and based on the excess use charges imposed by the City's wholesale water supplier.

3.7 Legal Authorities

Per CWC 10632 (a)(7)(A), the City has provided a description of the legal authorities that empower the City to implement and enforce its shortage response in Hayward City Code Section. 11-2.47 – Prohibition of Wasteful Water Practices.

Per CWC 10632 (a)(7) (B), the City shall declare a water shortage emergency condition to prevail within the area served by such wholesaler whenever it finds and determines that the ordinary demands and requirements of water consumers cannot be satisfied without depleting the water supply of the distributor to the extent that there would be insufficient water for human consumption, sanitation, and fire protection.

Per CWC (a)(7)(C), the City shall coordinate with Alameda County within which it provides water supply services for the possible proclamation of a local emergency under California Government Code, California Emergency Services Act (Article 2, Section 8558). Table 3-5 identifies the contacts for all cities or counties for which the Supplier provides service in the WSCP, along with developed coordination protocols, can facilitate compliance with this section of the Water Code in the event of a local emergency as defined in subpart (c) of Government Code Section 8558.

Table 3-4. Agency Contacts and Coordination Protocols

Contact	Agency	Coordination Protocols
Alameda County Administrator, or designee	County of Alameda	The City will initiate and maintain communication with the County to coordinate compliance with Water Shortage Contingency Plan actions through email, in-person meetings, written communication and other available methods.

3.8 Financial Consequences of WSCP

Per Water Code Section 10632(a)(8), Suppliers must include a description of the overall anticipated financial consequences to the Supplier of implementing the WSCP. This description must include potential reductions in revenue and increased expenses associated with implementation of the shortage response actions. This should be coupled with an identification of the anticipated mitigation actions needed to address these financial impacts.

The Water Shortage Actions designed to address a range of water shortage conditions have the potential to impact the City's revenues and expenditures. To assess these impacts, the City reviewed the revenue impacts resulting from each shortage stage percent reduction in sales as compared to an estimate of a normal year baseline. Other factors considered included water losses, pricing structure and avoided costs.

Hayward's rate structure is based on a cost-of-service method where the beneficiaries of the service pay for the cost of providing service and where one customer class does not unduly subsidize another. Water rates are reviewed regularly to ensure adequate revenues are generated to meet operating and capital expenses, and a key factor in establishing appropriate rates is anticipated consumption. Water shortages result in lower consumption and reduced revenues.

In addition to reduced revenues, Hayward also anticipates expending additional funds during a water shortage in order to implement an effective water use reduction program and water rationing. Some additional costs may include:

- Computer programming modifications to implement excess water use fees
- Computer programming needed to determine appropriate customer allocations
- Advertising and public education materials
- Additional water conservation program costs for increased rebates and incentives
- Additional customer service staff to support rationing and water conservation programs

Drought Rate Structures and Surcharges

Revenue and expenditure impacts would be mitigated in part by lower costs for purchasing water. However, in the event of long-term or severe water shortage, it is anticipated that Hayward would develop a rate structure, including excess use charges, to address the revenue impacts.

Use of Financial Reserves

In the short-term, the City would also rely on the short-term use of reserves to offset the impact of water use reductions and additional water shortage-related costs. Water system financial resources are prudently managed to maintain sufficient reserves for such purposes.

Other Measures

The City would seek other means of mitigating the impact of water use reductions. Short-term cost efficiencies may be implemented. Also, some types of maintenance may be deferred if such deferment would not compromise water quality or reliability.

3.9 Monitoring and Reporting

Per CWC 10632(a)(9), the City is required to provide a description of the monitoring and reporting requirements and procedures that have been implemented to ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance and to meet state reporting requirements.

Monitoring and reporting key water use metrics is fundamental to water supply planning and management. Monitoring is also essential in times of water shortage to ensure that the response actions are achieving their

intended water use reduction purposes, or if improvements or new actions need to be considered (see Section 3.10). Monitoring for customer compliance tracking is also useful in enforcement actions.

With the implementation of Advanced Metering Infrastructure (AMI), Hayward will have access to additional data by customer, time-of-day usage, areas of the City, and other metrics to help determine the effectiveness of customer outreach, and to guide additional needed educational and enforcement actions.

Under normal water supply conditions, potable water production figures are recorded daily. Weekly and monthly reports are prepared and monitored. This data will also be used to measure the effectiveness of any water shortage contingency level that may be implemented.

The City will participate in monthly BAWSCA meetings to receive updates on water supply conditions and coordinate regional messaging and water reduction strategies.

3.10 WSCP Refinement Procedures

Per CWC 10632 (a)(10), the City must describe reevaluation and improvement procedures for systematically monitoring and evaluating the functionality of the water shortage contingency plan in order to ensure shortage risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented as needed.

Hayward's WSCP is prepared and implemented as an adaptive management plan. Hayward will use the monitoring and reporting process defined in Section 3.9 to refine the WSCP. In addition, if certain procedural refinements or new actions are identified by Hayward staff, or suggested by customers or other interested parties, the City will evaluate their effectiveness, incorporate them into the WSCP, and implement them in a timely manner at the appropriate water shortage level.

It is envisioned that the WSCP will be periodically re-evaluated to ensure that its shortage risk tolerance is adequate, and the shortage response actions are effective and up to date based on lessons learned from implementing the WSCP. The WSCP will be revised and updated during the UWMP update cycle to incorporate updated and new information, such as actions that are no longer applicable or effective. If revisions to the WSCP are warranted before the UWMP is updated, the WSCP will be updated outside of the UWMP update cycle, subject to City Council consideration and approval. In the course of preparing the Annual Assessment each year, Hayward staff will routinely consider the functionality the overall WSCP and will prepare recommendations for the City Council if changes are needed.

3.11 Special Water Feature Distinction

Per CWC 10632 (b), Hayward has defined water features in that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code.

3.12 Plan Adoption, Submittal, and Availability

Per Water Code Section 10632 (a)(c), Hayward provided notice of the availability of the draft 2020 UWMP and draft 2020 WSCP and notice of the public hearing to consider adoption of the WSCP. The public review drafts of the 2020 UWMP and the 2020 WSCP were posted prominently on Hayward website, www.hayward-ca.gov, on July 2, 2021,. Copies of the draft WSCP were also made available for public inspection at the City Clerk's Office and Utilities Department offices and public hearing notifications were published in the *Daily Review* on July 2 and July 9, 2021. A copy of the published Notice of Public Hearing is included in Appendix C.

The City Council conducted a public hearing for the draft 2020 UWMP and draft WSCP at its regular meeting on July 20, 2021, after with the Council considered and adopted the 2020 UWMP and the WSCP See Appendix D for the resolution approving the WSCP.

By July 31, 2021, the City's adopted 2020 UWMP and WSCP was filed with DWR, California State Library, and Alameda County. The City will make the WSCP available for public review on its website no later than 30 days after filing with DWR. Based on DWR's review of the WSCP, the City will make any amendments in its adopted WSCP, as required and directed by DWR. If the City revises its WSCP after UWMP is approved by DWR, then an electronic copy of the revised WSCP will be submitted to DWR within 30 days of its adoption.

4 REFERENCES

All links below were accessed in June 2021 unless otherwise indicated.

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APPENDIX A – HAYWARD WATER SHORTAGE CONTINGENCY RESPONSE CODE

Below is the weblink to the current City of Hayward's Municipal Code Chapter 11-2.47 Prohibition of Wasteful Water Practices (last accessed on June 16, 2021)

https://library.municode.com/ca/hayward/codes/municipal_code?nodeId=HAYWARD_MUNICIPAL_CODE_CH11PUUT_ART2HAMUWASY_S11-2.47PRWAWAPR

APPENDIX B – COMMUNICATION PROCEDURES

Public communication is an ongoing activity where the purpose, audience, message, tools, and channels may change at any given moment. In the context of water shortage response, the purpose may be an immediate water shortage situation, such as may result from an earthquake, or a longer-term condition, such as may result from a drought. In an immediate water shortage emergency, Hayward will activate the communication protocol detailed in the City of Hayward American Water Infrastructure Act Risk and Resilience Assessment and Emergency Response Plan (ERP). In a longer-term water shortage situation, Hayward will implement the procedures identified in this Communication Plan.

Timely and effective communication is a key element of the WSCP implementation. Per CWC Section 10632 (a)(5), Hayward has established communication protocols and procedures to inform stakeholders regarding any current or predicted shortages as determined by the annual water supply and demand assessment described pursuant to Section 10632.1; any shortage response actions triggered or anticipated to be triggered by the annual water supply and demand assessment described pursuant to Section 10632.1; and any other relevant communications.

Emergency Response Plan Communication

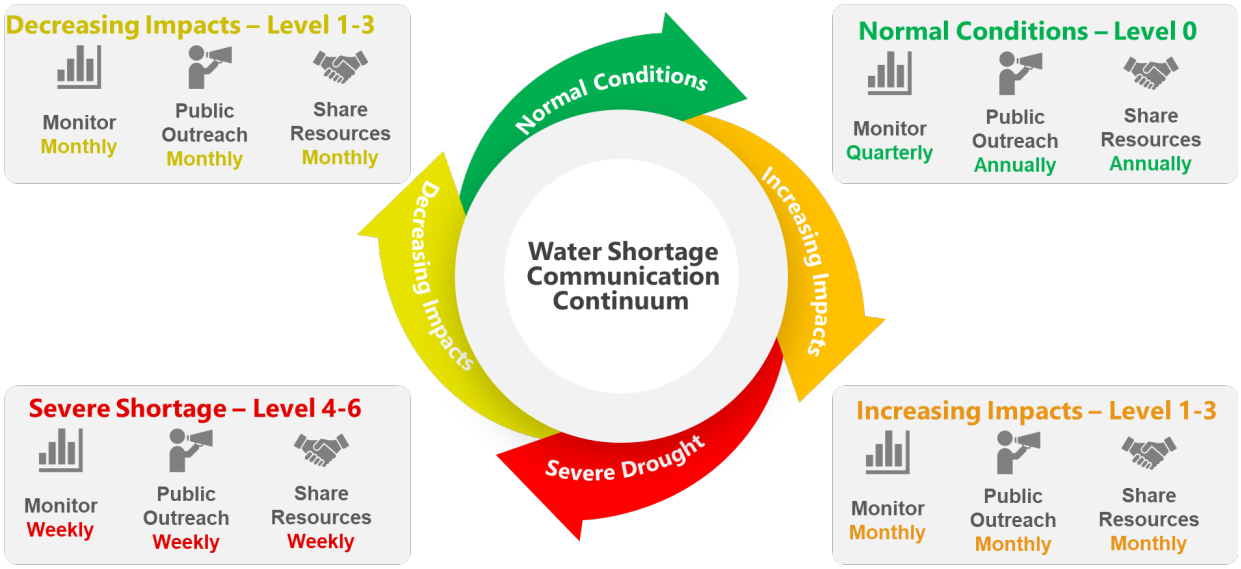
The ERP defines the actions to be taken by Hayward staff to reduce the loss of water and wastewater infrastructure; to respond effectively to a disaster; and to coordinate recovery operations in the aftermath of any emergency involving extensive damage to local and regional water and wastewater utilities. The ERP includes activation notification protocols that will be used to contact partner agencies to inform them of the situation, activation status of the ERP, known damage or impacts, or resource needs. The ERP is a standalone document that is reviewed annually and updated every 5 years. Refer to the ERP for full details.

Hayward Water Shortage Communication Plan

The Water Shortage Communication Plan serves as the baseline understanding for how Hayward will provide information and value to its various stakeholders, partners, and employees during normal conditions where water efficiency is an everyday goal for water supply reliability. In times of water shortage, this Communications Plan can be enhanced for the purposes of a Water Shortage Communication Plan. Hayward's Water Division works to elevate public awareness and participation in water efficiency so, in the event of a water shortage, the community is aware of the importance of response actions and can identify as an active participant in Hayward goals. The Communications Plan is designed to provide transparent, reliable, and accurate information to the public and collaborating agencies by identifying goals and objectives for each shortage level and outlining the appropriate communication interface tools and implementation schedule to for effective communication.

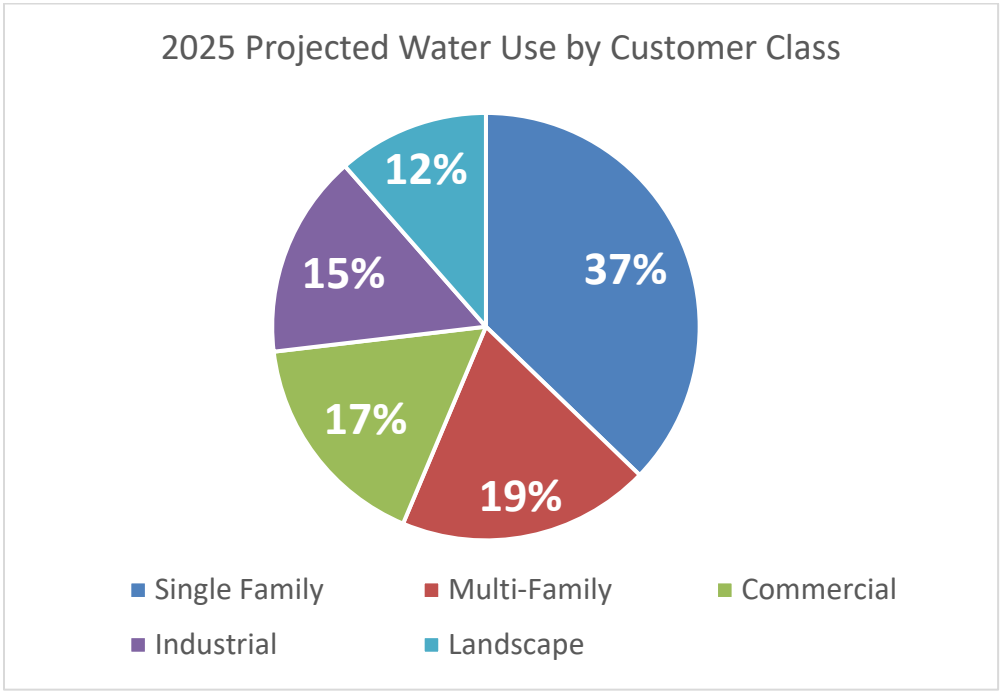
Goals & Objectives

The goal of Hayward's Water Shortage Communication Plan is to create a local awareness of water shortage conditions and to encourage water efficiency from all citizens. The Water Shortage Communication Plan objectives further refine the focus of the program goal to achieve a desired outcome at shortage level. As a water shortage condition escalates, the objectives of the Communication Plan also escalate to ensure progress toward water supply reliability. The defined objectives for each Water Shortage level will determine the information that is communicated at each level.



Target Audiences

Hayward reviewed its water demand and customer class profile to develop a communication plan to be the most effective with its unique customer profile and water demands. Based on the 2025 projections, Hayward's single family water use is expected to account for 37% of the total water demand. Commercial, industrial, and institution water use is projected to account for 32% of total demand. Multifamily and landscape use are projected to account for 19% and 11% of total demand, respectively. By understanding the local customer and water use profile, Hayward can implement a Water Shortage Communication Plan that leverages the appropriate communications tools to reach the target audience most effectively during a water shortage.



Hayward has further refined their customer categories to identify the following target audiences for communication:

- Hayward staff
- Homeowners and renters
- Business owners
- Local Industries
- Property owners and managers
- School district administrators and teachers
- Elected officials and staff
- Environmental/public interest groups
- General Public
- Local Media
- Homeowners Associations
- Golf Courses

Communications Interfaces and Tools

Hayward will work closely during a normal and water shortage condition; Hayward will utilize a comprehensive set of communication interface tools to engage water customers. The interface options and tools include:

- Water Bill communications
- Website Information on the "City of Hayward" homepage
- Social Media outreach
- Media Coverage (print and electronic)
- Publications and Handouts
- Water Bill Pay Portal Communication
- Presence at local events
- Mayor/Manager Public Service Announcements
- Direct mailings to homes and businesses
- School education programs

Communication Tactics and Implementation Schedule

Hayward understands their responsibility to be transparent, accountable, have a positive impact on the community, and provide actionable guidance in times of water shortage. Carefully developed and executed communication tactics and implementation schedule will establish trust and credibility for all stakeholders by clearly communicating expectations and responsibilities. Below is a description of the Water Shortage Communication Plan Tactics. These tactics will be implemented according to the schedule and objectives defined in Table 1.

This Water Shortage Communication Plan is designed to have a standard set of Tactics systematically align to the current Water Shortage Level. For example, information that may be educational during Shortage Level 0 will shift to specific status information and shortage level response action requirements, as defined in Section 3.4.1 of the WSCP and Table 8-2, as water shortage levels increase from 1 to 6. In Shortage Level 0, shortage communication will include a general overview of water efficiency and water shortage levels so, in the event of a water shortage, the understanding and response requirements are familiar. As the Water Shortage Levels increase, messaging will align with specific shortage level response requirements and objectives.

Website

- Hayward website: Provide water efficiency information and resources on the City of Hayward website including water shortage level status.
- Water Shortage Indicator: develop a permanent image on the webpage that identifies water shortage level status. Image will be updated promptly when status level changes and will link to additional shortage level information.

Social Media

- Facebook/Nextdoor/Instagram: post water efficiency information and shortage level status on Hayward's Facebook page. This may include unique Hayward content or reposting of regional messages and images.
- Twitter: Tweet water efficiency information and water shortage level status on Hayward's account. This may include unique Hayward content or reposting of regional messages and images.

Digital and Print Media

- Flyers/Signage/Brochures: Create and provide informational materials on water efficiency actions, local/regional water resource awareness, and water shortage level status.
- Consumer Confidence Reports (CCRs): provide a conservation reminder in CCR along with conservation tips.

Media Relations

- News stories/News Releases Newsletters: Provide news releases with information regarding water shortage level and expected trends.
- Briefing papers/Talking points: Provide briefing papers to local media outlets such as newspapers, magazines, and other publications. This may also include social media posts and infographics.

Community Outreach

- Public Events: Promote water efficiency and water awareness at local events such as parades, festivals, farmers market, community organizations, and other events.
- Promotional giveaways: Provide promotional water efficiency devices or messaging materials (i.e. hats, stickers, mugs, etc.) promoting water efficiency and response.

Educational Outreach

- School Programs: Provide water resource and efficiency presentations for local schools, including information and response to water shortage levels.
- Residential Water Efficiency Educational Classes: Provide educational classes to community on topics such as finding and fixing leaks, irrigation program scheduling, waterwise vegetation, etc.
- Non-residential water efficiency training classes/programs: Provide training programs to local irrigation and cooling tower service technicians on water efficient practices and water shortage level requirements.

City of Hayward Water Efficiency Programs

- Rebate/Incentive Programs: Promote regional rebate and incentive programs for local water users. Messaging frequency increased as the shortage levels increase.
- Turf Removal: Promote regional rebate and incentive programs for local water users. Messaging frequency increased as the shortage levels increase.

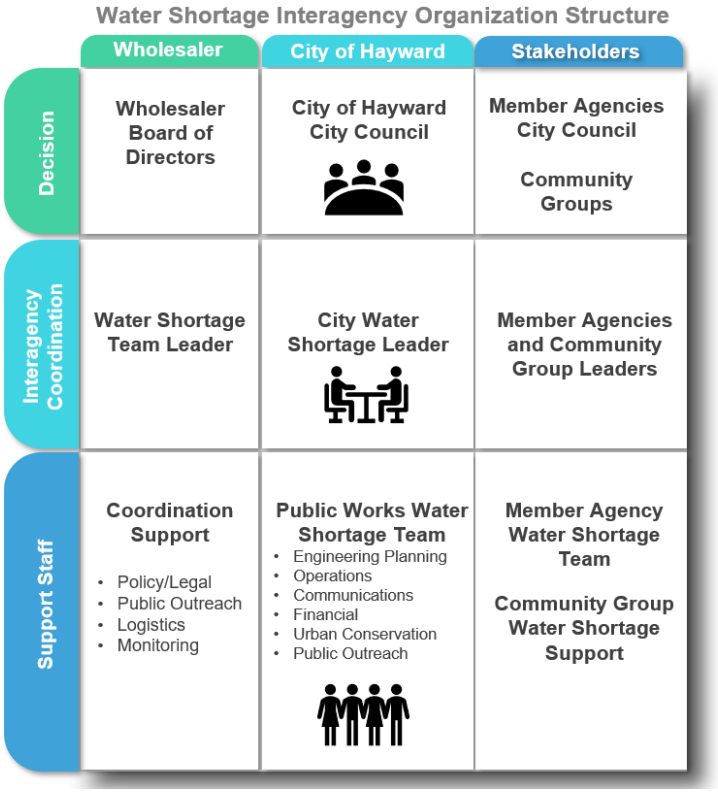
- Water Surveys- Commercial: Promote regional rebate and incentive programs for local water users. Messaging frequency increased as the shortage levels increase.
- Water Surveys – Residential: Promote regional rebate and incentive programs for local water users. Messaging frequency increased as the shortage levels increase. Hayward staff may participate limited residential surveys to assist with efficiency, identify and correct leaks, provide communication to customer.

Direct Customer Communication

- Billing Inserts: Include billing inserts in water utility billings including water shortage level status and response actions.
- Water Use notifications: Include a comparison of actual water use and information regarding penalties.
- Neighborhood Canvasing: Hayward staff and/or representatives will canvas neighborhoods to educate residents of water shortage status and response action requirements.

Partnerships/Regional Initiatives

- Dept of Water Resources: Utilize state messaging programs, messages, and resources.
- SFPUC/BAWSCA: Utilize regional messaging programs, messages, and resources to communicate with local water users.
- Coordinate messaging with other member agencies and public partnerships.



Monitor, Evaluate, and Amend

The effectiveness of Hayward's Communication Plan depends on a large variety of factors including technological advancements or changes, the rise and fall of audience engagement, current news or media concentration, political changes in leadership and focus, and the weather. The Communication Plan will be evaluated for effectiveness and updated accordingly based on available metrics and stakeholder feedback.

APPENDIX C – NOTICE OF PUBLIC HEARING

Documentation pending. It will be included in the Final Draft of this 2020 WSCP.

APPENDIX D – ADOPTION RESOLUTION

Documentation pending. It will be included in the Final Draft of this 2020 WSCP.