APPENDIX F

WATER SUPPLY ASSESSMENT, CAL WATER, 2017

SB 610 Water Supply Assessment
For
Stonegate Vesting Tentative Subdivision Map and General Plan Amendment

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Introduction and Project Description

The City of Chico (City) through its planning consulting firm, WRA, Inc. has requested California Water Service (Cal Water) prepare a Water Supply Assessment (WSA) in accordance with California SB 610 requirements for the proposed Stonegate Vesting Tentative Subdivision Map , referred hereafter as the Stonegate Development Project (SDP).

For location and development layout, see Figures III- 1 Project Site Location Map and III-2 Site Aerial Map, and the Tentative Subdivision Map (S15-05) in WRA's Administrative Draft EIR, Project Description Section.

The SDP site is located in the southeast quadrant of the City of Chico and is comprised of four parcels totaling approximately 313 acres The project site is located along the east and west side of Bruce Road, between E. 20th Street and the Skyway at Assessor Parcel Numbers (APNs) 002-190-041, 018-510-007, 008, and 009. The site is located within portions of section 31 and 32, T22N, R2E of the USGS 7.5-minute Chico Quadrangle. The project site is generally level undeveloped land, gradually sloping up to the northeast from elevations of 225 feet at its south border along Skyway to 267 feet on the north border along E. 20th Street. Historically, the site was used for cattle grazing, which has declined in the past 25 years.

The project site is adjacent to developed areas on the north (single and multi-family residences), on the west (single family residences), and on the south (commercial). The Chico Unified School District owns property on the southwest side for potential use as a high school. To the east is private, undeveloped grazing land under Butte County jurisdiction but located in the City's proposed sphere of influence. Designated as a Special Planning Area (SPA) in the City's General Plan, land to the east is designated for a broad range of development uses.
The proposed SDP includes General Plan Land Use Diagram amendments and rezoning

Epick Homes, the applicant developer, proposes to subdivide the 313 acre project site into a combination of open spaces, public right-of-ways, park, single-family residences with both standard and half-acre lots, multi-family residential units, and commercial uses as follows:

Open Space: 108.8 acres
Public right-of-way dedication: 41.8 acres
Bicycle Path: 0.7 acres
Park: 3.3 acres
Single-family residences with 424 standard lots: 81.0 acres
Single-family residences with 45 half-acre lots: 22.3 acres
Multi-family residential units: 13.4 acres
Commercial uses: 36.6 acres
Storm water facility: 5.4 acres
Land transfer from the project site to the City: 1.0 acre
Land transfer from the City to the project site: 0.8 acres

Proposed Stonegate Development Plan

Descriptions of the proposed development plan were provided by Epick Homes. However, with regard to multi-family residential and commercial uses, no specific proposals were made. WRA provided a description of a possible option on how lots could be developed. For the purposes of the Draft EIR, more-conservative assumptions for development in these areas were made by WRA.

Open Space
The open space would include grassland habitat intermixed with a variety of seasonal wetlands, vernal pools, natural drainages, and a segment of the Butte Creek Diversion Channel. A street, park, and pedestrian/bike path along the western boundary of the open space would separate this area from adjacent land uses and provide views of the area.

No irrigation of vegetation with potable water supply is anticipated in the open space area.

Single Family Residential
The project proposes five different densities of single family housing for the 469 lots. Smaller lots would be located closer to areas planned for multi-family residences. Larger single family residential lots would be located near open space preserves.

It is assumed here that the single family lots will irrigate landscaped areas.

Multi-Family Residential
The proposed project includes two lots that would be zoned R2, which permits 7.1 to 14 multi-family dwelling units per gross acre. Lot 470 is11.8 gross acres (9.4 net acres), and Lot 473 is 4.8 gross acres (4.0 net acres). Epick Homes anticipates up to 208 multi-family residential units in two-story apartment buildings with shared outdoor common areas and parking. This level of development corresponds to approximately 12.5 units per acre.
For the purposes of this EIR, WRA assumed that up to 233 units may be constructed on these lots. This assumption corresponds to a build-out of these lots at approximately 14 units per gross acre.

Southern Commercial
The project includes a 14.6-acre lot (Lot 472) near its southerly end that would be zoned CC (Community Commercial). Given the proposed zoning, proximity to the Skyway, and nearby medical uses along the Skyway, the applicant anticipates that this southern commercial property would likely be developed with medical office uses comprised of one large building or multiple buildings, totaling up to 195,000 square feet.
For the purposes of this EIR, WRA assumed that up to 205,000 square feet of medical/dental offices may be developed on Lot 472.

Northern Commercial
Northern commercial properties would include a 20-acre lot (Lot 471) and a 4-acre lot (Lot 474), located at the southwest and southeast corners of East 20th Street at Bruce Road, respectively. These commercial lots would be zoned CC (Community Commercial), and the applicant anticipates that they will likely be developed with a mix of retail uses totaling up to 201,000 square feet.

For the purposes of the EIR, WRA assumed that up to 240,000 square feet of commercial mixed uses may be constructed on Lots 471 and 474.

The SDP is not specifically discussed in Cal Water's 2015 Chico-Hamilton City (CH) District Urban Water Management Plan (UWMP), which was adopted in June 2016; therefore, its water requirements and how they would be met are addressed in this WSA. The CH District UWMP document provides historic and forecasted water demand and supply data and analyses and can be referenced for more detailed information on those topics. Cal Water updates its Urban Water Management Plans every three to five years.

Senate Bills 610 (Chapter 643, Statutes of 2001) (SB 610) and Senate Bill 221 (Chapter 642, Statutes of 2001) (SB 221) amended state law, effective January 1, 2002, to improve the link between information on water supply availability and land use development decisions made by cities and counties. SB 610/SB 221 are companion measures that require detailed information regarding water supply availability be provided to local public agency decision-makers prior to approval of development projects that meet or exceed any of the following criteria:

1. A residential development of more than 500 dwelling units.
2. A shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet.
3. A commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.
4. A hotel or motel with more than 500 rooms.
5. An industrial, manufacturing or processing plant or industrial park planned to house more than 1,000 persons occupying more than 40 acres of land or having more than 650,000 square feet of floor area.
6. A mixed-used project that includes one or more of the projects specified above.
7. A project that would demand an amount of water equivalent to, or greater than the amount of water required by a 500 dwelling unit project.

Since the proposed SDP exceeds criteria 1 above, a SB 610 WSA and a SB 221 verification document are required.

A SB 610 WSA must address the adequacy of the water supply to meet estimated demands of the proposed project over the next 20 years in addition to those of Cal Water's existing customers and other anticipated future users under normal, single dry year and multiple dry year conditions. (Water Code §10911(a).) SB 610 and SB221 require that the information developed to address the adequacy of the water supply question be included in the administrative record that serves as the evidentiary basis for an approval action by the local public agency.

Both state bills recognize local control and decision-making regarding the availability of water for projects and the approval of projects. Under SB 610, water supply assessments must be furnished to local governments for inclusion in any required California Environmental Quality

Act (CEQA) documents. Water Code 10910 (a) requires that any city or county that determines that a project, as defined in Section 10912, is subject to CEQA shall comply with the requirements of this part of the water code. Under SB 221, approval by a city or county of certain residential subdivisions requires an affirmative written verification of sufficient water supply. An SB 221 verification document is required for tentative tract map approval.

In May 2017, WRA on behalf of the City requested Cal Water prepare an SB 610 WSA for the SDP.

Cal Water adopted its current CH District UWMP in June 2016. Per Section 10910(c) (3) of the Water Code, this water supply assessment is based on information contained in the UWMP, updated water demand data for 2016, 2017 and other sources cited here.

Following is a forecast of SDP water demands at build out and a description and assessment of the water supply to meet those and other forecasted demands in the CH District in accordance with the requirements of SB 610.

Stonegate Development Project Water Demand Forecast

For the proposed new facilities, water usage rates for single family and multi-family residences are based on similar existing facilities in the CH district service area for 2015 and 2016, when conservation measures were very effective. The rationale for using the lower water usage rates for these years is that Stonegate single family and multi-family units will be provided with water conserving fixtures (toilets, showerheads), machines (dishwaters and clothes washers) and irrigation systems. Older homes and apartments in the CH service area typically do not have these.

Commercial and retail uses and landscape irrigation are based on Cal Water data from other WSAs.

Single Family Residences

In 2015 in the CH district, there were an estimated 23,996 single family residences (SFR) and in 2016, there were an estimated 24,277. The average for these two years is 24,136 services. The average total annual water use for 2015 and 2016, which was all metered (no flat rate services) was 3,076,167 x 10^3 gallons. This equals an average single family residence use of 349.2 gallons/day/SFR.
Assuming that all proposed Stonegate single family residences use the same average daily amount of water, yields an annual usage of:
469 SFRs x 349.2 gallons/day/SFR = 163,775 gal/day or 183.5 acre-feet/year (AFY)

Multi-Family Residential Units

In 2015 in the CH district, there were an estimated 19,486 multi-family residential units and in 2016, there were an estimated 20,116. The average for these two years is 19,801 units. The average total annual water use for 2015 and 2016 was 817,222 x 10^3 gallons. This equals an average multi-family residential unit use of 41.3 gallons/day/MFR unit.

Assuming that all proposed Stonegate MFR units use the same average daily amount of water, yields an annual consumption of:
233 MFR units x 41.3 gallons/day/MFR unit = 9,623 gal/day or 10.8 AFY.

Southern Commercial – Medical/Dental Offices

WRA assumed that up to 205,000 square feet of medical/dental offices may be developed in this area.

In the April 2016 Harbor UCLA Medical Center Master Plan WSA prepared by Cal Water for an expansion of medical facilities, offices and laboratories in Los Angeles County – west of the City of Carson, Cal Water obtained actual water use data from metered connections to the existing medical campus.

All existing uses (administrative office, day-care center, central utilities/industrial/infrastructure, hospital/inpatient, library, medical offices/outpatient, biomedical research and development, warehouse/storage) are part of the master plan. The primary difference between existing facilities and new ones in the master plan was greater square footage at build out,

Proposed new medical center facilities will replace existing facilities with those that will fully comply with more stringent Los Angeles County water conservation requirements including the California Plumbing Code and the California Green Building Code, which mandate installation of water conserving plumbing fixtures and fittings. Since it was not known how much additional water demand may be created by new laboratories and other water using medical and biomedical research and development activities, as an offset to the installation of more water conserving fixtures, machines and cleaning practices, the existing average water use factor of 0.1447 gal/day/ft^2 was used.

Using that water rate here yields:
205,000 ft^2 x 0.1447 gal/day/ft^2 = 29,664 gal/day or 33.2 AFY

Northern Commercial

WRA assumed that up to 240,000 square feet of commercial mixed uses may be constructed.

Estimating water usage for commercial, retail and restaurants on a gallons/square feet basis requires information on the type and mix of businesses anticipated in the development. If the commercial/retail/restaurant mix has a higher concentration of higher water using businesses such as supermarkets, restaurants, health clubs, etc., the water use factor will be significantly higher than a mix largely comprised of dry goods retail activities such as clothing, shoes, electronics, sporting goods, drug stores, etc.

For another development project in Cal Water's Dominguez District in Torrance, CA, PCR Services Corporation (PCR) using data derived by the County Sanitation Districts of Los Angeles (CSDLA) developed a table of estimated water demand for a variety of commercial activities. Since there was good agreement between estimates of residential water usage derived from Cal Water data and those developed by PCR using CSDLA data, estimates of water demand for commercial activities developed by PCR are used here for the SDP and are summarized below.

PCR Commercial Activities Water Use Factors	
Category	**Average Use gallons/day/ft^2**
Retail:	
Shopping center	0.358
Electronics store	0.110
Home Improvement	0.110
Home Furnishings	0.110
Office Supplies	0.110
Supermarket	0.65
Restaurants:	1.10
Hotels:	0.50

The estimated average water demand for commercial which is assumed to be 75% dry retail and 25% restaurant uses is 0.358 gal/day/ft^2 based on 0.25 x 1.10 +00.80 x 0.110 = 0.358 gal/day/ft^2.

Using that water rate here yields:
240,000 ft^2 x 0.358 gal/day/ft^2 = 85,920 gal/day or 96.2 AFY

Landscape Irrigation

Urban irrigated landscape water demand in a 2011 WSA was determined to be 0.079 gal/day/ft^2 based on metered usage and estimated areas. For the SDP, it is assumed that half the planned landscaping will be drought resistant, so a rate of 0.040 gal/day/ft^2 is used here.

The estimated landscaped areas that will require irrigation are as follows:

Park: 3.3 acres
Multi-family residential units: 0.2 x 13.4 acres = 2.7 acres
Commercial uses: 0.15 x 36.6 acres = 5.5 acres
Total Estimated irrigation area: 11.5 acres or 500,940 ft^2

Estimated irrigation use: 500,940 ft^2 x 0.040 gal/day/ft^2 = 20,038 gal/day or 22.4 AFY

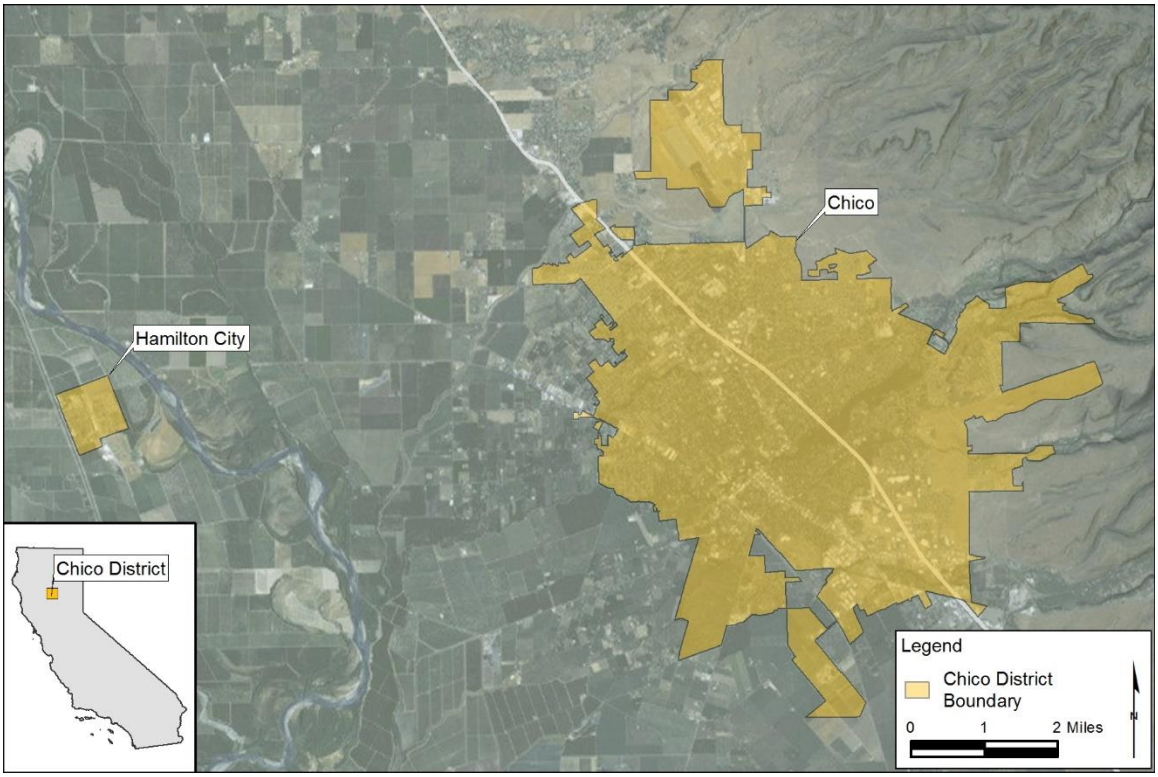
Total estimated Stonegate Project water demand at build out is: 183.5 + 10.8 + 33.2 + 96.2 + 22.4 = **346.1 AFY**

CH District Background Information

The CH District is located in both Butte and Glenn Counties; Chico in Butte and Hamilton City in Glenn County. The District is situated in the Sacramento River hydrologic region, within the Northeast Valley sub-area. The District is approximately 80 miles north of the City of Sacramento. Major transportation links to the District include State Route 99 and State Route 32. The Southern Pacific Railroad provides runs through Chico parallel to State Route 99. The Chico Municipal Airport is located to the north of the City. Figure 3-1 shows a general location map of the District.

Figure 1 is an aerial photo showing the CH District's service areas.

Figure 1: Chico Hamilton City District Service Area



Cal Water estimates the service area population was 102,155 in 2015. Service area population has been growing at an annual rate of 1.23 percent for the past 15 years. Between the 2000 and 2010 Censuses, it grew at an average annual rate of 1.16 percent. Between 2010 and 2015, population growth increased to an average annual rate of 1.35 percent per year. Going forward, service area population is projected to increase at a rate of close to two percent annually until 2020 and then to slow significantly. After 2025, population is projected to increase at an annual rate of about 1.1 percent through the 2040 planning horizon. The service growth is based on historical growth plus anticipated development projects totaling 3,400+ units between 2016 and 2025. Based on these service growths, the population estimate falls in between the Butte County Economic Forecast Trend, Butte County Association of Governments, and the Chico General Plan.

To estimate current service area population, Cal Water uses MARPLOT and LandView 5 software to intersect District service area boundaries with Census Blocks from the 2000 and 2010 Censuses. This yields estimates of the number of housing units and population within each Census Block in the District for 2000 and 2010. From these data, Cal Water estimates the total population and the average number of persons per housing unit in the District. Cal Water applies the average number of persons per housing unit to the number of housing units served to calculate service area population in non-Census years.

Between the 2000 and 2010 Censuses, the average number of persons per household decreased from 2.43 to 2.35. The projection of future population is based on this lower housing unit density. Projected service area population is given in Table 1.

Table 1: CH District Population - Current and Projected						
Population Served	2015	2020	2025	2030	2035	2040
	102,155	112,337	122,902	129,856	137,250	145,113

CH District Water Demand

This section summarizes existing water use and projects water demand through the year 2040. Note that the terms "water use" and "water demand" mean the same thing.

Cal Water uses the following customer categories:

- Single Family Residential
- Multifamily Residential
- Commercial
- Industrial
- Government
- Other

Actual water use in 2015 by customer category is shown in Table 2. Total system demand in 2015 was 18,227 AF. District water use in 2015 was strongly affected by the Drought Emergency Regulation adopted by the State Water Resources Control Board in May of 2015 (SWRCB Resolution No. 2015-0032). The Drought Emergency Regulation mandated urban retail water suppliers reduce potable water use between June of 2015 and February of 2016 by percentages specified by the State Water Resources Control Board. The CH District was ordered to reduce potable water use by 32 percent over this period relative to use over the same period in 2013. Between June and December 2015, water use in Chico-Hamilton City was 39.2 percent less than water use over the same period in 2013.

Table 2: CH District Water Demand		
Category	2015 Actual	
		Volume (AF)
Single Family		9,663
Multi-Family		2,495
Commercial		3,688
Industrial		398
Institutional/Governmental		815
Other		28
Losses		1,140
Total		**18,227**

Residential customers account for approximately 85 percent of services and 67 percent of water use in the District, most of which is associated with single-family water use. Figure 1 shows the distribution of services in 2015. Figure 2 shows historical water sales by customer category.

Figure 1: Distribution of Services in CH District in 2015

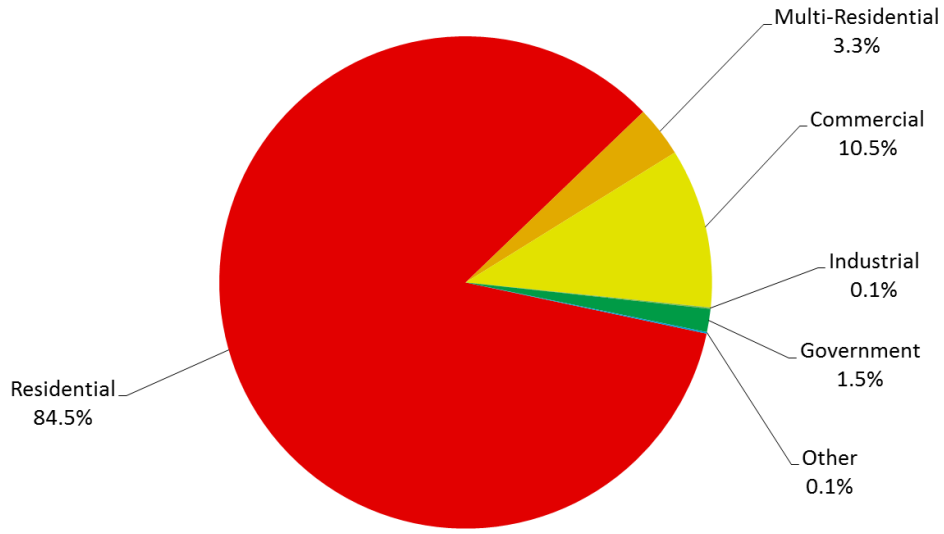
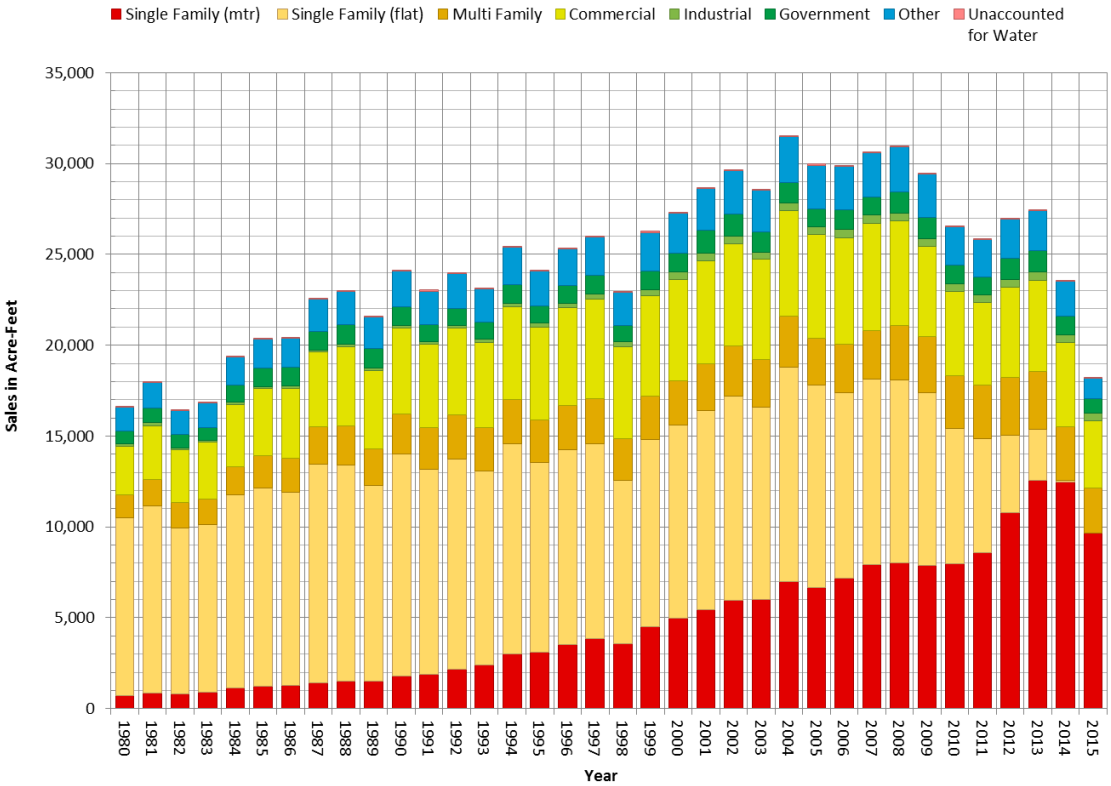


Figure 2: Water Use by Customer Category



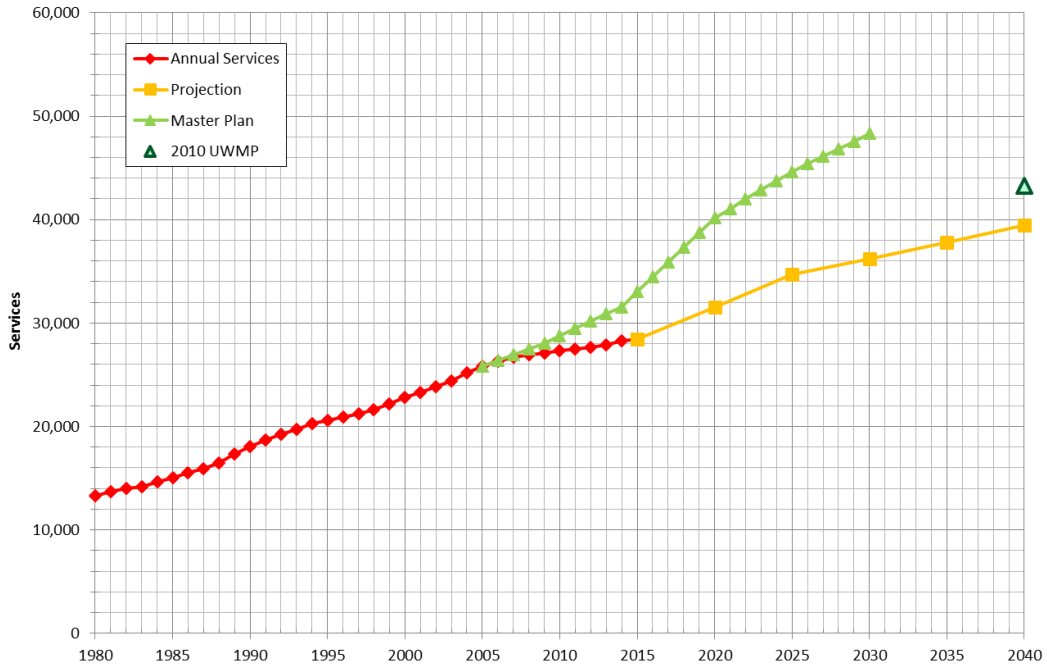
Projected Water Demand

Projected normal year potable water demands by customer categories through 2040 are shown in Tables 3.

Table 2: CH District Projected Water Demands					
Use Type	AFY				
	2020	2025	2030	2035	2040
Single Family	17,846	19,908	20,998	22,170	23,412
Multi-Family	3,219	3,439	3,707	4,003	4,330
Commercial	4,640	4,821	5,095	5,364	5,648
Industrial	362	367	373	378	383
Institutional/Governmental	1,066	1,080	1,100	1,119	1,139
Other	27	27	27	28	28
Losses	2,237	2,519	2,682	2,853	3,034
Total	**29,397**	**32,162**	**33,981**	**35,916**	**37,974**

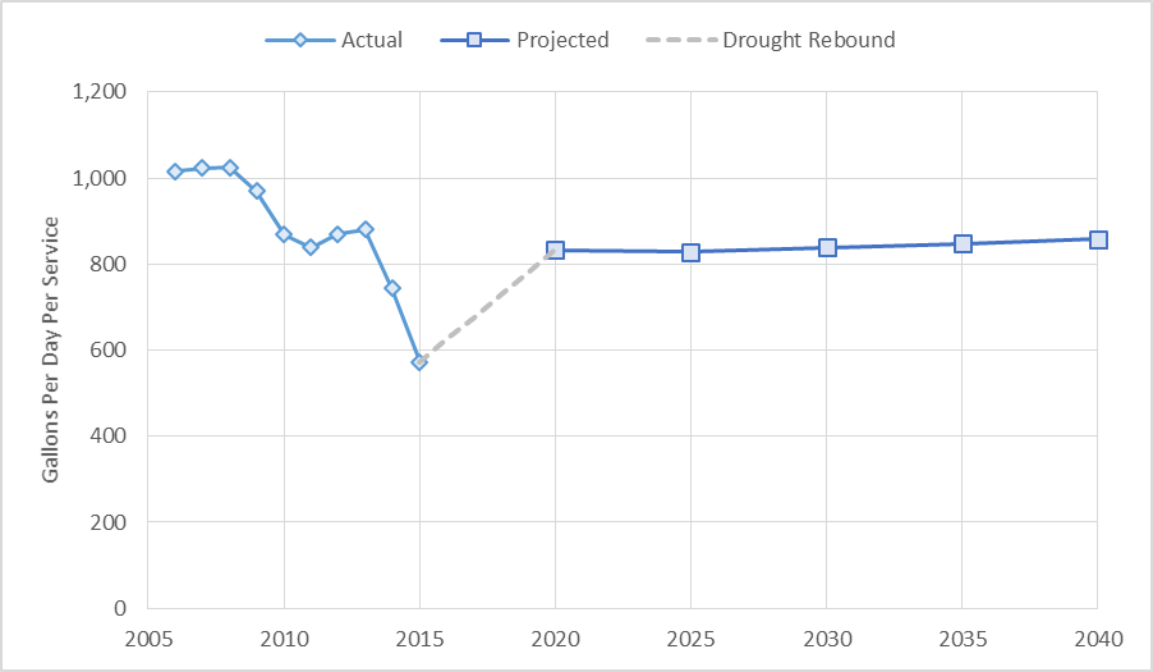
Future demands are estimated as the product of future services and expected water use per service type. The projected services include two major developments: Meriam Park and Oak Valley. These developments are expected to occur between 2016 and 2025. During this period and after 2025, a 10-yr growth rate is assumed for in-fill for single family homes. A 15-yr growth rate is assumed for multifamily homes. A 20-yr growth rate is assumed for commercial accounts. The forecast assumes no change in the number of industrial services. The projected average annual growth rate in services across all customer categories is approximately 1.3 percent. Historical and projected services are shown in Figure 3. Also shown in the figure is the services projection from CH Water Supply and Facilities Master Plan and 2010 UWMP.

Figure 3: CH District Historical and Projected Services



Projected water use per service, shown in Figure 4, is based on weather-normalized historical use, adjusted for future expected water savings from plumbing codes and District conservation programs. Weather normalization of historical use was done econometrically using the California Urban Water Conservation Council GPCD Weather Normalization Methodology. Expected water savings from plumbing codes are presented in Section 4.4 of the 2015 UWMP. Expected water savings from CH District conservation programs and projected compliance with the District's SB X7-7 2020 per capita water use target are discussed in Chapter 9 of the 2015 UWMP. The projected trend in average use per service shown in Figure 4 does not account for possible effects of climate change on future demand. The potential effects of climate change are discussed in Section 4.6 of the 2915 UWMP.

Figure 4: CH District Historical and Projected Average Use per Service (gallons/day)



Projected water uses in Table 3 and Figure 4 are based on unrestricted demands under normal weather conditions. Demands are assumed to partially rebound by 2020 from 2015 levels due to the State Water Resources Control Board ending its mandatory water use reductions. The difference between actual and projected demands in 2020 will depend in part on how water use changes without state mandated reductions.

The following codes and standards form the basis for estimated future water savings:

- AB 715 enacted in 2007
- U.S. Department of Energy water use standards for residential and commercial clothes washers and dishwashers
- CalGreen Code requirements for maximum indoor water consumption of plumbing fixtures and fittings in new and renovated properties.
- SB 407 mandates that buildings in California come up to current State plumbing fixture standards within this decade. Noncompliant plumbing fixtures include:
    - Toilets manufactured to use more than 1.6 gallons of water per flush
    - Urinals manufactured to use more than one gallon of water per flush
    - Showerheads manufactured to have a flow capacity of more than 2.5 gallons per minute
    - Interior faucets that discharge more than 2.2 gallons of water per minute.

For single-family residential property, the compliance date was January 1, 2017. For multi-family and commercial property, it is January 1, 2019. In advance of these dates, the law requires as of January 1, 2014 that for building alterations and improvements to all residential and commercial property that water-conserving plumbing fixtures replace all noncompliant

plumbing fixtures as a condition for issuance of a certificate of final completion and occupancy or final permit approval by the local building department.

California has also adopted regulations governing the future use of landscape water use.

- The California Water Commission approved the State's updated Model Water Efficient Landscape Ordinance (MWELO) on July 15, 2015. The size of landscapes subject to MWELO has been lowered to 500 sq. ft. This applies to residential, commercial, industrial and institutional projects that require a permit, plan check or design review. Additionally, the maximum applied water allowance (MAWA) has been lowered from 70% of the reference evapotranspiration (ETo) to 55% for residential landscape projects, and to 45% of ETo for non-residential projects. This water allowance reduces the landscape area that can be planted with high water use plants such as cool season turf. For typical residential projects, the reduction in the MAWA reduces the percentage of landscape area that can be planted with high water use plants from 33% to 25%. The site-wide irrigation efficiency of the previous ordinance (2010) was 0.71; for the purposes of estimating total water use, the revised MWELO defines the irrigation efficiency (IE) of drip irrigation as 0.81 and overhead irrigation and other technologies must meet a minimum IE of 0.75.

- CalGreen requires that automatic irrigation system controllers for new landscaping provided by a builder and installed at the time of final inspection must be weather- or soil moisture-based controllers that automatically adjust irrigation in response to changes in plant water needs as weather or soil conditions change.

Estimates of future water savings in the 2015 UWMP do not include potential landscape water savings from implementation of MWELO or CalGreen standards because estimating these savings required data that was not available to Cal Water at the time the 2015 UWMP was prepared. Required data include existing and future landscape areas, plant materials, irrigation equipment, enforcement of and compliance with the landscape design and irrigation equipment requirements.

CH District 2015 and 2020 Targets in Gallons per Capita per Day (GPCD)

Urban retail water suppliers may select from four GPCD target methods (CWC 10608.20):

- Target Method 1: 20% reduction from 10-year baseline GPCD
- Target Method 2: Water use efficiency performance standards
- Target Method 3: 95% of Hydrologic Region Target
- Target Method 4: Savings by water sector, DWR Method 4

Regardless of target method selected, the final target cannot exceed 95 percent of the 5-year baseline period average GPCD (CWC 10608.22).

Baseline daily per capita water use is calculated by converting annual water use to gallons per day and dividing by service area population. Daily per capita water use for each baseline year and 2015 are summarized in Table 4. The 10-year baseline average GPCD is 292 and the 5-year baseline average GPCD is 294.
The CH District selected Target Method 1, which sets the 2020 target to either 80 percent of the 10-year baseline or 95 percent of the 5-year baseline average GPCD, whichever is less. This

results in a 2020 target of 234 GPCD. The 2015 interim target of 263 is the midpoint between the 10-year baseline average GPCD and the 2020 target.
The District's GPCD baselines and targets are summarized in Table 4.

Table 3: CH District Baseline and Target Summary

Baseline Period	Start Years	End Years	Average GPCD	2015 Interim Target	Confirmed 2020 Target
10-15 year	1999	2008	292	263	234
5 Year	2004	2008	294		

The CH District's 2015 compliance water use was 159 GPCD compared to its 2015 SB X7-7 Compliance interim target of 263 GPCD.

Relationship of SDP Demand to CH District Demand

The following analysis indicates that the forecasted demand of the SDP at build out can be considered part of the CH District forecasted demand.

Actual demand for the CH District in 2015 was 18,227 AFY or 6.27 mgd. The forecasted demand for 2020 is 29,397 AFY; so the forecasted increase in average day demand for the 5-year period 2015 to 2020 is 11,120 AFY or 9.93 mgd. Assume that the SDP forecasted build out demand of 346.1 AFY occurs by 2020. This represents 3.1% (346.1/11,120) of the projected increase in forecasted CH District water demand for that period.

Water demand for the CH District in 2040 is 37,974 AFY or 33.9 mgd so the increase in average day demand from 2020 to 2040 (20 year period) is 8,577 AFY or 7.65 mgd. If there is no increase in SDP demand after 2020, then SDP demand is only 0.09% of total CHD district demand in 2040.

With respect to the 20 year forecast, SDP demand is not a significant percentage of the projected increase in District demand. For 2020, it leaves nearly 97% of the projected increase for increases in GPCD, other projects and general growth within the District. For 2040, it leaves 99% for increases in GPCD, other projects and general growth.

With respect to housing units, SDP's proposed 469 single family units are only 1.9% of 2016 total units in the CH District and the proposed 233 multi-family units area only 7.7% of the 2016 total. So SDP housing does not represent a significant increase in total housing within the CH District.

Therefore, the WSA treats increases in water demand due to the SDP as part of the CH District demand projection.

CH District Water Supply

The sole source of water supply for the CH District is groundwater and will likely continue to be for at least the next 20 years. It is difficult to determine the actual supply available to Cal Water in any given year due to a lack of sufficient information on the groundwater system and its users. There has not been a comprehensive hydrogeologic study of the Vina, West Butte and East Butte Subbasins, which are part of the Sacramento Valley Groundwater Basin and are the source of groundwater for the City of Chico and other uses. Same is true for the Corning Subbasin which underlies Hamilton City.

Since these subbasins are unadjudicated, there is a lack of available information on annual pumping amounts by all basin users. In part, this is due to the abundance of groundwater in this region of the Sacramento Valley. Although there has been some decline in groundwater levels over the long term, this decline has not been significant enough in CH District wells to warrant concern. The 2009 CH Water Supply and Facilities Master Plan (WSFMP) includes a detailed analysis of historic trends of groundwater levels for Cal Water and other nearby wells and found most wells had remained unchanged, a few showed increases and others decreases. The aquifers beneath the CH District contain large volumes of stored groundwater. Following droughts, groundwater storage and levels recover quickly. Groundwater information is provided in more detail in Section 6 of CH District UWMP.

Since Cal Water pumps only enough water to meet customer demand, available supply in future years is set to equal the projected demand.

Groundwater

The CH District pumps groundwater from underlying aquifers through 65 wells located throughout its service area. Cal Water owns 64 of the wells and leases one. Under California water law, Cal Water has the right to extract water from the underlying aquifers for providing a potable water supply to its customers. In the Chico service area, there are 62 wells and in Hamilton City 3 wells.

There are nine potable water storage reservoirs located in the district. These reservoirs enable groundwater to be pumped into storage during periods of non-peak demand and in combination with the wells provide sufficient water to meet peak day and peak hour demand. The District has adequate production and storage capacity to supply all current and projected 20 year demands.

Purchased Surface Water

Cal Water does not purchase any surface water for the CH District. However, Butte County has a Table A State Water Project (SWP) entitlement of approximately 27,000 AFY of Feather River water. Historically, Butte County has not made full use of this entitlement. Currently it has a surplus of over of 20,000 AFY of water available. The Butte County Department of Water and Resource Conservation and Cal Water are engaged in determining the feasibility of how to make full use of this entitlement in the Chico-Hamilton area. At this time, it is not clear whether Butte County's SWP water entitlement can be made available for purchase by Cal Water in a way that is economical.

Groundwater Basin Description

The Vina Subbasin is bounded on the west by the Sacramento River, on the north by Deer Creek, on the east by the Chico-Hamilton Monocline and on the south by Big Chico-Hamilton Creek. Deer Creek and Big Chico-Hamilton Creek serve as hydrologic boundaries in the near surface. The West Butte Subbasin is bounded on the west and south by the Sacramento River, on the north by Big Chico-Hamilton Creek, on the northeast by the Chico-Hamilton Monocline, and on the east by Butte Creek. The subbasin is hydrologically contiguous with the Vina and East Butte subbasins at depth. The Chico-Hamilton Monocline forms a geographic boundary; however, a component of recharge to the subbasin appears east of the fault structure. Groundwater flow is southwesterly toward the Sacramento River north to the city of Princeton. South of Princeton groundwater flows away from the Sacramento River to recharge the groundwater system. The East Butte Subbasin is bounded on the west and northwest by Butte Creek, on the northeast by the Cascade Ranges, on the southeast by the Feather River and the south by the Sutter Buttes. The northeast boundary along the Cascade Ranges is primarily a geographic boundary with some groundwater recharge occurring beyond that boundary.

Hamilton City is located within the Corning Subbasin which comprises the portion of the Sacramento Valley Groundwater Basin bounded on the west by the Coast Ranges, on the north by Thomes Creek, on the east by the Sacramento River, and on the south by Stony Creek.

Additional details on the basin are given in the DWR's Groundwater Bulletin 118 which is in Appendix G of the 2015 UWMP.

Groundwater Management

The groundwater basins that Cal Water pumps from are un-adjudicated.

In Glenn County, where Hamilton City is located, there have been ongoing discussions regarding how to manage the groundwater subbasin. The Glenn County Water Advisory Committee was formed and a Basin Management Objective (BMO) was developed and adopted as a local ordinance. The BMO is the current groundwater management plan for the County.

The Butte County Department of Water and Resource Conservation has developed a groundwater management plan. No safe yield has been established but policy decisions were made in an attempt to maintain groundwater levels and water quality. The management plan can be accessed on Butte County’s website.

The Butte Basin Water Users Association (BBWUA) developed a groundwater model of the basins and began development of a plan to manage the quantity of water stored in the groundwater basins. Butte County has taken the lead role for regional management of its groundwater basins and assumed responsibility for maintaining and improving the groundwater model.

Sustainable Groundwater Management Act

On September 16, 2014, Governor Brown signed into law Assembly Bill 1739, Senate Bill 1168, and Senate Bill 1319 (AB-1739, SB-1168, and SB-1319). This three-bill legislative package is known collectively as the Sustainable Groundwater Management Act (SGMA). SGMA was amended in the later part of 2015 by Senate Bill 13, Senate Bill 226 and Assembly Bill 1390 to provide clarity to the original law and guidance on groundwater adjudications. This new legislation defines sustainable groundwater management as the "management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results" [Water Code § 10721(u)]. The legislation defines "undesirable results" to be any of the following effects caused by groundwater conditions occurring throughout the basin [Water Code § 10721(w) (1-6)]:

- Chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply;
- Significant and unreasonable reduction of groundwater storage;
- Significant and unreasonable seawater intrusion;
- Significant and unreasonable degraded water quality;
- Significant and unreasonable land subsidence;
- Surface water depletions that have significant and unreasonable adverse impacts on beneficial uses of the surface water.

The legislation provides for financial and enforcement tools to carry out effective local sustainable groundwater management through formation of Groundwater Sustainability Agencies (GSA's) consisting of local public agencies, water companies regulated by the CPUC and mutual water companies. The legislation requires that GSA's within High and Medium Priority basins under the California Statewide Groundwater Elevation Monitoring (CASGEM) program subject to critical conditions of overdraft prepare and submit a Groundwater Sustainability Plan (GSP) for the basin by January 31, 2020 [Water Code § 10720.7(a) (1)], and requires GSA's in all other groundwater basins designated as High or Medium Priority basins to prepare and submit a GSP by January 31, 2022 [Water Code § 10720.7 (a) (2)]. Following State approval, the basin would thereafter be managed under the GSP.

The key intended outcomes and benefits of SGMA include:

- Advancement in understanding and knowledge of the State's groundwater basins and their issues and challenges;
- Establishment of effective local governance to protect and manage groundwater basins;

- Management of regional water resources for regional self-sufficiency and drought resilience;

- Sustainable management of groundwater basins through the actions of GSA's, utilizing State assistance and intervention only when necessary;

- All groundwater basins in California are operated to maintain adequate protection to support the beneficial uses for the resource;

- Surface water and groundwater are managed as "a Single Resource" to sustain their interconnectivity, provide dry season base flow to interconnected streams, and support and promote long-term aquatic ecosystem health and vitality;

- A statewide framework for local groundwater management planning, including development of sustainable groundwater management best management practices and plans;

- Development of comprehensive and uniform water budgets, groundwater models, and engineering tools for effective management of groundwater basins;

- Improved coordination between land use and groundwater planning;

- Enforcement actions as needed by the SWRCB to achieve region-by-region sustainable groundwater management in accordance with the 2014 legislation.

The California Department of Water Resources (DWR) will provide GSA's with technical and financial assistance necessary to sustainably manage their water resources. Intended outcomes include:

- A reliable, safe and sustainable water supply to protect communities, farms, and the environment, and support a stable and growing economy;

- Elimination of long-term groundwater overdraft, an increase in groundwater storage, avoidance or minimization of subsidence, enhancement of water flows in stream systems, and prevention of future groundwater quality degradation.

Cal Water's groundwater management approach is to work collaboratively with all stakeholders in a basin to develop plans and manage the basin in an effective and equitable way. While Cal Water supports the goals and objectives of SGMA, it also recognizes the technical, legal, political, economic and financial challenges of its implementation. Cal Water intends to have an active role in the local and state-wide management of groundwater resources including those in Butte and Glenn Counties. A number of specific steps that the Cal Water intends to take include:

- Outreach to public agencies to ensure that its presence, rights, interests, and resource management concerns are addressed in the GSAs and GSPs being developed

- Participation in the developing GSA and GSP requirements

- Use of newer technologies and equipment for groundwater measuring and monitoring of pumping rates, basin water levels, and water quality parameters

- Participation in the development of groundwater hydraulic computer models in basins where Cal Water has a presence

- Use of updated groundwater data and information in applicable technical reports, studies, WSFMPs, and UWMPs as they relate to groundwater adequacy and reliability

- Use of groundwater management information and data in its general rate case (GRC) filings and grant applications

The 2015 CH District UWMP covers many of the topics required by SGMA and will be used toward implementation of SGMA and the basin GSP. The following groundwater topics are addressed:

- Chapter 4: historic and future customer growth and water demand

- Chapter 6: historic and future water supplies

- Chapter 6: potential actions to develop additional water supplies to maintain reliability

- Chapter 6: water quality and actions to protect and treat water supplies.

- Chapter 6: potential for recycled water use

- Chapter 7: ability groundwater to reliably serve customer demands under normal, single-dry-year and multiple-dry-year conditions.

Groundwater Basin Conditions

Butte County's Groundwater Status Report noted that due to dry conditions and increased groundwater demand, groundwater levels in the spring and fall were lower in 2014 compared to 2013. The spring 2014 groundwater level measurements showed that of the 77 wells with assigned alert levels, 45 well reached an Alert Stage. Cal Water has decades of water level records for its wells. Since 1990, the average level has declined about 30 feet. Short periods of groundwater elevation decline and recovery have occurred during this period. The extended multi-year drought from 1987-1992 coupled with higher than normal withdrawals, caused a 15-foot decline in static groundwater elevation. Drought recovery occurred in 1995. A 15-foot increase in the average static groundwater elevation was recorded 2000. The recent drought (2012 - 2015) reduced groundwater levels. It is expected that after normal and above normal (2016) rainfall occurs there will be an increase in groundwater levels.
Figure 5 shows groundwater levels for Chico service area wells from 1988 to 2015.

Figure 5: Chico Service Area Well Level Average

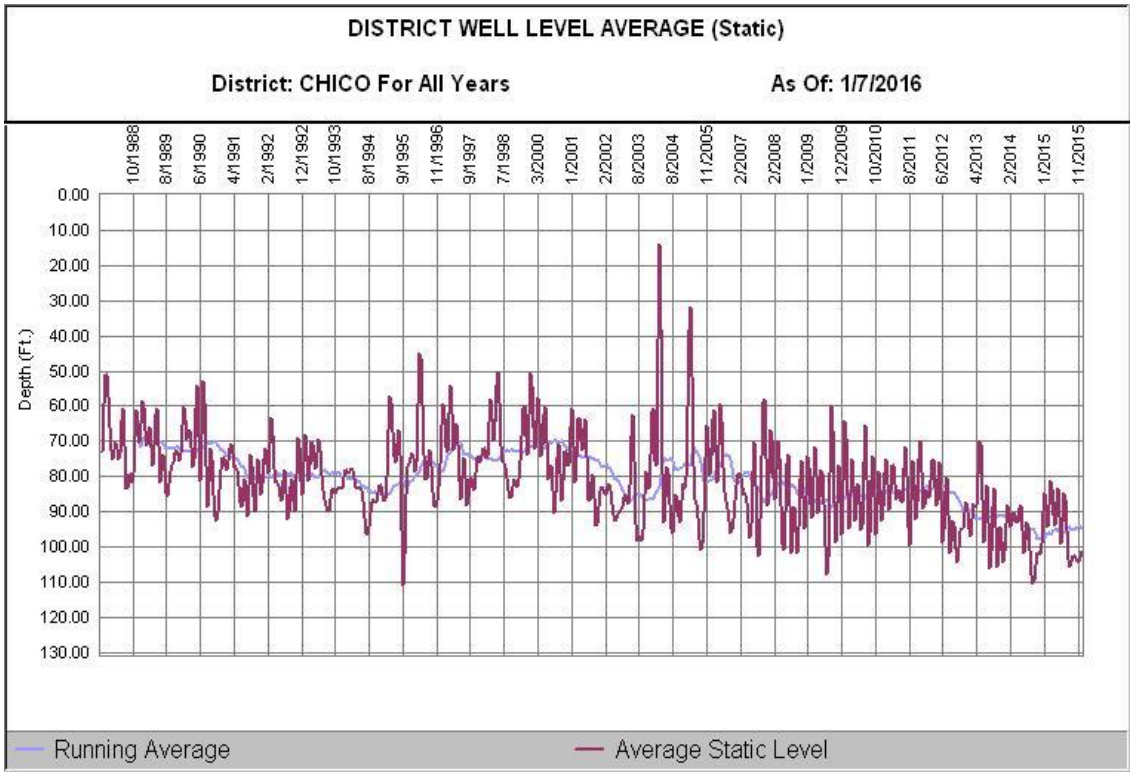
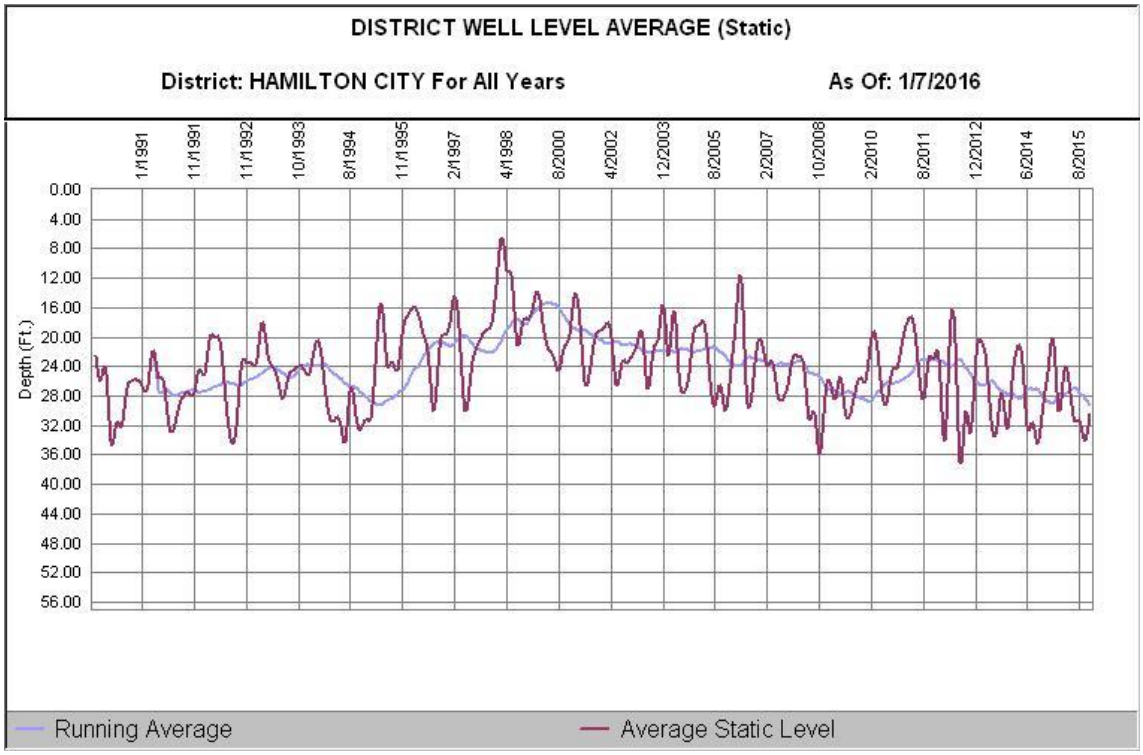


Figure 6 shows groundwater levels for Hamilton City from 1990 to 2015. The water level remained fairly constant during the drought condition from 1987 to 1992 with a sharp increase during the recovery period after the drought ended. The recent drought (2012 – 2015) reduced groundwater levels, which are expected to rise following the above normal rainfall of the 2016 season.

Figure 6: Hamilton City District Well Level Average



Historical CH District Pumping

Table 5 lists the amount of groundwater pumped by Cal Water over the past 5 years.

Table 5: CH District Groundwater Volume Pumped (AF)

Groundwater Type	Location or Basin Name	2011	2012	2013	2014	2015
Alluvial Basin	Chico (Vina, West Butte, East Butte Subbasins)	25,345	26,486	27,006	23,139	17,864
Alluvial Basin	Hamilton (Corning Subbasin)	484	472	440	405	363
Total		**25,828**	**26,958**	**27,446**	**23,544**	**18,227**

Future Possible Water Supplies

Recycled Water

Currently, no municipal or industrial wastewater is processed for non-potable reuse in the CH District.

Recycling of treated wastewater would contribute to supporting a sustainable groundwater supply either through aquifer recharge (which would require advanced treatment) or by using

recycled water for non-potable uses (landscape irrigation, agricultural irrigation, cooling water) thereby reducing demand on pumping groundwater for potable use. Currently, no wastewater is recycled in the Chico-Hamilton District.

The Chico Water Pollution Control Plant (CWPCP) is owned by the City of Chico and provides the wastewater treatment for the Chico service area. Hamilton City Community Services District provides treatment for Hamilton City's service area.

The CWPCP provides secondary treatment followed by chlorination and dechlorination prior to discharge to the Sacramento River. Treatment plant design capacity is 9 MGD with current average day flow at 7.0 MGD. Hamilton City Community Services District provides treatment for Hamilton City's service area. Average daily flow is approximately 0.25 MGD - one-half of design capacity. This facility can serve an additional 2,500 residences before expansion will be necessary. The treatment plant provides primary treatment followed by oxidation ponds where liquid either infiltrates or evaporates.

Water Transfers

As noted earlier, Butte County has over 20,000 AFY of entitlement to SWP water from the Feather River available for use in Butte County. Cal Water is assessing the feasibility of entering into an agreement that would make this water available to the customers in the CH District. Feather River water could be treated and delivered directly to Cal Water customers or could be used for groundwater recharge and pumped from existing wells. Groundwater recharge is complicated by the fact that there are other users' wells that draw from the same aquifers and would be expected to share in the costs of developing a groundwater basin recharge system.

Future CH District Water Supply

Groundwater is expected to be the sole source of supply for the CH District through 2040. Annual groundwater supply quantities shown in Table 6 equal the projected demand for those years.

Cal Water has an active well maintenance program and will identify when wells need to be replaced or rehabilitated to maintain supply capacity and reliability. Cal Water does not plan to add additional wells in the District at this time.

Table 6: CH District Water Projected Water Supply (AF)

2020	2025	2030	2035	2040
Reasonably Available Volume	Reasonably Available Volume	Reasonably Available Volume	Reasonably Available Volume	Reasonably Available Volume
29,397	32,162	33,981	35,916	37,974
29,397	**32,162**	**33,981**	**35,916**	**37,974**

Climate Change Impacts on Supply

Cal Water recently completed an initial study of climate change impacts for most of its districts, including Chico. The studied districts account for 85% of Cal Water's total 2014 production and reflect the diversity of Cal Water districts in California. The purpose of the study was to provide a better understanding of the potential impacts of climate change on water supplies. While the impacts are not reliably quantifiable at this time, there is a reasonable probability that they will cause changes in the availability groundwater and surface water supplies. The study used available projections of changes in temperature and precipitation to 2100, and then estimated how surface water flows and groundwater recharge rates might change. The study generally relied on studies done by or data provided by wholesale suppliers in California.

The projections of temperature and precipitation that underlie Cal Water's study are based on 40 of the latest Global Circulation Models (GCMs) run as part of the Coupled Model Inter comparison Project Phase 5 (CMIP5). This approach is termed an ensemble analysis, for which the downscaled climate projections for any particular Cal Water Service District were based on the median of the 40 downscaled GCM datasets. The GCMs used by the analysis are driven by two GHG emission pathways that bound upper and lower estimates of GHG concentrations.

Climate change is primarily driven by increased concentrations of greenhouse gases (GHGs) in the atmosphere. Future climate changes are a function of the rate at which those concentrations are increase and the manner in which the atmosphere and oceans respond to increased concentrations. Both are difficult to model. While the scientific community overwhelmingly agrees that climate change has, is and continues to occur, projections for localized areas with respect to impacts on temperature, precipitation, runoff, groundwater and related hydrologic conditions are still subject to significant uncertainty.

Projected impacts for CH District at this time appear to be small. The projected decrease in supply by 2100 is 3%.

Future potential Cal Water actions regarding climate change include:

- Methodological improvements to reduce uncertainties
- Acquiring better and more complete data;
- Developing plans to address climate change reductions on supply
- Integrating climate change into the Company's ongoing water supply planning

Climate change impacts will generally increase over time. Anticipated late-century impacts are expected to be significantly higher in some areas of California than those at mid-century. Moreover, during the period that climate change is forecast to increasingly constrain supplies, demands are also generally forecast to increase, further exacerbating the adverse impacts on water supply reliability.

Water Supply Reliability Assessment

Using available historical information and projections of future water uses, regulatory and legal constraints, and hydrological and environmental conditions, including climate change, Cal Water has assessed the reliability of the CH District's water supply.

Cal Water projects that under all hydrologic conditions its groundwater supply for the Chico-Hamilton District will fully meet future demands. Ample storage in the groundwater subbasins from which supply is pumped provide an adequate buffer against years with decreased precipitation while wetter years recharge storage.

The quality of the groundwater produced by the CH District's active wells can vary depending on location. Water produced from several wells were found to contain concentrations that exceed the maximum contamination level (MCL) for Trichloroethylene (TCE), Tetrachloroethylene (PCE), cis-1,2-Dichloroethylene (Cis 12 DCE), and 1,1-dichloroethylene (1,1 DCA). However, in all cases, these wells were either taken out of service or treatment facilities were installed to remove the contaminant.

Ten wells in Chico-Hamilton have nitrate concentrations greater than 5 ppm (1/2 the MCL of 10 ppm). One has been identified as having nitrate concentrations higher than the MCL, and another has been identified as having nitrate concentrations within 1.3 mg/L of the MCL. As a result both of these wells were taken out of service.

Reliability by Type of Hydrologic Year

The designation of Base Years for drought planning is shown in Table 7.
A normal hydrologic year occurred in 1992 when precipitation was approximately 0.2 percent below the historic average for the period from 1903 to 2015. The driest year occurred in 2013 when the rainfall was approximately 72% percent below average (7.38 inches). This is taken as the single dry year shown in Table 7. The multiple dry-water years used are 2013 through 2015.

Table 7: Basis of Water Year Data

Year Type	Base Year	Available supplies	
		Volume available (AF)	% of avg supply
Average Year	1992	37,974	100%
Single-Dry Year	2013	41,309	
Multiple-Dry Years 1st Year	2013	41,309	
Multiple-Dry Years 2nd Year	2014	37,230	
Multiple-Dry Years 3rd Year	2015	41,309	

Supply and Demand Assessment

Water supply and demand quantities change during normal, single dry and multi-dry years. Cal Water's demand forecasting method is described in Chapter 4 of the CH District UWMP. Cal Water's groundwater supply for the CH District is expected to meet demands for all hydrologic conditions. Reductions in supply during periods of drought are due to demand reductions caused by conservation programs and mandates and are not due to reductions in the availability of groundwater supply.

Table 8 shows the projected supply and demand totals for a normal year.

Table 8: Normal Year Supply and Demand Comparison (AF)					
	2020	2025	2030	2035	2040
Supply totals	29,397	32,162	33,981	35,916	37,974
Demand totals	29,397	32,162	33,981	35,916	37,974
Difference	0	0	0	0	0

Table 9 shows the projected supply and demand totals for a single dry year.

Table 9: Single Dry Year Supply and Demand Comparison (AF)					
	2020	2025	2030	2035	2040
Supply totals	31,978	34,986	36,965	39,070	41,309
Demand totals	31,978	34,986	36,965	39,070	41,309
Difference	0	0	0	0	0

Table 10 shows the projected supply and demand totals for the multiple dry years.

Table 10: Multiple Dry Years Supply and Demand Comparison (AF)						
		2020	2025	2030	2035	2040
First year	Supply totals	31,978	34,986	36,965	39,070	41,309
	Demand totals	31,978	34,986	36,965	39,070	41,309
	Difference	0	0	0	0	0
Second year	Supply totals	28,821	31,532	33,316	35,213	37,230
	Demand totals	28,821	31,532	33,316	35,213	37,230
	Difference	0	0	0	0	0
Third year	Supply totals	31,978	34,986	36,965	39,070	41,309
	Demand totals	31,978	34,986	36,965	39,070	41,309
	Difference	0	0	0	0	0

Water Demand Management

As previously discussed, effective water conservation reduces water demand which reduces water supply needs. Cal Water's existing conservation programs, including expanded SB7 driven programs have demonstrated that Cal Water can achieve over significant reductions in demand in the CH District. Total demand in 2013 was 25,250 AFY. Even with an increase of 1,549 services (5.5%) between 2013 and 2016, demand decreased to 16,604 AFY or by 8,646 AFY or 34.2% in 2016.

Continued effective conservation programs including compliance with state issued demand reduction mandates ensure Cal Water will meet its supply obligations for normal, single dry year and multiple dry year conditions.

During severe drought periods such as occurred during the 2012-2015 period, there were no shortfalls in supply that necessitated implementation of more extreme demand reduction measures.

Should for some reason water supply shortages occur, Cal Water has in place plans and measures for reducing customer water demand. If necessary, this includes if mandatory reductions, rationing, and penalties.

As shown in Table 11, Cal Water has a four-stage water demand reduction plan comprised of voluntary and mandatory stages. Approval from the CPUC must be obtained prior to implementation of mandatory restrictions.

Table 11: CH District Water Demand Reduction Plan			
Supply Shortage	Stage	Demand Reduction Goal	Type of Program
Minimum 5 - 10%	Stage 1	10% reduction	Voluntary
Moderate 10 - 20%	Stage 2	20% reduction	Voluntary or Mandatory*
Severe 20 - 35%	Stage 3	35% reduction	Mandatory*
Critical 35 - 50%	Stage 4	50% reduction	Mandatory*

* Mandatory = Allocations

The following summarizes the actions to be taken during periods when demand reduction is required:

Stage 1

- Public information campaign consisting of distribution of literature, speaking engagements, monthly bill inserts, and conservation messages printed in local newspapers (ongoing)
- Educational programs in area schools (ongoing)

Stage 2

- More aggressive public information and education programs
- Requests to consumers to reduce voluntarily water use by 10 to 20 percent or mandatory reductions will be implemented
- Prior to implementation of mandatory reductions, obtain approval from CPUC
- Lobby for passage of drought ordinances by appropriate governmental agencies

Stage 3

- Implement mandatory reductions after receiving approval from CPUC
- Maintain rigorous public information campaign explaining water shortage conditions.
- Water use restrictions go into effect; prohibited uses explicitly defined
- Limiting landscape irrigation by restricting hours of the day and or days of the week during which water for irrigation can be used
- Monitor production weekly for compliance with necessary reductions
- Installation of flow restrictors on the service lines of customers who consistently violate water use restrictions

Stage 4

- All of steps taken in prior stages intensified.
- Discontinuance of water service for customers consistently violating water use restrictions
- Monitor production daily for compliance with necessary reductions
- More restrictive conditions or a prohibition of landscape irrigation

Section 357 of the Water Code requires that suppliers that are subject to regulation by the CPUC shall secure its approval before imposing water consumption regulations and restrictions required by water shortages.

Design, Construction and Operation of SDP Water Supply Facilities

As planning and design proceed further, Cal Water anticipates working closely with Epick Homes, its engineer, the City of Chico, and California Department of Drinking Water (DDW) with getting approval of required water supply facilities.

Cal Water will prepare design drawings and specifications for compliance with state and Cal Water's standards with respect to pipe sizes, valves, materials, etc. and connection to its existing system.

Cal Water's CH District, supported by its engineering, water quality and customer service staff in San Jose, will be responsible for providing ongoing local operations and maintenance services of the water system.

SB 610 Section 10910 Paragraph (d)(2) requires identification of existing water supply entitlements, water rights, or water service contracts held by the public water system shall be demonstrated by providing information related to all of the following:

(A) *Written contracts or proof of entitlement to an identified water supply.*

Proof of entitlement to use of the wells cited as a major supply source to the District is demonstrated by Cal Water's ownership of the property and the wells and its legal right to use the underlying percolated waters.

(B) *Copies of a capital outlay program for financing the delivery of a water supply system that has been adopted by the public water system.*

Capital costs for design and construction of the water distribution system within the development site are the responsibility of the developer.

Cal Water's CH District capital improvement program is separate from and does not include any of the costs associated with the design and construction of the water system for or within the SDP area. However, upon legal transfer of the completed water system within the development site to Cal Water by the developer, the water system will be incorporated into Cal Water's capital improvement and maintenance programs.

The CH District 2009 Water Supply and Facilities Master Plan provides specific recommendations for water system facility and capital improvements to the year 2030. Cal Water plans to update this plan in the 2017- 2018 period.

Federal, state, and local permits for construction of necessary infrastructure associated with delivering the water supply.

For any distribution system improvements, the developer will be required to obtain the

necessary building permits from the City of Chico.

Cal Water is highly experienced in preparing applications and obtaining the necessary permits that are needed in order to proceed with design, construction, startup and operation of water distribution facilities. Cal Water is familiar with approvals it must obtain from the City of Chico and DDW.

Summary of Supply and Demand Analysis

Normal Hydrologic Year

CH District supplies are adequate to meet forecasted demands for the SDP, those associated with existing Cal Water customers, two major developments - Meriam Park and Oak Valley and increases in demand due to some customer relaxation of water conservation practices for the next 20+ years

Single Dry Year

For a single dry year supplies will be adequate to meet projected demands

Three Consecutive Dry Years

During a 3 years dry period, supplies will be fully adequate to meet demand even if there were no reduction from normal levels. However, as demonstrated during the most recent drought, CH District customers achieved a 34% reduction in demand between 2013 and 2016.even with a growth in services of 1,549 services (5.5%).

Conclusions

Based on:

1. With respect to a 20+ year forecast, SDP demand is a very low percentage of the projected increase in CH District demand. In 2020, it is only 3% of the projected increase in demand. In 2040, it is less than 1% of projected increase in demand.
2. Ample subbasin groundwater supplies and storage capacity and the adequacy of Cal Water's current and projected groundwater production capacity from its active wells,
3. Cal Water's ongoing monitoring and management of its wells and when needed replacement or rehabilitation of them.
4. Cal Water's ongoing monitoring and management of well water quality and when needed provision of necessary treatment facilities or retirement of non-complying wells
5. Cal Water's continuing collaboration with Butte County in evaluating the feasibility of purchasing its surplus 20,000+ AFY of SWP Feather River water for conveying to the CH District service area to augment directly (treated surface water) or through groundwater recharge the existing groundwater supply
6. A proven, effective demand reduction program to meet water conservation objectives and requirements by state law,
7. Historical performance which demonstrates Cal Water's ability to both increase supply sources and effectively achieve demand reductions if required,

Cal Water's concludes that for the next 20 years, its CH District will be able to provide adequate water supplies to meet existing and projected customer demands, which includes full development of the proposed Stonegate Development Project for normal, single dry year and multiple dry year conditions.

Cal Water will ensure that the required water facilities are designed consistent with the proposed development plan and will coordinate with the developer, its engineer, the City of Chico, and the DDW in the design, construction and operation of the proposed water distribution system.

End of WSA Document

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5. WRA Stonegate Vesting Tentative Subdivision Map and General Plan Amendment Rezone Administrative Draft Environmental Impact Report Project Description April 2017