

Appendix K: Water Supply Assessment



May 9, 2007

Phil Wong, Director
Planning/Community Development Department
City of San Ramon
2222 Camino Ramon
San Ramon, CA 94583

Re: Water Supply Assessment – San Ramon City Center Project, San Ramon

Dear Mr. Wong:

This letter responds to your request of March 6, 2007, for water agency consultation concerning the San Ramon City Center Project (Enclosure 1) located in the City of San Ramon (City). The East Bay Municipal Utility District (EBMUD) appreciates the opportunity to provide this response.

Pursuant to Sections 10910-10915 (SB-610) of the California Water Code, the project meets the threshold requirement for an assessment of water supply availability based on the amount of water this project would require, a mixed-use project that would demand an amount of water equivalent to or greater than, the amount of water required by a 500 dwelling unit project.

Please note that this assessment addresses the issue of water supply only and is not a guarantee of service, and future water service is subject to rates and regulations in effect at the time.

Project Demand

The water demands for the San Ramon City Center Project area are accounted for in EBMUD's water demand projections as published in EBMUD's 2005 Urban Water Management Plan (UWMP/Enclosure 2). EBMUD's water demand projections account for anticipated future water demands within EBMUD's service boundaries and for variations in demand-attributed changes in development patterns. The current land uses include general commercial, industrial, and vacant, and the existing water demand for the area is about 22,000 gallons per day (gpd). The estimated water demand for the proposed development that consists of commercial, city government, library and residential is estimated to be about 400,000 gpd and is consistent with EBMUD's demand projections that indicate both densification and land use class changes in some areas with these types of land uses.

EBMUD's demand projections indicate both densification and land use changes in all land use classifications, including commercial and industrial land uses, thus increasing EBMUD's overall demand. EBMUD's 2005 UWMP projects water demands over time, accounting for estimated variations in demand usage less conservation and recycled supply sources as noted in Table 4.1 of the UWMP. For planning purposes, the demands are estimated in five-year increments, but it is recognized that actual incremental amounts may occur stepwise. An increase in usage by one customer in a particular customer class does not require a strict gallon-for-gallon increase in conservation by other customers in that class, as in actuality the amount of potable demand, conservation and recycled water use EBMUD-wide will all vary somewhat. Periodically EBMUD updates the demand projections to reconcile these variations, and the UWMP is updated as appropriate at each five-year cycle.

Project Area

The San Ramon City Center Project area is bounded by Bishop Ranch on the south, Bishop Drive on the north, the Iron Horse Trail and Central Park on the east, and Sunset Drive and the Shops at Bishop Ranch on the west. The project area consists of approximately 39 acres. As described in the Notice of Preparation of the Draft Environmental Impact Report (EIR), the San Ramon City Center Project is proposed to add approximately 2.2 million square feet of constructed floor space consisting of a 110,500 square-foot City Hall/Library, 682,000 square feet of office space, 685,000 square feet of retail space, 488 new multi-family residences, and a 169-room hotel.

EBMUD Water Demand Projections

Water consumption within the EBMUD service area has remained relatively level in recent years in spite of population and account growth. Since the 1970s, water demand has ranged from 200 to 220 million gallons per day (mgd) in non-drought years. The 2030 water demand forecast of 281 mgd for the EBMUD service area can be reduced to 232 mgd with the successful implementation of water recycling and conservation programs, as outlined in the UWMP. The San Ramon City Center Project will not change the EBMUD 2030 demand projection.

EBMUD Water Supply and Water Rights

EBMUD has water rights that allow for delivery of up to a maximum 325 mgd from the Mokelumne River, subject to the availability of Mokelumne River runoff and the senior water rights of other users. EBMUD's position in the hierarchy of Mokelumne River

water users is determined by a variety of agreements between Mokelumne River water right holders, the appropriative water rights permits and licenses, which have been issued by the State, pre-1914 rights and riparian rights. Conditions that restrict EBMUD's ability to use its full entitlement include:

- Upstream water use by prior right holders.
- Downstream water use by riparian and senior appropriators and other downstream obligations, including protection of public trust resources.
- Variability in rainfall and runoff.

During drought periods, the Mokelumne River can no longer meet EBMUD's projected customer demands. EBMUD studies indicate that by 2030, even with the additional dry-year water supply provided through the Freeport Regional Water Project (FRWP), deficiencies in supply of up to 37 percent could occur during multi-year drought periods.

EBMUD UWMP

The UWMP, adopted on November 22, 2005 by the EBMUD Board of Directors by Resolution No. 33508-05, is a long-range planning document that reports on EBMUD's current and projected water usage, water supply programs, and conservation and recycling programs. A summary of EBMUD's demand and supply projections, in five-year increments for a 25-year planning horizon is provided in a table (Enclosure 3) from the UWMP. The data reflects the latest actual and forecast values.

EBMUD's evaluation of water supply availability accounts for the diversions of both upstream and downstream water right holders and fishery releases on the Mokelumne River. Fishery releases are based on the requirements of a 1998 Joint Settlement Agreement (JSA) between EBMUD, U.S. Fish and Wildlife Service, and the California Department of Fish and Game. The JSA requires EBMUD to make minimum flow releases from its reservoirs to the lower Mokelumne River to protect and enhance the fishery resources and ecosystem of the river. As this water is released downriver, it is, therefore, not available for use by EBMUD's customers.

The available supply shown in the attached table (Enclosure 3) was derived from EBMUD's hydrologic model with the following assumptions:

- EBMUD Drought Planning Sequence is used for 1976, 1977 and 1978.
- Total system storage is depleted by the end of the third year of the drought.
- EBMUD will implement its Drought Management Program when necessary.
- The diversions by Amador and Calaveras Counties upstream of Pardee Reservoir increase over time.

- Releases are made to meet the requirements of senior downstream water right holders and fishery releases are made according to the JSA.
- Dry-year supply of Central Valley Project (CVP) water, through the FRWP, is available beginning in 2010.

As discussed under the Drought Management Program section in Chapter 3 of the UWMP, EBMUD's system storage generally allows it to continue serving its customers during dry-year events. EBMUD imposes rationing based on the projected storage available at the end of September. By imposing rationing in the first dry year of potential drought periods, EBMUD attempts to minimize rationing in subsequent years if a drought persists while continuing to meet its current and subsequent-year fishery flow release requirements and obligations to downstream agencies. Table 3-1 in the UWMP summarizes the Drought Management Program guidelines for consumer water reduction goals based on projected system storage.

In the table (Enclosure 3), "Single Dry Water Year" (or Year 1 of "Multiple Dry Water Years") is determined to be a year that EBMUD would implement Drought Management Program elements at the "moderate" stage with the goal of achieving a reduction between 0 to 15 percent in customer demand. Through the FRWP, the supplemental dry-year supply of CVP water will be used to reduce the rationing goal to 5 percent during the first year of a drought. Year 2 of Multiple Dry Years is determined to be a year that EBMUD would implement Drought Management Program elements at the "severe" stage with the goal of achieving between 15 to 25 percent reduction in customer demand. In Year 3 of the multiple-year drought, under current conditions (2005) and prior to the completion of the FRWP, EBMUD customers could experience deficiencies of up to 56 percent. After the completion of the FRWP, water supply deficiencies could range from about 26 percent in year 2010 to about 37 percent in year 2030. Therefore, a supplemental supply is needed, which is defined by EBMUD as the additional amount of water necessary to limit customer deficiency to 25 percent in a multiple-year drought while continuing to meet the requirements of senior downstream water right holders and the provisions of the 1998 JSA.

Supplemental Water Supply and Demand Management

The goals of meeting projected water needs and increased water reliability rely on three components: supplemental supply, water conservation and recycled water.

Chapter 2 of the UWMP describes EBMUD's supplemental water supply project alternatives to meet its long-term water demand. To address the need for a supplemental water supply during droughts, EBMUD signed a contract in 1970 with the Federal government for a supplemental supply from the CVP. In 2001, EBMUD certified the

environmental documentation amending its CVP contract 14-06-200-5183A, reducing EBMUD's contract from 150,000 acre-feet (AF)/year to an entitlement not to exceed 133,000 AF in any one year or 165,000 AF over any three consecutive years. In 2001, EBMUD signed a Memorandum of Agreement with the City of Sacramento, the County of Sacramento and the U.S. Bureau of Reclamation to study a joint regional water project on the Sacramento River near Freeport.

The Draft EIR/Environmental Impact Statement (EIS) of the FRWP identifies several regulatory permits and approvals required for the implementation of the project alternatives. These are listed in Table 2-6 of the FRWP Draft EIR/EIS, July 2003, and incorporated in the Final EIR/EIS for the project, which was certified in April 2004. EBMUD will still face water supply shortages even with the additional dry-year supply provided by the FRWP; however, the frequency and severity of customer rationing during drought periods will be reduced.

Chapter 2 of the UWMP also describes other supplemental water projects, including the development of groundwater storage within EBMUD's service area. EBMUD is studying the environmental impacts of these proposed projects. Specific capital outlay and financing information for these projects are included in EBMUD's FY06-07 Capital Improvement Program and Five-Year Plan. The FRWP would also allow for a future groundwater conjunctive use component and, along with the proposed local groundwater projects, emergency interties and planned water recycling and conservation efforts, would ensure a reliable water supply to meet projected demands for current and future EBMUD customers within the current service area. Without a supplemental water supply source, beyond the FRWP, and despite continued conservation efforts and further use of recycled water, deficiencies in supply are projected as noted above.

The San Ramon City Center Project presents an opportunity to incorporate water conservation measures. Conditions of approval for the implementation of the San Ramon City Center Project should require that the project comply with Assembly Bill 325, Model Water Efficient Landscape Ordinance (Division 2, Title 23, California Code of Regulations, Chapter 2.7, Sections 490 through 495). EBMUD staff would appreciate the opportunity to meet with project sponsors to discuss water conservation programs and best management practices applicable to such projects. A key objective of these discussions will be to explore timely opportunities to expand water conservation via early consideration of EBMUD's conservation programs and best management practices applicable to the projects.

The San Ramon City Center Project is located within the service area boundary of EBMUD's San Ramon Valley Recycled Water Project and is within a City-designated Water Reuse Area. Subject to capacity and to any physical limitations that may prevent

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dual plumbing, the water demands associated with dual plumbing and landscape irrigation will be required to be met with recycled water from the existing 16-inch recycled water pipeline in Bollinger Canyon Road. The City has a dual plumbing ordinance that requires areas that will be served with recycled water to dual plumb in advance. The San Ramon City Center Project will require design and installation of separate piping systems for recycled water during construction of the San Ramon City Center Project. The City should coordinate closely with EBMUD regarding the layout and installation of dual-plumbing systems for appropriate uses of recycled water.

The project sponsor should contact David J. Rehnstrom, Senior Civil Engineer, at (510) 287-1365 for further information.

Sincerely,



William R. Kirkpatrick
Manager of Water Distribution Planning Division

WRK:TNS:sb

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- Enclosures:
1. Letter of Request for Water Supply Assessment dated March 6, 2007
 2. EBMUD's 2005 Urban Water Management Plan
 3. EBMUD's Demand and Supply Projections Table

cc: Board of Directors w/o Enclosure 2



CITY OF SAN RAMON

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March 6, 2007

East Bay Municipal Utility District
New Business Office
375 11th Street
Oakland, CA 94607

Subject: San Ramon City Center Project – Water Supply Assessment

The City of San Ramon, in collaboration with the Sunset Development Company, is in the process of planning the development of the San Ramon City Center Project (Project). The Project consists of the development and redevelopment of approximately 43.6 acres in the Bishop Ranch area of San Ramon. In total 2,168,466 square-feet of floor space will be constructed for the following land uses: civic, retail, office, hotel, and residential. A total of 487 new residences, 169 hotel rooms, and a new net non-residential floor space of 954,571 square-feet of civic, retail, and office space are planned.

The city, as lead agency for the project, determined that an Environmental Impact Report (EIR) is required for the Project, pursuant to Section 21080.1 of the Public Resources Code.

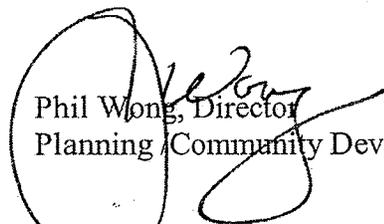
The City has identified that the water purveyor to the project will be the East Bay Municipal Utility District (EBMUD). Pursuant to the requirements of SB610, and Section 10910 of the State Water Code, the City is requesting the following from EBMUD:

1. A determination as to whether the Project has been included as part of EBMUD's most recently adopted Urban Water Management Plan; and
2. The preparation of a Water Supply Assessment (WSA), within 90 days of this request.

The City has contracted the firm of Michael Brandman Associates for the preparation of the Project EIR. Our schedule is to circulate the draft EIR on May 28, 2007. We would appreciate your assistance in coordinating with Mr. Jason Brandman, (925) 830-2733, with Mr. James Brezack of RBF Consulting, (925) 906-1460, and with the City as necessary to accomplish the above requests.

The City is prepared to enter into an agreement with EBMUD for this work, consistent with your Regulation 3C for Miscellaneous Planning Work Requested in Advance of Request for Service. We would appreciate your notification of the anticipated costs for the above and look forward to our coordination on this topic.

Sincerely,


Phil Wong, Director
Planning / Community Development Department

Cc. Alex Mehran – Sunset Development
Jason Brandman – MBA
Gerry Parco – RBF Consulting
Debbie Chamberlain – City of San Ramon

**EAST BAY MUNICIPAL UTILITY DISTRICT DEMAND AND SUPPLY
PROJECTIONS
(Ref: Table 4-2, UWMP 2005 – EBMUD)**

	2005	2010	2015	2020	2025	2030
PROJECTED DEMAND (MGD)						
Customer Demand ⁽¹⁾	241	258	267	277	279	281
Adjusted for Conservation ⁽²⁾	(13)	(21)	(27)	(35)	(35)	(35)
Adjusted for Recycled Water ⁽²⁾	(6)	(12)	(14)	(14)	(14)	(14)
Planning Level of Demand	222	225	226	228	230	232
PROJECTED AVAILABLE SUPPLY & NEED FOR SUPPLEMENTAL SUPPLY⁽³⁾ (MGD)						
Normal Water Year	>222	>224	>226	>228	>230	>232
Supplemental Supply Need	0	0	0	0	0	0
Single Dry Water Year (Multiple Dry Years – Year 1)						
Available Supply	211	213	215	217	219	220
Deficiency (Goal is 5% maximum ⁽⁴⁾)	5% ⁽⁵⁾	5%	5%	5%	5%	5%
Supplemental Supply Need ⁽⁶⁾	69	0	0	0	0	0
Multiple Dry Water Years – Year 2						
Available Supply	167	168	170	171	173	174
Deficiency (Goal is 25% maximum ⁽⁷⁾)	25%	25%	25%	25%	25%	25%
Supplemental Supply Need ⁽⁶⁾	40	0	0	0	0	0
Multiple Dry Water Years – Year 3						
Available Supply	43	167	166	153	151	147
Deficiency (Goal is 25% maximum ⁽⁷⁾)	56%	26%	27%	33%	34%	37%
Supplemental Supply Need (To limit deficiency to 25% ⁽⁶⁾)	15	1	4	18	22	27
Three-Year Drought						
Total Supplemental Supply Need (To limit deficiency to 25% ⁽⁶⁾)	124⁽⁸⁾	1	4	18	22	27

- (1) Projected Demand derived from the 2000 Demand Study, which projects water demand based on land use in EBMUD's service area.
- (2) Conservation and recycled water program savings reported are based on the 1993 Updated Water Supply Management Plan (WSMP). WSMP set a conservation program savings goal of 33 MGD and a recycled water program savings goal of 14 MGD for the year 2020. Since the adoption of the WSMP the conservation savings goal has increased to 35 MGD to offset demand from anticipated annexations to EBMUD's service area. Conservation and recycled water savings goals are to be upheld through 2030. Reference Chapter 5 and Chapter 6 for details.
- (3) Projected Supply data includes dry-year supply deliveries from the Freeport Regional Water Project (FRWP) beginning in 2010. Without the FRWP supply 2020 deficiencies could be as high as 67%, as discussed in the UWMP 2000.
- (4) Per 2003 FRWP EIR, rationing goal is set to 5% during the first year of all droughts.
- (5) In 2005 and prior to the completion of the FRWP, EBMUD's water supply system is inadequate to supply 95% of demand, and may impose customer rationing up to 15% during the first year of a drought, resulting in a need for additional water.
- (6) The supplemental supply need is based on EBMUDSIM model results. It is the amount of water needed to limit customer rationing to 5% during the first year of a three-year drought and 25% during the second and third year of a three-year drought; to implement all provisions of the 1998 Joint Settlement Agreement, and to offset additional water supply system losses created by a supplemental supply. The actual need will be dependent on antecedent conditions, the severity of the actual drought, and on how much supplemental supply is obtained during the first two years of the drought and added to storage for use in subsequent years.
- (7) Assumed drought conditions, per Table 3-1 (Chapter 3).
- (8) An additional 15 MGD is needed in the third year if a supplemental supply is obtained in year 1 and year 2. If a supplemental supply is not available during years 1 and 2 of the drought, total system storage could be drawn down to meet 95% of demand in the first year and 75% in the second year, creating a greater storage deficit and a greater supplemental supply need in the third year.