
APPENDIX N – SB 610 WATER SUPPLY ASSESSMENTS



MEMORANDUM

To: Rick Smelser
City Engineer, City of Gilroy

From: Tony Akel

Date: March 29, 2004

Subject: Water Supply Assessment – Provisions of SB 610
Glen Loma Specific Plan

WO#: 6580A.00

This technical memorandum provides a water supply assessment for the Glen Loma Specific Plan (Project) to address the potential impact of the Project water requirements on the City-wide water supply conditions. The memorandum also includes excerpts from the Water System Master Plan (2004 WMP) and 2000 Urban Water Management Plan (2000 UWMP) comparing water supply vs. demand, in accordance with SB 610 requirements. The technical memorandum includes the following sections:

- Relevant Current Reports
- Project Description
- Project Water Requirements
- Groundwater Supply
- Groundwater Basin
- Water Supply Reliability
- Supply and Demand Comparison

Relevant Current Reports

The City's 1993 WMP (adopted 1993) presents historical and existing water demands, defines the criteria for projecting water demands through the project horizon year of 2020, identifies existing and future water system capacity deficiencies, recommends projects to correct these deficiencies, and identifies major water facilities for servicing future developments.

The City's 2004 WMP (completed 2004) updates the 1993 WMP with more recent information on the water distribution facilities, planning projections, revised planning criteria, revised demand projections, and corresponding revised capital improvement projects.

The City's 1990 UWMP (adopted 1993) addresses the requirements of the Urban Water Management Planning Act (UWMPA) and includes the following elements: existing and future water demand projections, existing and future water supply facilities, existing and future demand

vs. supply comparison, groundwater basin condition, water supply reliability, water demand management measures, water recycling, and a water shortage contingency plan.

The City's 2000 UWMP (completed 2004) provides an update to comply with the most recent requirements of the UWMPA.

Project Description

The Glen Loma Ranch specific plan area, which is approximately 360 acres, is located within the western portion of the City of Gilroy limits. The area includes Neighborhood Districts that are comprised of a variety of land uses, including:

- The development of eighteen distinct residential neighborhoods (178.9 acres);
- Ascension Solarsano Middle School (17 acres);
- An elementary school site (12.1 acres) (Acquisition of this site, and construction of the elementary school is currently under consideration by the Gilroy Unified School District. Separate environmental review is currently underway with the school district as the lead agency);
- Two neighborhood park sites (20.6 acres);
- A new fire station site (1.5 acres);
- Town center commercial areas (7.8 acres);
- Preserved open space (41.8 acres); and
- Major bicycle and pedestrian trail system.

Area for streets totals approximately 32.4 acres and buffers are calculated at 46.4 acres. These areas include the bicycle and pedestrian trail system. The proposed project also includes the development of new roadways, and extensions to existing public streets, sewer and water infrastructure, recycled water infrastructure, storm drains and site drainage provisions for flood control and water quality.

Project Water Requirements

The subject development site has been within the City's boundary since the previous 1990 Urban Water Management Plan (1990 UWMP) was completed and adopted in May 1993. The projected water demands in the 1990 UWMP were based on assumptions documented in the City's previous Water System Master Plan, which was also completed in May 1993 (1993 WMP). The 1990 UWMP, therefore, addressed the water supplies required for development on this property, based on the City's 1993 Land Use Element of the General Plan.

The previous land use designations included a mix of open space, residential, and commercial uses. A comparison between the City's 1993 land use conditions, as used in the 1990 UWMP, and the 2003 land use conditions, as used in the 2000 UWMP, indicates an increase of land use in the Glen Loma Pass Specific Plan. Table 1 provides a summary of proposed project developments by land designations.

This analysis further evaluated the impact of this increase in land use to the projected water requirements. The methodology for estimating and projecting water demands in the 1993 WMP is typical of water master plans and was based on water demand coefficients. These

coefficients are factors that vary depending on the land use types and are higher for land uses requiring larger amounts of water. The coefficients, which are usually expressed in gallons per day per acre, are applied to acres (based on their land use designation) for calculating the average water demands. It should be noted that the coefficients used in the 1993 WMP are considered conservative and have generally yielded conservative projections of water demands.

The methodology used in projecting water demands in the 2004 WMP is identical to the one used in the 1993 WMP. Though the methodology is the same, the coefficients used in the 2004 WMP were adjusted down based on more recent analysis of water use patterns. This resulted in a City-wide decrease of water demand projections throughout the planning area.

A comparative analysis of water demand projections for the Glen Loma Ranch Specific Plan, between the 1993 WMP and the 2004 WMP, was then conducted. The analysis indicates that this proposed project will result with an increase in water demand requirements of 145 acre-feet from the previous 1993 WMP and 1990 UWMP planning assumptions.

This water assessment considers that most of the water demands associated with this development have already been accounted for in the most recently adopted UWMP (1993 UWMP). Furthermore, this assessment does not consider the increase in water demands to represent a significant impact on City-wide supply conditions, especially since this increase is largely offset by reductions of demands in other planning areas.

Groundwater Supply

The City of Gilroy (City) currently utilizes local groundwater as its sole source of supply. The City's municipal water system extracts its water supply from underground aquifers via eight active groundwater wells scattered throughout the City. The City pays a groundwater pumping tax to the Santa Clara Valley Water District (SCVWD), which is the principal groundwater management agency in the Santa Clara Valley. The SCVWD also serves as a major water wholesaler for the County and is the contracting agency for both the State Water Project and the Federal Central Valley Project.

It should be noted that there has been some preliminary discussion with SCVWD regarding the potential planning of a potable water treatment plant to be located in the South County area. SCVWD currently owns and operates three treatment facilities in the North County and sells treated surface water to retailers. A conceptual siting of the future water treatment plant favors a location between the City of Gilroy and the City of Morgan Hill.

Groundwater Basin

The groundwater basin underlying the City is part of the Santa Clara Valley Groundwater. The Santa Clara Valley Groundwater basin is not an adjudicated groundwater basin, as defined by the California Water Plan Update, Bulletin 160-98, Figure 3-28 on page 3-54 and Table 3-16 on page 3-55. The groundwater basin is divided into three interconnected subbasins that transmit, filter, and store water. These basins consist of the Santa Clara Valley Subbasin to the north, the Coyote Subbasin, and the Llagas Subbasin to the south

The California Water Plan Update, Bulletin 160-98 page 3-50, Table 3-15, lists the 1995 and 2020 level overdraft for the central coast of 214 thousand acre feet (taf). As shown in Table 3-15, groundwater overdraft is expected to decline to 102 taf during 2020 average and drought years. During drought periods, water levels in these basins may decline. However, during wet

periods, most of these basins recover, thus making application of overdraft or perennial yield concepts difficult.

The California Department of Water resources is currently evaluating the Central Coast region groundwater use to better estimate overdraft, but this evaluation has not been completed. Overdraft in the Central Coast region is expected to decline as demand shifts from groundwater to imported surface water, provided through the recently completed Coastal Branch of the California Aqueduct.

The regional Coyote and Llagas Subbasin conditions are addressed in the SCVWD reports on groundwater. Historical SCVWD records indicate that the volume in annual storage has been historically fluctuating in these Subbasins. The City of Gilroy is aggressively pursuing overdraft reduction through Demand Management Measures (DMM) and proactive water recycling.

Water Supply Reliability

The supply reliability is considered for the near-term needs (present to 2010) and the long term needs (2010-2020). There are two aspects of supply reliability to be considered. The first relates to immediate service needs and is primarily a function of the availability and adequacy of the supply facilities. This aspect is considered for emergency reliability. The second aspect is climate-related, and involves the availability of water during mild or severe drought periods.

In the near term, the addition of two new groundwater wells will provide enhanced City-wide reliability to the supply. These additions were included in the UWMP 1990. Addition of storage facilities will also enhance long-term reliability. These facilities will provide emergency storage sufficient to handle the service area needs during power outages or other emergencies. Adding supply and distribution system enhancements will also add reliability through redundancy

The annual quantity of available groundwater in the City is not expected to vary significantly in relation to wet or dry years, as shown in Table 2 for the estimated year 2020 City-wide supplies. This assumes that groundwater yield is not reduced due to water quality issues. During extended drought periods, groundwater levels generally decline and will require more aggressive demand management practices and continued implementation of recycled water. The reliability and vulnerability of the water supply to seasonal or climatic shortages remains constant.

Supply and Demand Comparison

City-wide comparisons of projected supplies and demands are shown on Table 3. Based on the City's current plans to increase the water supply capabilities to meet maximum day demands and to provide standby production capabilities, the supply capacity will consistently meet the demand requirements for any given year.

Table 3 indicates a total demand of approximately 13,106 acre-feet projected for year 2020, compared with a projected supply capability for that same year of 34,500 acre-feet.

Table 1 Proposed Developments by Land Use Designation Glen Loma Specific Plan City of Gilroy	
Land Use	Approximate Acreage (Acres)
Open Space	62.4
Natural Open Space	41.8
Recreational Open Space	20.6
Private Open Space	0
Residential	178.9
R1	105.6
R2	33.5
R3	22.7
R4	17.1
Commercial	8.8
Streets	32.4
Buffers	46.4
Community Facilities	30.6
TOTAL Specific Plan Area	359.6
Source: RJA Associates	

Table 2 Water Supply Reliability 2000 Urban Water Management Plan City of Gilroy					
Supply Units	Average/Normal Water Year	Single Dry Water Year	Multiple Dry Water Years		
			Year 1	Year 2	Year 3
MGD	30.8	30.8	30.8	30.8	30.8
AFY	34,500	34,500	34,500	34,500	34,500
Note: Supply projections through the planning horizon of 2020.					

**Table 3 Projected Supply and Demand Comparison
2000 Urban Water Management Plan
City of Gilroy**

Condition		Demand		Available Supply		Supply Deficit
		(AF)	(MGD)	(AF)	(MGD)	(MGD)
Near-Term						
Normal		9,297	8.3	17,362	15.5	none
Multi-year Drought						
	Year 1	9,297	8.3	17,362	15.5	none
	Year 2	9,297	8.3	17,362	15.5	none
	Year 3	9,297	8.3	17,362	15.5	none
2005						
Normal		9,857	8.8	25,539	22.8	none
Multi-year Drought						
	Year 1	9,857	8.8	25,539	22.8	none
	Year 2	9,857	8.8	25,539	22.8	none
	Year 3	9,857	8.8	25,539	22.8	none
2010						
Normal		11,425	10.2	32,036	28.6	none
Multi-year Drought						
	Year 1	11,425	10.2	32,036	28.6	none
	Year 2	11,425	10.2	32,036	28.6	none
	Year 3	11,425	10.2	32,036	28.6	none
2015						
Normal		12,210	10.9	32,036	28.6	none
Multi-year Drought						
	Year 1	12,210	10.9	32,036	28.6	none
	Year 2	12,210	10.9	32,036	28.6	none
	Year 3	12,210	10.9	32,036	28.6	none
2020						
Normal		13,106	11.7	34,500	30.8	none
Multi-year Drought						
	Year 1	13,106	11.7	34,500	30.8	none
	Year 2	13,106	11.7	34,500	30.8	none
	Year 3	13,106	11.7	34,500	30.8	none

Notes

1. Supply projections assume that groundwater yield is not being reduced due to water quality issues.



MEMORANDUM

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City Engineer, City of Gilroy

From: Tony Akel

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Subject: Water Supply Assessment – Provisions of SB 610
Hecker Pass Specific Plan

WO#: 6580A.00

This technical memorandum provides a water supply assessment for the Hecker Pass Specific Plan (Project) to address the potential impact of the Project water requirements on the City-wide water supply conditions. The memorandum also includes excerpts from the Water System Master Plan (2004 WMP) and 2000 Urban Water Management Plan (2000 UWMP) comparing water supply vs. demand, in accordance with SB 610 requirements. The technical memorandum includes the following sections:

- Relevant Current Reports
- Project Description
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Relevant Current Reports

The City's 1993 WMP (adopted 1993) presents historical and existing water demands, defines the criteria for projecting water demands through the project horizon year of 2020, identifies existing and future water system capacity deficiencies, recommends projects to correct these deficiencies, and identifies major water facilities for servicing future developments.

The City's 2004 WMP (completed 2004) updates the 1993 WMP with more recent information on the water distribution facilities, planning projections, revised planning criteria, revised demand projections, and corresponding revised capital improvement projects.

The City's 1990 UWMP (adopted 1993) addresses the requirements of the Urban Water Management Planning Act (UWMPA) and includes the following elements: existing and future water demand projections, existing and future water supply facilities, existing and future demand

vs. supply comparison, groundwater basin condition, water supply reliability, water demand management measures, water recycling, and a water shortage contingency plan.

The City's 2000 UWMP (completed 2004) provides an update to comply with the most recent requirements of the UWMPA.

Project Description

The Specific Plan area is located within the western portion of the City of Gilroy limits. The area is essentially bisected by State Route 152, locally referred to as Hecker Pass Highway, and is approximately three miles to the west of State Highway 101. The Specific Plan area is approximately 423 acres in size. Hecker Pass Highway bisects the area from north to south. The northernmost property lines of parcels located north of Hecker Pass Highway define the northern extent of the specific plan area.

The Specific Plan area contains 12 land use designations that can be grouped into three primary designations: residential, agriculture, and open space. Table 1 includes a breakdown of acreage contained within each land use designation. The Specific Plan proposes a total of 466 to 530 dwelling units within the residential land use designations. Maximum buildable area within the two commercial land use designations is 30 percent of the 60 gross acres within these designations or approximately 18 acres.

Project Water Requirements

The subject development site has been within the City's boundary since the previous 1990 Urban Water Management Plan (1990 UWMP) was completed and adopted in May 1993. The projected water demands in the 1990 UWMP were based on assumptions documented in the City's previous Water System Master Plan, which was also completed in May 1993 (1993 WMP). The 1990 UWMP, therefore, addressed the water supplies required for development on this property, based on the City's 1993 Land Use Element of the General Plan.

The previous land use designations included a mix of open space, rural residential, commercial, and low density residential uses. A comparison between the City's 1993 land use conditions, as used in the 1990 UWMP, and the 2003 land use conditions, as used in the 2000 UWMP, indicates an increase of land use in the Hecker Pass Specific Plan. Table 1 provides a summary of proposed project developments by land designations.

This analysis further evaluated the impact of this increase in land use to the projected water requirements. The methodology for estimating and projecting water demands in the 1993 WMP is typical of water master plans and was based on water demand coefficients. These coefficients are factors that vary depending on the land use types and are higher for land uses requiring larger amounts of water. The coefficients, which are usually expressed in gallons per day per acre, are applied to acres (based on their land use designation) for calculating the average water demands. It should be noted that the coefficients used in the 1993 WMP are considered conservative and have thus yielded conservative projections of water demands.

The methodology used in projecting water demands in the 2004 WMP is identical to the one used in the 1993 WMP. Though the methodology is the same, the coefficients used in the 2004 WMP were adjusted down based on more recent analysis of water use patterns. This resulted in a City-wide decrease of water demand projections throughout the planning area.

A comparative analysis of water demand projections for the Hecker Pass Specific Plan, between the 1993 WMP and the 2004 WMP, was then conducted. The analysis indicates that

this proposed project will result with a decrease in water demand requirements of 224 acre-feet from the previous 1993 WMP and 1990 UWMP planning assumptions.

This water assessment considers that the water demands associated with this development have already been accounted for in the most recently adopted UWMP (1993 UWMP).

Groundwater Supply

The City of Gilroy (City) currently utilizes local groundwater as its sole source of supply. The City's municipal water system extracts its water supply from underground aquifers via eight active groundwater wells scattered throughout the City. The City pays a groundwater pumping tax to the Santa Clara Valley Water District (SCVWD), which is the principal groundwater management agency in the Santa Clara Valley. The SCVWD also serves as a major water wholesaler for the County and is the contracting agency for both the State Water Project and the Federal Central Valley Project.

It should be noted that there has been some preliminary discussion with SCVWD regarding the potential planning of a potable water treatment plant to be located in the South County area. SCVWD currently owns and operates three treatment facilities in the North County and sells treated surface water to retailers. A conceptual siting of the future water treatment plant favors a location between the City of Gilroy and the City of Morgan Hill.

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The groundwater basin underlying the City is part of the Santa Clara Valley Groundwater. The Santa Clara Valley Groundwater basin is not an adjudicated groundwater basin, as defined by the California Water Plan Update, Bulletin 160-98, Figure 3-28 on page 3-54 and Table 3-16 on page 3-55. The groundwater basin is divided into three interconnected subbasins that transmit, filter, and store water. These basins consist of the Santa Clara Valley Subbasin to the north, the Coyote Subbasin, and the Llagas Subbasin to the south

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The California Department of Water resources is currently evaluating the Central Coast region groundwater use to better estimate overdraft, but this evaluation has not been completed. Overdraft in the Central Coast region is expected to decline as demand shifts from groundwater to imported surface water, provided through the recently completed Coastal Branch of the California Aqueduct.

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In the near term, the addition of two new groundwater wells will provide enhanced City-wide reliability to the supply. These additions were included in the UWMP 1990. Addition of storage facilities will also enhance long-term reliability. These facilities will provide emergency storage sufficient to handle the service area needs during power outages or other emergencies. Adding supply and distribution system enhancements will also add reliability through redundancy

The annual quantity of available groundwater in the City is not expected to vary significantly in relation to wet or dry years, as shown in Table 2 for the estimated year 2020 City-wide supplies. This assumes that groundwater yield is not reduced due to water quality issues. During extended drought periods, groundwater levels generally decline and will require more aggressive demand management practices and continued implementation of recycled water. The reliability and vulnerability of the water supply to seasonal or climatic shortages remains constant.

Supply and Demand Comparison

City-wide comparisons of projected supplies and demands are shown on Table 3. Based on the City's current plans to increase the water supply capabilities to meet maximum day demands and to provide standby production capabilities, the supply capacity will consistently meet the demand requirements for any given year.

Table 3 indicates a total demand of approximately 13,106 acre-feet projected for year 2020, compared with a projected supply capability for that same year of 34,500 acre-feet.

Table 1 Proposed Developments by Land Use Designation Hecker Pass Specific Plan City of Gilroy	
Land Use	Approximate Acreage (Acres)
Open Space	139
Natural Open Space	68
Recreational Open Space	24
Private Open Space	47
Residential	206
Hillside	60
Agricultural Estate	18
Agricultural Cluster	27
Low Density	8
Rural Cluster (5 du/ac)	82
Rural Cluster (8 du/ac)	11
Commercial	60
Agriculture	33
Agri-tourist	27
Community Facilities	18
TOTAL Specific Plan Area	423
Source: RJA Associates	

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Normal		11,425	10.2	32,036	28.6	none
Multi-year Drought						
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Normal		12,210	10.9	32,036	28.6	none
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Normal		13,106	11.7	34,500	30.8	none
Multi-year Drought						
	Year 1	13,106	11.7	34,500	30.8	none
	Year 2	13,106	11.7	34,500	30.8	none
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Notes

1. Supply projections assume that groundwater yield is not being reduced due to water quality issues.

City of Gilroy

**WATER SUPPLY ASSESSMENT
PROVISIONS OF SB 610**

DOWNTOWN SPECIFIC PLAN PROJECT

FINAL

July 2005



**WATER SUPPLY ASSESSMENT
PROVISION OF SB 610**

DOWNTOWN SPECIFIC PLAN PROJECT

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WATER SUPPLY ASSESSMENT - PROVISIONS OF SB 610 DOWNTOWN SPECIFIC PLAN PROJECT

1.0 PURPOSE

This Water Supply Assessment (WSA) was prepared to assist the City of Gilroy (City) in satisfying the requirements of Senate Bill 610 (SB 610). This WSA is specific to the Downtown Specific Plan Project (Project) and addresses the potential impact of the Project's water requirements on the citywide water supply conditions. This WSA includes the following:

- Information on the City's water supplies consistent with Water Code Sections 10620 et. seq. (the Urban Water Management Planning Act) and 10910 et. seq. (Water Supply Planning to Support Existing and Planned Future Users)
- Information on current water demands and projected water demands, based on the City's adopted General Plan and specific project proposals currently under review by the City including the Downtown Specific Plan
- Comparison of water supplies and water demands for normal, single dry and multiple dry years
- Information to make the sufficiency findings required by the California Environment Quality Act (CEQA)

The City has commissioned the preparation of this WSA in its role as the lead agency under CEQA for various planned development projects.

2.0 APPROVAL PROCESS

The City Council may approve the WSA, after hearing testimony and evidence presented at a hearing. Upon conclusion of the hearing, the City Council may determine whether the projected water supplies will be sufficient to satisfy the proposed project demands. The City must include the assessment in the environmental documents prepared for the designated project pursuant to CEQA requirements.

3.0 SENATE BILL 610

Senate Bill 610 (SB 610) became effective January 1, 2002. SB 610 amended the California Public Resources Code to incorporate Water Code findings within the CEQA process for certain types of projects. SB 610 amended the Water Code to broaden the types of information included in Urban Water Management Plans (Water Code Section 10620 et. seq.) and to add Water Code part 2.10 Water Supply Planning to Support Existing and Planned Future Uses (Section 10910 et. seq.).

Water Code part 2.10 clarifies the roles and responsibilities of the Lead Agency under CEQA and the “water supplier” with respect to describing current and future supplies compared to current and future demands.

Part 2.10 also defines the “Projects” that are subject to a WSA and the Lead Agency’s responsibilities related to the WSA. A WSA is required for the following:

- A proposed residential development of more than 500 dwelling units.
- A proposed shopping center or business establishment employing more than 1,000 people or having more than 500,000 square feet of floor space.
- A proposed commercial office building employing more than 1,000 people or having more than 250,000 square feet of floor space.
- A proposed hotel or motel, or both, having more than 500 rooms.
- A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 people, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.
- A mixed-use development that includes one or more of the uses described above.
- A development that would demand an amount of water equivalent to or greater than the amount of water required by a 500-dwelling unit project.
- For Lead Agencies with fewer than 5,000 water service connections, any new development that will increase the number of water service connections in the service area by ten percent or more.

Under Part 2.10, the Lead Agency must identify the affected water supplier and research whether the new demands are included in the suppliers’ Urban Water Management Plan (UWMP). If the UWMP includes the demands it may be incorporated by reference. If not the Lead Agency must prepare the WSA (Water Code Section 10912(c)).

4.0 URBAN WATER MANAGEMENT PLANNING ACT

The Urban Water Management Planning Act requires the supplier to document water supplies available during normal, single dry, and multiple dry water years during a 20-year projection. The Act requires that the projected supplies and demands be presented in 5-year increments for the 20-year projection.

5.0 2000 URBAN WATER MANAGEMENT PLAN

The 2000 Urban Water Management Plan (UWMP), which was prepared by the City after the adoption of SB 610, includes information required by SB 610, including the City’s groundwater and recycled water supplies. The 2000 UWMP was adopted by the City on May 3, 2004 and approved by the Department of Water Resources (DWR) on

November 23, 2004. A correspondence dated November 23, 2004, indicates that it has completed the review of the City of Gilroy 2000 UWMP and that it deemed it complete.

The 2000 UWMP includes the following elements: existing and future water demand projections, existing and future water supply facilities, existing and future demand versus supply comparison, groundwater basin conditions, water supply reliability, water demand management measures, water recycling, and water shortage contingency plan.

In order to comply with SB 610 requirements, the 2000 UWMP includes the following:

- A description of the water service area including climate, current and projected population and other demographic factors that affect water management planning. Demographic data is presented in 5-year increments for 20-years.
- A description and quantification of the existing and planned water sources.
- A description of the reliability and vulnerability of the water supply to seasonable or climatic shortages in the average water year, single dry water year and multiple dry water year. Contingency plans including demand management and conjunctive use potential are discussed.
- A description of current and projected water demands among all user classes in 5-year increments.
- A description of all water supply projects and water supply programs that may be undertaken by the City, the Agency and the Subregional Water Reclamation Project to meet the total projected water use.
- A description of demand management measures employed and scheduled to be employed.
- A description of any groundwater basin (or basins) from which the City pumps groundwater.
- Information that characterizes the condition of the groundwater basin and a description of the measures currently being taken by the City to minimize any potential for overdraft conditions occurring.
- A detailed description and analysis of the amount and location of groundwater pumped by the City for the past five years from any groundwater basin from which the proposed project will be supplied.
- An analysis of the location, amount, and sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed projects.

A copy of the City of Gilroy 2000 UWMP can be obtained by contacting City staff.

6.0 2005 URBAN WATER MANAGEMENT PLAN

Although the City's 2000 UWMP was adopted on May 3, 2004 and approved by DWR on November 23, 2004, the City initiated the preparation of the 2005 UWMP. This document, which will incorporate the most recent requirements is being prepared and shall be released for review in October 2005.

7.0 WATER SYSTEM MASTER PLAN

The City's Water System Master Plan (WSMP), which was completed and adopted in May 2004, presents historical and existing water demands, defines the criteria for projecting water demands through the year 2040, identifies existing and future water system capacity deficiencies, recommends projects to correct these deficiencies, and identifies major water facilities for servicing future developments. The WSMP also addresses the supply facilities and includes a capital improvement program. This WSA extracts relevant information presented in the City's WSMP.

8.0 PROJECT DESCRIPTION

The Downtown Specific Plan (Project) is contained within the City Limits and is located in the City's downtown area covering approximately 189 gross acres, along Monterey Street (Figure 1). The Project area extends from Leavesley/Welburn on the north end to Luchessa on the south. The alley on the east side of Railroad Street serves as the primary boundary on the east side of the Project, and the alley between Egleberry and church streets is the primary boundary on the west (extending westward to Dowdy Street in the area between Sixth Street and Seventh Street to include the Civic Center area).

The project site is contained within the Planning Boundary of the 2001 General Plan. The Project area is divided into six planning districts. Each district has a particular vision for future development. Land use and development standards, as well as design guidelines, will give direction for each area of the Project. Table 1 includes a breakdown of acreage contained within each land use designation or planning district. The Project proposes a total of 189 gross acres of commercial and residential land use designations.

9.0 PROJECT WATER REQUIREMENTS

Under Water Code Part 2.10, the Lead Agency must identify the affected water supplier and research whether the new demands are included in the suppliers' UWMP. If the UWMP includes the demands, then it may be incorporated by reference.

The subject Project site has been within the City's boundary since the 2000 UWMP was completed and adopted in April 2004. The projected water demands in the 2000 UWMP were based on assumptions documented in the City's Water System Master Plan. The

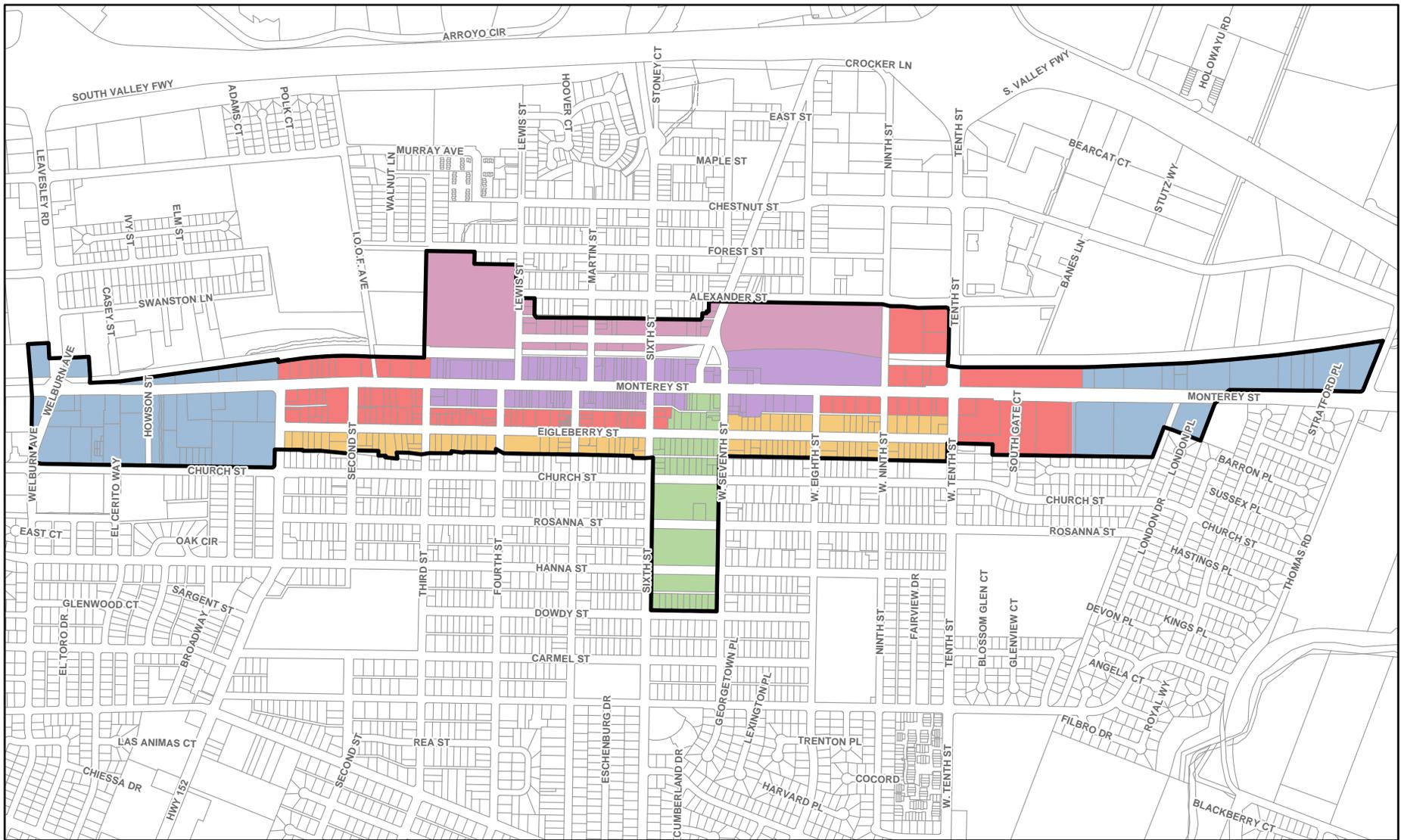
Table 1 Proposed Project by Land Use Designation Water Supply Assessment - Provisions of SB 610 Downtown Specific Plan Project City of Gilroy	
Land Use	Acreage (Acres)
Districts	
Downtown Historic	26
Downtown Expansion	40
Civic/Cultural Arts	17
Transition	21
Cannery	31
Gateway	54
Total Project Area	189
Source: City of Gilroy Downtown Specific Plan, June 30, 2005.	

2000 UWMP, therefore, addressed the water supplies required for development on this property, based on the City's projected population element of the General Plan.

The land use designations for the subject Project, summarized in Table 1, are similar to the land uses identified in the 2001 General Plan. These land uses included a mix of mostly commercial, and residential.

The methodology used in projecting water demands in the 2000 UWMP were based on future trends in population obtained from the 2001 General Plan, and the established per-capita consumption rate of 180 gallons per day per capita (gpcd). The 2000 UWMP lists City-wide water requirements for 2005 at 8.8 million gallons per day (MGD) or 9,857 acre-feet (AF).

This analysis further evaluated the impact of the proposed Project to the City-wide water requirements. The methodology for estimating and projecting water demands in the 2004 WMP is typical of water master plans and was based on water demand coefficients. These coefficients are factors that vary depending on the land use types and are higher for land uses requiring larger amounts of water. The coefficients, which are usually expressed in gallons per day per acre, are applied to acres (based on their land use designation) for calculating the average water demands.



Legend

- Specific Plan Boundary
- Civic/Cultural Arts District
- Downtown Historic District
- Transitional District
- Downtown Expansion District
- Cannery District
- Gateway District

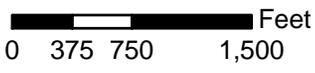


Figure 1
Proposed Project Districts
Water Supply Assessment Provisions of SB 610
Downtown Specific Plan Project
City of Gilroy

A comparative analysis of water demand projections using the land use designations from the Downtown Specific plan and the 2001 General Plan was conducted (Table 2). The analysis indicates that this proposed Project will result in an increase in water demand requirements of approximately 120 AF for the 2000 UWMP and 2004 WMP assumptions.

This water supply assessment considers that most of the water demands associated with this development have already been accounted for in the most recently adopted 2000 UWMP (Adopted April 2004). Furthermore, this assessment does not consider the increase in water demands to represent a significant impact on City-wide supply conditions, especially since the increase is largely offset by reductions of demands in other planning areas, including the Hecker Pass Specific Plan area and the South County Regional Wastewater Authority (SCRWA) ambitious recycled water program.

10.0 GROUNDWATER SUPPLY

The City currently utilizes local groundwater as its sole source of supply. The City's municipal water system extracts its water supply from underground aquifers via eight active groundwater wells scattered throughout the City. The total pumping capacity of the City wells is 15.5 MGD (10,740 gpm). Gilroy's municipal water receives only a light chlorination at the well sites. The City routinely tests its wells, and the water quality of its active wells is generally considered to be good.

The City pays a groundwater user fee to the Santa Clara Valley Water District (SCVWD), which is the principal groundwater management agency in the Santa Clara Valley. This groundwater fee provides funding for operating costs associated with the District's groundwater recharge program as well as the District's imported water program, which contributes water to the recharge program in South County. The SCVWD also serves as a major water wholesaler for the County and is the contracting agency for both the State Water Project and the Federal Central Valley Project.

It should be noted that there has been some preliminary discussion with SCVWD regarding the potential planning of a potable water treatment plant to be in the South County area. SCVWD currently owns and operates three treatment facilities in the North County and sells treated surface water to retailers. A conceptual siting of the future water treatment plant favors a location between the City of Gilroy and the City of Morgan Hill.

11.0 GROUNDWATER BASIN

The groundwater basin underlying the City is part of the Santa Clara Valley Groundwater Basin. The groundwater basin is divided into three interconnected subbasins that transmit, filter, and store water. These basins consist of the Santa Clara Valley Subbasin to the north, the Coyote Subbasin, and the Llagas Subbasin to the south.

Table 2 Land Use and Water Demands Comparison Water Supply Assessment Provisions of SB 610 Downtown Specific Plan Project City of Gilroy										
District/Land Use	Acreage (Acres)	City-Wide Demand (MGD)	General Plan/Master Plan Adjusted ¹ Demand Coefficient (gpd/gr. ac.)	Project Demand (MGD)	Estimated Commercial Development (%)	Estimated Residential Development (%)	Downtown Specific Plan Commercial ¹ Demand Coefficient (gpd/gr. ac.)	Residential ¹ Demand Coefficient (gpd/gr. ac.)	Composite Demand Coefficient (gpd/gr. ac.)	Project Demand (MGD)
Cannery District										
Downtown Commercial (DCOM)	5.1		800	0.004						
General Services Commercial (GCOM)	15.3		800	0.012						
Low Density Residential (LD)	6.1		1,300	0.008						
Medium Density Residential (MD)	4.3		2,100	0.009						
Open Space (NFG)	0.6		0	0						
Subtotal	31.4		1,061	0.033	29%	71%	800	2,100	1,723	0.054
Civic/Cultural Arts District										
Downtown Commercial (DCOM)	7.1		800	0.006						
Low Density Residential (LD)	1.7		1,300	0.002						
OTHER	8.0		900	0.007						
Subtotal	16.8		899	0.015	40%	60%	800	2,100	1,580	0.027
Downtown Expansion District										
Downtown Commercial (DCOM)	22.8		800	0.018						
General Services Commercial (GCOM)	17.4		800	0.014						
Subtotal	40.2		800	0.032	44%	56%	800	2,100	1,528	0.061
Downtown Historic District										
Downtown Commercial (DCOM)	20.7		800	0.017						
General Services Commercial (GCOM)	4.9		800	0.004						
Subtotal	25.6		800	0.020	44%	56%	800	2,100	1,528	0.039
Gateway District										
Downtown Commercial (DCOM)	26.4		800	0.021						
General Services Commercial (GCOM)	23.8		800	0.019						
General Industrial (GIND)	0.2		800	0.000						
Visitor Services (HCOM)	2.4		800	0.002						
Industrial Park (IP)	1.1		800	0.001						
Open Space (NFG)	0.4		0	0.000						
OTHER	0.1		900	0.000						
Subtotal	54.4		794	0.043	73%	27%	800	2,100	1,151	0.063
Transitional District										
Downtown Commercial (DCOM)	20.6		800	0.016						
General Services Commercial (GCOM)	0.1		800	0.000						
Subtotal	20.7		800	0.017	69%	31%	800	2,100	1,203	0.025
Total	189	8.80	850	0.16					1,421	0.27

1. Source: 2004 City of Gilroy Water System Master Plan

The Santa Clara Valley Groundwater basin is not an adjudicated groundwater basin, as defined by the California Water Plan Update, Bulletin 160-98, Figure 3-28 on page 3-54 and Table 3-16 on page 3-55.

The California Water Plan Update, Bulletin 160-98 page 3-50, Table 3-15, lists the 1995 and 2020 level overdraft for the central coast of 214 thousand acre feet (taf). As shown in Table 3-15 of the report, groundwater overdraft is expected to decline to 102 taf during 2020 average and drought years. During drought periods, water levels in these basins may decline. However, during wet periods, most of these basins recover, thus making application of overdraft or perennial yield concepts difficult.

The California Department of Water Resources is currently evaluating the Central Coast region groundwater use to better estimate overdraft, but this evaluation has not been completed. Overdraft in the Central Coast region is expected to decline as demand shifts from groundwater to imported surface water, provided through the recently completed Coastal Branch of the California Aqueduct.

The Regional Llagas Subbasin conditions are addressed in the SCVWD reports on groundwater and mentioned in the 2000 UWMP. Historical SCVWD records indicate that the volume in annual storage had been historically fluctuating in these Subbasins. The City is aggressively pursuing overdraft reduction through Demand Management Measures (DMM) and proactive water recycling (as described in the 2000 UWMP).

The Santa Clara Valley Subbasin in the northern part of the county extends from Coyote Narrows at Metcalf road to the County's northern boundary. The Diablo mountain range bounds it on the east and the Santa Cruz Mountains on the west. These two ranges converge at the Coyote Narrows to form the southern limits of the subbasins. The Santa Clara Valley Subbasin is approximately 22 miles long and 15 miles wide, with a surface area of 225 square miles. A confined zone within the northern areas of the subbasin is overlaid with a series of clay layers resulting in a low permeability zone. The southern area is the unconfined zone, or fore bay, where the clay layer does not restrict recharge.

The Coyote Subbasin extends from Metcalf Road south to Cochran Road, where it joins the Llagas Subbasin at a groundwater divide. The Coyote Subbasin is approximately 7 miles long and 2 miles wide and has a surface area of approximately 15 square miles. The subbasin is generally unconfined and has no thick clay layers. This subbasin generally drains into the Santa Clara Valley Subbasin.

The Llagas Subbasin, which the City is located in, extends from Cochran road, near Morgan Hill, south to the County's southern boundary. It is connected to the Bolsa Subbasin of the Hollister Basin and bounded to the south by the Pajaro River (the Santa Clara-San Benito County line). The Llagas Subbasin is approximately 15 miles long, 3 mile wide along its northern boundary, and 6 miles wide along the Pajaro River. The subbasin surface area is approximately 74 square miles. A thick clay layer which extends north from

the Pajaro River divides this subbasin into confined and fore bay zones. The operational storage capacity of this subbasin is estimated to be 150,000 AF.

The three subbasins serve multiple functions. They transmit water through the gravelly alluvial fans of streams into the deeper confined aquifer of the central part of the valley. They filter water making it suitable for drinking and for municipal, industrial and agricultural uses. They also have a vast storage capacity, together they supply as much as half of the annual water needs of the county.

12.0 WATER RECYCLING

In 1977, the Santa Clara Valley Water District (SCVWD), the City of Gilroy, and the Gavilan Water Conservation District began a partnership to construct and operate a recycled water system extending from the South County Regional Wastewater Authority (SCRWA) treatment plant in southeast Gilroy to several customers along Princeville Drain and Hecker Pass Road. In 1999, the SCVWD and SCRWA agreed to enter a partnership with SCRWA as a supplier, the SCVWD as wholesaler, and the City as a retailer to develop a water recycling program in the South County and to provide for future expansion of the treatment plant and delivery system. The recycled water delivery system in the South County is now referred to as the South County Recycled Water System. Currently, the SCVWD takes delivery of the recycled water at the SCRWA treatment plant in southeast Gilroy and pumps it through a distribution system to a City park and a championship golf course in southwest Gilroy.

SCRWA operates and maintains its regional wastewater treatment facilities under an agreement with the Operations Management International, Inc. (OMI) and treats an average daily wastewater flow of 6.3 million gallons per day (MGD) derived from the cities of Gilroy and Morgan Hill. SCRWA currently recycles up to 3 MGD of tertiary treated recycled water (Title 22 water), which it distributes to five existing customers for a combined usage of above 700 AF per year for non-potable uses, all irrigation uses. In a long term, SCRWA projects the average daily wastewater flow will increase from the existing 6.3 MGD to 11 MGD in the next 20 years (Table 3). The district and SCRWA plan to recycle all wastewater that flows into the treatment plant.

Table 3 Recycled Water Use Water Supply Assessment - Provisions of SB 610 Downtown Specific Plan Project City of Gilroy					
Year	2000	2005	2010	2015	2020
Recycled Water Use	3 MGD	9 MGD	9 MGD	11 MGD	11 MGD

Currently, SCRWA is upgrading its tertiary treatment facilities to 9 MGD capacity. The SCVWD, in the partnership with SCRWA, is proposing to expand its recycled water distribution program in conjunction with SCRWA's expansion plan. The expansion plan

includes a new 3.0 million gallon (MG) recycled water storage tank to service the existing and proposed recycled water users, and plans to add another 3.0 MG tank in the future for a total of 6.0 MG of on site recycled water storage.

13.0 WATER SUPPLY RELIABILITY

The supply reliability is considered for the near-term needs (present to 2010) and the long term needs (beyond 2010). There are two aspects of supply reliability to be considered. The first relates to immediate service needs and is primarily a function of the availability and adequacy of the supply facilities. This aspect is considered for emergency reliability. The second aspect is climate-related, and involves the availability of water during mild or severe drought periods.

In the near term, the addition of two new groundwater wells will provide enhanced reliability to the supply. Addition of storage facilities will also enhance long-term reliability. These facilities will provide emergency storage sufficient to handle the service area needs during power outages or other emergencies. Adding supply and distribution system enhancements will also add reliability through redundancy.

The annual quantity of available groundwater in the City is not expected to vary significantly in relation to wet or dry years, as shown in Table 4 for the estimated year 2020 supplies. This assumes that groundwater yield is not reduced due to water quality issues. During extended drought periods, groundwater levels generally decline and will require more aggressive demand management practices and continued implementation of recycled water. The reliability and vulnerability of the water supply to seasonal or climatic shortages remains constant.

Table 4 Water Supply Reliability Water Supply Assessment - Provisions of SB 610 Downtown Specific Plan Project City of Gilroy					
Supply Units	Average/Normal Water Year	Single Dry Water Year	Multiple Dry Water Years		
			Year 1	Year 2	Year 3
MGD	30.8	30.8	30.8	30.8	30.8
AFY	34,500	34,500	34,500	34,500	34,500

Note: Supply projections through the planning horizon of 2020.

14.0 SUPPLY AND DEMAND COMPARISON

City-wide comparisons of projected supplies and demands are shown on Table 5. Based on the City’s current plans to increase the water supply capabilities to meet maximum day demands (MDD) and to provide standby production capabilities, the supply capacity will consistently meet the demand requirements for any given year.

Table 5 indicates a total demand of approximately 13,100 AF projected for year 2020, compared with a projected supply capability for that same year of 34,500 AF.

15.0 SUMMARY AND CONCLUSION

This Water Supply Assessment (WSA) was prepared to assist the City of Gilroy in satisfying the requirements of SB 610. The WSA included a review of the City's Urban Water Management Plan, the City's Water System Master Plan, and this Project's water requirements.

In accordance with this review, and supported by the conclusion drawn in Section 9.0, This water supply assessment considers that most of the water demands associated with this development have already been accounted for in the most recently adopted 2000 UWMP (Adopted April 2004 and approved by DWR November 2004). Furthermore, this assessment does not consider the 1 percent increase in City-wide water demands to represent a significant impact on City-wide supply conditions, especially since the increase is largely offset by reductions of demands in other planning areas, including the Hecker Pass Specific Plan area and the South County Regional Wastewater Authority (SCRWA) ambitious recycled water program.

Table 5 Projected Supply and Demand Comparison Water Supply Assessment - Provisions of SB 610 Downtown Specific Plan Project City of Gilroy					
Condition	Demand		Available Supply		Supply Deficit
	(AF)	(MGD)	(AF)	(MGD)	(MGD)
Near-Term					
Normal	9,297	8.3	17,362	15.5	none
Multi-year Drought					
Year 1	9,297	8.3	17,362	15.5	none
Year 2	9,297	8.3	17,362	15.5	none
Year 3	9,297	8.3	17,362	15.5	none
2005					
Normal	9,857	8.8	25,539	22.8	none
Multi-year Drought					
Year 1	9,857	8.8	25,539	22.8	none
Year 2	9,857	8.8	25,539	22.8	none
Year 3	9,857	8.8	25,539	22.8	none
2010					
Normal	11,425	10.2	32,036	28.6	none
Multi-year Drought					
Year 1	11,425	10.2	32,036	28.6	none
Year 2	11,425	10.2	32,036	28.6	none
Year 3	11,425	10.2	32,036	28.6	none
2015					
Normal	12,210	10.9	32,036	28.6	none
Multi-year Drought					
Year 1	12,210	10.9	32,036	28.6	none
Year 2	12,210	10.9	32,036	28.6	none
Year 3	12,210	10.9	32,036	28.6	none
2020					
Normal	13,106	11.4	34,500	30.8	none
Multi-year Drought					
Year 1	13,106	11.4	34,500	30.8	none
Year 2	13,106	11.4	34,500	30.8	none
Year 3	13,106	11.4	34,500	30.8	none
<p>Note: Supply projections assume that groundwater yield is not being reduced due to water quality issues.</p> <p>Source: City of Gilroy 2000 Urban Water Management Plan (Adopted April 2004 Approved by DWR November 2004)</p>					