27. APPENDICES

METHODOLOGY FOR EVALUATING THE AVAILABILITY OF ADEQUATE WATER SUPPLY FOR LAFCO PROPOSALS

Instructions for Applicants

Introduction

The purpose of these instructions is to assist all applicants in preparing the appropriate information in a uniform, consistent, and understandable manner with the intent of illustrating that an adequate long-term water supply exists on which their project will rely. LAFCO's existing urban service area amendment policies include the following policies regarding water availability:

> LAFCO will require evidence that an adequate water supply is available to the amendment areas and that water proposed to be provided to new areas does not include supplies needed for unserved properties already within the city, the city's Urban Service Area or other properties already charged for city water services. In determining water availability, LAFCO will evaluate, review and consider:
>
> a. The city's plan for water service to the area and statement of existing water supply in terms of number of service units available; service units currently allocated; number of service units within city (and current USA) boundaries that are anticipating future service and service units needed for amendment area.
>
> b. Whether the city is able to provide adequate water supply to the amendment area in the next 5 years, including drought years, while reserving capacity for areas within the city and Urban Service Area that have not yet developed.
>
> c. Whether the city is capable of providing adequate services when needed to areas already in the city, in the city's Urban Service Area or to other properties entitled to service.
>
> d. If capacity is not reserved for unserved property within the city and its Urban Service Area boundary, the current estimate of potential unserved properties and related water supply needs
>
> e. Whether additional infrastructure and or new water supplies are necessary to accommodate future development or increases in service demand. If so, whether plans, permits and financing plans are in place to ensure that infrastructure and supply are available when necessary including compliance with required administrative and legislated processes, such as CEQA review, CEQA mitigation

monitoring plans, or State Water Resources Board allocation permits. If permits are not current or in process, or allocations approved, whether approval is expected.

f. Whether facilities or services comply with environmental and safety standards so as to permit acquisition, treatment, and distribution of necessary water.

While numerous methods exist for determining an ultimate assessment of water needs, the basic premise, however, involves an assessment of the anticipated current and/or future water requirement by various users associated with the proposed "new project" and the comparison of that "need" against the supplies available. This is the fundamental objective and basis upon which these instructions have been prepared.

Water Needs Analysis

Table 1 provides a simplistic depiction of the basic information required by Santa Clara LAFCO. The information requested is broken down by three primary categories; water demands, water supplies, then the calculated water needs (which will demonstrate a surplus or deficit). It is this surplus or deficit that represents the availability, or lack thereof, of a water supply for the proposed new project. Each of these water demand, supply and needs categories are projected along a timeline starting with the current year and working forward by five-year increments. Units are in acre-feet per year (AFY).

Figure 27-1: Water Needs Analysis

Water Needs Analysis (acre-feet per year - AFY)					
	Current	*2015*	*2020*	*2025*	*2030*
Water Demand (for development/uses within agency existing boundaries)					
Allocated /Reserved Water Demand (for new development /uses within agency existing boundaries)					
Project Water Demand (for new development or uses in boundary amendment area					
Water Supply - Total					
Water Supply - Safe Yield					
Calculated Water Needs - A					
Calculated Water Needs - B					

Note: Calculated Water Needs - A is the difference between all of the water demands and Water Supply - Total

Calculated Water Needs - B is the difference between all of the water demands and Water Supply - Safe Yield

A negative value indicates no additional water need for the proposed project above current supplies. A positive value indicates that the proposed project requires an additional amount of water beyond what the current water purveyor possesses.

Water Demand (for development/ uses within agency existing boundaries)

This category represents the water demands that are currently being used to serve the varied land use types and their associated water users within the existing boundaries of the water purveyor (e.g., city utilities, special water districts, and related water agencies). This is the sum total of all water use (from all land uses) within the water purveyors existing boundaries. This includes all residential, non-residential, landscape, and distribution system loss demands.

Allocated /Reserved Water Demand (for new development /uses within agency existing boundaries)

This category represents the water demands that are anticipated or could be used to serve the varied land use types and associated water users in the future within the existing boundaries of the water purveyor (e.g., city utilities, special water districts, and related water agencies). This category differs from the former in that it makes assumptions for water use (not yet realized), but potentially possible across any of the land use types currently undeveloped. For example, it would include an assumed water use for future development(s) within an area currently vacant (undeveloped) but zoned as high-density residential. Similarly, it would include an assumed water use for future development(s) within an area designated as commercial/industrial.

Project Water Demand (for new development or uses in boundary amendment area - outside of agency existing boundaries)

This category represents the projected water demands that are proposed for the current project under consideration (i.e., the applicant's proposed project). Regardless of project type (e.g., residential, commercial, industrial, institutional, etc.), a corresponding water demand will exist based on the project description provided by the applicant. This is the projected water demand that will be needed outside of the existing water purveyor boundaries. Accordingly, this is the new allocation or depletion that Santa Clara LAFCo will closely analyze within the context of the current and allocated/reserved water demands that are already being met within the existing water purveyor boundaries or, could be met by the water purveyor should new projects within their boundaries develop.

Water Supply - Total

This category represents the existing water supplies of the water purveyor(s). It includes all held water entitlements (e.g., water contracts, water rights, transferred water, recycled water, etc.) as well as water pumped from groundwater aquifers. It includes the unconstrained entitlement totals, that is, the maximum allowable quantities.

Water Supply - Safe Yield

The safe yield defines the maximum amount of water that can be made available in any year, including the driest year of record. It is the maximum amount of water conceivably available based on all water year types and acknowledges that, despite the identified quantities on certain entitlements (e.g., federal water contracts), the "guaranteed" annual supply is typically significantly less. This reduction is a result of imposed deficiencies due primarily to unavailable system yield or, shortages in overall supply. As an example, for CVP M&I water contracts, the safe yield will be the maximum allocation permitted in the driest year (consistent with imposed shortage limitations).

Calculated Water Needs

These are the calculated differences between total water demands and water supply. From Table 1, it is the current, future and proposed new project demands, less the total water supplies. With two water supply numbers (i.e., total and safe yield), two corresponding calculated water needs are also generated (noted as A and B).

In Figure 27-2 below, the various boxes have been filled in for demonstration purposes. Water demands within those areas currently developed are shown to increase over time from 10,000 AFY to 25,000 AFY. The allocated/reserved water demands, as defined, not surprisingly are shown to decrease over time as more of the currently vacant lands are built out. By 2030, it is assumed for this example that the lands within the existing boundaries are built out.

Figure 27-2: Water Needs Analysis Example

Water Needs Analysis (acre-feet per year - AFY)					
	Current	*2015*	*2020*	*2025*	*2030*
Water Demand (for development/uses within agency existing boundaries)	10,000	12,000	15,000	20,000	25,000
Allocated /Reserved Water Demand (for new development /uses within agency existing boundaries)	15,000	13,000	10,000	5,000	0
Project Water Demand (for new development or uses in boundary amendment area)	2,000	2,000	2,000	2,000	2,000
Water Supply - Total	30,000	30,000	30,000	30,000	30,000
Water Supply - Safe Yield	25,000	25,000	25,000	25,000	25,000
Calculated Water Needs - A	-3,000	-3,000	-3,000	-3,000	-3,000
Calculated Water Needs - B	2,000	2,000	2,000	2,000	2,000
Note: Calculated Water Needs - A is the difference between all of the water demands and Water Supply - Total Calculated Water Needs - B is the difference between all of the water demands and Water Supply - Safe Yield A negative value indicates no additional water need for the proposed project above current supplies. A positive value indicates that the proposed project requires an additional amount of water beyond what the current water purveyor possesses.					

The project water demands are identified as 2,000 AFY (it does not specify the type of project or land use). The total water supply (Water Supply - Total) is identified as being 30,000 AFY. This is the sum total of all of the water entitlements held by this water purveyor and is the maximum allowable under those entitlements. The second of the water supply values (Water Supply - Safe Yield) is identified as 25,000 AFY or 5,000 AFY less than the total water supply. As defined earlier, this shows that the water purveyor's total water supplies are constrained by 5,000 AFY. This is the maximum shortfall that can exist to its water supplies in any one given year.

The calculated water needs then are illustrated as two values, one reflecting water needs based on total water supply availability and the other on water supplies based on safe yield. From Example Table 1, if total water supplies are assumed (i.e., unconstrained), then the water purveyor would possess enough water to provide the proposed project (by this example, in perpetuity). If, however, safe yield values are assumed, then the proposed project would exceed the water purveyor's existing water supplies by about 2,000 AFY, coincidentally the same amount as its project needs.

Gross assumptions were used in this example to provide an easy illustrative depiction. In reality, various factors in each category and, over time, make this assessment much more complex. However, this example illustrates the sensitivity in calculating adequate water supplies based on real (or firm) supply availability and the overarching influence of potential future infill development. By including the Allocated/Reserved Water Demand in these calculations, the fundamental assumption is that infill will take priority (in

determining water needs) before any new development or uses are permitted in the boundary amendment areas.[122]

[122] Notes: Additional metrics and details associated with each of these categories are not shown here but are available from Santa Clara LAFCo. This includes additional information and guidance on how to calculate water demands and water supplies, taking into account such factors as per capita water use, landscape irrigation, system loss factors, etc.

INTERVIEWS

Agency	*Name and Title*
City of Gilroy	David Stubchaer, Operations Manager
City of Gilroy	Dan Aldridge, Water Operations Supervisor
City of Milpitas	Kathleen Phalen, Acting Assistant City Engineer
City of Milpitas	Howard Salamanca, Associate Civil Engineer
City of Morgan Hill	Mario Iglesias, Utility Systems Manager
City of Mountain View	Gregg Hosfeldt, Assistant Public Works Director
City of Mountain View	Alison Turner, Senior Civil Engineer
City of Palo Alto	Romel Antonio, Senior Project Engineer
City of San Jose	Mansour Nasser, Deputy Director of Environmental Services
City of Santa Clara	Christopher de Groot, Director of Water and Sewer Utilities
City of Sunnyvale	Jim Craig, Superintendent of Field Services
City of Sunnyvale	Val Conzet, Water Operations Manager
Santa Clara Valley Water District	James Fiedler, COO Water Utility
Santa Clara Valley Water District	Joan Maher, Deputy Operating Officer
Santa Clara Valley Water District	Amy Fowler, Special Programs Engineer
Santa Clara Valley Water District	Cindy Kao
Santa Clara Valley Water District	Bob Siegfried
Santa Clara Valley Water District	Marc Klemencic
Aldercroft Heights County Water District	Kim Gardner, Business Manager
Aldercroft Heights County Water District	Tyler Boswell, Water Operator
Purissima Hills County Water District	Patrick Walter, General Manager
San Martin County Water District	Peter J. Forest, District Manager
Pacheco Pass Water District	Michael O'Connell, President
Pacheco Pass Water District	Patricia Richardson, Secretary
Guadalupe-Coyote RCD	Nancy Bernardi, Office Manager
Loma Prieta RCD	Patty Marfia, Office Executive Director
San Jose Water Company	Bill Tuttle, Director of Engineering – Water Services and Planning
San Jose Water Company	Tom Victori
California Water Service Company	Michael Bolzowski, Water resource engineer
Great Oaks Water Company	John Roeder, CEO
West San Martin Water Works Company	Bob Ukestad
San Francisco Public Utilities Commission	Molly Petrick, Water Resources Analyst
Bay Area Water Supply and Conservation Agency	Lourdes Enriquez, Assistant to the CEO
South Bay Water Recycling	Mansour Nasser, Deputy Director, Water Resources, Environmental Services Department, City of San Jose
South County Regional Wastewater Authority	Brenda M Miles, Project Manager
Palo Alto Regional Water Quality Control Plant	James S. Allen, Plant Manager
Sunnyvale Water Pollution Control Plant	Lorrie B. Gervin, Environmental Division Manager
Santa Clara County, Department of Environmental Health	Ann Peden, Senior Land Use Specialist
Santa Clara County Controller-Treasurer Department	Vicky Bituin, General Accounting Division
Santa Clara County Department of Parks	Drew Merry, Senior Park Maintenance Worker
California Department of Public Health	Eric Lacey, District Engineer
California Division of Safety of Dams	Perome Dylan, Engineer
Natural Resources Conservation Services	Athena Pratt, District Conservationist
San Benito County Auditor's Office	Janet Norris, Accountant III
San Benito County Auditor's Office	Larry Chapin, Assistant Auditor
San Benito LAFCO	Gary Armstrong, Interim Executive Officer
San Benito County Water District	Jeff Cataneo, General Manager