MORGAN HILL
California

Attachment 2
FINAL DRAFT

City of Morgan Hill
Urban Water Management Plan
2015

AKEL
ENGINEERING GROUP, INC.

August 2016

CITY OF MORGAN HILL

CITY OF MORGAN HILL

2015
URBAN WATER MANAGEMENT PLAN

Final Draft

August 2016

AKEL
ENGINEERING GROUP, INC.

AKEL
ENGINEERING GROUP, INC.

Smart Planning Our Water Resources

August 11, 2016

City of Morgan Hill
17575 Peak Avenue
Morgan Hill California, 95037

Attention: Jay Jaso, Management Analyst

Subject: **Final Draft 2015 Urban Water Management Plan**

Dear Jay:

We are pleased to submit the City of Morgan Hill 2015 Urban Water Management Plan (2015 UWMP) which is intended to address the Urban Water Management Planning Act (UWMPA) of 1983 and amendments thereof.

The City's 2010 UWMP received a letter of review and completeness from the Department of Water Resources in April 2014. This 2015 UWMP addresses additional amendments to the UWMPA and new guidelines established by the Department of Water Resources. One of the amendments, SB 555 enacted in October 2015, requires urban retail water suppliers to quantify and report their distribution system losses in accordance with the American Water Works Association water audit methodology.

We extend our thanks to you, Karl Bjarke, Public Works Director; Dan Repp, Deputy Director of Utility Services; Saeid Vaziry, Chief Engineer at SCRWA; Anthony Eulo, Environmental Services Program Administrator; and other City staff whose courtesy and cooperation were valuable in completing this study.

Sincerely,

AKEL ENGINEERING GROUP, INC.

Tony Akel, P.E.
Principal

CC:

Enclosure: Final Draft 2015 Urban Water Management Plan

City of Morgan Hill
2015 Urban Water Management Plan

Contact Sheet

Date this plan was submitted to the Department of Water Resources:

Name of Person(s) preparing this plan:

Jay Jaso, Management Analyst
City of Morgan Hill
Phone: (408) 776-7333
Email: jay.jaso@morganhill.ca.gov

Tony Akel, P.E., Project Manager
Akel Engineering Group, Inc.
Phone: (559) 436-0600
Fax (559) 436-0622
Email: takel@akeleng.com

The Water supplier is a Municipality

The Water supplier is a Retailer

Utility Services provided by the water supplier include: Water, Sewer

Is this Agency a Bureau of Reclamation Contractor? No

Is this Agency a State Water Project Contractor? No

CITY OF MORGAN HILL

Acknowledgements

City Council

Steve Tate, Mayor

Rich Constantine, Mayor Pro Tempore

Larry Carr

Marilyn Librers

Gordon Siebert

Management Personnel

Karl Bjarke, Public Works Director

Dan Repp, Deputy Director of Utility Services

Jay Jaso, Management Analyst

Andrew Crabtree, Community Development Director

Saeid Vaziry, Chief Engineer at SCRWA

Anthony Eulo, Environmental Services Program Administrator

City of Morgan Hill
2015 Urban Water Management Plan

Table of Contents

Page No.

Table of Contents

Page No.

Table of Contents

Page No.

City of Morgan Hill
2015 Urban Water Management Plan

Figures

Tables

Tables

Page No.

Appendices

CHAPTER 1 – INTRODUCTION AND OVERVIEW

This chapter introduces the purpose of the Urban Water Management Plan (UWMP) and its importance to the City of Morgan Hill (City) as well as Department of Water Resources (DWR). This chapter also includes the coordination and outreach that took place for this UWMP to come to fruition. The chapter also documents the milestones for adopting the UWMP and for submitting it to the DWR.

1.1 BACKGROUND AND PURPOSE

Water suppliers must submit an Urban Water Management Plan to the Department of Water Resources in accordance with California Water Code requirements. The purpose of the UWMP is to implement and maintain the reliability of urban water supplies, ensure that future beneficial use can be complemented by sufficient water supply, continue to promote policies and programs that benefit water conservation, and provide a means for response during water supply shortages and drought conditions.

In addition to being filed every five years, the Urban Water Management Plan must satisfy requirements defined in the Urban Water Management Planning Act (UWMPA) of 1983 and any amendments to the Act.

Since passage of the UWMPA, there have been more than 20 amendments to the Act. According to the UWMPA, an UWMP must be prepared by an urban water supplier that supplies over 3,000 acre-feet (AF) of water a year, or services 3,000 or more connections.

In April 2014, DWR completed the review of the City's 2010 UWMP and its supplements, and issued a letter of completeness. This 2015 UWMP includes updates to the 2010 UWMP and addresses additional amendments to the UWMPA and new guidelines established by DWR. This report references the tables provided by DWR, which are completed for the City and included in **Appendix A**.

1.2 URBAN WATER MANAGEMENT PLANNING AND THE CALIFORNIA WATER CODE

The drought of 1976-1977 created shortages of water supplies throughout California. With several cities and water districts/agencies witnessing reduction in their water supplies and having to look for additional water sources elsewhere, an immediate need for a statewide, local level, long-term water management planning arose. To dramatically reduce future emergencies caused by inadequate planning of water resources, the Urban Water Management Planning Act was proposed and adopted in 1983. State Assembly Bill 797 modified the California Water Code

Division 6 in 1983, creating the UWMPA. Since this Assembly Bill, more than 20 amendments have changed the quantity of data required, as well as increasing the planning elements included in this 2015 plan.

Early amendments to the UWMPA required 20 year planning horizons in 5 year increments for the comparison of water use to sources of water supply. More recently, these planning projections have been extended to 25 year planning horizons in order to maintain the 20 year projections, while the subsequent UWMP is completed.

Additional amendments included requirements that water supplier's UWMP provide provisions for a Water Shortage Contingency Plan, which would meet the specifications set forth in the UWMPA; demand management measures; and provisions for recycled water use. Recycled water use was added to reporting requirements due to its additional reliability for alternative water supply, and most notably, as an additional supply for future water use demand. Individual water purveyors, in coordination with other water purveyors in the same general area and to the extent practicable, must work to prepare the Water Shortage Contingency Plan. The individual water supplier must also describe the water demand management measures that are currently in practice, or those scheduled to be practiced.

More than 15 amendments have been passed since the year 2000, amending the UWMPA and increasing reporting for the UWMP. Included in these amendments are SB 610 (Costa, 2001) and AB 901 (Daucher, 2001), which require urban water purveyors to review information regarding water to supply new large developments. Additionally, SB 318 (Alpert, 2004) requires the plan to review opportunities involved in the development of desalinated water, included but not limited to, ocean, brackish, and groundwater, as a long term supply. AB 105 (Wiggins, 2004) requires suppliers to submit their completed UWMP to the California State Library. SBX7-7 requires the state and its municipal water purveyors to achieve a 20 percent reduction in urban per capita water usage by the year 2020. The "20X2020" plan is intended to reduce water usage per capita by 10% by the year 2015, and 20% by the year 2020.

The most recent of these amendments are:

- AB2067 (2014), which requires urban water suppliers to address the nature and extent of the demand management measures implemented over the past 5 years, as well as document what measures are going to be implemented to meet the SBX7-7 targets.
- SB1420 (2014) requires that plans be submitted electronically to the Department of Water Resources (DWR), and that the plan includes the standardized forms provided by DWR. Additionally, SB1420 requires that urban water suppliers quantify water losses in their reporting, and provides a mechanism to estimate future water savings from demand management measures.
- SB1036 (2014) allows urban water suppliers to voluntarily report energy intensity related to water supplies.

- AB2409 (2010) requires that urban water suppliers define water features that are artificially supplied with water currently within the service area. These features must be defined in the water shortage contingency planning section of the report.

- Executive Order (EO) B-37-16 was released on May 9th, 2016 regarding the on-going drought conditions that are affecting large portions of the state. EO B-37-16 addresses the previous Executive Orders from 2014 and 2015, and maintains that those Order's should remain in effect. DWR staff indicated that this EO does not impact the 2015 UWMP, but potential impacts to future UWMPs are mentioned in this report.

1.3 URBAN WATER MANAGEMENT PLANS IN RELATION TO OTHER PLANNING EFFORTS

In addition to the preparation of the 2015 Urban Water Management Plan, the City is in the process of updating the Water, Wastewater, and Stormwater System Master Plans. The preparation of the 2015 UWMP will complement these additional planning efforts, providing guidance related to water use over the master planning horizon and identify the measures to be implemented for water conservation that will have an impact on water demands and related sewer flows. Effort has been made to provide consistency between the water demand projections and the projected water use for the 2015 UWMP and current master planning updates.

1.4 REPORT ORGANIZATION

This report is organized in accordance with the outline suggested by the Department of Water Resources for the 2010 Urban Water Management Plans.

Chapter 1 – Introduction and Overview. This chapter introduces the purpose of the Urban Water Management Plan (UWMP) and its importance to the City of Morgan Hill as well as Department of Water Resources.

Chapter 2 – Plan Preparation. The Urban Water Management Planning Act requires that a description be provided for the process that was used for the development of the UWMP. This chapter also includes the coordination and outreach that took place for this UWMP to come to fruition. Moreover, this chapter lists previous UWMPs prepared for the City of Morgan Hill. The chapter also documents the milestones for adopting the UWMP and for submitting it to the Department of Water Resources (DWR).

Chapter 3 – System Description. The UWMPA requires that a description be provided of the water purveyor's service area, and include various aspects of the service area, including: climate, population, and land use.

Chapter 4 – System Water Use. The UWMPA requires that the UWMP provides a description of the current and projected water uses within the purveyor's service area. In addition to the description, the UWMP must also quantify the current and projected water uses.

Chapter 5 – Baseline and Targets. The UWMPA requires that retail agencies provide a description of methods used for calculating their baseline consumption as well as target water consumption. For the 2015 UWMP, the agencies are required to show if the 2015 interim water use target was achieved and if the agency is on track to achieve the 2020 water use target set forth in the 2015 UWMP

Chapter 6 – System Supplies. The UWMPA requires that the agency provide a description and quantification of the current and projected sources of water available to the agency. If applicable to the agency, UWMPA also requires potential uses and availability of the recycled water.

Chapter 7 – Water Supply Reliability. Water supply reliability addresses the capability of the water supply during emergency events in normal existing conditions, single dry years and multiple dry years. The reliability also must be projected out for 20 years.

Chapter 8 – Water Shortage Contingency Planning. In the event of an emergency where water supply reliability is lost, the water supplier should have an adopted Water Shortage Contingency Plan to institute staged emergency water conservation efforts to mitigate potential catastrophic overdraft or catastrophic interruption to the agency's water supply.

Chapter 9 – Demand Management Measures. The UWMPA originally outlined best management practices (BMPs) to help mitigate water waste. These BMPs have since evolved into fourteen Demand Management Measures (DMM) that should be addressed by urban water suppliers.

Chapter 10 – Plan Adoption, Submittal and Implementation. This section includes the process undertaken for adoption and submittal of the UWMP as well as the plan required to implement the UWMP. Ways in which the public can access the UWMP is also described in this section.

1.5 PUBLIC PARTICIPATION AND PLAN ADOPTION

The UWMPA requires that the adopted UWMP demonstrate the water agency solicited public participation.

Law

> *10642. Each urban water supplier shall encourage the 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. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published ... After the hearing, the plan shall be adopted as prepared or as modified after the hearing.*

In accordance with the stated law, the City held a public hearing for members of the community to provide comments, learn about existing and future water supplies of the city, and raise concerns towards the plan being adopted. A notice of the public hearing was published in the local newspaper July 8, 2016, notifying interested parties that the draft 2015 UWMP was available at

various City facilities and on the City's web page (www.morgan-hill.ca.gov) for review two successive weeks prior to adoption. After public review, the plan was adopted on July 27, 2016. Prior to the public review the City held an informational open house on June 16, 2016, to provide information about the City's 2015 UWMP, as well as to receive comments and input from members of the community.

1.6 UWMPS AND GRANT OR LOAN ELIGIBILITY

Beginning in 2016 changes to California law require that urban retail water suppliers must comply with water conservation requirements established by the Water Conservation Act of 2009 in order to be eligible for State water grants or loans. For 2015 UWMPs, compliance with the Water Conservation Act of 2009 means that a water agency must have met its 2015 Interim Urban Water Use Target, discussed further in Chapter 5; this compliance must be reported in the 2015 UWMP.

1.7 PREVIOUS URBAN WATER MANAGEMENT PLANS

The City of Morgan Hill prepared a 2010 UWMP, which was adopted on June 7, 2011. This UWMP documented the SBX7-7 baseline per capita was use, as well as the interim and 2020 water use targets. This UWMP documented the groundwater conditions, future water supply projects, the water shortage contingency plan, and demand management measures implemented to reduce water demands. The 2010 UWMP serves as a benchmark for the 2015 UWMP, as the 2015 UWMP will update the target projections consistent with the final Guidebook release from the Department of Water Resources.

CHAPTER 2 – PLAN PREPARATION

The Urban Water Management Planning Act requires that a description be provided for the process that was used for the development of the UWMP. This chapter also includes the coordination and outreach that took place for this UWMP to come to fruition.

2.1 BASIS FOR PREPARING A PLAN

The California Water Code (CWC) defines an "Urban water supplier" as a publicly or privately owned supplier of 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. At the time of preparation of the 2015 UWMP the City supplied water to over 13,000 active service connections, as summarized in Table 2-1, thereby qualifying as an urban water supplier and required to prepare an Urban Water Management Plan.

Table 2-1 Public Water Systems

Public Water System Number	Public Water System Name	Number of Municipal Connections 2015	Volume of Water Supplied 2015 (AF)
4310006	City of Morgan Hill	13,068	5,846

2.2 REGIONAL PLANNING

The City's 2015 UWMP is prepared as an individual UWMP and the City is not part of any regional alliance for planning purposes, as summarized in Table 2-2.

Table 2-2 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	
☐	**Regional Urban Water Management Plan (RUWMP)**	

2.3 INDIVIDUAL OR REGIONAL PLANNING AND COMPLIANCE

Consistent with the 2010 UWMP, the 2015 UWMP reports solely on the City's service area and is not a part of a regional alliance or regional urban water management plan (RUWMP).

2.4 FISCAL OR CALENDAR YEAR AND UNITS OF MEASURE

This UWMP has been prepared using calendar year data and includes complete 2015 data, as required by the DWR guidelines. The units of measure reported in all tables are acre-feet (AF), as shown in Table 2-3.

Table 2-3 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[1]	
AF	

Notes:

1. Units of DWR required tables are consistent in SBX7-7 verification tables.

2.5 COORDINATION AND OUTREACH

The City's 2015 UWMP is an update to the 2010 UWMP and is intended to address those aspects of the UWMPA which are under the control of the City, specifically water supply and water use. The City has submitted its draft plan to regional stakeholders, and made the draft plan available to the public in hard copy form and electronic form. The wholesale water suppliers informed of the City's projected water use are shown in Table 2-4.

Table 2-4 Water Supplier Information Exchange

Wholesale Water Supplier Name
Santa Clara Valley Water District

CHAPTER 3 – SYSTEM DESCRIPTION

The UWMPA requires that a description be provided of the water purveyor's service area, and include various aspects of the service area, including: climate, population, and land use.

3.1 GENERAL DESCRIPTION

This section documents the location, service area, and land use for the City.

3.1.1 Location

The City is located in Santa Clara County, approximately 20 miles southeast of the city of San Jose and 24 miles northwest of the city of Hollister (**Figure 3-1**). The City's closest neighbor, the city of Gilroy, is located 10 miles to the south. Highway 101 bisects the eastern boundary of the City in the north-south direction. In 2001, the City outlined the long-term Ultimate Growth Boundary (UGB), which was approved by City Council, and identified lands intended for future urbanization within the City service area.

3.1.2 Water Service Area

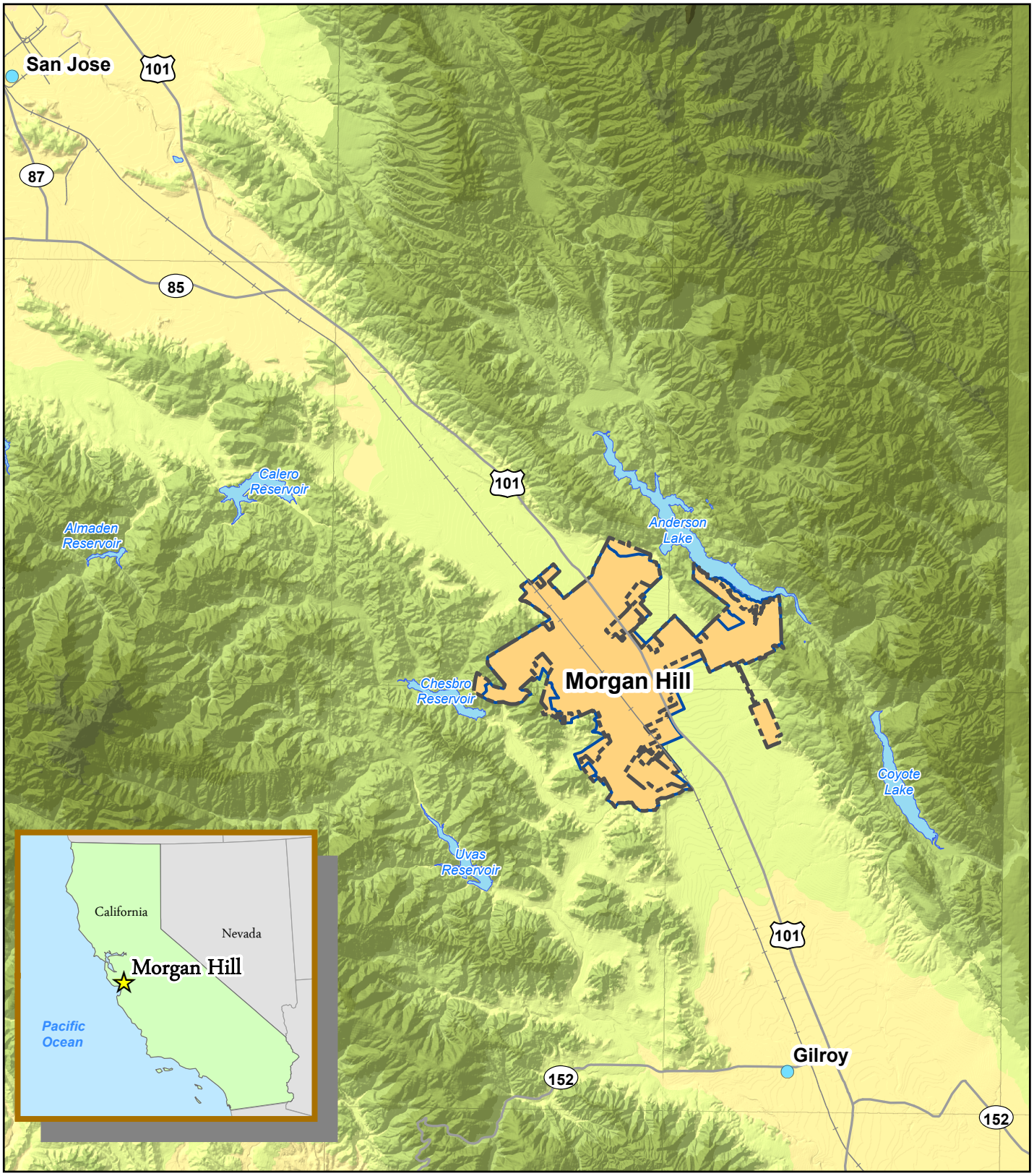
The City is in the process of updating their General Plan, which outlines the UGB boundary. Infrastructure improvements necessary to serve lands within the UGB were outlined in the City's water distribution, sewer collection, and storm drainage master plans. The City UGB incorporates approximately 27.7 square miles and is the City's ultimate growth boundary for the life of the current General Plan; it is assumed that the UGB describes the future water system service area.

3.1.3 Land Use

The City UGB encompass approximately 17,702 acres of varying land use types, which are defined as follows: 5,325 acres of residential; 220 acres of mixed use; 2,148 acres of non-residential, including but not limited to commercial, industrial, institutional, and landscape irrigation; and 10,009 acres of other non-demand generating land use types such as rural county and open space. The residential component can be further subdivided, with 94 percent of the total residential acres designated for single family dwellings and the remaining 6 percent for multi-family dwellings. The City's general plan map is shown in **Appendix B**.

3.2 CLIMATE DATA

The City has historically had a temperate climate due to its location in Santa Clara Valley and its proximity to the Pacific Ocean. The mean annual temperature in the City is 74.3 degrees Fahrenheit (°F), with the hottest month being July at approximately 88 °F for the average high, and the coldest month being December, with an average low of approximately 37 °F. High temperatures for the year average at 74 °F and low temperatures average annually 46 °F.



Legend

- Cities
- Study Area
- City Limits
- Urban Growth Boundary
- Highways
- Railroads
- Lakes

Elevation (ft)

- 100 - 250
- 251 - 500
- 501 - 1,000
- 1,001 - 2,000
- 2,001 - 3,000
- 3,001 - 4,000
- > 4,000

PRELIMINARY

N, W, GIS, E, S

0 0.5 1 2 Miles

Updated: March 22, 2016

AKEL ENGINEERING GROUP, INC.

File Path: P:\xGIS\GIS_Projects\Morgan_Hill\2016\UWMP\Final-HC\MH_Fig3-1ProjLoc_032216.mxd

Figure 3-1
Regional Location Map

2015 Urban Water Management Plan
City of Morgan Hill

CITY OF MORGAN HILL

Yearly extremes in temperature vary, with the peak high rising to above 100 °F and winter lows receding to the 20 °F range. The City has a historical average annual rainfall of approximately 21 inches, with the majority of the rainfall occurring from November to March. These months typically see over 3 inches of rain each. The average annual evapotranspiration (Eto) is 49.4 inches.

3.3 SERVICE AREA POPULATION AND DEMOGRAPHICS

The City is a growing community, with over 2 percent of the Santa Clara County population residing within the City limits. Department of Finance records estimate the 2015 population of Morgan Hill at 42,382.

Located on the Highway 101 corridor, Morgan Hill has historically been a growing city. Between 1970 and 1980 the City saw dramatic growth, with the population increasing from 5,579 to 16,924 at an average annual growth rate of approximately 18 percent. This rapid growth led to the City's adoption of a growth management system, known as the Residential Development Control System (RDCS), which regulates growth by limiting the number of new homes approved annually. Following the implementation of the RDCS the average annual growth rate between 1980 and 2000 fell to approximately 4.7 percent. From 2000 to present, the City has seen an average annual growth rate of approximately 2.4 percent.

The 2016 General Plan Update is currently planning for a 2035 population of 58,200 and projected populations consistent with this growth are used to project demands as part of the 2015 UWMP. The current and projected service area population is summarized in **Table 3-1**. It should be noted that potential changes to the in progress General Plan may occur, but are expected to decrease the population. As such, the numbers in this UWMP are conservative.

Table 3-1 Population - Current and Projected

2015	2020	2025	2030	2035	2040
42,382	48,000	51,400	54,800	58,200	61,600

CHAPTER 4 – SYSTEM WATER USE

The UWMPA requires that the UWMP provides a description of the current and projected water uses within the purveyor's service area. In addition to the description, the UWMP must also quantify the current and projected water uses.

4.1 RECYCLED VERSUS POTABLE AND RAW WATER DEMAND

This chapter summarizes historical and current potable water use as well as provides a brief summary of recycled and raw water demand.

4.2 WATER USES BY SECTOR

This section documents the historical and projected water use as well as the maximum day demand.

Law

> *10631. (e)(1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses:*
> *(A) Single-family residential.*
> *(B) Multifamily.*
> *(C) Commercial.*
> *(D) Industrial.*
> *(E) Institutional and governmental.*
> *(F) Landscape*
> *(G) Sales to other agencies.*
> *(H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.*
> *(I) Agricultural…*
> *(2) The water use projections shall be in the same five-year increments described in subdivision (a).*

4.2.1 Historical Water Use

The City currently provides domestic water to residential, commercial, industrial and institutional customers within the City limits. At the time of preparation of the 2015 UWMP, and based on most recently available data, the City had recorded water delivery service to 9,646 single family residential users, 1,968 multi-family residential accounts, 804 commercial, institutional, and industrial accounts, and 650 landscape accounts. In 2015, domestic water use totaled approximately 5,379 AF, as summarized in **Table 4-1**.

Table 4-1 Demands for Potable and Raw Water – Actual

Use Type	Metered Delivered Volume (AF)
Single Family	3,206
Multi-Family	581
Commercial[1]	527
Landscape	1,064
Total	**5,379**

Notes:
1. Includes Commercial and Institutional use types.

4.2.2 Projected Water Use

Table 4-2, Table 4-3, and Table 4-3A, found on the following pages, summarize the potable water demand projection through the year 2040. To calculate the projected potable water demand through the UWMP planning horizon of 2040, the City's 2020 urban water use target 159 gallons per capita per day (gpcd) was applied to the projected population set forth in the Draft 2016 General Plan Update. Table descriptions are as follows:

- Table 4-2 summarizes the projected water demand by water use type
- Table 4-3 summarizes the total projected water demand, which includes projected recycled water demand
- Table 4-3A summarizes the projected annual population growth and the City's corresponding gross water use

In addition to the City's potable water demand, Table 4-2 and Table 4-3 include demand projections associated other users that rely on groundwater from the Llagas subbasin and Coyote Valley subarea. These additional demands, based on estimates prepared by Santa Clara Valley Water District (SCVWD), are included for completeness of the Llagas and Coyote Valley water budget, discussed in greater detail in Chapter 6 and Chapter 7.

Table 4-2 Demands for Potable and Raw Water - Projected

Use Type	Projected Water Use				
	2020 (AF)	2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)
Single Family	5,096	5,457	5,818	6,179	6,540
Multi-Family	924	990	1,055	1,120	1,186
Commercial[1]	838	898	957	1,016	1,076
Landscape	1,691	1,811	1,931	2,051	2,170
Other - Llagas[2]	41,230	43,324	45,413	46,971	47,360
Other - Coyote Valley[2]	11,986	13,063	14,295	15,474	15,736
Total - Morgan Hill	**8,549**	**9,155**	**9,760**	**10,366**	**10,972**
Total - Overall	**61,765**	**65,542**	**69,468**	**72,811**	**74,068**

Notes:

1. Includes Commercial and Institutional use types.
2. Additional projected Llagas subbasin and Coyote Valley subarea demand included for completeness of the Llagas and Coyote Valley water budget.

Table 4-3 Total Water Demands

Demand Type	Demand					
	2015 (AF)	2020 (AF)	2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)
Potable and Raw Water	5,379	61,765	65,542	69,468	72,811	74,068
Recycled Water	0	0	0	0	0	0
Total	**5,379**	**61,765**	**65,542**	**69,468**	**72,811**	**74,068**

Table 4-3A Total Water Demands – Annual Projections

Year	Population[1,2]	Percent Growth (%)	Dwelling Units Added[2,3] (DU/year)	Water Demands (mgd)
Historical				
2010	37,882	0.6%	74	6.5
2011	38,456	1.5%	185	6.7
2012	39,432	2.5%	314	7.2
2013	40,486	2.7%	339	8.0
2014	41,562	2.7%	346	6.7
2015	42,382	2.0%	264	5.2
Projected - General Plan EIR				
2016	43,506	2.7%	356	5.7
2017	44,629	2.6%	356	6.2
2018	45,753	2.5%	356	6.7
2019	46,876	2.5%	356	7.1
2020	48,000	2.4%	356	7.6
2021	48,680	1.4%	215	7.7
2022	49,360	1.4%	215	7.8
2023	50,040	1.4%	215	8.0
2024	50,720	1.4%	215	8.1
2025	51,400	1.3%	215	8.2
2026	52,080	1.3%	215	8.3
2027	52,760	1.3%	215	8.4
2028	53,440	1.3%	215	8.5
2029	54,120	1.3%	215	8.6
2030	54,800	1.3%	215	8.7
2031	55,480	1.2%	215	8.8
2032	56,160	1.2%	215	8.9
2033	56,840	1.2%	215	9.0
2034	57,520	1.2%	215	9.1
2035	58,200	1.2%	215	9.3
2036	58,880	1.2%	215	9.4
2037	59,560	1.2%	215	9.5
2038	60,240	1.1%	215	9.6
2039	60,920	1.1%	215	9.7
2040	**61,600**	1.1%	215	**9.8**

Notes:
1. Historical Populations per California Department of Finance estimates.
2. Historical values based on population projections received from City staff April 6, 2016
3. People per dwelling unit at approximate historical averages.

4.2.3 Maximum Day Demand

Maximum Day Demand is a significant demand condition on the water supply system. This condition is defined as the maximum 24-hour use period in the year. Peaking factors are commonly used as a way of simulating the maximum day demand for future demand scenarios. This multiplier is assessed to the average day demand, and is commonly in the order of 2 to 2.5 times greater than the average day demand. The January 2002 City Water System Master Plan specified a maximum day demand peaking factor of 2.0. The Water System Master Plan is currently being updated. It is not anticipated that the maximum day peaking factor will change as a result of the update.

4.3 DISTRIBUTIONS SYSTEM WATER LOSSES

Law

> *10631 (e)(1) Quantify to the extent records are available, past and current water use over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses:*
> *(J) Distribution system water loss*
>
> *(3)(A) For the 2015 urban water management plan updated, the distribution system water loss shall be quantified for the most recent 12-month period available. For all subsequent updates, the distribution system water loss shall be quantified for each of the five years preceding the plan update.*
> *(B) The distribution system water loss quantification shall be reported in accordance with a worksheet approved or developed by the department through a public process. The water loss quantification worksheet shall be based on the water system balance methodology developed by the American Water Works Association.*

As part of the 2015 UWMP update urban water suppliers are required to quantify their distribution system water losses in a manner consistent with the American Water Works Association (AWWA) water system balance methodology. The City has completed the required water loss audit worksheet in accordance with the DWR guidelines and the projected losses are summarized in Table 4-4. The city-wide distribution system losses identified using the AWWA water system balance methodology for the 2015 UWMP were determined to be 420 AF.

Table 4-4 12 Month Water Loss Audit Reporting

Reporting Period Start Date	Volume of Water Loss (AF)
January 2015	420

4.4 ESTIMATING FUTURE WATER SAVINGS

Law

> *10631 (e)(4)(A) If available and applicable to an urban water supplier, water use projections may display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans identified by the urban water supplier, as applicable to the service area.*
>
> *(B) To the extent that an urban water supplier reports the information described in subparagraph (A), an urban water supplier shall do both of the following: (i) Provide citations of the various codes, standards, ordinances, or transportation and land use plans utilized in making the projections. (ii) Indicate the extent that the water use projections consider savings from cods, standards, ordinances, or transportation and land use plans. Water use projections that do not account for these water savings shall be noted of that fact.*

In the event of a water shortage event, the City has a Water Shortage Contingency Plan, discussed further in Chapter 8, which is intended to reduce water demands by set percentages. The percent demand reduction is based on the stage enacted. These measures would result in a short-term reduction in demand but would not remain in effect once the water shortage event concludes. Therefore, as a conservative assumption, the savings associated with these water reduction measures have not been included as part of the water demand projections (Table 4-5).

Table 4-5 Inclusion in Water Use Projections

Are Future Water Savings Included in Projections?	No
Are Lower Income Residential Demands Included In Projections?	Yes

4.5 WATER USE FOR LOWER INCOME HOUSEHOLDS

Law

> *10631.1 (a) The water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as defined in Section 50079.5 of the Health and Safety Code, as identified in the housing element of any city, county, or city and county in the service area of the supplier.*
>
> *California Health and Safety Code 50079.5*
>
> *(a) "Lower income households" means persons and families whose income does not exceed the qualifying limits for lower income families…In the event the federal standards are discontinued, the department shall, by regulation, establish income limits for lower income households for all geographic areas of the state at 80 percent of area median income, adjusted for family size and revised annually.*

SB 1087 (Florez, 2005) amended the UWMPA to require urban water suppliers to include single family and multi-family residential units for lower income households as identified by the City, County, or combination of both within the service area of the provider. In the 2010 UWMP the low-income projected water demands were calculated based on the City's General Plan Housing Element, which provided estimates of lower income housing through 2014. As part of the City's current General Plan update an updated Housing Element was released, which provides the amount of lower income housing units allocated through 2022. This updated housing element allocates 46 percent of future housing units as lower income. Overall population growth was used to determine lower income housing units and water demands through the 2040 UWMP planning horizon. As indicated by **Table 4-5**, the low income water demands are included in the total water demand projection that is summarized in **Table 4-2**.

4.6 CLIMATE CHANGE

The DWR Guidebook lists discussion of climate change as optional, but suggests the impacts may be considered to provide a comprehensive look at the changing water conditions due to changing climate. It is at the discretion of the water supplier to include discussions on the impact of climate change.

For the purposes of the 2015 UWMP, the impact of climate change on water supplies is not documented. As further studies are completed, and the requirements to address climate change are amended, the City will incorporate into future UWMP iterations.

CHAPTER 5 – BASELINES AND TARGETS

The UWMPA requires that retail agencies provide a description of methods used for calculating their baseline consumption as well as target water consumption. For the 2015 UWMP, the agencies are required to show if the 2015 interim water use target was achieved and if the agency is on track to achieve the 2020 water use target set forth in the 2010 UWMP.

5.1 2010 UWMP BASELINE AND TARGETS

Senate Bill X7-7 (SBX7-7) was approved by the Governor of California on November 10, 2009, and requires urban water suppliers to set target goals for water conservation. Water suppliers must meet the "20X2020" goals set forth by Governor Schwarzenegger of reducing per capita consumption by 20 percent by the year 2020.

The evaluation of a supply source or storage needs for future growth is commonly achieved by evaluating past water consumption on a per person basis. The future needs of the supply source can then be evaluated by applying the per capita consumption rate, expressed as gallons per capita per day (gpcd), to the projected population. Table 5-1 summarizes the baseline periods and per capita water use targets determined as part of the SBX7-7 calculations. The City had an average gpcd of 192 from 1995 to 2000, while the average from 2001 to 2010 remained relatively flat at approximately 200 gpcd. Conservation efforts were successful in lowering the water consumption to a per capita water consumption rate of 123 gpcd in the year 2015.

Table 5-1 Baselines and Targets Summary

Baseline Period	Start Year	End Year	Per Capita Water Use		
			Average Baseline (gpcd)	2015 Interim Target (gpcd)	Confirmed 2020 Target (gpcd)
10-15 year	1996	2005	199	179	159
5 Year	2003	2007	205		

It should be noted that the Governor of California released Executive Order (EO) B-37-16 on May 9th, 2016 regarding the on-going drought conditions that are affecting large portions of the state. EO B-37-16 addresses the previous Executive Orders from 2014 and 2015, and that those Order's remain in effect. As part of this order, the Department of Water Resources (DWR), in conjunction with the State Water Resources Control Board, must revise urban water use target framework to develop new targets that build off of the "20x2020" SB X7-7 requirements. The

targets will be customized to the unique conditions of the agencies. Urban Stakeholder meetings will be held to review the targets, and DWR will issue proposed draft framework to the public by January 10, 2017.

The DWR staff was contacted as part of this UWMP update to determine if the EO has any impact to the 2015 UWMP. The DWR staff indicated that there would be no impact to the 2015 UWMP, however, that as stakeholder meetings commence, and draft framework is put into place, requirements may change. As such, the City is monitoring the potential changes and will update accordingly as requirements are finalized.

5.2 UPDATING CALCULATIONS FROM THE 2010 UWMP

This section discusses the target use method and the use of the 2010 Census data update.

5.2.1 Update of Target Method

The 2020 Urban Water Use Target established as part of the 2010 UWMP planning process was determined using the straight 20 percent reduction, defined by DWR as Method 1. The target method used to calculate the 2020 urban water use target will not be updated as part of the 2015 UWMP.

5.2.2 Required Use of 2010 U.S. Census Data

Following a review of the Department of Finance (DOF) population estimates for 2010 based on 2000 census data and 2010 census data, DWR determined that significant discrepancies exist; it was determined that any agency that used the 2010 population based on the 2000 census data must recalculate the population over the baseline period for the 2015 UWMP using 2000 and 2010 Census data.

The City's 2010 UWMP used population data based on the 2000 census in calculating the population over the baseline period; therefore, as part of the 2015 UWMP, the population over the baseline period has been updated based on the 2010 census data.

5.3 BASELINE PERIODS

This section discusses the baseline periods used in the UWMP.

5.3.1 Determination of the 10-15 Year Baseline Period (Baseline GPCD)

Law

> *10608.12 (b) "Base daily per capita water use" means any of the following:*
>
> *(1) The urban retail water supplier's estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous 10-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.*
>
> *(2) For an urban retail water supplier that meets at least 10 percent of its measure retail water demand through recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier, the urban retail water supplier may extend the calculation described in paragraph (1) up to an additional five years to a maximum of a continuous 15-year period ending no earlier than December 31, 2004 and no later than December 31, 2010.*

To adequately project future water use, SBX7-7 must be considered with the appropriate reductions. As part of the new requirements for reductions in water use, a range in years needs to be selected for calculating the base daily (historical) per capita water use.

SBX7-7 allows the selection of either 10 or 15 years as a base period for calculating the average consumption per capita. If the recycled water use exceeds 10 percent of potable water production, a 15-year base period is allowed. Otherwise, a 10-year base period should be used. Additionally, a 5-year base period is to be identified for interim target projections.

The 10- to 15-year base period must end between December 31, 2004 and December 31, 2010; and the 5-year base period must end between December 31, 2007 and December 31, 2010.

The City's calculations for the base periods are documented on the following page in **SBX7-7 Table 1**. Since the recycled water usage in 2008 did not account for more than 10 percent of the total potable water production, the City uses a 10-year base period. The 10-year base period is selected based on the highest average per capita water use in any 10-year period within the DWR guidelines.

SBX7-7 Table 1 Baseline Period Ranges

Baseline	Parameter	Value	Units
10- to 15-year baseline period	2008 total water deliveries	8,570	Acre Feet
	2008 total volume of delivered recycled water	0	Acre Feet
	2008 recycled water as a percent of total deliveries	0.00%	Percent
	Number of years in baseline period	10	Years
	Year beginning baseline period range	1996	
	Year ending baseline period range	2005	
5-year baseline period	Number of years in baseline period	5	Years
	Year beginning baseline period range	2003	
	Year ending baseline period range	2007	

In the City's 2010 UWMP, a 10-year range (1999-2008) was used to calculate the 2020 urban water use target, which yielded a 10-year average per capita water use target of 199 gpcd. Following the update of the baseline population based on the 2010 census data, discussed in section 5.4, the average per capita water use target over the same 10-year range was equal to 205 gpcd. In order to provide an average per capita water use target consistent with that identified in the 2010 UWMP, a new 10-year range of 1995-2004 was selected to calculate the average per capita water use. Using this updated 10-year range and the population data updated based on the 2010 census data, a 10-year average per capita water use of 199 gpcd is achieved, which is consistent with the 2010 UWMP.

5.3.2 Determination of the 5-year Baseline Period (Target Confirmation)

Law

> *10608.12 (b).*
> *(3) For the purposes of Section 10608.22, the urban retail water supplier's estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous five-year period ending no earlier than December 31, 2007, and no later than December 31, 2010.*

In order to confirm that the calculated 2020 Urban Water Use target meets the minimum water use reduction requirements, water use must also be calculated over a 5-year baseline period. The 2010 UWMP selected a 5-year range of 2003-2007, which yielded a 5-year average per capita water use target of 198 gpcd. The 2015 UWMP does not update the 5-year baseline period.

Following the update of the baseline population based on the 2010 census data, discussed in section 5.4, the average per capita water use target over the same 5-year range was equal to 205 gpcd.

5.4 SERVICE AREA POPULATION

Law

> *10608.20 (e) An urban retail water supplier shall include in its urban water management plan due in 2010…the baseline daily per capita water use, …along with the bases for determining those estimates, including references to supporting data.*
>
> *(f) When calculating per capita values for the purposes of this chapter, an urban retail water supplier shall determine population using federal, state, and local population reports and projections.*
>
> *10644 (a)(2) The plan…shall include any standardized forms, tables, or displays specified by the department*

Consistent with the 2010 UWMP, California DOF population estimates were used to determine historical populations as part of the 10-year average per capita water use, as indicated in **SBX7-7 Table 2**. Based on a review by DWR, it was determined that the DOF estimates based on 2000 census data differ from the estimates based on the updated 2010 census data (available in late 2012). Therefore the baseline service area population was updated with the DOF estimates based on the 2010 census data and is summarized on the following page in **SBX7-7 Table 3.**This updated population over the baseline period is used in the calculation of the baseline period average per capita water use.

SBX7-7 Table 2 Method for Population Estimates

Method Used to Determine Population	
☑	**1. Department of Finance (DOF)** DOF Table E-8 (1990 - 2000) and (2000-2010) and DOF Table E-5 (2011 - 2015) when available
☐	**2. Persons-per-Connection Method**
☐	**3. DWR Population Tool**
☐	**4. Other**

SBX7-7 Table 3 Service Area Population

Year		Population
10 to 15 Year Baseline Population		
Year 1	1996	28,822
Year 2	1997	29,542
Year 3	1998	30,262
Year 4	1999	31,900
Year 5	2000	33,586
Year 6	2001	33,914
Year 7	2002	34,210
Year 8	2003	34,109
Year 9	2004	34,618
Year 10	2005	35,011
5 Year Baseline Population		
Year 1	2003	34,109
Year 2	2004	34,618
Year 3	2005	35,011
Year 4	2006	35,535
Year 5	2007	36,467
2015 Compliance Year Population		
2015		42,382

5.5 GROSS WATER USE

Law

10608.12 (g) "Gross Water Use" means the total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier, excluding all of the following:

(1) Recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier

(2) The net volume of water that the urban retail water supplier places into long term storage

(3) The volume of water the urban retail water supplier conveys for use by another urban water supplier

(4) The volume of water delivered for agricultural use, except as otherwise provided in subdivision (f) of Section 10608.24.

California Code of Regulations Title 23 Division 2 Chapter 5.1
Section 596 (a) An urban retail water supplier that has a substantial percentage of industrial water use in its service area is eligible to exclude the process water use of existing industrial water customers from the calculation of its gross water use to avoid the disproportionate burden on another customer section.

In order to determine the baseline per capita water use, gross water use entering the distribution system of the supplier must be determined for each year within the baseline period. There are a number of exclusions taken into consideration when determining the annual gross water use, including recycled water delivered in the service area, water volume placed into long term storage, water conveyed for use by another urban water supplier, water delivered, with certain exceptions, for agricultural use, and industrial water use if the total industrial use is greater than or equal to 12% of gross water use.

Based on historical production reports, and consistent with the 2010 UWMP, there are no exceptions to be taken into consideration when calculating the City's gross water use. The City's historical gross water use and the volume of water entering the distribution system from the groundwater subbasins are respectively summarized on **SBX7-7 Table 4** and **SBX7-7 Table 4A**, which are found on the following pages. As **SBX7-7 Table 4** shows, the City's gross water use in the 2015 compliance year was equal to 5,846 AF.

SBX7-7 Table 4 Annual Gross Water Use

Baseline Year		Volume Into Distribution System	Deductions					Annual Gross Water Use
			Exported Water	Change in Dist. System Storage (+/-)	Indirect Recycled Water	Water Delivered for Agricultural Use	Process Water	
		(AF)	(AF)	(AF)	(AF)	(AF)	(AF)	(AF)
10 to 15 Year Baseline - Gross Water Use								
Year 1	1996	6,009						6,009
Year 2	1997	6,804						6,804
Year 3	1998	6,211						6,211
Year 4	1999	6,939						6,939
Year 5	2000	7,509						7,509
Year 6	2001	7,799						7,799
Year 7	2002	7,936						7,936
Year 8	2003	7,728						7,728
Year 9	2004	8,102						8,102
Year 10	2005	7,894						7,894
							10 - 15 year baseline average gross water use	**7,293**
5 Year Baseline - Gross Water Use								
Year 1	2003	7,728						7,728
Year 2	2004	8,102						8,102
Year 3	2005	7,894						7,894
Year 4	2006	7,996						7,996
Year 5	2007	8,589						8,589
							5 year baseline average gross water use	**8,061**
2015 Compliance Year - Gross Water Use								
2015		5,846					**2015 gross water use**	**5,846**

SBX7-7 Table 4-A Volume Entering Distribution System (Llagas)

Name of Water Source: Llagas Subbasin		
☑ The supplier's own water source		
☐ A purchased or imported source		
Baseline Year		**Volume Entering Distribution System** (AF)
10 to 15 Year Baseline - Water into Distribution System		
Year 1	1996	3,868
Year 2	1997	4,379
Year 3	1998	3,998
Year 4	1999	5,407
Year 5	2000	5,705
Year 6	2001	6,149
Year 7	2002	6,050
Year 8	2003	5,852
Year 9	2004	6,321
Year 10	2005	6,308
5 Year Baseline - Water into Distribution System		
Year 1	2003	5,852
Year 2	2004	6,321
Year 3	2005	6,308
Year 4	2006	6,366
Year 5	2007	6,887
2015 Compliance Year - Water into Distribution System		
2015		4,740

SBX7-7 Table 4-A Volume Entering Distribution System (Coyote Valley)

Name of Water Source:		Coyote Valley Subarea of the Santa Clara Subbasin
☑ The supplier's own water source		
☐ A purchased or imported source		
Baseline Year		**Volume Entering Distribution System** (AF)
10 to 15 Year Baseline - Water into Distribution System		
Year 1	1996	2,141
Year 2	1997	2,425
Year 3	1998	2,213
Year 4	1999	1,532
Year 5	2000	1,804
Year 6	2001	1,650
Year 7	2002	1,886
Year 8	2003	1,875
Year 9	2004	1,782
Year 10	2005	1,586
5 Year Baseline - Water into Distribution System		
Year 1	2003	1,875
Year 2	2004	1,782
Year 3	2005	1,586
Year 4	2006	1,630
Year 5	2007	1,702
2015 Compliance Year - Water into Distribution System		
2015		1,105

5.6 BASELINE DAILY PER CAPITA WATER USE

The final baseline calculation is to determine the per capita water use in each baseline year and the average per capita water use over the entire baseline period. Using the baseline period and service area population as described in previous sections, the per capita water use for each year has been determined and can be seen in **SBX7-7 Table 5**; the maximum and minimum per capita water use over the baseline period respectively are 209 gpcd in 2004 and 183 gpcd in 1998. The average per capita water use over the 10-year baseline period is 199 gpcd. **SBX7-7 Table 6** on the following page summarizes the 10-year baseline per capita water use, the 5 year baseline per capita water use, and the 2015 compliance year per capita water use.

SBX7-7 Table 5 Gallons Per Capita Per Day (GPCD)

Baseline Year		Service Area Population	Annual Gross Water Use (AF)	Daily Per Capita Water Use (gpcd)
10 to 15 Year Baseline Per Capita Water Use				
Year 1	1996	28,822	6,008	186
Year 2	1997	29,542	6,804	206
Year 3	1998	30,262	6,211	183
Year 4	1999	31,900	6,939	194
Year 5	2000	33,586	7,509	200
Year 6	2001	33,914	7,799	205
Year 7	2002	34,210	7,936	207
Year 8	2003	34,109	7,728	202
Year 9	2004	34,618	8,102	209
Year 10	2005	35,011	7,894	201
		10-15 Year Average Baseline GPCD		199
5 Year Baseline Per Capita Water Use				
Year 1	2003	34,109	7,728	202
Year 2	2004	34,618	8,102	209
Year 3	2005	35,011	7,894	201
Year 4	2006	35,535	7,996	201
Year 5	2007	36,467	8,589	210
		5 Year Average Baseline GPCD		205
2015 Compliance Year Per Capita Water Use				
2015		42,382	5,846	123

SBX7-7 Table 6 Gallons per Capita per Day Summary

	Per Capita Water Use (gpcd)
10-15 Year Baseline	199
5 Year Baseline	205
2015 Compliance Year	123

5.7 2015 AND 2020 TARGETS

Law

> *10608.12 (e) An urban retail water supplier shall include in its urban water management plan due in 2010…urban water use target, interim urban water use target,…along with the bases for determining those estimates, including references to supporting data (10608.20(e)).*
>
> *(g) An urban retail water supplier may update its 2020 urban water use target in its 2015 urban water management plan…*

Consistent with the 2010 UWMP, the 2020 Urban Water Use Target was calculated using Method 1, which is indicated in **SBX7-7 Table 7**. Method 1, as defined by DWR, is a straight 20 percent reduction in water use. Using Method 1, the City's 2020 urban water use target is documented as 159 gpcd, which is summarized on the following page in **SBX7-7 Table 7-A**. The interim 10 percent reduction target to be met by 2015 was calculated as 179 gpcd, as summarized n the following page in **SBX7-7 Table 8**. The 159 gpcd target is intended to be maintained through the UWMP horizon of 2040.

SBX7-7 Table 7 2020 Target Method

Target Method		Supporting Documentation
☑	Method 1	SB X7-7 Table 7A
☐	Method 2	SB X7-7 Tables 7B, 7C, and 7D
☐	Method 3	SB X7-7 Table 7-E
☐	Method 4	Method 4 Calculator

SB X7-7 Table 7-A Target Method 1

10-15 Year Baseline (gpcd)	2020 Target (gpcd)
199	159

SBX7-7 Table 8 2015 Interim Target Per Capita Water Use

Confirmed 2020 Target (gpcd)	10-15 year Baseline (gpcd)	2015 Interim Target (gpcd)
159	199	179

5.7.1 5-Year Baseline – 2020 Target Confirmation

Law

> *10608.22 Notwithstanding the method adopted by an urban retail water supplier pursuant to section 10608.20, an urban retail water supplier's per capita daily water user reduction shall be no less than 5 percent of base daily per capita water use are defined in paragraph (3) of subdivision (b) of Section 10608.12. This section does not apply to an urban retail water supplier with a base daily per capita water use at or below 100 gallons per capita per day.*

The 2020 Urban Water Use Target is required to reduce the City's 2020 water use by a minimum of 5 percent from the 5-year baseline period (2003-2007). As calculated in **SB X7-7 Table 5**, the average per capita water use for the 5-year baseline period is 205 gpcd. The 2020 Urban Water Use Target of 159 gpcd is an approximately 22% reduction from the 5-year average per capita water use, thereby confirming the 2020 Urban Water Use Target (**SB X7-7 Table 7-F**).

SBX7-7 Table 7-F Confirm Minimum Reduction for 2020 Target

5 Year Baseline GPCD (gpcd)	Maximum 2020 Target[1] (gpcd)	Calculated 2020 Target (gpcd)	Confirmed 2020 Target (gpcd)
205	194	159	159

Notes:

1. Maximum 2020 Target is 95% of the 5-year Baseline per capita water use.

5.8 2015 COMPLIANCE DAILY PER CAPITA WATER USE

Law

> *10608.12 (e) "Compliance daily per-capita water use" means the gross water use during the final year of the reporting period…*
>
> *10608.24 (a) Each urban water retail water supplier shall meet its interim water use target by December 31, 2015*
>
> *10608.20 (e) An urban retail water supplier shall include in its urban water management plan due in 2010…compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.*

Using the City population and gross water use for the 2015 compliance year, the per capita water use was calculated as 123 gpcd, meaning the City has met the 2015 interim target per capita water use of 179 gpcd. **Table 5-2** and **SBX7-7 Table 9** summarizes the City's compliance with the 2015 per capita water use targeted reduction. It should be noted that the 123 gpcd water use is the result of the on-going drought and corresponding Water Shortage Contingency Plan implementation measures. Should the drought end prior to 2020 compliance notification, the City will monitor and encourage continued water conservation in an effort to meet the 2020 water use target.

SBX7-7 Table 9/Table 5-2 2015 Compliance

Actual 2015 Per Capita Water Use (gpcd)	2015 Interim Target Per Capita Water Use (gpcd)	Optional Adjustments to 2015				Adjusted 2015 Flow (gpcd)	2015 Per Capita Water Use (gpcd)	Did Supplier Achieve Targeted Reduction for 2015?
		Extraordinary Events	Economic Adjustment	Weather Normalization	Total Adjustments			
123	179	0	0	0	0	123	123	Yes

5.9 REGIONAL ALLIANCE

The DWR allows water supply agencies to comply with SBX7-7 through a Regional Alliance, and the corresponding SBX7-7 compliance information must be reported in a Regional Alliance Report. The City is not part of a regional alliance and is not reporting any compliance information in a Regional Alliance Report.

CHAPTER 6 – SYSTEM SUPPLIES

The UWMPA requires that the agency provide description as we all quantification of the current and projected sources of water available to the agency. If applicable to the agency, UWMPA also requires potential uses and availability of the recycled water.

6.1 PURCHASED OR IMPORTED WATER

The City currently uses local groundwater as the sole source of water supply and does not purchase or import water from any other water suppliers or entities.

6.2 GROUNDWATER

For planning purposes the State of California has been divided into ten separate hydrologic regions by the DWR, based on the State's major drainage basins. According to the California Water Plan 2013 Update, the City is located in the Central Coast Hydrologic Region. Each hydrologic region is divided into distinct groundwater basins, each of which is typically divided further into smaller interconnected groundwater subbasins. The following section summarizes the groundwater basin and subbasin underlying the City.

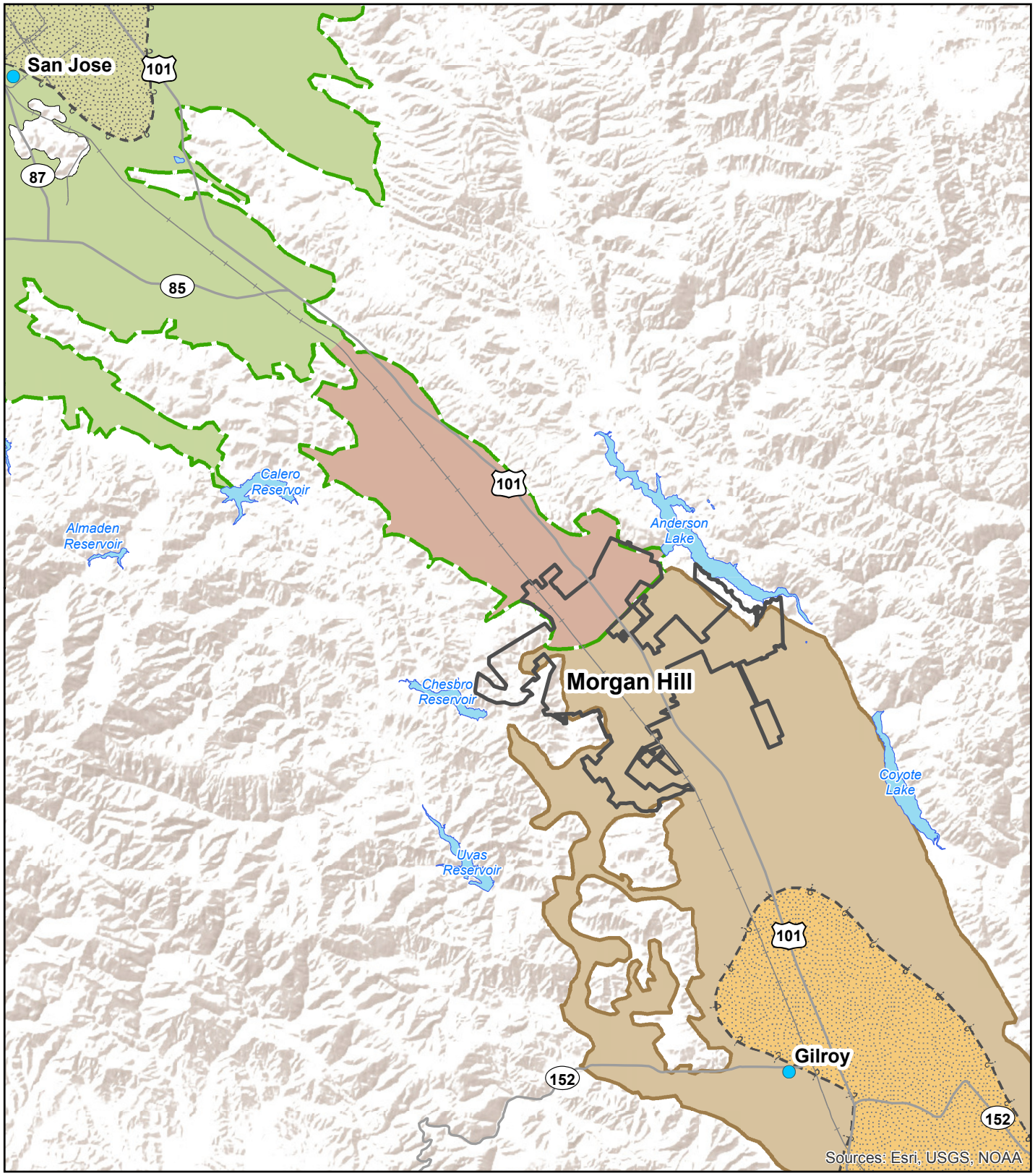
6.2.1 Basin Description

Law

> *10631. (b) If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:*
>
> *10631 (ii) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater.*

6.2.1.1 Groundwater Basin

The City is located above two groundwater subbasins: the Llagas subbasin of the Gilroy-Hollister Groundwater Basin and the Santa Clara subbasin of the Santa Clara Valley Groundwater Basin (**Figure 6-1**). Due to different land use and management characteristics SCVWD further divides the Santa Clara subbasin into two separate subareas, the Santa Clara Plain and the Coyote Valley. The City extracts water from the Coyote Valley subarea of the Santa Clara subbasin. The subbasin and subarea divisions help better define the aquifer below the City. These subbasins are interconnected and help filter, transmit, and store water and can also be further defined by the aquifer characteristics, such as confinement and soil properties.



Legend

Groundwater Subbasins

DWR Subbasins

- Santa Clara (2-9.02)
- Llagas (3-3.01)

Hydrographic Units

- Santa Clara Plain Recharge Area
- Santa Clara Confined Area
- Coyote Valley Recharge Area
- Llagas Recharge Area
- Llagas Confined Area
- Bedrock
- Approximate Extent of Confined Area

PRELIMINARY

N W GIS E S

0 0.5 1 2 Miles

Updated: March 31, 2016

AKEL ENGINEERING GROUP, INC.

File Path: P:\xGIS\GIS_Projects\Morgan_Hill\2016\UWMP\Final-HC\MH_Fig6-1_GroundWaterBasins_033116.mxd

Figure 6-1
Groundwater Subbasins

2015 Urban Water Management Plan
City of Morgan Hill

CITY OF MORGAN HILL

The Llagas subbasin and the Coyote Valley subarea are monitored and addressed by SCVWD. The January 2016 Groundwater Condition Report from SCVWD notes that groundwater levels were below the 5-year average for both the Coyote Valley subarea and the Llagas subbasin. Additionally, groundwater pumping for 2015 was below the 5-year average for both subbasins.

Based on the South County Water Supply Planning Project dated July 2010, the Llagas Subbasin is expected to experience a water supply shortfall in 2030 demand projections. These groundwater projections were based on a desired groundwater elevation set forth by SCVWD.

6.2.1.2 Basin Boundaries

The City lies atop the boundary between the Llagas subbasin and the Coyote Valley subarea of the Santa Clara subbasin, with Cochrane Road being the approximate boundary line; wells north of Cochrane Road pump water from the Coyote Valley subarea while wells south pump from the Llagas subbasin.

The Llagas Subbasin is 15 miles long, 3 miles wide along the northern bounds, and tapers out to approximately 6 miles along the Pajaro River boundary. The subbasin has confined and unconfined portions within its boundary. At approximately 74 square miles, the confined area protrudes to the north from the Pajaro River, with a thick clay layer binding the subbasin to approximately Church Creek. The extreme east-west portions, as well as north of Church Creek, are generally categorized as the unconfined portion of the Llagas Subbasin

The Coyote Valley subarea is approximately 7 miles long, beginning at Metcalf Road and ending at Cochrane Road, and is approximately 2 miles wide. The approximate surface area of the Coyote Valley is 15 square miles. The Coyote Valley has the general characteristics of an unconfined subbasin, with no clay confining layers, and normally drains to the Santa Clara Plain subarea of the Santa Clara subbasin.

6.2.1.3 Groundwater Quality

Drinking water standards follow Title 22 Standards set forth by the State of California, in conjunction with the Environmental Protection Agency, to monitor the quality of potable water. The City currently monitors its supply wells, and the District monitors groundwater in the Santa Clara County.

According to the SCVWD 2014 Annual Groundwater Report, the quality of the South County groundwater, which includes the Llagas subbasin and the Coyote Valley subarea, is of generally good quality. The District reports median nitrate levels for the Llagas and Coyote Valley groundwater as 15.2 mg/L and 20.5 mg/L, respectively.

One of the primary contaminants of note in the City is perchlorate, as identified in the 2010 UWMP. The primary source of perchlorate contamination was identified as the Olin Chemical Corporation highway safety flare plant. According to the SCVWD 2014 Annual Groundwater Report, more than 167 pounds of perchlorate have been removed from the site and over 2,050 AF

of water has been treated. The plume of perchlorate in groundwater was at one time ten-miles long, according to the 2010 UWMP, but has been getting smaller and approximately extends from Tennant Avenue to the San Martin Airport according to SCVWD.

6.2.2 Groundwater Management

This section documents relevant plans addressing groundwater supply and quality.

Law

> *10631. (b) …if groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:*
>
> *10631 (i) A copy of any groundwater management plan adopted by the urban water supplier…or any other specific authorization for groundwater management.*
>
> *10631 (ii) For basins that a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree.*

6.2.2.1 Groundwater Management Plan

The Santa Clara Valley Water District (SCVWD) prepared a Groundwater Management Plan report published in 2012 (2012 GMP). The 2012 GMP delineates the role of SCVWD as groundwater managers within the County, as well as provides details of the basins to which the District maintains. The following are excerpts taken from the Executive Summary section of the 2012 GMP.

> *The Santa Clara Valley Water District (District) is the groundwater management agency for the Santa Clara and Llagas Subbasins in Santa Clara County. The District is also the primary water wholesaler, flood manager, and watershed steward for the county.*
>
> *The District was formed in 1929 by an act of the California legislature through the Santa Clara Valley Water District Act1 (District Act) for the purpose of providing comprehensive management for all beneficial uses and protection from flooding within Santa Clara County.*
>
> *Per Sections 4 and 5 of the District Act, the District's objectives and authority related to groundwater management are to recharge groundwater basins, conserve, manage and store water for beneficial and useful purposes, increase water supply, protect surface water and groundwater from contamination, prevent waste or diminution of the District's water supply, and do any and every lawful act necessary to ensure sufficient water is available for present and future beneficial uses.*
>
> *Using the District's overall water supply management objectives, the following basin management objectives (BMOs) were developed:*
>
> *BMO 1: Groundwater supplies are managed to optimize water supply reliability and minimize land subsidence.*

BMO 2: Groundwater is protected from existing and potential contamination, including salt water intrusion.

These BMOs describe the overall goals of the District's groundwater management program. The basin management strategies are the methods that will be used to meet the BMOs. Many of these strategies have overlapping benefits to groundwater resources, acting to improve water supply reliability, minimize subsidence, and protect or improve groundwater quality.

6.2.2.2 Integrated Water Resource Plan

The objective of the Integrated Water Resource Plan (IWRP) is to develop a comprehensive and flexible water supply plan for the County through the year 2040. The IWRP incorporates community input and is capable of responding to changing water supply and demand conditions.

The IWRP Preferred Strategy aims to maximize the Districts flexibility to meet actual water demands, and where they match water projections. It relies on practices, such as water banking, recycled water, demand management, and water transfers. It further relies on "core elements" designed to validate baseline planning assumptions, monitor or evaluate resource options, and help meet planning objectives.

6.2.3 Overdraft Conditions

Law

> *10631. (b)(2) For basins that have not been adjudicated, (provide) information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.*

The Santa Clara Valley Groundwater Basin is not an adjudicated groundwater basin. According to the DWR 2003 Bulletin 118 the Santa Clara Valley Groundwater Basin is not in a condition of overdraft. In order to reduce the risk of groundwater basin overdraft, a recharge system has been developed by SCVWD.

The SCVWD prepared the South County Water Supply Planning Project (July 2010), and as a part of this project, the District implemented the use of the Llagas Groundwater Subbasin Groundwater Model. As part of the modeling approach it was assumed that development in the Coyote Valley subarea would not impact the groundwater conditions of the Llagas subbasin and the findings therefore only relate to the Llagas subbasin. This model helped to explore reliable planning of groundwater use and projections for the groundwater basin. As a result of modeling runs, the SCVWD predicted that groundwater demands for the Llagas Subbasin will increase by approximately 7,000 afy, and more than 4,000 afy of supplemental water will be necessary to maintain design groundwater management objectives.

6.2.4 Historical Groundwater Pumping

Law

> *10631. (b) …if groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:*
>
> *10631 (iii) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonable available, including, but not limited to, historic use records.*

There are currently 16 existing municipal groundwater wells located throughout the City, as shown on Figure 6-2. The combined supply capacity for these wells is approximately 21,600 afy. The firm capacity, designated as the total capacity less the largest unit out of service, of the City wells is approximately 19,200 afy. The volume of groundwater pumped by the City over the past five years is summarized in Table 6-1.

Table 6-1 Groundwater Volume Pumped

Groundwater Type	Location or Basin Name	Volume				
		2011 (AF)	2012 (AF)	2013 (AF)	2014 (AF)	2015 (AF)
Alluvial Basin	Gilroy-Hollister Groundwater Basin, Llagas Subbasin	6,076	6,203	7,454	6,195	4,741
Alluvial Basin	Santa Clara Valley Groundwater Basin, Santa Clara Subbasin, Coyote Valley Subarea	1,381	1,374	1,484	1,300	1,105
	Total	**7,457**	**7,577**	**8,938**	**7,495**	**5,846**

6.3 SURFACE WATER

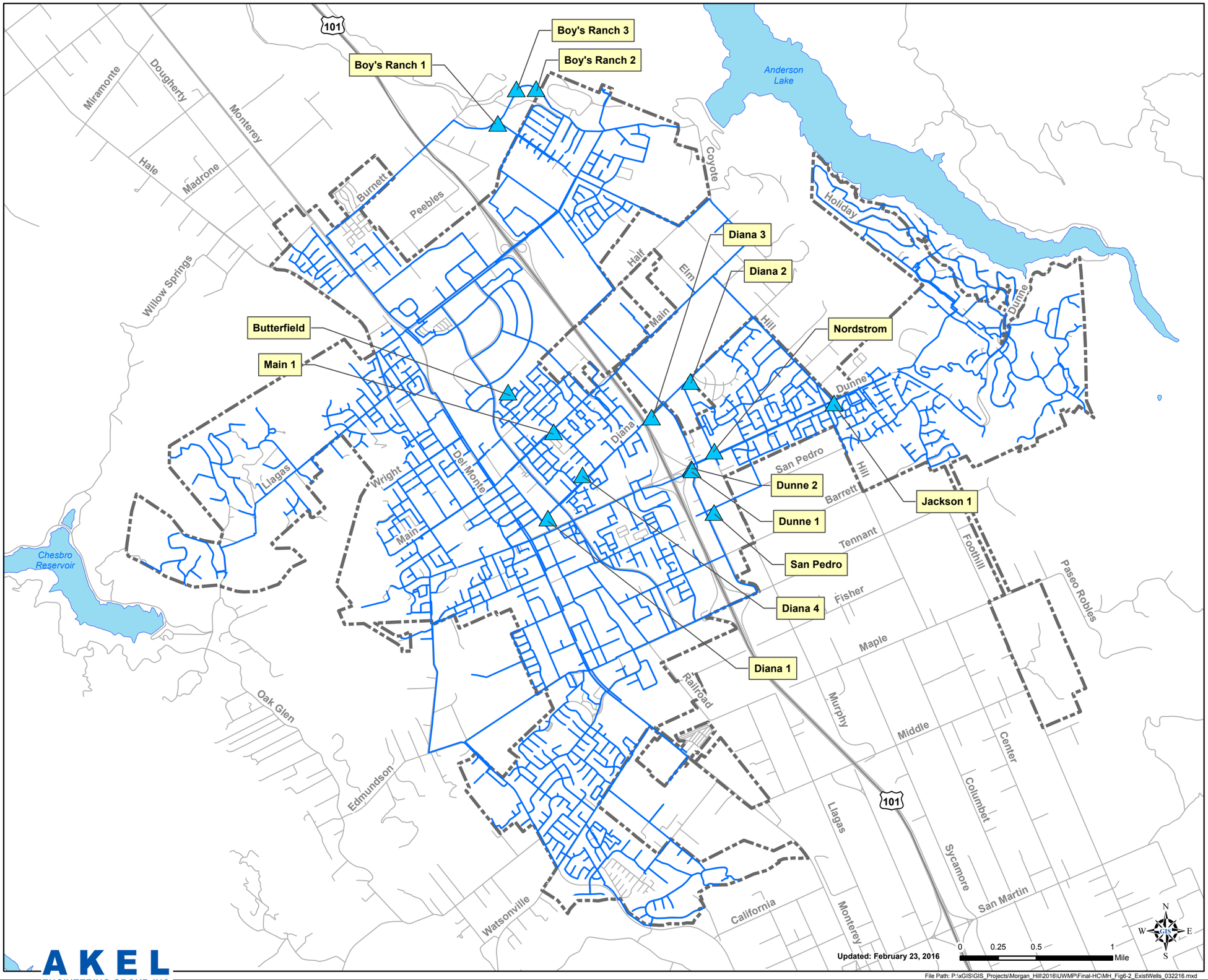
At the time of preparation of the 2015 UWMP, the City does not use surface water as part of its water supply.

6.4 STORMWATER

At the time of preparation of the 2015 UWMP, the City does not use stormwater as part of its water supply.

6.5 WASTEWATER AND RECYCLED WATER

This section discusses the use of recycled water and the characteristics of the wastewater collected by the City for treatment.



Updated: February 23, 2016

File Path: P:\xGIS\GIS_Projects\Morgan_Hill\2016\UWMP\Final-HC\MH_Fig6-2_ExistWells_032216.mxd

Legend

- Wells
- Pipes
- Roads
- City Limits
- Lakes

PRELIMINARY

Figure 6-2
Existing Groundwater Well Locations
2015 Urban Water Management Plan
City of Morgan Hill

CITY OF MORGAN HILL

AKEL ENGINEERING GROUP, INC.

6.5.1 Recycled Water Coordination

Law

> *10633 The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.*

The City does not utilize recycled water due to economic infeasibility and it is not considered as a future source of supply.

6.5.2 Wastewater Collection, Treatment, and Disposal

This section describes wastewater collection and disposal.

Law

> *10633 (a) (Describe) the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal*
> *(b) (Describe) the quantity of treated wastewater that meets recycled water standards, is being discharge, and is otherwise available for use in a recycled water project.*

6.5.2.1 Wastewater Collected Within Service Area

The City operates a wastewater collection system that collects wastewater within the City's service area and transports it to the SCRWA wastewater treatment plant (WWTP) south of the City of Gilroy. Based on reports prepared by SCRWA the City collected a total wastewater volume of approximately 2,647 AF in 2015 (Table 6-2).

Table 6-2 Wastewater Collected Within Service Area in 2015

Wastewater Collection			Recipient of Collected Wastewater			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated?	Volume of Wastewater Collected from UWMP Service Area 2015 (AF)	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area?	Is WWTP Operation Contracted to a Third Party?
City of Morgan Hill	Metered	2,647	South County Regional Wastewater Authority (SCRWA)	SCRWA Wastewater Treatment Plant (SCRWA WWTP)	No	Yes

6.5.2.2 Wastewater Treatment and Discharge Within Service Area

No wastewater is treated or disposed of by the City within the UWMP service area, as indicated in Table 6-3.

Table 6-3 Wastewater Treatment and Discharge Within Service Area in 2015

☑	No wastewater is treated or disposed of within the UWMP service area. The City is not required to complete the table below.							
Wastewater Treatment Plant Name	Discharge Location Name and Description	Method of Disposal	Does This Plant Treat Wastewater Generated Outside the Service Area?	Treatment Level	2015 Volume			
					Wastewater Treated (AF)	Discharged Treated Wastewater (AF)	Recycled Within Service Area (AF)	Recycled Outside of Service Area (AF)

SCRWA currently operates and maintains the regional wastewater treatment plant (WWTP) south of the City under an agreement with Operations Management International, Inc. and treats an average dry weather flow of approximately 6.5 million gallons per day (mgd). SCRWA also updated their facilities to increase the recycled water production capacity from 3 mgd to 9 mgd.

As demand for recycled water continues to increase, SCRWA intends to increase capacity to accommodate these flows. Currently, SCRWA and SCVWD plan to recycle all wastewater flows coming into the plant.

6.5.3 Recycled Water System

Law

> *10633 (c) (Describe) the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.*

The South County Recycled Water System was initially constructed in 1977 as an agreement between SCVWD, the City of Gilroy, and Gavilan Water Conservation District. The full potential of this system was not realized until 1999, when a new agreement was signed to include the city of Morgan Hill and SCRWA. In this agreement, the system was updated, and consistent recycled water deliveries began in the City of Gilroy. At this time the recycled water system only serves users in the City of Gilroy service area and no infrastructure exists to convey recycled water to Morgan Hill. The Draft 2015 South County Recycled Water Master Plan Update explored several project alternatives for conveying recycled water to the City but not enough benefit was presented, due to small recycled water demands and the high cost of infrastructure that would be required, for them to be considered as viable alternatives.

6.5.4 Recycled Water Beneficial Uses

Law

> *10633 (c) (Describe and quantify) the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.*
>
> *(d) (Describe) the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, 20 years and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.*

6.5.4.1 Current and Planned Uses of Recycled Water

The Recycled Water Feasibility Evaluation (RWFE), published March 2016, identified potential recycled water users (**Figure 6-3**) through a market assessment. As identified in the market assessment, the potential future uses of recycled water in the City include landscape irrigation, agricultural irrigation, industrial processes, and potable reuse. As part of the RWFE, infrastructure required to convey recycled water from the SCRWA WWTP in Gilroy to the potential users in Morgan Hill was identified. However, there are currently no plans to construct infrastructure for the purpose of providing recycled water to any of the identified potential users, as indicated on the following pages in **Table 6-4**.

Legend

Proposed

- Booster Stations
- Pipes
- Potential Users

Existing

- Recharge Ponds
- City Limits
- Roads
- Creeks
- Lakes

PRELIMINARY

Figure 6-3
Potential Recycled Water System
2015 Urban Water Management Plan
City of Morgan Hill

CITY OF MORGAN HILL

AKEL ENGINEERING GROUP, INC.

Updated: May 16, 2016

0 0.25 0.5 1 Mile

N W GIS E S

File Name & Location: P:\xGIS\GIS_Projects\Morgan_Hill\2016\UWMP\Final-HC\MH_Fig6-3_AllUsersBuildout_021616.mxd

Table 6-4 Current and Projected 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 City is not required to complete the table below.						
Beneficial Use Type	**General Description of 2015 Uses**	**Level of Treatment**	**Volume**				
			2015 (AF)	**2020** (AF)	**2025** (AF)	**2030** (AF)	**2035** (AF)
Agricultural irrigation							
Landscape irrigation (excludes 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							
Surface water augmentation							
Direct potable reuse							
Other							
		Total					

6.5.4.2 Planned Versus Actual Use of Recycled Water

Law

> *10633 (c) (Provide) a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.*

The City does not provide recycled water within its service area, which is consistent with the 2010 UWMP, as indicated on the following page in **Table 6-5**.

Table 6-5 2010 UWMP Recycled Water Use Projection Compared to 2015 Actual

☑	Recycled water was not used in 2010 nor projected for use in 2015. The City is not required to complete the table below.

Use Type	2010 Projection for 2015 (AF)	2015 Actual Use (AF)
Agricultural irrigation		
Landscape irrigation (excludes 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		
Surface water augmentation		
Direct potable reuse		
Other		
Total		

6.5.5 Actions to Encourage and Optimize Future Recycled Water Use

Law

10633 (c) (Describe) The actions, including financial incentives, 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.

(d) (Provide a) plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

No financial or other incentives can currently be provided to encourage the use of recycled water due to the lack of availability and economic infeasibility, as indicated on the following page in Table 6-6.

Table 6-6 Methods to Expand Future Recycled Water Use

☑	Supplier does not plan to expand recycled water use in the future. The City is not required to complete the table below.		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use (AF)
The City currently does not have a plan to expand recycled water use.			

6.6 DESALINATED WATER OPPORTUNITIES

Law

> *10631 (h) Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply*

The groundwater under the City is not brackish in nature, and does not require desalination. The City has not included desalinated water as part of its water supply projections.

6.7 EXCHANGES OR TRANSFERS

Law

> *10631 (d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.*

There are currently no known exchanges, transfers, or interties that exist between the City and any other water system.

6.8 FUTURE WATER PROJECTS

Law

> *10631 (g) …The urban water supplier shall include a detailed description of expected future water projects and programs…that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single-dry, and multiple-dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.*

As discussed in previous sections the City's sole source of potable water is groundwater. As such, the only method available to provide additional supply capacity for growing demand is the construction of new wells, and there are no additional types of future water projects the City plans to implement, as indicated on the following page in **Table 6-7**.

Table 6-7 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. The City is not required to complete the following table.				
Name of Future Projects or Programs	Joint Project with other agencies?	Description	Planned Implementation Year	Planned for Use in Year Type	Expected Increase in Water Supply to Agency (AF)

The City's total supply capacity is approximately 21,600 afy; its firm capacity, designated as the total capacity less the largest unit out of service, is approximately 19,200 afy. The firm capacity is capable of meeting the City's current demands and no future water supply projects are planned at this time.

6.9 SUMMARY OF EXISTING AND PLANNED SOURCES OF WATER

Law

10631 (b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision 10631(a).

(4) (Provide a) detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonable available, including, but not limited to, historic use records.

The City's groundwater supply has historically been adequate to meet the City's historical demands and Table 6-8 on the following page summarizes the total amount of groundwater pumped in 2015. However, the City's groundwater supply sustainability is dependent on raw water deliveries negotiated and imported by Santa Clara Valley Water District to the Llagas subbasin and the Coyote Valley subarea. These deliveries are intended to recharge the groundwater aquifer.

Table 6-8 Water Supplies – Actual

Water Supply Source	Source Description	2015	
		Actual Volume (AF)	Water Quality
Groundwater	Gilroy-Hollister Groundwater Basin, Llagas Subbasin	4,741	Drinking Water
Groundwater	Santa Clara Valley Groundwater Basin, Santa Clara Subbasin, Coyote Valley Subarea	1,105	Drinking Water
Total		**5,846**	

In order to meet the growing demand of the City, new groundwater wells will have to be constructed as necessary. The City intends to continue to use groundwater as the sole source of potable water supply. Table 6-9 summarizes the total projected water supply available through 2040.

Table 6-9 Water Supplies - Projected

Water Supply Source	Projected Water Supply				
	2020 (AF)	2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)
Groundwater (Llagas Subbasin)	22,500	22,500	22,500	22,500	22,500
Groundwater (Santa Clara Valley Subbasin, Coyote Valley Subarea)	2,400	2,400	2,400	2,400	2,400
Other	39,000	42,900	46,600	48,400	48,500
Total	**63,900**	**67,800**	**71,500**	**73,300**	**73,400**

Notes:

1. The "other" category indicates raw water deliveries and local surface water deliveries that are managed and negotiated by Santa Clara Valley Water District for the purposes of recharging the Llagas and Coyote Valley groundwater. It also includes the City of Gilroy recycled water demand, which offsets pumping from the Llagas Subbasin. These water supplies are indicated on this table for completeness of the Llagas and Coyote Valley groundwater budgets.

CHAPTER 7 – WATER SUPPLY RELIABILITY ASSESSMENT

Water supply reliability addresses the capability of the water supply during emergency events in normal existing conditions, single dry years and multiple dry years. The reliability also must be projected out for 20 years.

7.1 CONSTRAINTS ON WATER SOURCES

Law

10631 (c)(2)	*For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.*
10634	*The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability.*

7.1.1 Legal Factors

The City's sole source of supply is groundwater extracted from the Llagas subbasin of the Gilroy-Hollister Groundwater Basin and the Coyote Valley subarea of the Santa Clara subbasin, which is a part of the Santa Clara Valley Groundwater Basin. These groundwater basins and subbasins are not adjudicated basins and no legal factors are expected to limit the availability of supply.

7.1.2 Environmental Factors

Environmental concerns can arise during the water planning process when a project's impact on the ecosystem is taken into a consideration. These concerns can subsequently cause a lack of supply due to the enforcement of environmental legislation. The City's groundwater sources are not expected to be limited by any environmental factors.

7.1.3 Water Quality Factors

Water quality factors that could affect the availability of supply include water contamination due to biological or chemical constituents. The primary water quality factors that could potentially impact the City are related to perchlorate, nitrate, and hexavalent chromium contamination. In order to estimate the potential impact on supply due to water quality contamination, the production capacity of the largest capacity well is assumed to no longer be available to the City. This would result in a supply capacity reduction of approximately 2,400 afy.

7.1.4 Climatic Factors

Groundwater levels in the Llagas subbasin and the Coyote Valley subarea are highly depended on rainfall levels, which produce fluctuations in water levels during years of high or low rainfall. Inconsistent water levels due to drought have the potential to impact the supply availability for the City. SCVWD, along with the City and other member agencies, have multiple measures in place to minimize the potential supply impact due to drought and other climatic factors on the water supply. These preventative measures are summarized as follows:

- **Groundwater Recharge System**: In order to maintain groundwater levels, SCVWD imports raw water and manages a recharge system. This facility method recharge system managed by SCVWD accounts for a portion of the total recharge in groundwater basins they manage.
- **Imported Water Connections**: SCVWD supplies water for recharge through the State Water Project and the federal Central Valley Project. Drought and other climatic factors may cause the amount of water typically supplied to SCVWD through these imports to be reduced.

7.2 RELIABILITY BY TYPE OF YEAR

Law

> *10631 (c)(1) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide for each of the following:*
> *(A) an average water year,*
> *(B) a single dry water year*
> *(C) multiple dry water years*

7.2.1 Types of Years

This section discusses the type of years considered when evaluating water supply reliability, which are summarized on the following page in **Table 7-1**. The conditions are as follows:

- **Average Water Year** – The average water year is a year that represents the median runoff levels from precipitation, as well as the same general pattern of runoff. The supply quantities would be similar to historical average supplies.
- **Single Dry Year** – The single dry year is defined as the individual year with the lowest usable water supply. This condition can be derived as the year with the lowest annual supply and is represented by the year 1977.
- **Multiple Dry Years** – Multiple dry years are defined as the three consecutive years with the lowest usable water supply. The multiple dry years are detrimental to the water supply system because of their adverse effect on the levels of local and state-wide reservoirs, as well as groundwater levels. Available supply for these conditions is constituted as the

minimum historical yields for a running average of three years. The period between 2013 and 2015 was selected to represent the multiple dry years. The percent of average supply for the third multiple-dry year does not include additional water transfers that may be obtained by SCVWD during extreme droughts for the Llagas subbasin.

Table 7-1 Basis of Water Data

Year Type	Base Year	Volume Available (AF)	Percent of Average Supply (%)
Average Year		63,900	100%
Single-Dry Year	1977	60,705	95%
Multiple-Dry Years 1st Year	2013	60,705	95%
Multiple-Dry Years 2nd Year	2014	54,315	85%
Multiple-Dry Years 3rd Year	2015	41,535	65%

Notes:

1. Available volume for single dry and multiple dry year periods based on estimated percent of average supply, per SCVWD 2015 UWMP.

7.2.2 Sources for Water Data

To establish a basis of normal, single dry, and multiple dry hydrologic water year's, historical rainfall data available from DWR was analyzed, as it relates to the City.

7.3 SUPPLY AND DEMAND ASSESEMENT

Law

> *10635 (a) Every urban water supplier shall include, as part of its urban water management plan, 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 shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional or local agency population projections within the service area of the urban water supplier.*

During prolonged years of drought, City-wide water use patterns are expected to change. Typically, outdoor water use will initially increase as irrigation is used to offset decreased rainfall.

These potential water use increases can be offset, in part, by increasing water conservation measures.

The supply available to the City during the various hydrologic water years, summarized in **Table 7-1**, is assumed to be equal to the estimated rate of natural groundwater recharge, recycled water consumption for users in the City of Gilroy, and the raw and surface water deliveries managed and negotiated by SCVWD. The SCVWD 2015 UWMP estimates the percent of normal year supply available during the single dry and multiple dry water years; these percentages are applied to rate of recharge during the normal water year to determine the available supply during the single dry and multiple dry water years.

The demand projections for the various hydrologic water years are summarized on the following pages in **Table 7-2**, **Table 7-3**, and **Table 7-4**. These tables include the total projected water demands through 2040, and estimates for total estimated water supply based on the hydrologic water years. A water budget, as derived from SCVWD groundwater planning estimates, has been included for the Llagas subbasin and Coyote Valley subarea respectively on **Table 7-2A** and **Table 7-2B**. These tables document the estimated total supply and demand during normal water years.

Table 7-2 Normal Year Supply and Demand Comparison

	2020 (AF)	2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)
Supply	63,900	67,800	71,500	73,300	73,400
Demand	61,765	65,542	69,468	72,811	74,068
Difference	2,135	2,258	2,032	489	-668

Table 7-2A Projected Supply vs Demand Comparison (Llagas)

Demand Condition	2020	2025	2030	2035	2040
	(afy)	(afy)	(afy)	(afy)	(afy)
Projected Water Supply of the Llagas Subbasin[1]					
Natural Groundwater Recharge	22,500	22,500	22,500	22,500	22,500
Local Surface Water	16,000	18,300	20,300	21,500	21,600
SCVWD CVP Deliveries	10,600	10,700	10,700	10,400	10,200
Recycled Water Supply	2,600	3,200	3,700	3,700	3,700
Total without Recycled Water	49,100	51,500	53,500	54,400	54,300
Total with Recycled Water	51,700	54,700	57,200	58,100	58,000
Projected Average Daily Water Demand					
City of Gilroy[2]	9,186	10,306	11,650	12,882	14,114
City of Morgan Hill[3]	7,019	7,516	8,013	8,510	9,008
Other Users[4]	32,044	33,105	33,937	34,350	33,593
Total	48,249	50,927	53,600	55,742	56,715
Supply vs Demand Comparison - Excluding Recycled Water					
Difference (Supply - Demand)	851	573	-100	-1,342	-2,415
Percent of Total Supply	98%	99%	100%	102%	104%
Supply vs Demand Comparison - Including Recycled Water					
Difference (Supply - Demand)	3,451	3,773	3,600	2,358	1,285
Percent of Total Supply	93%	93%	94%	96%	98%

Notes:

1. Projected supply per South County Supply document received from SCVWD staff May 27, 2016.
2. Demand consistent with City of Gilroy draft 2015 UWMP.
3. City of Morgan Hill demand excludes Boys Ranch wells, which are located in the Coyote Valley subarea.
4. Demand for other users calculated from document received from SCVWD staff May 27, 2016.

Table 7-2B Projected Supply vs Demand Comparison (Coyote Valley)

Demand Condition	2020	2025	2030	2035	2040
	(afy)	(afy)	(afy)	(afy)	(afy)
Projected Water Supply of the Coyote Valley Subarea[1]					
Natural Groundwater recharge	2,400	2,400	2,400	2,400	2,400
Local Surface Water	6,200	6,400	6,300	6,200	6,200
SCVWD CVP Deliveries	3,500	4,400	5,600	6,600	6,800
Total	12,100	13,200	14,300	15,200	15,400
Projected Average Daily Water Demand					
City of Morgan Hill[2]	1,530	1,639	1,747	1,856	1,964
Other Users[3]	11,986	13,063	14,295	15,474	15,736
Total	13,516	14,702	16,042	17,330	17,700
Supply vs Demand Comparison					
Difference (Supply - Demand)	-1,416	-1,502	-1,742	-2,130	-2,300
Percent of Total Supply	112%	111%	112%	114%	115%

Notes:

1. Projected supply per South County Supply document received from SCVWD staff May 27, 2016.
2. City of Morgan Hill demand includes pumping from the Boys Ranch wells, which are located in the Coyote Valley subarea.
3. Demand for other users calculated from document received from SCVWD staff May 27, 2016.

Table 7-3 Single Dry Year Supply and Demand Comparison

	2020 (AF)	2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)
Supply	60,705	60,705	60,705	60,705	60,705
Demand	61,765	65,542	69,468	72,811	74,068
Difference	-1,060	-4,837	-8,763	-12,106	-13,363

Table 7-4 Multiple Dry Years Supply and Demand Comparison

		2020 (AF)	2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)
First year (2013)	Supply	60,705	60,705	60,705	60,705	60,705
	Demand	61,765	65,542	69,468	72,811	74,068
	Difference	-1,060	-4,837	-8,763	-12,106	-13,363
Second year (2014)	Supply	54,315	54,315	54,315	54,315	54,315
	Demand	61,765	65,542	69,468	72,811	74,068
	Difference	-7,450	-11,227	-15,153	-18,496	-19,753
Third year (2015)	Supply	41,535	41,535	41,535	41,535	41,535
	Demand	61,765	65,542	69,468	72,811	74,068
	Difference	-20,230	-24,007	-27,933	-31,276	-32,533

7.4 REGIONAL SUPPLY RELIABILITY

Law

> *10620 (f) An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.*

As discussed previously, the City uses groundwater as its sole source of supply. In order to reduce the burden on groundwater resources during periods of prolonged drought, the City has water conservation ordinances that can be implemented to prevent and prohibit the wasting of water, while also encouraging the community to conserve.

The City's supply reliability is dependent on the rate of available recharge for the groundwater subbasins beneath the City. SCVWD imports raw water through the State Water Project and federal Central Valley Project for the purpose of recharging the groundwater subbasins they

manage, which includes the Llagas subbasin and the Coyote Valley subarea of the Santa Clara Valley subbasin. During periods of drought, the imported water supplies available to SCVWD can be reduced or not provided at all, which would reduce the amount of recharge available to the groundwater basins. In periods of water shortage, SCVWD works closely with the water suppliers extracting water from groundwater subbasins they manage in order to minimize overdraft and subsidence. Typically, when SCVWD identifies a risk to regional supply reliability, they call for urban water suppliers to reduce their water use through voluntary and mandatory water conservation ordinance.

Additionally, during a drought, SCVWD anticipates the City to use groundwater reserves. Historical groundwater monitoring by SCVWD in the Llagas subbasin also indicates stable groundwater conditions during multiple-year droughts. Through SCVWD's implementation of conjunctive use programs, the Llagas groundwater subbasin has historically experienced well managed levels. As a result of this management, the Llagas subbasin is considered a reliable source of supply during water shortages. While pumping may exceed recharge during a drought, basin management practices have prevented long-term adverse conditions.

CHAPTER 8 – WATER SHORTAGE CONTINGENCY PLANNING

In the event of an emergency where water supply reliability is lost, the water supplier should have an adopted Water Shortage Contingency Plan to institute staged emergency water conservation efforts to mitigate potential catastrophic overdraft or catastrophic interruption to the agency's water supply.

8.1 STAGES OF ACTION

Law

> *10632 (a)(1) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply and an outline of specific water supply conditions which are applicable to each stage.*

The City's groundwater supply is dependent on natural recharge from surface water runoff as well as additional recharge provided by SCVWD through raw water imports. In periods of drought, when less imported water is available to SCVWD for the purpose of recharging the groundwater basins they manage, SCVWD will call on water suppliers to reduce groundwater pumping to avoid basin overdraft and minimize subsidence. In order to reduce water consumption city-wide, the City has a water conservation ordinance that may be invoked to implement restrictions on water use.

Currently, the City's conservation ordinance describes permanent water use restrictions as well as a three-stage water rationing plan that can be invoked to adjust water use with shortage conditions. The City updated its conservation ordinance for water waste prevention in September 2015 through the adoption of Ordinance 2159, which is included in **Appendix C**. Each water rationing stage includes a water demand reduction percentage, which is to be applied to normal water demands. The plan is dependent on the cause, severity, and anticipated duration of the water shortage, and a combination of voluntary and mandatory water conservation measures, which can be put in place to reduce City-wide water usage. The water shortage stages are summarized on the following page in **Table 8-1**.

Table 8-1 Stages of Water Shortage Contingency Plan

Stage	Percent Supply Reduction	Water Supply Condition
0	0-10%	Permanent water conservation requirements are effective at all times
1	11-20%	Water Supply Shortage exists when City Council determines and agrees that 11% - 20% consumer demand reduction is necessary to make more efficient use of water.
2	21-40%	Water Supply Shortage exists when City Council determines and agrees that 21% - 40% consumer demand reduction is necessary to make more efficient use of water.
3	50%	Water Supply Shortage is referred to as Water Shortage Emergency, and exists when City Council determines and agrees that a consumer demand reduction of up to 50% is necessary to maintain public water supplies.

8.2 PROHIBITIONS ON END USE

Law

10632 (a)(4) Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.

The City has permanent water use restrictions in place year round in order to minimize water waste. These permanent restrictions are summarized as follows:

- Prohibit landscape watering or irrigation between 9:00 a.m. and 5:00 p.m. with certain exceptions.
- Prohibits landscape watering or irrigation using a device that is left unattended for more than 15 minutes per day per station, with certain exceptions.
- Prohibits landscape watering or irrigation that produces excess runoff.
- No washing down of hard or paved surfaces, with certain exceptions.
- Requires leaks to be repaired no more than ten days following discovery.
- Prohibit operation of a decorative water feature that does not use recirculating water.
- Prohibits vehicle-washing except by the use of a hand-held water container or a self-shut off hose.

- Require restaurants to only serve water upon request.
- Commercial lodging establishments must provide customers with optional linen service.
- Prohibit installation of single pass cooling systems.
- Prohibit installation of non-recirculating water systems in new commercial car wash and laundry systems.
- All commercial car wash systems must utilize a recirculating water system.

Table 8-2, which can be found on the following page, summarizes the permanent water use restrictions enforced year-round as well as those to be implemented by the City during various water shortage stages.

8.3 PENALTIES, CHARGES, OTHER ENFORCEMENT OF PROHIBITIONS

Law

10632 (a)(6) Penalties or charges for excessive use, where applicable.

8.3.1 Violation Penalties

Customers who violate the provisions noted in the water code for water shortage conditions shall receive the following penalties:

- First violation will result on a written warning delivered to the customer along with a copy of the water conservation ordinance.
- Second violation within any 12 consecutive months will result in a fine not to exceed one hundred dollars.
- Third violation within any 12 consecutive months will result in a fine not to exceed two hundred dollars.
- Any subsequent violation within any 12 consecutive months will result in a fine not to exceed five hundred dollars and the installation of a water flow restrictor device of approximately one gallon per minute for services up to one and one-half inch size and comparatively sized restrictors for larger services. The customer shall receive a written notice of intent to install a flow restrictor a minimum of 48 hours before the installation of the restrictor. The customer will be charged for the installation and removal of the flow restrictor. The first flow restrictor installation shall remain in place for a period between three and ten days. The second flow restrictor installation shall remain in place between ten and thirty days.

Table 8-2 Restrictions and Prohibitions on End Uses

Stage	Restrictions and Prohibitions on End Users Category	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
0	Landscape - Limit landscape irrigation to specific times	Prohibits watering or irrigating lawn, landscape, or other vegetated area 9:00 a.m. and 5:00 p.m. with the following exceptions: - Using a hand-held bucket or similar container - Using a hand-held hose equipped with a positive self-closing water shut-off nozzle or device - For very short periods of time for the express purpose of adjusting or repairing an irrigation system	Yes
0	Landscape - Limit landscape irrigation to specific times	Prohibits watering or irrigating of lawn, landscape, or other vegetated area using a system or device that is left unattended for more than fifteen (15) minutes per day per station. Exceptions include low-flow drip systems where no emitter produces flow more than two (2) gallons per hour, and weather based controllers or stream rotor sprinklers with 70% efficiency standard.	Yes
0	Landscape - Restrict or prohibit runoff from landscape irrigation	Prohibits watering or irrigating of lawn, landscape, or other vegetated area that causes or allows excessive flow or runoff onto sidewalk, driveway, street, etc.	Yes
0	Other - Prohibit use of potable water for washing hard surfaces	No washing down hard or paved surfaces except with the use of hand-held water container, hand-held hose with a positive self-closing water shut-off device, low-volume high-pressure cleaning machine equipped to recycle any water used, or low-volume high-pressure water broom.	Yes
0	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Requires repairs to be made to breaks, leaks, or other malfunctions no more than ten (10) days upon receiving written notice from the City.	Yes

Table 8-2 Restrictions and Prohibitions on End Uses

Stage	Restrictions and Prohibitions on End Users Category	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
0	Water Features - Restrict water use for decorative water features, such as fountains	Prohibits operation of a water fountain or decorative water features that does not use recirculated water.	Yes
0	Other	Prohibits using water to wash a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not except by the use of a hand-held water container or hand-held hose with hand-held hose with a positive self-closing water shut-off device. This does not apply to any commercial car washing facility.	Yes
0	CII - Restaurants may only serve water upon request		Yes
0	CII - Lodging establishment must offer opt out of linen service	Requires hotels, motels, and other commercial lodging established to provide customers the option of not having towels and linen laundered daily. Commercial lodging establishments must prominently display notice of this option in each bathroom using clear and easily understood language.	Yes
0	CII - Other CII restriction or prohibition	Prohibits installation of a single pass cooling system for buildings requesting new water service.	Yes
0	CII - Other CII restriction or prohibition	Prohibits installation of non-recirculating water systems in new commercial conveyor car wash and new commercial laundry systems.	Yes
0	CII - Commercial kitchens required to use pre-rinse spray valves	Prohibits the use of non-water conserving dishwasher spray valves in food preparation establishments, such as restaurants or cafes.	Yes

Table 8-2 Restrictions and Prohibitions on End Uses

Stage	Restrictions and Prohibitions on End Users Category	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
0	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	All commercial conveyor car wash systems must have installed recirculating water systems, or secured a waiver of this requirement from the City.	Yes
1	Landscape - Limit landscape irrigation to specific days	Limits watering or irrigating of lawn, landscape or other vegetated area to three to five days per week (as necessary to achieve reductions as determined in the discretion of the superintendent) on a schedule established and posted by the City. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than one day per week on a schedule established and posted by the City. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.	Yes
1	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Requires repairs to be made to breaks, leaks, or other malfunctions within seventy-two (72) hours upon receiving written notice from the City, unless other arrangements are made with the City.	Yes

Table 8-2 Restrictions and Prohibitions on End Uses

Stage	Restrictions and Prohibitions on End Users Category	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
1	Other - Prohibit use of potable water for washing hard surfaces	Prohibits washing down hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, except when necessary to alleviate safety or sanitary hazards, and then only by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off device, a low-volume, high pressure cleaning machine equipped to recycle any water used, or a low-volume high-pressure water broom.	Yes
2	Landscape - Limit landscape irrigation to specific days	Limits watering or irrigating of lawn, landscape or other vegetated area to two days per week (as necessary to achieve reductions as determined in the discretion of the superintendent) on a schedule established and posted by the City. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than one day per week on a schedule established and posted by the City. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour. This provision also does not apply to watering or irrigating by use of a handheld bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.	Yes
2	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Requires repairs to be made to breaks, leaks, or other malfunctions within forty-eight (48) hours upon receiving written notice from the City, unless other arrangements are made with the City.	Yes

Table 8-2 Restrictions and Prohibitions on End Uses

Stage	Restrictions and Prohibitions on End Users Category	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
2	Water Features - Restrict water use for decorative water features, such as fountains	Prohibits filling or re-filling ornamental bodies of water unless to sustain aquatic life, given that such animals are of significant value and have been actively managed within the water feature prior to declaration of water shortage.	Yes
2	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	Prohibits using water to wash a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not except at a commercial car washing facility that utilizes a recirculating water system to capture or reuse water.	Yes
2	Other water feature or swimming pool restriction	Prohibits re-filling of more than one foot and initial filling of residential swimming pools or outdoor spas with potable water.	Yes
3	Landscape - Prohibit all landscape irrigation	Prohibits watering or irrigating of lawn, landscape, or other vegetated area. This restriction does not apply to the following categories of use, unless the City has determined that recycled water is available and may be applied to the use: - Maintenance of vegetation, including trees and shrubs, that are watered using a hand-held bucket or similar container, hand-held hose equipped with a positive self–closing water shut-off nozzle or device; - Maintenance of existing landscape necessary for fire protection; - Maintenance of existing landscape for soil erosion control; - Maintenance of plant materials identified to be rare or essential to the well-being of protected species; - Maintenance of landscape within active public parks and playing fields, day care centers, golf course greens, and school grounds, provided that such irrigation does not exceed two (2) days per week for no more than fifteen (15) minutes watering per day per station and is prohibited between the hours of 9:00 a.m. and 5:00 p.m.; - Actively irrigated environmental mitigation projects.	Yes

Table 8-2 Restrictions and Prohibitions on End Uses

Stage	Restrictions and Prohibitions on End Users Category	Additional Explanation or Reference	Penalty, Charge, or Other Enforcement?
3	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Repairs must be made in no more than forty-eight (48) hours upon receiving notification from the City, unless other arrangements can be made.	Yes
3	Other	Limits on New Potable Water Service: Upon declaration of a Level 3 Water Shortage Emergency condition, the City may limit the issuance of new potable water services, temporary meters and/or statements of immediate ability to serve or provide potable water service (such as, will-serve letters, certificates, or letters of availability), except under the following circumstances: - A valid, unexpired building permit has been issued for the project; - The project is necessary to protect the public health, safety, and welfare; or - The applicant provides substantial evidence of an enforceable commitment that water demands for the project will be offset prior to the provision of a new water meter(s) to the satisfaction of the City. - This provision does not preclude the resetting or turn-on of meters to provide continuation of water service or the restoration of service that has been interrupted for a period of one year or less.	Yes
3	Other	The City Manager is authorized to implement a program in his or her discretion to limit or withhold the issuance of building permits which require new or expanded water service, except to protect the public health, safety and welfare, or in cases which meet the City's adopted conservation offset requirements.	Yes
3	Other	The City, in its sole discretion, may discontinue service to consumers who willfully violate provisions of this section.	Yes
3	Other	The City may suspend consideration of annexations to its service area. This subsection does not apply to boundary corrections and annexations that will not result in any immediate increased use of water.	Yes

8.4 CONSUMPTION REDUCTION METHODS

Law

> *10632 (a)(5) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.*

Consumption reduction methods are actions taken by a water supplier to reduce demand within the service area, whereas prohibitions are specific limitations on water use. For the purpose of this UWMP, the City has not identified any specific methods, as indicated by **Table 8-3**, to be implemented to reduce water consumption apart from the water use prohibitions discussed previously.

Table 8-3 Consumption Reduction Methods

Stage	Consumption Reduction Methods by Water Supplier	Additional Explanation or Reference

8.5 DETERMINING WATER SHORTAGE REDUCTIONS

Law

> *10632 (a)(9) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.*

Groundwater is the sole source of supply for the City. Each groundwater well includes a flow-monitoring device that tracks water production. Readings from these devices are used to measure and monitor City-wide water conservation.

8.6 REVENUE AND EXPENDITURE IMPACTS

Law

> *10632 (a)(7) An analysis of the impacts of each of the actions and conditions described in paragraphs (1) to (6), inclusive, on the revenues and expenditures of the urban water supplier and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments*

For most water suppliers, operating costs are fixed rather than variable based on the quantity of water sold. As a result, when conservation programs are implemented, it often becomes

necessary to increase water rates. This is based on lower income because of lower total consumption and fixed revenue requirements. To counteract this, reduction in the form of reducing peak demands can delay the need to develop new costly water sources.

The City has an emergency fund in place that could be used to provide funds in the event that expenditures significantly outweigh reduced revenue in water sales. If the emergency fund is used to offset reduced revenue during a water shortage it is expected that these funds would require replenishment through additional water sales. The City also has the authority to increase water rates during times of drought to offset reduced revenue.

8.7 RESOLUTION OR ORDINANCE

Law

> *10632 (a)(8) A draft water shortage contingency resolution or ordinance*

The UWMPA requires that water suppliers include an urban water shortage contingency analysis that includes the water shortage contingency resolution or ordinance. City Ordinance 2159, which amended the water supply shortage regulations for the City in September 2015, is included in **Appendix C**.

8.8 CATASTROPHIC SUPPLY INTERRUPTION

Law

> *10632 (a)(3) Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.*

The City has an Emergency Response Plan (ERP) that provides a framework for the City to address a catastrophic supply interruption in the following areas:

Regional Power Outage

To mitigate the impacts of a local or regional power outage, the City plans to make backup generators easily accessible or transportable to well locations in order that water pumping can continue. The City has 22 backup generators available to be used to maintain continuous water pumping during a power outage.

Earthquake

Following a large-scale earthquake, the City has identified specific actions to be implemented, which are meant to address potential damage to the water distribution system. The actions, including facility inspections and repairs, are summarized as follows:

- Leaks – To mitigate the effect of leaks cause by a large-scale earthquake, the City plans on increasing system disinfectant residuals, determining leak locations and performing temporary repairs, prioritizing and completing repairs based on system population affected by leaking pipe, and disinfection of repairs.

- Lower Pressure or Service Interruption – To mitigate the effect of low pressure or service interruption caused by a large-scale earthquake, the City plans on doing the following:

    - Isolate areas with service interruptions to prevent contamination of still functioning parts of the system.

    - Notify customers that water is no longer available in the areas with service interruptions.

    - Issue boil water orders in areas with compromised water systems.

    - Notify customers of locations in the City where they can get clean and safe water

    - Install jumper systems as appropriate.

    - Increase disinfectant residuals as a precaution against potential contamination.

- Loss of Water Production Capability – The City has fourteen water production wells so failures at some of the wells can be tolerated without completely losing production capacity. The City would implement emergency water use restriction per its adopted Water Shortage Contingency Plan to manage the available supply. The City has no potable water interties with other water purveyors. In the event of a complete loss of well production capacity the City would be reliant on water deliveries via truck or similar transport mechanism.

8.9 MINIMUM SUPPLY NEXT THREE YEARS

Table 8-4 summarizes the estimated minimum supply available during the next three water years (2016, 2017, and 2018) and is based on the available supply during the first multiple dry hydrologic water year, as discussed in section 7.3.

Table 8-4 Minimum Supply Next Three Years

	2016 (AF)	2017 (AF)	2018 (AF)
Available Water Supply	60,705	60,705	60,705

8.10 ANTICIPATED REGULATIONS

The following section discuss anticipated regulations that may impact future urban water management planning processes, and are expected prior to the 2020 UWMPs. While these regulations will not impact the 2015 UWMP, the City is acknowledging the impending regulations.

8.10.1 Executive Order B-37-16

In accordance with the recent Executive Order B-37-16, the City acknowledges that the Water Shortage Contingency Plan may require updates in 2017. DWR staff were contacted as part of the preparation of this plan, and indicated that stakeholder meetings will take place prior to release of draft guidelines for implementing changes resulting from the Executive Order. As such, the City intends to reevaluate the Water Shortage Contingency Plan at the time of final guidance release from the DWR and the State Water Board.

8.10.2 Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA) was signed into law by Governor Jerry Brown in 2014, and is intended to promote the sustainable management of groundwater resources on a local level. SGMA requires identification of medium and high priority basins and the agency tasked with program implementation to meet sustainability standards for those basins. As such, and because the Llagas and Santa Clara subbasins are identified as high and medium priority basins, Santa Clara Valley Water District has adopted a resolution to become the Groundwater Sustainability Agency (GSA) for those basins.

As the GSA, the District will prepare the Groundwater Sustainability Plans (GSP) for the Santa Clara and Llagas Subbasins. These plans are due to the Department of Water Resources by 2020 for critically overdrafted aquifers, and 2022 for all others. The District has a currently adopted Groundwater Management Plan, which was completed in 2012. The District indicates that the Groundwater Management Plan will be updated by the end of 2016, and will address the additional mechanisms for management of the basins created by SGMA.

CHAPTER 9 – DEMAND MANAGEMENT MEASURES

In 2014, Assembly Bill 2067 amended the UWMPA for the purpose of streamlining the reporting requirements of retail agencies from 14 specific measures to 6 more general requirements as well as an "other" category. In addition to a description of the seven required demand management categories, narrative is provided addressing the nature and extent of each water demand management measure implemented over the past 5 years as well as additional measures the supplier plans on implementing to achieve its water use targets.

9.1 DEMAND MANAGEMENT MEASURES AND IMPLEMENTATION

Law

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.

9.1.1 Water Waste Prevention Ordinances

The City has water waste prevention ordinances stipulated in the Municipal Code, which are provided in **Appendix C**. In September 2015, the City adopted Ordinance 2159, which amended the City's water conservation program and established three levels of water supply shortage response actions, which were further discussed in Chapter 8. Individuals in violation of these measures are subject to penalties. The measures in place as part of these permanent restrictions are summarized as follows:

- Limit watering hours and duration.
- No excessive water runoff or washing down of hard or paved surfaces.
- Customers are required to repair leaks within ten days of notification by the City.
- Prohibit washing vehicles except with the use of a handheld bucket or automatic shut-off hose.
- Restaurant drinking water only served upon request

- Commercial lodging establishments must provide guests option to decline linen services
- No installation of single pass cooling systems
- No installation of non-recirculating water systems in new commercial car wash and laundry facilities.
- Require restaurants to use water conserving dish wash spray valves.
- Prohibit use of potable water for construction if recycled water is within five miles of the construction site.
- Prohibit the construction of a pool without the inclusion of a pool cover.

The City also has additional water conservation measures to be implemented during the three levels of a water supply shortage, which are summarized further in Chapter 8 as part of the City's Water Shortage Contingency Plan.

9.1.2 Metering

Law

526

(a) Notwithstanding any other provisions of law, an urban water supplier that, on or after January 1, 2004, receives water from the federal Central Valley Project under a water service contract or subcontract…shall do both of the following:

(b) (1) On or before January 1, 2013, install water meters on all service connections to residential and nonagricultural commercial buildings…located within its service area.

527

(a) An urban water supplier that is not subject to Section 526 shall do both of the following:

(1) Install water meters on all municipal and industrial service connections located within its service area on or before January 1, 2025.

The City's Municipal Code requires all new connections to the water system to be equipped with a meter that records the volume of use. According the City's 2010 UWMP, it is estimated that there are no unmetered connections within the City limits, as a flat rate has never been charged for water use within any city sector. As such, no program for retrofitting existing unmetered connections has been identified.

In order to encourage additional water conservation the City has an ordinance in place that requires separate meters installed at multi-unit residences and in multi-use developments. Research has shown that water users responsible for paying for their own water use an average of 15% less water than if metered separately. The City expects to see a decrease in water use at the locations of these additional meters.

9.1.3 Conservation Pricing

On January 20, 2016, the City adopted a resolution approving adjustments to the City's water and wastewater rate structure. Historically, the City has implemented a conservation pricing structure that charged customers at different rates based on amount of water delivered; customers using more water would be charged at a higher rate than those using less water. The newly adopted rates are no longer based on this conservation pricing structure and customers are charged at a rate that does not increase based on how much water is consumed. The newly adopted rates, which took effect on April 1, 2016, are expected to increase annually through the year 2020 and are included in **Appendix D**.

9.1.4 Public Outreach and Rebate Programs

The City, in cooperation with the SCVWD, has multiple programs in place to reduce water consumption by raising public awareness of water conservation. Additionally, they are incentivizing replacement of high water use fixtures through both optional and mandated fixture replacement programs.

9.1.4.1 Public Information Programs

The City, in cooperation with SCVWD, has various methods to raise public awareness regarding water conservation and water supply issues. These issues include, but are not limited to, runoff pollution, water quality, and water conservation.

The City promotes water conservation to local residents and business in the following ways:

- **Literature Rack:** The City Hall lobby has had a rack containing available water conservation literature since 1999.
- **Bill Inserts:** Each year the City includes at least one insert on water conservation in the monthly utility bills.
- **New Resident Orientation:** The City sends any new utility customer information about the water conservation program currently in place and provides the option to receive offered additional literature and water-saving devices.
- **Demonstration Gardens:** The City has multiple Demonstration Garden Sites in order to provide examples to members of the community various ways to maintain gardens while still conserving water and improving water quality.
- **Newspaper Columns and Newsletters:** Many newspaper columns and newsletters promoting water conservation have been published by the City during the past decade. Water conservation has also been a featured topic in the City's newsletter and Consumer Confidence Report.

- **Special Events:** City Staff have attended community festivals and exhibitions to promote water conservation.

9.1.4.2 School Education Program

SCVWD employs staff to develop and provide youth education through free classroom presentations, puppet plays, and tours of SCVWD facilities within the County. The intent of these education programs is to teach students about topics related to water conservation and water supply.

According to SCVWD, their school education program has reached over 11,000 students per year over the last five years. 478 classroom presentations were provided in SCVWD FY 2015 and over 75 percent were to teachers what had been participating in the program for less than 5 years. This indicates educational program is continuing to inform an expanding audience.

9.1.4.3 Water Conservation Rebate Programs

The City is currently implementing the following rebate programs in cooperation with SCVWD:

High-Efficiency Toilet Replacement

The SCVWD high-efficiency toilet (HET) replacement program is scheduled to end in 2016. January 31, 2016 was the last day to purchasing a qualifying Premium HET; a Premium HET utilizes 1.1 gallons per flush (gpf), as compared to the 1.28 gpf of a standard HET. The deadline to qualify for a rebate was 90 days following the termination of the HET replacement program.

Clothes Washer Rebate

City customers who purchase and install a qualifying high-efficiency clothes washer are eligible to receive up to a $150 rebate.

Graywater Laundry to Landscape Rebate Program

SCVWD provides a Graywater Laundry to Landscape rebate of $200 per single family residence. City residents can qualify for this rebate based on proper connection of a clothes washer to a graywater irrigation system. Currently, this rebate program is available through June 30, 2016.

9.1.5 Programs to Assess and Manage Distribution System Real Loss

In order to determine if leaks exist in the supply and distribution system, actual metered water use is compared to total well production. Monthly production is tracked and reviewed annually to determine of the system is experiencing any significant losses. Upon the determination that a source of significant loss exists, the Maintenance Department will determine the specific location of the loss and schedule any discovered leaks for repair. A record of leak discovery and repair are kept, as well as documentation of each incidence and/or detected leak. Upon the completion of a

repair, follow up comparison of production versus water use is tracked to estimate the total amount of water saved due to the repair

The City has implemented a system water audit to determine if leaks in the supply and distribution system exist and a method for repair in the event that the leaks become significant. The system audit is performed by tracking the actual metered water use, which can be compared to total well production. Production is tracked monthly, and reviewed annually to determine if the system exhibits significant losses.

9.1.6 Water Conservation Program Coordination and Staffing Support

In order to manage and coordinate the water conservation programs implemented by the City, an employee is appointed to be responsible for water conservation. Currently, the duties of the Water Conservation Coordinator do not require a full-time position, and therefore it is part of the duties of another full-time employee. Duties for the Water Conservation Coordinator can include:

- Coordinate water conservation programs and implementation. This includes coordination with operations planning and staff.
- Keep record of conservation measures invoked by the City.
- Respond to general inquiries and requests for information made by the public.
- Communicate and promote of current trends and issues of water conservation issues to City senior management

9.1.7 Other Demand Management Measures – Water-Wise Landscaping

The City encourages members of the community to use water-efficient gardening techniques. The City makes SCVWD Water-Wise Gardening software available to the public on computer stations set up in City Hall. This software provides resources showcasing water-efficient gardens, photos of landscaping examples, and detailed descriptions of more than 1,000 plants. City Hall also has an on-site Demonstration Garden that displays drought tolerant, native California plants, and compatible hardscape materials.

CHAPTER 10 – PLAN ADOPTION, SUBMITTAL AND IMPLEMENTATION

This section includes the process undertaken for adoption and submittal of the UWMP as well as the plan required to implement the UWMP. Ways in which the public can access the UWMP is also described in this section.

10.1 INCLUSION OF ALL 2015 DATA

The City is preparing the 2015 UWMP on the basis of a calendar year and preparation of the plan was completed following the end of calendar year 2015. Relevant data has been updated through December of 2015.

10.2 NOTICE OF PUBLIC HEARING

This section documents the public notification process and when notice was given.

10.2.1 Notice to Cities and Counties

Law

> *10621 (b) Every urban water supplier required to prepare a plan shall…at least 60 days prior to the public hearing on the plan…notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.*
>
> *10642 …The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area…*

The City provided notice to relevant stakeholders, summarized in **Table 10-1**, on March 28, 2016; this notification date was more than the required 60 days prior to the public hearing on the 2015 UWMP.

Table 10-1 Notification to Cities and Counties

City or County Name	60 Day Notice	Notice of Public Hearing
City of Gilroy	☑	☑
Santa Clara Valley Water District	☑	☑
Santa Clara County	☑	☑

10.2.2 Notice to the Public

Law

10642 …Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection…Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code…

Government Code 6066
Publication of notice pursuant to this section shall be once a week for two successive weeks. Two publications in a newspaper published once a week or oftener, with at least five days intervening between the respective publication dates not counting such publication dates, are sufficient. The period of notice commences upon the first day of publication and terminates at the end of the fourteenth day, including therein the first day.

A notice of the public hearing was published in the local newspaper in a manner pursuant to the stated Government Code 6066. Documentation of the notice provided to the public is included in **Appendix E** and the draft 2015 UWMP was available for review at various City facilities and on the City's web page.

10.3 PUBLIC HEARING AND ADOPTION

Following the notification of all relevant stakeholders the City held a City Council meeting on July 20, 2016 to address and review comments received from both stakeholders and members of the community. These comments were reviewed and addressed and the final 2015 UWMP was adopted by City Council on July 27, 2016; **Appendix E** includes a copy of the adopting resolution.

10.4 PLAN SUBMITTAL

The UWMPA requires water agencies to submit a copy of the adopted 2015 UWMP to the DWR within 30 days of adoption and before July 1, 2016. Additionally, water agencies are required to submit a copy of the adopted 2015 UWMP to all relevant stakeholders within 30 days of adoption.

10.5 PUBLIC AVAILABILITY

The UWMPA requires water agencies to submit a copy of the adopted 2015 UWMP to the DWR within 30 days of adoption and before July 1, 2016. Additionally, water agencies are required to submit a copy of the adopted 2015 UWMP to all relevant stakeholders within 30 days of adoption.

10.6 AMENDING AND ADOPTED UWMP

Consistent with the UWMPA requirements, a copy of the 2015 UWMP was made available to the public in the office of the City Clerk at City Hall, located at 17575 Peak Ave, within 30 days of adoption.

CHAPTER 11 – DWR CHECKLIST

This report is organized in accordance with the outline suggested by DWR for the 2015 Urban Water Management Plans. This additional chapter is included to guide the reviewers to the chapters or sections in this report that address the items listed in the DWR Checklist, as published in the Final Guidebook (March 2016). The completed DWR checklist is included as **Table 11-1**.

Table 11-1 DWR Checklist

No.	UWMP Requirement	California Water Code Reference	UWMP Location
1	Retail suppliers shall adopt a 2020 water use target using one of four methods.	10608.20(b)	Section 5.7, Appendix A: SBX7-7 Tables 7, 7-A, 8
2	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.	10608.20(e)	Section 5.4, Section 5.8, Appendix A: Table 5-2 and SBX7-7 Tables 2, 3, 9
3	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.	10608.22	Section 5.7, Appendix A: SBX7-7 Tables 5, 7-F
4	Retail suppliers shall meet their interim target by December 31, 2015.	10608.24(a)	Section 5.8, Appendix A: Table 5-2 and SBX7-7 Table 9
5	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.	10608.24(d)(2)	Section 5.8, Appendix A: Table 5-2 and SBX7-7 Table 9
6	Retail suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets.	10608.26(a)	Section 10.3, Appendix E
7	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.	10608.36	The City is not a wholesale supplier
8	Retail suppliers shall report on their progress in meeting their water use targets. The data shall be reported using a standardized form.	10608.4	Section 5.8, Appendix A: Table 5-2 and SBX7-7 Table 9

Table 11-1 DWR Checklist

No.	UWMP Requirement	California Water Code Reference	UWMP Location
9	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.	10620(b)	Section 2.1
10	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.	10620(d)(2)	Section 2.5, Appendix A: Table 2-4
11	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	10620(f)	Section 7.4
12	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.	10621(b)	Section 10.2, Appendix A: Table 10-1, Appendix E
13	Each urban water supplier shall update and submit its 2015 plan to the department by July 1, 2016.	10621(d)	Section 10.4
14	Describe the water supplier service area.	10631(a)	Section 3.1, Appendix B
15	Describe the climate of the service area of the supplier.	10631(a)	Section 3.2
16	Indicate the current population of the service area.	10631(a)	Section 3.3, Appendix A: Table 3-1
17	Provide population projections for 2020, 2025, 2030, and 2035.	10631(a)	Section 3.3Appendix A: Table 3-1
18	Describe other demographic factors affecting the supplier's water management planning.	10631(a)	Section 3.3
19	Identify and quantify the existing and planned sources of water available for 2015, 2020, 2025, 2030, and 2035.	10631(b)	Chapter 6
20	Indicate whether groundwater is an existing or planned source of water available to the supplier.	10631(b)	Section 6.2

Table 11-1 DWR Checklist

No.	UWMP Requirement	California Water Code Reference	UWMP Location
21	Indicate whether a 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.	10631(b)(1)	Section 6.2
22	Describe the groundwater basin.	10631(b)(2)	Section 6.2
23	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.	10631(b)(2)	Section 6.2
24	For unadjudicated basins, indicate whether or not the department has identified the basin as overdrafted, or projected to become overdrafted. Describe efforts by the supplier to eliminate the long-term overdraft condition.	10631(b)(2)	Section 6.2
25	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	10631(b)(3)	Section 6.2, Appendix A: Table 6-1
26	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	10631(b)(4)	Section 6.9, Appendix A: Tables 6-8, 6-9
27	Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage.	10631(c)(1)	Section 7.1
28	Provide data for an average water year, a single dry water year, and multiple dry water years	10631(c)(1)	Section 7.2, Appendix A: Table 7-1
29	For any water source that may not be available at a consistent level of use, describe plans to supplement or replace that source.	10631(c)(2)	Section 7.1
30	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	10631(d)	Section 6.7
31	Quantify past, current, and projected water use, identifying the uses among water use sectors.	10631(e)(1)	Section 4.2, Appendix A: Tables 4-1, 4-2, 4-3

Table 11-1 DWR Checklist

No.	UWMP Requirement	California Water Code Reference	UWMP Location
32	Report the distribution system water loss for the most recent 12-month period available.	10631(e)(3)(A)	Section 4.3, Appendix A: Table 4-4
33	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.	10631(f)(1)	Chapter 9, Appendix C, Appendix D
34	Wholesale suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and supplier assistance program.	10631(f)(2)	The City is not a wholesale supplier
35	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 multiple-dry years.	10631(g)	Section 6.8, Appendix A: Table 6-7
36	Describe desalinated water project opportunities for long-term supply.	10631(h)	Section 6.6
37	CUWCC members may submit their 2013-2014 CUWCC BMP annual reports in lieu of, or in addition to, describing the DMM implementation in their UWMPs. This option is only allowable if the supplier has been found to be in full compliance with the CUWCC MOU.	10631(i)	The City is not a member of the CUWCC
38	Retail suppliers will include documentation that they have provided their wholesale supplier(s) - if any - with water use projections from that source.	10631(j)	Section 2.5, Appendix A: Table 2-4
39	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.	10631(j)	The City is not a wholesale supplier
40	Include projected water use needed for lower income housing projected in the service area of the supplier.	10631.1(a)	Section 4.5, Appendix A: Tables 4-2, 4-5

Table 11-1 DWR Checklist

No.	UWMP Requirement	California Water Code Reference	UWMP Location
41	Provide an urban water shortage contingency analysis that specifies stages of action and an outline of specific water supply conditions at each stage.	10632(a) and 10632(a)(1)	Section 8.1, Appendix A: Table 8-1, Appendix C
42	Provide an estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency.	10632(a)(2)	Section 8.9, Appendix A: Table 8-4
43	Identify actions to be undertaken by the urban water supplier in case of a catastrophic interruption of water supplies.	10632(a)(3)	Section 8.8
44	Identify mandatory prohibitions against specific water use practices during water shortages.	10632(a)(4)	Section 8.2, Appendix A: Table 8-2
45	Specify consumption reduction methods in the most restrictive stages.	10632(a)(5)	Section 8.4, Appendix A: Table 8-3
46	Indicated penalties or charges for excessive use, where applicable.	10632(a)(6)	Section 8.3
47	Provide an analysis of the impacts of each of the actions and conditions in the water shortage contingency analysis on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts.	10632(a)(7)	Section 8.6
48	Provide a draft water shortage contingency resolution or ordinance.	10632(a)(8)	Section 8.7, Appendix C
49	Indicate a mechanism for determining actual reductions in water use pursuant to the water shortage contingency analysis.	10632(a)(9)	Section 8.5
50	For wastewater and recycled water, coordinate with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.	10633	Section 6.5
51	Describe the wastewater collection and treatment systems in the supplier's service area. Include quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.	10633(a)	Section 6.5, Appendix A: Table 6-2

Table 11-1 DWR Checklist

No.	UWMP Requirement	California Water Code Reference	UWMP Location
52	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.	10633(b)	Section 6.5, Appendix A: Table 6-3
53	Describe the recycled water currently being used in the supplier's service area.	10633(c)	Section 6.5, Appendix A: Table 6-4
54	Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.	10633(d)	Section 6.5, Appendix A: Table 6-5
55	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.	10633(e)	Section 6.5, Appendix A: Table 6-5
56	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.	10633(f)	Section 6.5, Appendix A: Table 6-6
57	Provide a plan for optimizing the use of recycled water in the supplier's service area.	10633(g)	Section 6.5
58	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	10634	Section 7.1
59	Assess the water supply reliability during normal, dry, and multiple dry 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.	10635(a)	Section 7.2, Appendix A: Table 7-1
60	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 60 days after the submission of the plan to DWR.	10635(b)	Appendix C
61	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.	10642	Section 1.5

Table 11-1 DWR Checklist

No.	UWMP Requirement	California Water Code Reference	UWMP Location
62	Provide supporting documentation that the urban water supplier made the plan available for public inspection, published notice of the public hearing, and held a public hearing about the plan.	10642	Chapter 10, Appendix E
63	The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water.	10642	Section 10.2
64	Provide supporting documentation that the plan has been adopted as prepared or modified.	10642	Appendix E
65	Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library.	10644(a)	Appendix E
66	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.	10644(a)(1)	Appendix E
67	The plan, or amendments to the plan, submitted to the department shall be submitted electronically.	10644(a)(2)	Appendix E
68	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.	10645	Section 10.5

APPENDICES

APPENDIX A

DWR Recommended Tables

Table 2-1 Retail Only: Public Water Systems			
Public Water System Number	Public Water System Name	Number of Municipal Connections 2015	Volume of Water Supplied 2015
4310006	City of Morgan Hill	13,068	5,846
	TOTAL	13,068	5,846
NOTES:			

Table 2-2: Plan Identification			
Select Only One	**Type of Plan**		**Name of RUWMP or Regional Alliance** *if applicable* *drop down list*
☑	**Individual UWMP**		
	☐	Water Supplier is also a member of a RUWMP	
	☐	Water Supplier is also a member of a Regional Alliance	
☐	**Regional Urban Water Management Plan (RUWMP)**		
NOTES:			

Table 2-3: Agency Identification	
Type of Agency (select one or both)	
☐	Agency is a wholesaler
☑	Agency 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
NOTES:	

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 CWC 10631.
Wholesale Water Supplier Name *(Add additional rows as needed)*
Santa Clara Valley Water District
NOTES:

Table 3-1 Retail: Population - Current and Projected						
Population Served	2015	2020	2025	2030	2035	2040*(opt)*
	42,382	48,000	51,400	54,800	58,200	61,600
NOTES:						

Table 4-1 Retail: Demands for Potable and Raw Water - Actual			
Use Type *(Add additional rows as needed)*	2015 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
Single Family		Drinking Water	3,206
Multi-Family		Drinking Water	581
Commercial	Also includes Industrial and Institional use types	Drinking Water	527
Landscape		Drinking Water	1,064
		TOTAL	5,379
NOTES:			

Table 4-2 Retail: Demands for Potable and Raw Water - Projected

Use Type *(Add additional rows as needed)* ***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)*	Projected Water Use *Report To the Extent that Records are Available*				
		2020	2025	2030	2035	2040-opt
Single Family		5,096	5,457	5,818	6,179	6,540
Multi-Family		924	990	1,055	1,120	1,186
Commercial	Also includes Industrial and Institional use types	838	898	957	1,016	1,076
Landscape		1,691	1,811	1,931	2,051	2,170
Other	Projected Llagas subbasin demand, excluding the City of Morgan Hill	41,230	43,324	45,413	46,971	47,360
Other	Projected Coyote Valley subarea demand, excluding the City of Morgan Hill	11,986	13,063	14,295	15,474	15,736
TOTAL - City of Morgan Hill		8,549	9,155	9,760	10,366	10,972
TOTAL - Overall		61,765	65,542	69,468	72,811	74,068

NOTES:

Table 4-3 Retail: Total Water Demands						
	2015	2020	2025	2030	2035	2040 *(opt)*
Potable and Raw Water *From Tables 4-1 and 4-2*	5,379	61,765	65,542	69,468	72,811	74,068
Recycled Water Demand* *From Table 6-4*	0	0	0	0	0	0
TOTAL WATER DEMAND	5,379	61,765	65,542	69,468	72,811	74,068
**Recycled water demand fields will be blank until Table 6-4 is complete.*						
NOTES:						

Table 4-4 Retail: 12 Month Water Loss Audit Reporting	
Reporting Period Start Date (mm/yyyy)	Volume of Water Loss*
01/2015	420
** Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet.*	
NOTES:	

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)*	No
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.	
Are Lower Income Residential Demands Included In Projections? *Drop down list (y/n)*	Yes
NOTES:	

Table 5-1 Baselines and Targets Summary
Retail Agency or Regional Alliance Only

Baseline Period	Start Year	End Year	Average Baseline GPCD*	2015 Interim Target *	Confirmed 2020 Target*
10-15 year	*1996*	*2005*	*199*	*179*	*159*
5 Year	*2003*	*2007*	*205*		

*All values are in Gallons per Capita per Day (GPCD)

NOTES:

Table 5-2: 2015 Compliance

Retail Agency or Regional Alliance Only

Actual 2015 GPCD*	2015 Interim Target GPCD*	Optional Adjustments to 2015 GPCD *From Methodology 8*					2015 GPCD* *(Adjusted if applicable)*	Did Supplier Achieve Targeted Reduction for 2015? Y/N
		Extraordinary Events*	Economic Adjustment*	Weather Normalization*	TOTAL Adjustments*	Adjusted 2015 GPCD*		
123	179	0	0	0	0	123	123	Yes

**All values are in Gallons per Capita per Day (GPCD)*

NOTES:

Table 6-1 Retail: Groundwater Volume Pumped						
☐	Supplier does not pump groundwater. The supplier will not complete the table below.					
Groundwater Type ***Drop Down List*** *May use each category multiple times*	Location or Basin Name	2011	2012	2013	2014	2015
Add additional rows as needed						
Alluvial Basin	Gilroy-Hollister Groundwater Basin, Llagas Subbasin	6,076	6,203	7,454	6,195	4,741
Alluvial Basin	Santa Clara Valley Groundwater Basin, Santa Clara Subbasin, Coyote Valley Subarea	1,381	1,374	1,484	1,300	1,105
	TOTAL	7,457	7,577	8,938	7,495	5,846
NOTES:						

Table 6-2 Retail: Wastewater Collected Within Service Area in 2015						
☐	There is no wastewater collection system. The supplier will not complete the table below.					
	Percentage of 2015 service area covered by wastewater collection system *(optional)*					
	Percentage of 2015 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 2015	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*
Add additional rows as needed						
City of Morgan Hill	Metered	2,647	South County Regional Wastewater Authority (SCRWA)	SCRWA Wastewater Treatment Plant (SCRWA WWTP)	No	Yes
Total Wastewater Collected from Service Area in 2015:		2,647				
NOTES:						

Table 6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 2015										
☑	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)*	Method of Disposal ***Drop down list***	Does This Plant Treat Wastewater Generated Outside the Service Area?	Treatment Level ***Drop down list***	2015 volumes			
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area
Add additional rows as needed										
						Total	0	0	0	0
NOTES:										

Table 6-4 Retail: Current and Projected 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 Agency Producing (Treating) the Recycled Water:	
Name of Agency Operating the Recycled Water Distribution System:	
Supplemental Water Added in 2015	
Source of 2015 Supplemental Water	

Beneficial Use Type	General Description of 2015 Uses	Level of Treatment *Drop down list*	2015	2020	2025	2030	2035	2040 (opt)
Agricultural irrigation								
Landscape irrigation (excludes 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)*								
Surface water augmentation (IPR)*								
Direct potable reuse								
Other *(Provide General Description)*								
		Total:	0	0	0	0	0	0

**IPR - Indirect Potable Reuse*

NOTES:

Table 6-5 Retail: 2010 UWMP Recycled Water Use Projection Compared to 2015 Actual			
☑	Recycled water was not used in 2010 nor projected for use in 2015. The supplier will not complete the table below.		
Use Type		**2010 Projection for 2015**	**2015 Actual Use**
Agricultural irrigation			
Landscape irrigation (excludes 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)			
Surface water augmentation (IPR)			
Direct potable reuse			
Other	*Type of Use*		
	Total	0	0
NOTES:			

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.		
6-13	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
NOTES:			

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.					
6-14	Provide page location of narrative in the UWMP					
Name of Future Projects or Programs	Joint Project with other agencies?		Description (if needed)	Planned Implementation Year	Planned for Use in Year Type *Drop Down List*	Expected Increase in Water Supply to Agency *This may be a range*
	Drop Down List (y/n)	*If Yes, Agency Name*				
Add additional rows as needed						
NOTES:						

Table 6-8 Retail: Water Supplies — Actual				
Water Supply	Additional Detail on Water Supply	2015		
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				
Groundwater	Gilroy-Hollister Groundwater Basin, Llagas Subbasin	4,741	Drinking Water	
Groundwater	Santa Clara Valley Groundwater Basin, Santa Clara Subbasin, Coyote Valley Subarea	1,105	Drinking Water	
	Total	5,846		0
NOTES:				

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*		**2020**		**2025**		**2030**		**2035**		**2040** *(opt)*	
		Reasonably Available Volume	Total Right or Safe Yield *(optional)*	Reasonably Available Volume	Total Right or Safe Yield *(optional)*	Reasonably Available Volume	Total Right or Safe Yield *(optional)*	Reasonably Available Volume	Total Right or Safe Yield *(optional)*	Reasonably Available Volume	Total Right or Safe Yield *(optional)*
Add additional rows as needed											
Groundwater	Gilroy-Hollister Groundwater Basin, Llagas Subbasin	22,500		22,500		22,500		22,500		22,500	
Groundwater	Santa Clara Valley Groundwater Basin, Santa Clara Valley Subbasin, Coyote Valley Subarea	2,400		2,400		2,400		2,400		2,400	
Other	Raw water imports and local surface water used by SCVWD to recharge Llagas and Coyote Valley groundwater, as well as City of Gilroy recycled water demand that offsets pumping from the Llagas Subbasin.	39,000		42,900		46,600		48,400		48,500	
	Total	63,900	0	67,800	0	71,500	0	73,300	0	73,400	0

NOTES: The "other" category indicates raw water deliveries and local surface water deliveries that are managed and negotiated by Santa Clara Valley Water District for the purposes of recharging the Llagas and Coyote Valley groundwater. It also includes the City of Gilroy recycled water demand, which offsets pumping from the Llagas Subbasin. These water supplies are indicated on this table for completeness of the Llagas and Coyote Valley groundwater budgets.

Table 7-1 Retail: Basis of Water Year Data

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 1999-2000, use 2000*	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		63,900	100%
Single-Dry Year	1977	60,705	95%
Multiple-Dry Years 1st Year	2013	60,705	95%
Multiple-Dry Years 2nd Year	2014	54,315	85%
Multiple-Dry Years 3rd Year	2015	41,535	65%
Multiple-Dry Years 4th Year *Optional*			
Multiple-Dry Years 5th Year *Optional*			
Multiple-Dry Years 6th Year *Optional*			

Agency 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 an agency 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.

NOTES: Available volume for single dry and multiple dry year periods based on estimated percent of average supply, per SCVWD 2015 UWMP.

Table 7-2 Retail: Normal Year Supply and Demand Comparison					
	2020	2025	2030	2035	2040 *(Opt)*
Supply totals (*autofill from Table 6-9)*	63,900	67,800	71,500	73,300	73,400
Demand totals *(autofill from Table 4-3)*	61,765	65,542	69,468	72,811	74,068
Difference	2,135	2,258	2,032	489	(668)
NOTES:					

Table 7-3 Retail: Single Dry Year Supply and Demand Comparison					
	2020	2025	2030	2035	2040 (Opt)
Supply totals	60,705	60,705	60,705	60,705	60,705
Demand totals	61,765	65,542	69,468	72,811	74,068
Difference	(1,060)	(4,837)	(8,763)	(12,106)	(13,363)
NOTES:					

Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison						
		2020	2025	2030	2035	2040 (Opt)
First year	Supply totals	60,705	60,705	60,705	60,705	60,705
	Demand totals	61,765	65,542	69,468	72,811	74,068
	Difference	(1,060)	(4,837)	(8,763)	(12,106)	(13,363)
Second year	Supply totals	54,315	54,315	54,315	54,315	54,315
	Demand totals	61,765	65,542	69,468	72,811	74,068
	Difference	(7,450)	(11,227)	(15,153)	(18,496)	(19,753)
Third year	Supply totals	41,535	41,535	41,535	41,535	41,535
	Demand totals	61,765	65,542	69,468	72,811	74,068
	Difference	(20,230)	(24,007)	(27,933)	(31,276)	(32,533)
Fourth year *(optional)*	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
Fifth year *(optional)*	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
Sixth year *(optional)*	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
NOTES:						

Table 8-1 Retail Stages of Water Shortage Contingency Plan		
Stage	Complete Both	
	Percent Supply Reduction[1] *Numerical value as a percent*	Water Supply Condition (*Narrative description)*
Add additional rows as needed		
0	0-10%	Permanent water conservation requirements are effective at all times
1	11-20%	Water Supply Shortage exists when City Council determines and agrees that 11% - 20% consumer demand reduction is necessary to make more efficient use of water.
2	21-40%	Water Supply Shortage exists when City Council determines and agrees that 21% - 40% consumer demand reduction is necessary to make more efficient use of water.
3	50%	Water Supply Shortage is referred to as Water Shortage Emergency, and exists when City Council determines and agrees that a consumer demand reduction of up to 50% is necessary to maintain public water supplies.
[1] *One stage in the Water Shortage Contingency Plan must address a water shortage of 50%.*		
NOTES:		

Table 8-2 Retail Only: Restrictions and Prohibitions on End Uses			
Stage	Restrictions and Prohibitions on End Users ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool*	Additional Explanation or Reference *(optional)*	Penalty, Charge, or Other Enforcement? *Drop Down List*
Add additional rows as needed			
0	Landscape - Limit landscape irrigation to specific times	Prohibits watering or irrigating lawn, landscape, or other vegetated area 9:00 a.m. and 5:00 p.m. with the following exceptions: - Using a hand-held bucket or similar container - Using a hand-held hose equipped with a positive self-closing water shut-off nozzle or device - For very short periods of time for the express purpose of adjusting or repairing an irrigation system	Yes
0	Landscape - Limit landscape irrigation to specific times	Prohibits watering or irrigating of lawn, landscape, or other vegetated area using a system or device that is left unattended for more than fifteen (15) minutes per day per station. Exceptions include low-flow drip systems where no emitter produces flow more than two (2) gallons per hour, and weather based controllers or stream rotor sprinklers with 70% efficiency standard.	Yes
0	Landscape - Restrict or prohibit runoff from landscape irrigation	Prohibits watering or irrigating of lawn, landscape, or other vegetated area that causes or allows excessive flow or runoff onto sidewalk, driveway, street, etc.	Yes
0	Other - Prohibit use of potable water for washing hard surfaces	No washing down hard or paved sufaces except with the use of hand-held water container, hand-held hose with a positive self-closing water shut-off device, low-volume high-pressure cleaning machine equipped to recycle any water used, or low-volume high-pressure water broom.	Yes
0	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Requires repairs to be made to breaks, leaks, or other malfunctions no more than ten (10) days upon receiving written notice from the City.	Yes
0	Water Features - Restrict water use for decorative water	Prohibits operation of a water fountain or decorative water features that does not use recirculated water.	Yes
0	Other	Prohibits using water to wash a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not except by the use of a hand-held water container or hand-held hose with hand-held hose with a positive self-closing water shut-off device. This does not apply to any commercial car washing facility.	Yes
0	CII - Restaurants may only serve water upon request		Yes
0	CII - Lodging establishment must offer opt out of linen service	Requires hotels, motels, and other commercial lodging established to provide customers the option of not having towels and linen laundered daily. Commercial lodging establishments must prominently display notice of this option in each bathroom using clear and easily understood language.	Yes
0	CII - Other CII restriction or prohibition	Prohibits installation of a single pass cooling system for buildings requesting new water service.	Yes
0	CII - Other CII restriction or prohibition	Prohibits installation of non-recirculating water systems in new commercial conveyor car wash and new commercial laundry systems.	Yes
0	CII - Commercial kitchens required to use pre-rinse spray valves	Prohibits the use of non-water conserving dishwasher spray valves in food preparation establishments, such as restaurants or cafes.	Yes
0	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	All commercial conveyor car wash systems must have installed recirculating water systems, or secured a waiver of this requirement from the City.	Yes
1	Landscape - Limit landscape irrigation to specific days	Limits watering or irrigating of lawn, landscape or other vegetated area to three to five days per week (as necessary to achieve reductions as determined in the discretion of the superintendent) on a schedule established and posted by the City. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than one day per week on a schedule established and posted by the City. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.	Yes
1	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Requires repairs to be made to breaks, leaks, or other malfunctions within seventy-two (72) hours upon receiving written notice from the City, unless other arrangements are made with the City.	Yes
1	Other - Prohibit use of potable water for washing hard surfaces	Prohibits washing down hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, except when necessary to alleviate safety or sanitary hazards, and then only by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off device, a low-volume, highpressure cleaning machine equipped to recycle any water used, or a low-volume high-pressure water broom.	Yes

Table 8-2 Retail Only: Restrictions and Prohibitions on End Uses			
Stage	Restrictions and Prohibitions on End Users ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool*	Additional Explanation or Reference *(optional)*	Penalty, Charge, or Other Enforcement? *Drop Down List*
Add additional rows as needed			
2	Landscape - Limit landscape irrigation to specific days	Limits watering or irrigating of lawn, landscape or other vegetated area toto two days per week (as necessary to achieve reductions as determined in the discretion of the superintendent) on a schedule established and posted by the City. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than one day per week on a schedule established and posted by the City. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour. This provision also does not apply to watering or irrigating by use of a handheld bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.	Yes
2	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Requires repairs to be made to breaks, leaks, or other malfunctions within forty-eight (48) hours upon receiving written notice from the City, unless other arrangements are made with the City.	Yes
2	Water Features - Restrict water use for decorative water features, such as fountains	Prohibits filling or re-filling ornamental bodies of water unless to sustain aquatic life, given that such animals are of significant value and have been actively managed within the water feature prior to declaration of water shortage.	Yes
2	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	Prohibits using water to wash a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not except at a commercial car washing facility that utilizes a recirculating water system to capture or reuse water.	Yes
2	Other water feature or swimming pool restriction	Prohibits re-filling of more than one foot and initial filling of residential swimming pools or outdoor spas with potable water.	Yes
3	Landscape - Prohibit all landscape irrigation	Prohibits watering or irrigating of lawn, landscape, or other vegetated area. This restriction does not apply to the following categories of use, unless the City has determined that recycled water is available and may be be applied to the use: - Maintenance of vegetation, including trees and shrubs, that are watered using a hand-held bucket or similar container, hand-held hose equipped with a positive self–closing water shut-off nozzle or device; - Maintenance of existing landscape necessary for fire protection; - Maintenance of existing landscape for soil erosion control; - Maintenance of plant materials identified to be rare or essential to the well-being of protected species; - Maintenance of landscape within active public parks and playing fields, day care centers, golf course greens, and school grounds, provided that such irrigation does not exceed two (2) days per week for no more than fifteen (15) minutes watering per day per station and is prohibited between the hours of 9:00 a.m. and 5:00 p.m.; - Actively irrigated environmental mitigation projects.	Yes
3	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Repairs must be made in no more than forty-eight (48) hours upon receiving notification from the City, unless other arrangements can be made.	Yes
3	Other	Limits on New Potable Water Service: Upon declaration of a Level 3 Water Shortage Emergency condition, the City may limit the issuance of new potable water services, temporary meters and/or statements of immediate ability to serve or provide potable water service (such as, will-serve letters, certificates, or letters of availability), except under the following circumstances: - A valid, unexpired building permit has been issued for the project; - The project is necessary to protect the public health, safety, and welfare; or - The applicant provides substantial evidence of an enforceable commitment that water demands for the project will be offset prior to the provision of a new water meter(s) to the satisfaction of the City. - This provision does not preclude the resetting or turn-on of meters to provide continuation of water service or the restoration of service that has been interrupted for a period of one year or less.	Yes

Table 8-2 Retail Only: Restrictions and Prohibitions on End Uses			
Stage	Restrictions and Prohibitions on End Users ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool*	Additional Explanation or Reference *(optional)*	Penalty, Charge, or Other Enforcement? *Drop Down List*
Add additional rows as needed			
3	Other	The City Manager is authorized to implement a program in his or her discretion to limit or withhold the issuance of building permits which require new or expanded water service, except to protect the public health, safety and welfare, or in cases which meet the City's adopted conservation offset requirements.	Yes
3	Other	The City, in its sole discretion, may discontinue service to consumers who willfully violate provisions of this section.	Yes
3	Other	The City may suspend consideration of annexations to its service area. This subsection does not apply to boundary corrections and annexations that will not result in any immediate increased use of water.	Yes
NOTES:			

Table 8-3 Retail Only: **Stages of Water Shortage Contingency Plan - Consumption Reduction Methods**		
Stage	Consumption Reduction Methods by Water Supplier ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool*	Additional Explanation or Reference *(optional)*
Add additional rows as needed		
NOTES:		

Table 8-4 Retail: Minimum Supply Next Three Years			
	2016	2017	2018
Available Water Supply	60,705	60,705	60,705
NOTES:			

Table 10-1 Retail: Notification to Cities and Counties		
City Name	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
City of Gilroy	☑	☑
Santa Clara Valley Water District	☑	☑
	☐	☐
County Name *Drop Down List*	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
Santa Clara County	☑	☑
	☐	☐

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

SB X7-7 Table-1: Baseline Period Ranges

Baseline	Parameter	Value	Units
10- to 15-year baseline period	2008 total water deliveries	8,570	Acre Feet
	2008 total volume of delivered recycled water	-	Acre Feet
	2008 recycled water as a percent of total deliveries	0.00%	Percent
	Number of years in baseline period[1, 2]	10	Years
	Year beginning baseline period range	1996	
	Year ending baseline period range[3]	2005	
5-year baseline period	Number of years in baseline period	5	Years
	Year beginning baseline period range	2003	
	Year ending baseline period range[4]	2007	

[1] If the 2008 recycled water percent is less than 10 percent, then the first baseline period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater, the first baseline period is a continuous 10- to 15-year period. *[2] The Water Code requires that the baseline period is between 10 and 15 years. However, DWR recognizes that some water suppliers may not have the minimum 10 years of baseline data.*

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

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

NOTES:

SB X7-7 Table 2: Method for Population Estimates	
Method Used to Determine Population (may check more than one)	
☑	**1. Department of Finance** (DOF) DOF Table E-8 (1990 - 2000) and (2000-2010) and DOF Table E-5 (2011 - 2015) when available
☐	**2. Persons-per-Connection Method**
☐	**3. DWR Population Tool**
☐	**4. Other** DWR recommends pre-review
NOTES:	

SB X7-7 Table 3: Service Area Population		
Year		**Population**
10 to 15 Year Baseline Population		
Year 1	1996	28,822
Year 2	1997	29,542
Year 3	1998	30,262
Year 4	1999	31,900
Year 5	2000	33,586
Year 6	2001	33,914
Year 7	2002	34,210
Year 8	2003	34,109
Year 9	2004	34,618
Year 10	2005	35,011
Year 11		
Year 12		
Year 13		
Year 14		
Year 15		
5 Year Baseline Population		
Year 1	2003	34,109
Year 2	2004	34,618
Year 3	2005	35,011
Year 4	2006	35,535
Year 5	2007	36,467
2015 Compliance Year Population		
2015		42,382
NOTES:		

SB X7-7 Table 4: Annual Gross Water Use *

Baseline Year *Fm SB X7-7 Table 3*		Volume Into Distribution System *This column will remain blank until SB X7-7 Table 4-A is completed.*	Deductions					Annual Gross Water Use
			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.*	
10 to 15 Year Baseline - Gross Water Use								
Year 1	1996	6,009			-		-	6,009
Year 2	1997	6,804			-		-	6,804
Year 3	1998	6,211			-		-	6,211
Year 4	1999	6,939			-		-	6,939
Year 5	2000	7,509			-		-	7,509
Year 6	2001	7,799			-		-	7,799
Year 7	2002	7,936			-		-	7,936
Year 8	2003	7,728			-		-	7,728
Year 9	2004	8,102			-		-	8,102
Year 10	2005	7,894			-		-	7,894
Year 11	0	-			-		-	-
Year 12	0	-			-		-	-
Year 13	0	-			-		-	-
Year 14	0	-			-		-	-
Year 15	0	-			-		-	-
10 - 15 year baseline average gross water use								**7,293**
5 Year Baseline - Gross Water Use								
Year 1	2003	7,728			-		-	7,728
Year 2	2004	8,102			-		-	8,102
Year 3	2005	7,894			-		-	7,894
Year 4	2006	7,996			-		-	7,996
Year 5	2007	8,589			-		-	8,589
5 year baseline average gross water use								**8,061**
2015 Compliance Year - Gross Water Use								
2015		5,846	-		-		-	**5,846**

* NOTE that the units of measure must remain consistent throughout the UWMP, as reported in Table 2-3

NOTES:

SB X7-7 Table 4-A: Volume Entering the Distribution System(s)

Complete one table for each source.

Name of Source	Llagas Subbasin

This water source is:

☑	The supplier's own water source
☐	A purchased or imported source

Baseline Year *Fm SB X7-7 Table 3*		Volume Entering Distribution System	Meter Error Adjustment* *Optional (+/-)*	Corrected Volume Entering Distribution System
10 to 15 Year Baseline - Water into Distribution System				
Year 1	1996	3,868		3,868
Year 2	1997	4,379		4,379
Year 3	1998	3,998		3,998
Year 4	1999	5,407		5,407
Year 5	2000	5,705		5,705
Year 6	2001	6,149		6,149
Year 7	2002	6,050		6,050
Year 8	2003	5,852		5,852
Year 9	2004	6,321		6,321
Year 10	2005	6,308		6,308
Year 11	0			-
Year 12	0			-
Year 13	0			-
Year 14	0			-
Year 15	0			-
5 Year Baseline - Water into Distribution System				
Year 1	2003	5,852		5,852
Year 2	2004	6,321		6,321
Year 3	2005	6,308		6,308
Year 4	2006	6,366		6,366
Year 5	2007	6,887		6,887
2015 Compliance Year - Water into Distribution System				
2015		4,741		4,741

** Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document*

NOTES:

SB X7-7 Table 4-A: Volume Entering the Distribution System(s)

Complete one table for each source.

Name of Source	Coyote Valley Subarea of the Santa Clara Subbasin

This water source is:

☑	The supplier's own water source
☐	A purchased or imported source

Baseline Year *Fm SB X7-7 Table 3*		Volume Entering Distribution System	Meter Error Adjustment * *Optional (+/-)*	Corrected Volume Entering Distribution System
10 to 15 Year Baseline - Water into Distribution System				
Year 1	1996	2,141		2,141
Year 2	1997	2,425		2,425
Year 3	1998	2,213		2,213
Year 4	1999	1,532		1,532
Year 5	2000	1,804		1,804
Year 6	2001	1,650		1,650
Year 7	2002	1,886		1,886
Year 8	2003	1,875		1,875
Year 9	2004	1,782		1,782
Year 10	2005	1,586		1,586
Year 11	-			0
Year 12	-			0
Year 13	-			0
Year 14	-			0
Year 15	-			0
5 Year Baseline - Water into Distribution System				
Year 1	2003	1,875		1,875
Year 2	2004	1,782		1,782
Year 3	2005	1,586		1,586
Year 4	2006	1,630		1,630
Year 5	2007	1,702		1,702
2015 Compliance Year - Water into Distribution System				
2015		1,105		1,105

** Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document*

NOTES:

SB X7-7 Table 5: Gallons Per Capita Per Day (GPCD)				
Baseline Year *Fm SB X7-7 Table 3*		Service Area Population *Fm SB X7-7 Table 3*	Annual Gross Water Use *Fm SB X7-7 Table 4*	Daily Per Capita Water Use (GPCD)
10 to 15 Year Baseline GPCD				
Year 1	1996	28,822	6,008	186
Year 2	1997	29,542	6,804	206
Year 3	1998	30,262	6,211	183
Year 4	1999	31,900	6,939	194
Year 5	2000	33,586	7,509	200
Year 6	2001	33,914	7,799	205
Year 7	2002	34,210	7,936	207
Year 8	2003	34,109	7,728	202
Year 9	2004	34,618	8,102	209
Year 10	2005	35,011	7,894	201
Year 11	0	-	-	
Year 12	0	-	-	
Year 13	0	-	-	
Year 14	0	-	-	
Year 15	0	-	-	
10-15 Year Average Baseline GPCD				**199**
5 Year Baseline GPCD				
Baseline Year *Fm SB X7-7 Table 3*		Service Area Population *Fm SB X7-7 Table 3*	Gross Water Use *Fm SB X7-7 Table 4*	Daily Per Capita Water Use
Year 1	2003	34,109	7,728	202
Year 2	2004	34,618	8,102	209
Year 3	2005	35,011	7,894	201
Year 4	2006	35,535	7,996	201
Year 5	2007	36,467	8,589	210
5 Year Average Baseline GPCD				**205**
2015 Compliance Year GPCD				
2015		42,382	5,846	**123**
NOTES:				

SB X7-7 Table 6: Gallons per Capita per Day *Summary From Table SB X7-7 Table 5*	
10-15 Year Baseline GPCD	199
5 Year Baseline GPCD	205
2015 Compliance Year GPCD	123
NOTES:	

SB X7-7 Table 7: 2020 Target Method *Select Only One*		
Target Method		Supporting Documentation
☑	Method 1	SB X7-7 Table 7A
☐	Method 2	SB X7-7 Tables 7B, 7C, and 7D *Contact DWR for these tables*
☐	Method 3	SB X7-7 Table 7-E
☐	Method 4	Method 4 Calculator
NOTES:		

SB X7-7 Table 7-A: Target Method 1 20% Reduction	
10-15 Year Baseline GPCD	**2020 Target GPCD**
199	**159**
NOTES:	

SB X7-7 Table 7-F: Confirm Minimum Reduction for 2020 Target			
5 Year Baseline GPCD *From SB X7-7 Table 5*	Maximum 2020 Target[1]	Calculated 2020 Target[2]	**Confirmed 2020 Target**
205	194	159	**159**

[1] Maximum 2020 Target is 95% of the 5 Year Baseline GPCD *[2] 2020 Target is calculated based on the selected Target Method, see SB X7-7 Table 7 and corresponding tables for agency's calculated target.*

NOTES:

SB X7-7 Table 8: 2015 Interim Target GPCD		
Confirmed 2020 Target *Fm SB X7-7 Table 7-F*	10-15 year Baseline GPCD *Fm SB X7-7 Table 5*	**2015 Interim Target GPCD**
159	199	**179**
NOTES:		

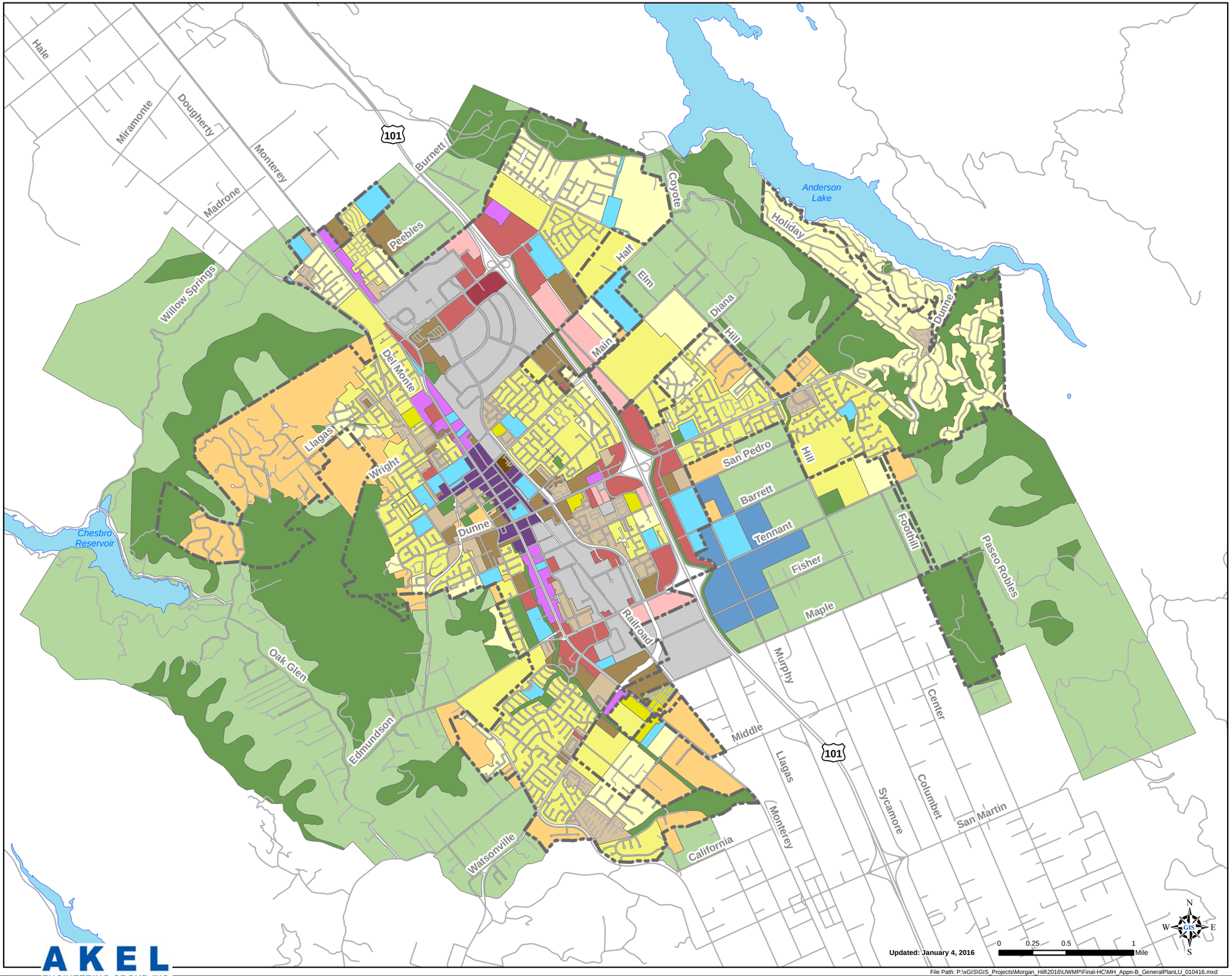
SB X7-7 Table 9: 2015 Compliance

Actual 2015 GPCD	2015 Interim Target GPCD	Optional Adjustments *(in GPCD)* Enter "0" if Adjustment Not Used: Extraordinary Events	Weather Normalization	Economic Adjustment	TOTAL Adjustments	Adjusted 2015 GPCD	2015 GPCD *(Adjusted if applicable)*	**Did Supplier Achieve Targeted Reduction for 2015?**
123	179	-	-	-	-	123	123	**YES**

NOTES:

APPENDIX B

Draft General Plan Land Use Map



Legend

General Plan Land Use

- Rural County
- Open Space
- Sports-Recreation-Leisure
- Residential Estate
- Single Family Low
- Single Family Medium
- Single Family High
- Multi-Family Low
- Multi-Family Medium
- Multi-Family High
- Commercial
- General Commercial
- Commercial Industrial
- Mixed Use
- Mixed Use Flex
- Industrial
- Public Facilities
- Roads
- City Limits
- Lakes

Note:
Land use is consistent with the draft 2016 Master Plan.

Figure 1
General Plan Land Use

2015 Urban Water Management Plan
City of Morgan Hill

CITY OF MORGAN HILL

AKEL ENGINEERING GROUP, INC.

File Path: P:\xGIS\GIS_Projects\Morgan_Hill\2016\UWMP\Final-HC\MH_Appn-B_GeneralPlanLU_010416.mxd

APPENDIX C

Amended Water Conservation and
Supply Shortage Program
(Ordinance 2159)

ORDINANCE NO. 2159, NEW SERIES

AN ORDINANCE OF THE CITY OF MORGAN HILL AMENDING SECTIONS, 13.04.330 (WASTING OF WATER) AND 13.04.390 (ENFORCEMENT) OF CHAPTER 13.04 (WATER SYSTEM) OF TITLE 13 (PUBLIC SERVICES), AMENDING REGULATIONS PROHIBITING NONESSENTIAL USE OF POTABLE WATER

THE CITY COUNCIL OF THE CITY OF MORGAN HILL DOES HEREBY ORDAIN AS FOLLOWS:

Section 1. Findings.

a. A reliable minimum supply of potable water is essential to the public health, safety and welfare of the people and economy of City of Morgan Hill.

b. The City of Morgan Hill is located in a semi-arid region and is dependent upon local groundwater, and imported water supplies. A growing population, climate change, environmental concerns, and other factors in other parts of the State and western United States, make the region highly susceptible to water supply reliability issues.

c. There is a need for water conservation program and regulations because there is a limited supply of water available to serve the residents and businesses of Morgan Hill and demand for water has, at times, exceeded supply, threatening a water shortage.

d. Careful water management that includes active water conservation measures not only in times of drought, but at all times, is essential to ensure a reliable minimum supply of water to meet current and future water supply needs.

e. Article X, Section 2 of the California Constitution declares that the general welfare requires that water resources be put to beneficial use, waste or unreasonable use or unreasonable method of use of water be prevented, and conservation of water be fully exercised with a view to the reasonable and beneficial use thereof.

f. Article XI, Section 7 of the California Constitution declares that a city or county may make and enforce within its limits all local, police, sanitary and other ordinances and regulations not in conflict with general laws.

g. California Water Code Section 375 authorizes water suppliers to adopt and enforce a comprehensive water conservation program to reduce water consumption and conserve supplies.

h. The Governor of California has proclaimed a statewide drought and issued an Executive Order, which takes immediate action to address a dire situation where numerous California communities are being forced to mandate water conservation or rationing. The lack of water has created other problems, such as extreme fire danger due to dry conditions, economic harm to urban and rural communities, loss of crops and the potential to degrade water quality in some regions. As well, the Santa Clara Valley

Water District Board of Directors has called for an immediate 30 percent reduction in water use to assure we have enough water to endure the current drought.

g. The City of Morgan Hill's water conservation and supply shortage program has functioned adequately since its adoption in 2009. Minor changes to the program are necessary in order to best manage the City of Morgan Hill's potable water supply in the short and long-term and to avoid or minimize the effects of drought and shortage within the City of Morgan Hill.

Section 2. Declaration of Purpose and Intent.

a. The purpose of this Ordinance is to amend the City of Morgan Hill's water conservation and supply shortage program. The program's purposes are to reduce water consumption within the City of Morgan Hill through conservation, enable effective water supply planning, assure reasonable and beneficial use of water, prevent waste of water, and maximize the efficient use of water within the City of Morgan Hill to avoid and minimize the effect and hardship of water shortage to the greatest extent possible.

b. This Ordinance amends permanent water conservation standards intended to alter behavior related to water use efficiency at all times and further establishes three levels of water supply shortage response actions to be implemented during times of declared water shortage or declared water shortage emergency, with increasing restrictions on water use in response to worsening drought or emergency conditions and decreasing supplies.

Section 3. CEQA Exemption

Therefore, the city finds that this Ordinance and actions taken hereafter pursuant to this Ordinance are exempt from the California Environmental Quality Act as specific actions necessary to prevent or mitigate an emergency pursuant to Public Resources Code Section 21080(b)(4) and the California Environmental Quality Act Guidelines Section 15269(c). The City Clerk is hereby authorized and directed to file a Notice of Exemption as soon as possible following adoption of this Ordinance.

Section 4. Section 13.04.330 (Wasting of Water) of Chapter 13.04 (Water System) of Title 13 (Public Services) is hereby amended in its entirety to read as follows:

"13.04.330 Wasting of water and drought emergencies

A. Applicability

1. The provisions of this chapter apply to any person in the use of any potable water in the city.

2. The provisions of this chapter do not apply to uses of water necessary to protect public health and safety or for essential government services, such as police, fire and other similar emergency services.

3. The provisions of this chapter do not apply to the use of recycled water, with the exception of subsection B (1) of this section.

4. The provisions of this chapter do not apply to the use of water by commercial nurseries and commercial growers to sustain plants, trees, shrubs, crops or other vegetation intended for commercial sale.

5. This chapter is intended solely to further the conservation of water. It is not intended to implement nor supersede any provision of federal, State, or local statutes, ordinances, or regulations relating to protection of water quality or control of drainage or runoff.

B. Prohibition Against Waste: The following water conservation requirements are effective at all times and are permanent. Violations of this section will be considered waste and an unreasonable use of water.

1. Limits on Watering Hours: Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited between the hours of 9:00 a.m. and 7:00 p.m. Pacific Standard/Daylight Savings Time on any day, except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.

2. Limit on Watering Duration: Watering or irrigating of lawn, landscape or other vegetated area with potable water using a landscape irrigation system or a watering device that is not continuously attended is limited to no more than fifteen (15) minutes watering per day per station/valve/zone. This subsection does not apply to landscape irrigation stations/valves/zones that exclusively use drip type irrigation systems or high efficiency sprinkler nozzles that have a precipitation rate of less than one (1) inch per hour. However, at no time can any irrigation system be operated long enough to cause runoff. .

3. No Excessive Water Flow or Runoff: Watering or irrigating of any lawn, landscape or other vegetated area in a manner that causes or allows excessive water flow or runoff onto an adjoining sidewalk, driveway, street, alley, gutter or ditch is prohibited.

4. No Washing Down Hard or Paved Surfaces: Washing down hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, is prohibited except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off device, a low-volume, high-pressure cleaning machine equipped to recycle any water used, or a low-volume high-pressure water broom.

5. Obligation to Fix Leaks, Breaks or Malfunctions: Excessive use, loss or escape of water through breaks, leaks or other malfunctions in the water user's plumbing or distribution system for any period of time after such escape of water should have reasonably been discovered and corrected and in no event more than ten (10) days of receiving written notice from the city, is prohibited.

6. Recirculating Water Required for Water Fountains and Decorative Water Features: Operating a water fountain or other decorative water feature that does not use recirculated water is prohibited.

7. Limits on Washing Vehicles: Using water to wash or clean a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not is prohibited, except by use of a hand-held bucket or similar container or a hand-held hose equipped with a positive self-closing water shut-off nozzle or device.

This subsection does not apply to any commercial car washing facility that incorporates a recycled water system in its operation.

8. Drinking Water Served Upon Request Only: Eating or drinking establishments, including but not limited to a restaurant, hotel, cafe, cafeteria, bar, or other public place where food or drinks are sold, served, or offered for sale, are prohibited from providing drinking water to any person unless expressly requested.

9. Commercial Lodging Establishments Must Provide Guests Option to Decline Daily Linen Services: Hotels, motels and other commercial lodging establishments must provide customers the option of not having towels and linen laundered daily. Commercial lodging establishments must prominently display notice of this option in each bathroom using clear and easily understood language.

10. No Installation of Single Pass Cooling Systems: Installation of single pass cooling systems is prohibited in buildings requesting new water service.

11. No Installation of Non recirculating in Commercial Car Wash and Laundry Systems: Installation of non recirculating water systems is prohibited in new commercial conveyor car wash and new commercial laundry systems.

12. Restaurants Required to Use Water Conserving Dish Wash Spray Valves: Food preparation establishments, such as restaurants or cafes, are prohibited from using non-water conserving dish wash spray valves.

13. Commercial Car Wash Systems: Within one year of passage of this ordinance, all commercial conveyor car wash systems must have installed operational re-circulating water systems, or must have secured a waiver of this requirement from the city.

14. Dust Control: Use of potable water for construction site dust control is prohibited if recycled water is available within five miles of the construction site.

15. Pool Covers: Constructing a pool without the inclusion of a pool cover is prohibited. All contracts for the construction of a new pool entered into after September 2, 2015 shall include the provision of a pool cover.

C. Level 1 Water Supply Shortage (11% - 20% reduction): A Level 1 Water Supply Shortage exists when the city council determines, in its sole discretion, that due to drought, other water supply conditions, or as mandated by the State of California, a water supply shortage or threatened shortage exists and a 11% - 20% consumer demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions. Upon the declaration by the city of a Level 1 Water Supply Shortage condition, the following mandatory water conservation requirements, in addition to the prohibited uses of water set forth in subsection B of this section, shall apply during such time that the Level 1 Water Supply Shortage is in effect.

1. Limits on Watering Days. Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to three to five days per week (as necessary to achieve reductions as determined in the discretion of the City Manager) on a schedule established and posted by the city. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than one day per week on a schedule established and posted by the city. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive

self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.

2. Obligation to Fix Leaks, Breaks or Malfunctions. All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within seventy-two (72) hours of notification by the city unless other arrangements are made with the city.

3. No Washing Down Hard or Paved Surfaces. Washing down hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, is prohibited except when necessary to alleviate safety or sanitary hazards, and then only by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off device, a low-volume, high-pressure cleaning machine equipped to recycle any water used, or a low-volume high-pressure water broom. Washing down structures, fences, and hard surfaces expressly for the purposes of preparing a surface for the application of a surface coating is not prohibited provided it does not occur more than one time in any twelve (12) month period.

D. Level 2 Water Supply Shortage (21% - 35% reduction).

A Level 2 Water Supply Shortage exists when the city council declares, in its sole discretion, that due to drought, other water supply conditions, or as mandated by the State of California, a water supply shortage or threatened shortage exists and a 21% - 35% consumer demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions. Upon the declaration of a Level 2 Water Supply Shortage condition, the following mandatory water conservation requirements, in addition to the prohibited uses of water set forth in subsections B and C of this section, shall apply during such time that the Level 1 Water Supply Shortage is in effect.

1. Watering Days. Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to two days per week (as necessary to achieve reductions as determined in the discretion of the City Manager) on a schedule established and posted by the city. During the months of November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than one day per week on a schedule established and posted by the city. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.

2. Obligation to Fix Leaks, Breaks or Malfunctions. All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within forty-eight (48) hours of notification by the city unless other arrangements are made with the city.

3. Limits on Filling Ornamental Lakes or Ponds. Filling or refilling ornamental lakes or ponds with potable water is prohibited, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to declaration of a supply shortage level under this section.

4. Limits on Washing Vehicles. Using potable water to wash or clean a vehicle, including but not limited to, any automobile, truck, van, bus, , boat or trailer, whether motorized or not, is prohibited except at a commercial car washing facility that utilizes a recirculating water system to capture or reuse water. This provision does not apply to bicycles and motorcycles. The use of potable water to clean the windshield, windows, or mirrors of a vehicle by use of a hand-held bucket or similar container is not prohibited.
5. Recirculating Water Required for Water Slides and Water Play Features: Operating a water slide or other water play feature that does not use recirculated water is prohibited.
6. Pool covering. Pools constructed after September 2, 2015 shall be covered at all times except when being actively used for recreational purposes or serviced.

E. Level 3 Water Supply Shortage – Emergency Condition (Greater than 35% reduction). A Level 3 Water Supply Shortage shall be referred to as a Water Shortage Emergency. A Level 3 condition exists when the city council declares, in its sole discretion or as mandated by the State of California, a water shortage emergency and notifies its residents and businesses that a greater than 35% reduction in consumer demand is necessary to maintain sufficient water supplies for public health and safety, pursuant to Water Code Section 350 et seq. Upon the declaration of a Level 3 Water Supply Shortage condition, the following mandatory water conservation requirements, in addition to the prohibited uses of water set forth in subsections B, C and D of this section, shall apply during such time that the Level 3 Water Supply Shortage is in effect
1. No Watering or Irrigating. Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited. This restriction does not apply to the following categories of use, unless the city has determined that recycled water is available and may be applied to the use:
a. Maintenance of vegetation, excluding lawns, that is watered using a hand-held bucket or similar container, hand-held hose equipped with a positive self–closing water shut-off nozzle or device;
b. Maintenance of existing landscape necessary for fire protection;
c. Maintenance of existing landscape for soil erosion control;
d. Maintenance of plant materials identified to be rare or essential to the well-being of protected species;
e. Maintenance of landscape within active public parks and playing fields, day care centers, golf course greens, and school grounds, provided that such irrigation does not exceed two (2) days per week for no more than fifteen (15) minutes watering per day per station and is prohibited between the hours of 9:00 a.m. and 7:00 p.m. Pacific Standard/Daylight Savings Time, according to the schedule established in subsection D(1) or this section.
f. Actively irrigated environmental mitigation projects.
2. Obligation to Fix Leaks, Breaks or Malfunctions. All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within twenty four (24) hours of notification by the city unless other arrangements are made with the city.
3. Limits on New Potable Water Service: Upon declaration of a Level 3 Water Shortage Emergency condition, the city may limit the issuance of building permits, new potable water services, temporary meters and/or statements of immediate ability to serve or provide potable water service (such as, will-serve letters, certificates, or letters of

availability). The City may consider exemptions to the limitation that include, but are not limited to the following circumstances:
a. A valid, unexpired building permit has been issued for the project; or
b. The project is necessary to protect the public health, safety, and welfare; or
c. The applicant provides substantial evidence of an enforceable commitment that water demands for the project will be offset prior to the provision of a new water meter(s) to the satisfaction of the city.
d. This provision does not preclude the resetting or turn-on of meters to provide continuation of water service or the restoration of service that has been interrupted for a period of one year or less.
4. Limits on Building Permits. Upon declaration of a Level 3 Water Supply Shortage Emergency condition, the city manager is authorized to implement a program in his or her discretion to limit or withhold the issuance of building permits which require new or expanded water service, except to protect the public health, safety and welfare, or in cases which meet the city's adopted conservation offset requirements.
5. Discontinue Service. The city, in its sole discretion, may discontinue service to consumers who willfully violate provisions of this section.
6. No New Annexations. Upon the declaration of a Level 3 Water Supply Shortage condition, the city may suspend consideration of annexations to its service area. This subsection does not apply to boundary corrections and annexations that will not result in any immediate increased use of water.
7. Suspension of Swimming Pool Permit Issuance. The issuance of all permits for the initial construction of all swimming pools shall be suspended. Valid unexpired swimming pool construction permits issued prior to the declaration of Level 3 Water Supply Shortage shall remain valid if pool construction has begun prior to the declaration of the Level 3 Water Supply Shortage.

F. Procedures for Determination/Notification of Water Supply Shortage
The existence of Level 1, Level 2 or Level 3 Water Supply Shortage conditions may be declared by resolution of the city council adopted at a regular or special public meeting held in accordance with state law. The mandatory conservation requirements applicable to Level 1, Level 2 or Level 3 conditions will take effect on the tenth day after the date the shortage level is declared. Within five (5) days following the declaration of the shortage level, the city must publish a copy of the resolution in a newspaper used for publication of official notices.

G. Hardship Waiver. If, due to unique circumstances, a specific requirement of this chapter would result in undue hardship to a person using water or to property upon which water is used, that is disproportionate to the impacts to water users generally or to similar property or classes of water users, then the person may apply for a waiver to the requirement as provided in this Section.
1. Application: Application for a waiver must be on a form prescribed by the City Manager and accompanied by a nonrefundable processing fee in an amount set by city council resolution.
2. Supporting Documentation: The application must be accompanied by photographs, maps, drawings, and other information, including a written statement of the applicant.

3. Required Findings for Waiver: The waiver may be granted or conditionally granted only upon a written finding of the existence of facts demonstrating an undue hardship to a person using water or to property upon which water is used, that is disproportionate to the impacts to water users generally or to similar property or classes of water use due to specific and unique circumstances of the user or the user's property. An application for a waiver will be denied unless the City Manager finds, based on the information provided in the application, supporting documents, or such additional information as may be requested, and on water use information for the property as shown by the records of the city or its agent, all of the following:

a. That the waiver does not constitute a grant of special privilege inconsistent with the limitations upon other residents and businesses;

b. That because of special circumstances applicable to the property or its use, the strict application of this chapter would have a disproportionate impact on the property or use that exceeds the impacts to residents and businesses generally;

c. That the authorizing of such waiver will not be of substantial detriment to adjacent properties, and will not materially affect the ability of the city to effectuate the purpose of this chapter and will not be detrimental to the public interest; and

d. That the condition or situation of the subject property or the intended use of the property for which the waiver is sought is not common, recurrent or general in nature.

4. Approval Authority: The City Manager must act upon any completed application no later than ten (10) days after submittal and may approve, conditionally approve, or deny the waiver. The applicant requesting the waiver must be promptly notified in writing of any action taken. Unless specified otherwise at the time a waiver is approved, the waiver will apply to the subject property during the period of the mandatory water supply shortage condition. The decision of the City Manager shall be final."

Section 5. Chapter 13.04.390 (Enforcement) of Chapter 13.04 (Water System) of Title 13 (Public Services) is hereby amended as follows:

"Section 13.04.390 Enforcement

It shall be the duty of the employees of the police, fire, community development, community services, and public works departments to give vigilant aid to the City Manager in the enforcement of the provisions of this chapter, and to this end they shall report all violations thereof which shall come to their knowledge, to the office of the City Manager and it shall be the duty of the chief of the fire department to report immediately to the City Manager in case of fire in premises, having metered service for fire protection purposes that fire has occurred there."

Section 6. Severability

If any section, subsection, sentence, clause or phrase in this Ordinance is for any reason held invalid, the validity of the remainder of the Ordinance will not be affected. The city council hereby declares it would have passed this Ordinance and each section, subsection, sentence, clause or phrase thereof, irrespective of the fact that one or more sections, subsections, sentences, clauses, or phrases or is declared invalid.

Section 7. Effective Date; Posting. Pursuant to California Water Code Section 376, this Ordinance shall constitute a water conservation program and shall be effective upon adoption, within ten (10) days of its adoption, this ordinance shall be published once in a newspaper of general circulation which is printed, published, and circulated in the City of Morgan Hill.

THE FOREGOING ORDINANCE WAS INTRODUCED AT A MEETING OF THE CITY COUNCIL HELD ON THE 5th DAY OF AUGUST 2015, AND WAS FINALLY ADOPTED AT A MEETING OF THE CITY COUNCIL HELD ON THE 2nd DAY OF SEPTEMBER 2015, AND SAID ORDINANCE WAS DULY PASSED AND ADOPTED IN ACCORDANCE WITH LAW BY THE FOLLOWING VOTE:

AYES:	**COUNCIL MEMBERS:**	Carr, Constantine, Librers, Siebert, Tate
NOES:	**COUNCIL MEMBERS:**	None
ABSTAIN:	**COUNCIL MEMBERS:**	None
ABSENT:	**COUNCIL MEMBERS:**	None

APPROVED:

STEVE TATE, Mayor

ATTEST:

IRMA TORREZ, City Clerk

DATE: November 2, 2015

Effective October 3, 2015

CERTIFICATION

I, IRMA TORREZ, CITY CLERK OF THE CITY OF MORGAN HILL, CALIFORNIA, do hereby certify that the foregoing is a true and correct copy of Ordinance No. 2159, New Series, adopted by the City Council of the City of Morgan Hill, California at its regular meeting held on the 2nd day of September 2015.

WITNESS MY HAND AND THE SEAL OF THE CITY OF MORGAN HILL.

DATE: 11/2/2015

IRMA TORREZ, City Clerk

APPENDIX D

Water Rate Structure

2016 Water and Wastewater Rate Adjustments Schedules

Water Rates

CURRENT WATER RATES		ADOPTED WATER RATES				
		April 1, 2016	January 1, 2017	January 1, 2018	January 1, 2019	January 1, 2020
Fixed Charge						
Meter Size						
Single& Multi-Family Residential						
⅝"	$8.94	$20.62	$22.11	$27.07	$29.03	$31.14
¾"	$8.94	$20.62	$22.11	$27.07	$29.03	$31.14
1"	$8.94	$20.62	$22.11	$27.07	$29.03	$31.14
1-½"	$14.86	$38.88	$41.70	$51.05	$54.75	$58.72
2"	$23.89	$60.80	$65.21	$79.82	$85.61	$91.81
3"	$47.70	$119.25	$127.90	$156.55	$167.90	$180.07
4"	$77.23	$185.00	$198.42	$242.87	$260.48	$279.36
6"	$118.63	$367.66	$394.31	$482.65	$517.64	$555.17
Commercial/Industrial/Public						
⅝"	$8.94	$31.28	$33.54	$41.06	$44.03	$47.23
¾"	$8.94	$31.28	$33.54	$41.06	$44.03	$47.23
1"	$8.94	$31.28	$33.54	$41.06	$44.03	$47.23
1-½"	$14.86	$60.20	$64.56	$79.03	$84.76	$90.90
2"	$23.89	$94.90	$101.78	$124.59	$133.62	$143.31
3"	$47.70	$187.45	$201.04	$246.08	$263.92	$283.06
4"	$77.23	$291.57	$312.71	$382.77	$410.52	$440.28
6"	$118.63	$580.79	$622.89	$762.44	$817.72	$877.00
Fire Service						
3"	--	$7.69	$8.24	$10.09	$10.82	$11.61
4"	$17.62	$13.02	$13.96	$17.09	$18.33	$19.66
6"	$26.41	$26.73	$28.67	$35.09	$37.64	$40.37
8"	$35.22	$45.02	$48.28	$59.10	$63.38	$67.98
10"	$44.02	$69.40	$74.43	$91.10	$97.71	$104.79
Volumetric Charge – Rate per hcf*						
Single Family Residential						
Tier 1: 0-10 hcf	$1.74	--	--	--	--	--
Tier 2: 11-30 hcf	$3.47	--	--	--	--	--
Tier 3: 31+	$5.21	--	--	--	--	--
All water consumed	--	$1.87	$2.01	$2.24	$2.40	$2.57
Multi Family Residential						
Tier 1: 0-8 hcf	$1.74	--	--	--	--	--
Tier 2: 9-16 hcf	$3.47	--	--	--	--	--
Tier 3: 17+	$5.21	--	--	--	--	--
All water consumed	--	$1.87	$2.01	$2.24	$2.40	$2.57
Commercial/Industrial/Public						
All water consumed	$2.84	$1.87	$2.01	$2.24	$2.40	$2.57
Booster Station Service Charge						
Fixed	--	$2.19	$2.28	$2.37	$2.46	$2.56
Volumetric - Rate per hcf*	--	$0.16	$0.17	$0.18	$0.19	$0.20

Current Rates effective January 1, 2016.

Out-of-city water customers add 50% to the proposed rate schedule.

* 1 hcf = one hundred cubic feet or about 748 gallons

Wastewater Rates

CURRENT WASTEWATER RATES	ADOPTED WASTEWATER RATES				
	April 1, 2016	January 1, 2017	January 1, 2018	January 1, 2019	January 1, 2020
Fixed Charge					
Meter Size					
Single& Multi-Family Residential					
⅝" – 1" $18.54	no change	$18.91	$19.29	$19.67	$20.07
All Other Customers					
⅝" $18.54	no change	$18.91	$19.29	$19.67	$20.07
¾" $18.54	no change	$18.91	$19.29	$19.67	$20.07
1" $18.54	no change	$18.91	$19.29	$19.67	$20.07
1-½" $69.38	no change	$70.77	$72.18	$73.63	$75.10
2" $110.47	no change	$112.68	$114.93	$117.23	$119.58
3" $240.66	no change	$245.47	$250.38	$255.39	$260.50
4" $432.27	no change	$440.92	$449.73	$458.73	$467.90
6" $959.45	no change	$978.64	$998.21	$1,018.18	$1,038.54
8" $1,482.18	no change	$1,511.82	$1,542.06	$1,572.90	$1,604.36
10" $1,852.73	no change	$1,889.78	$1,927.58	$1,966.13	$2,005.45
Volumetric Charge – Rate per baseline estimate hcf					
Single & Multi-Family Residential					
$3.93	no change	$4.01	$4.09	$4.17	$4.25
Commercial/Industrial/Public					
varies	no change	--	--	--	--
Commercial 1	--	$3.84	$3.91	$3.99	$4.07
Commercial 2	--	$4.49	$4.58	$4.67	$4.76
Commercial 3	--	$5.46	$5.57	$5.68	$5.79
Commercial 4	--	$6.19	$6.32	$6.44	$6.57
Commercial 5	--	$7.35	$7.50	$7.65	$7.80
Commercial 6	--	$12.27	$12.52	$12.77	$13.02
Lift Station Service Charge					
$6.16	$8.46	$8.77	$9.09	$9.43	$9.78

Current Rates effective January 1, 2016.

APPENDIX E

Urban Water Management Plan
Adoption Resolution and Notifications