

WATER SUPPLY AND SERVICE IN VACAVILLE

This technical memorandum (TM) includes information pertinent to the existing conditions of the City of Vacaville (City) potable water distribution system. The TM covers the following sections:

- ◆ Water Service Providers
- ◆ Existing Water Treatment and Distribution System
- ◆ Planned Improvements or Future Water Sources
- ◆ Water Use
- ◆ Regulatory Documents

A. *Water Supply*

Potable water is supplied within the Vacaville General Plan study area by three sources: the City of Vacaville, Solano Irrigation District (SID), and a small number of private domestic groundwater wells.

Potable water is provided by the City to users within the city limits via a network of existing water mains, transmission mains, reservoirs, groundwater wells, booster pump stations, and treatments plants. Water supply for the City comes from two sources: surface water and groundwater. Table 1 provides a summary of the current annual allocation from the various sources, which equates to 42,098 acre-feet per year (AFY). Each of the sources is described below in further detail.

1. **Solano Project**

The Solano Project was constructed by the Bureau of Reclamation in 1958. The water rights permits for the Solano Project are held by the Bureau of Reclamation in trust for the Solano water users. The water rights permits further state that when the permits are converted to a license, the license will be issued in the name of Solano water users. Unlike most federal water projects, the water rights to the Solano Project “belong” to the Solano water users.

TABLE 1 CITY OF VACAVILLE SUMMARY OF GENERAL PLAN BUILDOUT OF WATER SUPPLY

| Source | Allocation (AFY) |
|-----------------------|------------------|
| Solano Project | |
| Vacaville Entitlement | 5,750 |
| SID Agreement | 10,050 |
| State Water Project | |
| Vacaville Table A | 6,100 |
| KCWA Agreement | 2,878 |
| Settlement Water | 9,320 |
| Groundwater | 8,000 |
| Total | 42,098 |

Source: City of Vacaville 2005 and 2010 Urban Water Management Plan Updates.

The main feature of the Solano Project is Monticello Dam, which provides storage for approximately 1.6 million acre-feet (AF) of water in Lake Berryessa. Water from Lake Berryessa is diverted through the Putah Diversion Dam to the 32-mile Putah South Canal, which transports water to the Solano County Water Agency (SCWA).

SCWA is a water wholesaler with water supply agreements with cities, districts, and State agencies to provide water from the Solano Project. The Solano Project contracting agencies are: Fairfield, Suisun City, Vacaville, Vallejo, SID, Maine Prairie Water District, University of California at Davis, and California State Prison – Solano. Vacaville is allocated 5,750 AFY water from the Solano Project.

CITY OF VACAVILLE
GENERAL PLAN UPDATE
WATER SUPPLY AND SERVICE IN VACAVILLE

In addition to its entitlement from SCWA, Vacaville entered into a 1995 Master Water Agreement with SID, which was most recently amended in 2010. SID is a supplier of irrigation and domestic water in Solano County. Pursuant to the agreement, Vacaville receives an increasing supply from SID through the year 2040 and a consistent supply thereafter until the year 2050. Table 2 is a summary of the annual water schedule of the SID agreement.

TABLE 2 **CITY OF VACAVILLE ANNUAL WATER ENTITLEMENT SCHEDULE FOR THE SID WATER AGREEMENT**

| Year | Annual Entitlement (AFY) | Year | Annual Entitlement (AFY) |
|-------------|---------------------------------|-------------|---------------------------------|
| 2010 | 2,500 | 2026 | 5,925 |
| 2011 | 2,625 | 2027 | 6,225 |
| 2012 | 2,750 | 2028 | 6,525 |
| 2013 | 2,875 | 2029 | 6,825 |
| 2014 | 3,000 | 2030 | 7,125 |
| 2015 | 3,125 | 2031 | 7,425 |
| 2016 | 3,325 | 2032 | 7,725 |
| 2017 | 3,525 | 2033 | 8,025 |
| 2018 | 3,725 | 2034 | 8,325 |
| 2019 | 3,925 | 2035 | 8,625 |
| 2020 | 4,125 | 2036 | 8,925 |
| 2021 | 4,425 | 2037 | 9,225 |
| 2022 | 4,725 | 2038 | 9,525 |
| 2023 | 5,025 | 2039 | 9,825 |
| 2024 | 5,325 | 2040 - 2050 | 10,050 |
| 2025 | 5,625 | | |

2. State Water Project (North Bay Aqueduct)

Vacaville receives water allocations from the State Water Project through SCWA and water from a Year 2000 purchase agreement from Kern County Water Agency (KCWA). Water provided through the State Water Project is termed “Table A” water by the California Department of Water Resources (DWR). Surface water received pursuant to these agreements is delivered through the North Bay Aqueduct (NBA), a State Water Project facility owned and operated by DWR. The City supply from the State Water Project is 8,978 AFY, including the 2,878 AFY KCWA Agreement.

The water supply for the NBA is less reliable than the Solano Project. Supply from the NBA comes from the State Water Project which provides water to a total of 29 contractors. Because the NBA is part of the entire State Water Project, any shortages occurring in the State Water Project impacts the water availability from the NBA.

3. Settlement Water (DWR Agreement)

As explained further in Section E.2.g, the California Water Code includes area-of-origin statutes, which state that an area shall not be deprived of the prior right to water reasonably required to adequately supply the beneficial needs of the area. In settlement of area-of-origin water right applications by the cities of Fairfield, Benicia, and Vacaville, DWR, which is responsible for the management and regulation of water use in the State of California, provides “Settlement Water” to Vacaville. Settlement Water is diverted under water rights held by DWR, but is not considered State Water Project water. Settlement Water consists of surface water from the Sacramento River and Sacramento-San Joaquin Delta Estuary. The amount of water provided in the Settlement Agreement was based on critical dry year deliveries. Vacaville is allocated 9,320 AFY as part of the Settlement Agreement.

4. Groundwater

The City owns and operates twelve municipal groundwater wells with very high quality groundwater. Eleven of the wells withdraw water from the deep aquifer in the basal zone of the Tehama Formation. Most City wells are lo-

cated in the Elmira well field. However, new wells are being sited further north, near Interstate 80. In 2008, approximately 5,900 AFY were supplied to the City. Vacaville continues to explore well field expansion as a means of maintaining adequate water supply. A regional program is being implemented to monitor groundwater data as a means of ensuring against overdraft and/or contamination. Well locations are shown in Figure 1.

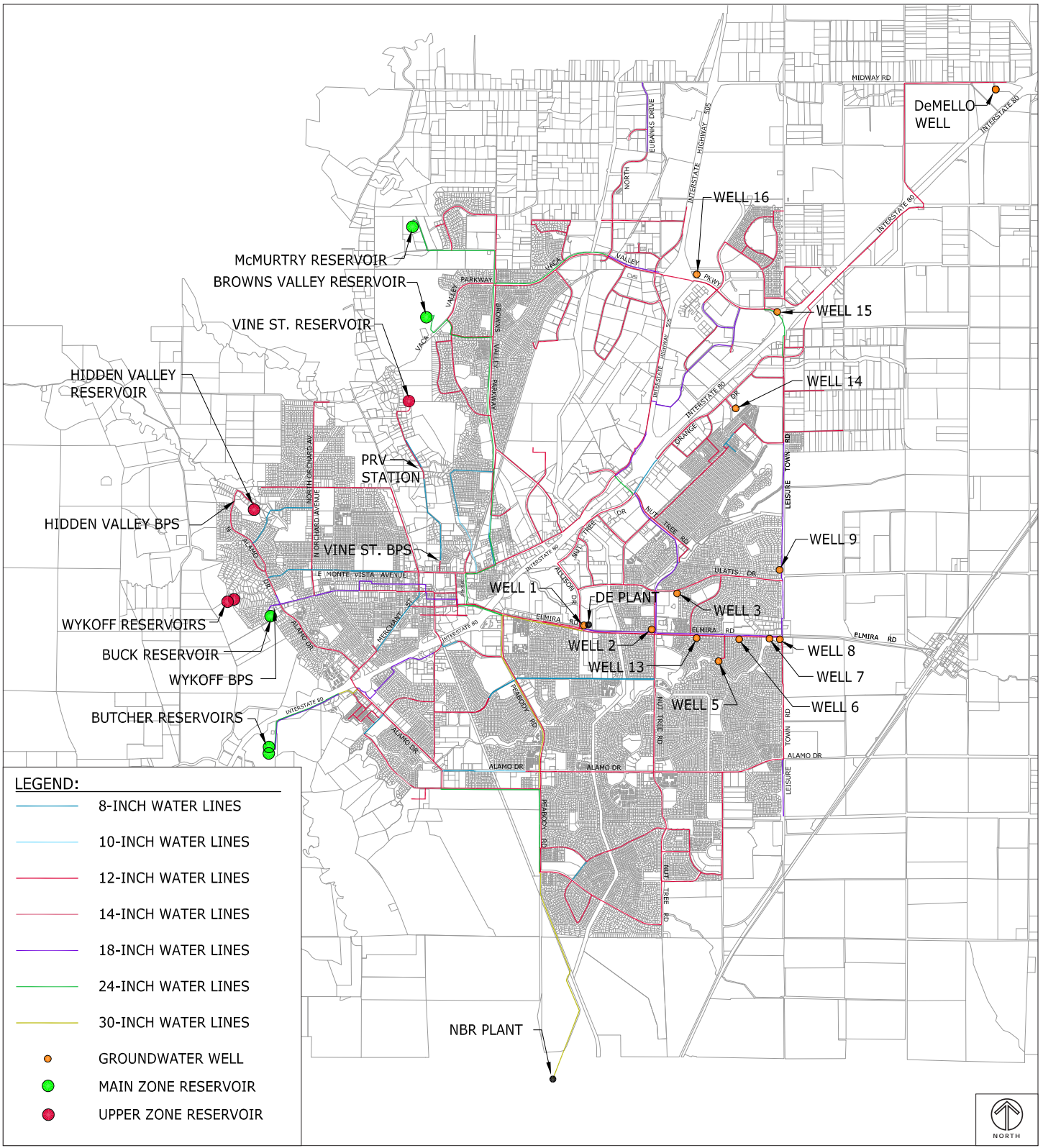
Generally, areas outside the city limits are agricultural land use and/or rural residential land use with private groundwater wells and/or potable water service from SID. Figure 2 is a schematic depicting the areas within the study area that are served by SID.

B. Existing Water Treatment and Distribution System

This section describes the existing water treatment and distribution system.

1. Treatment Plants

In general, the City's potable water treatment and distribution system is in good condition. The City operates two water treatment facilities: 1) a treatment plant located on Elmira Road, designated as the Diatomaceous Earth Water Treatment Plant (DE Plant) owned by the City, and 2) the North Bay Regional Water Treatment Plant (NBR Plant), which is jointly owned with the City of Fairfield. Including backwash, the DE Plant is rated nominally at 10 million gallons per day (mgd). The NBR Plant currently provides a capacity of 13.0 mgd of treated surface water to the City's distribution system. The locations of the DE and NBR Plants are identified on Figure 1.



Source: Nolte Engineering.

FIGURE 1
 EXISTING WATER DISTRIBUTION SYSTEM

2. Distribution System

The system consists of one main pressure zone and several upper pressure zones to serve development at higher elevations in the city. The main pressure zone (main zone) is designed to serve development with building pad elevations between 122 and 222 feet in elevation. Where building pad elevations are higher than 222 feet, an upper pressure zone is required. Three upper pressure zones (Wykoff, Vine Street, and Hidden Valley) are currently located in the city. Each upper pressure zone includes a booster pump station and reservoir to provide adequate pressure and storage in the upper pressure zone. Table 3 is a summary of the existing upper pressure zone booster pump stations.

The City's distribution system is comprised of approximately 292 miles of distribution pipelines, including 18-inch, 24-inch, and 30-inch transmission mains, as well as 6-inch to 12-inch water distribution mains. Figure 1 is a schematic of the existing 12-inch and larger water mains in the city as well as the location of the existing booster pump stations, reservoirs, groundwater wells, and treatment plants.

3. Water Storage

Potable water is stored by the City in various elevated storage reservoirs that maintain acceptable levels of service (pressure) in the system. The storage system is comprised of five reservoirs in the main zone and three reservoirs in the upper pressure zones. Table 4 is a summary of the existing reservoirs and their capacity.

4. Service

The City provides its users with acceptable water service that meets the maximum day demand and peak hour demand. The existing water distribution system has adequate capacity to supply water to the city, with the exception of a few areas: North Orchard Avenue, Eubanks Drive, and Midway Road.

TABLE 3 **CITY OF VACAVILLE SUMMARY OF EXISTING UPPER PRESSURE ZONE BOOSTER PUMP STATION CAPACITY**

| Pump Station | Zone | Firm Capacity^a (gpm) |
|---------------------|--------------------------|--|
| Vine Street | Vine Street Upper Zone | 580 |
| Hidden Valley | Hidden Valley Upper Zone | 500 |
| Wykoff | Wykoff Upper Zone | 1,500 |

^a Firm capacity is defined as the capacity of the pump station with the largest pump out of operation.

TABLE 4 **CITY OF VACAVILLE SUMMARY OF RESERVOIR CAPACITY**

| Reservoir | Zone | Capacity (gpm) |
|------------------|--------------------------|---------------------------|
| Butcher No. 1 | Main Zone | 2.0 |
| Butcher No. 2 | Main Zone | 4.0 |
| Buck | Main Zone | 2.0 |
| Browns Valley | Main Zone | 5.0 |
| McMurtry | Main Zone | 5.1 |
| Wykoff | Wykoff Upper Zone | 0.14 |
| Vine Street | Vine Street Upper Zone | 0.62 |
| Hidden Valley | Hidden Valley Upper Zone | 0.073 |

The North Orchard area, located along North Orchard Avenue north of Fruitvale Avenue, is one of the most critical areas in Vacaville in terms of the ability of the existing distribution system to meet fire flows and peak hour demands. Several improvement alternatives were considered in the City of Vacaville 1990 Water Master Plan but the construction costs and lack of new

development in this sector of the city has put improvements in this area on hold. In the interim, low residual pressures may occur in this area during fire flow and peak hour demand conditions.

The Eubanks Drive area, located north of Vaca Valley Parkway, along Eubanks Drive, within the Interchange Business Park, also has problems meeting fire flow and peak hour demands due to the lack of a loop system at the end of Eubanks Drive at Midway Road. In addition to the low residual pressures during fire flow and peak hour demand conditions, the area is susceptible to water quality concerns. Improvements to this area have been suggested but all are driven by development in the northeast sector of the city. An intermediate mitigation to this deficiency is the construction of the PG&E Towers Loop. The loop would consist of a 12-inch water main from the dead end water main at Crocker Drive along the PG&E Towers easement to the existing 12-inch water main at Eubanks Drive. The proposed North Village Development Area Plan 1 and Area Plan 2 projects are scheduled for completion within the next ten years and should include improvements to completely loop this long dead end water main along Eubanks Drive at Midway Road. These improvements are dependent on development in the northeast sector of the city. Other development projects in the northeast sector may improve conditions in the Eubanks Drive area.

As shown in Figure 1, there is an existing 12-inch dead-end water main that extends south of Interstate 80 and Leisure Town Road, east along Interstate 80, north along Meridian Road, and east along Midway Road to Gentile Lane for approximately 24,000 feet. The length of the dead-end water main in the Midway Road and Interstate 80 corridor will be minimized once the City completes the network with a new groundwater well and piping connecting the well to the proposed Leisure Town Road pipeline and existing Meridian Road water main.

Another deficiency within the distribution system is the ability to convey production water from Well 15 and Well 16 to the existing reservoirs, primarily McMurtry Reservoir. This deficiency is generated by the lack of convey-

ance (transmission water mains) from the wells across Interstate 505. The proposed 18-inch Vaca Valley Parkway water line along with the completion of the 18-inch East Monte Vista water line would alleviate this deficiency. Recent modeling simulations indicate that incorporating these improvements into the existing water distribution system, in addition to current projects including installation of modulating valves at Butcher Reservoirs and Browns Valley Reservoir, improves conveyance from the sources of supply into McMurtry Reservoir. These water improvements are essential to the conveyance of production water within the system.

C. Planned Improvements and Future Water Sources

In 2003, the City began developing a Non-Potable Water Master Plan. This master plan covers the use of both recycled water generated at the Easterly Wastewater Treatment Plant (WWTP) and non-potable water provided by SID. Preliminary planning estimates indicate that the necessary infrastructure will be in place and tertiary treated recycled water will be available for delivery by 2015, which will reduce the demand on potable water sources. Potential irrigation customers have been identified and a stakeholders' workshop was held in July 2003 to review preliminary planning with affected community members. Delivery estimates for 2015 currently total 1,175 AFY. However, this drought-proof resource will require user contracts and possible retrofit costs on the user's behalf. Therefore, for planning purposes, only 75 percent of the total delivery estimate, or 880 AFY, is assumed to be available beginning in 2015.

The City is currently finalizing a Water Development Impact Fee Update (DIF Update). This document formulates the City's intent on how to generate the necessary revenue and other funding to provide adequate financing for the City's water utility system. The DIF Update identifies a series of planned water distribution system improvements that are summarized in Figure 3.

In summary, the planned improvements include:

- ◆ Transmission water lines (local – developer and DIF – City)
- ◆ Storage reservoirs (local – developer and DIF – City)
- ◆ Booster pump stations (local – developer and DIF – City)
- ◆ Groundwater wells (replacement and expansion)

D. Water Use

The City has rights to water from several sources. Per Table 1, the City is allocated in total approximately 42,098 AFY from several sources. Table 5 is a summary of the total City water use from 1995 through 2009. Per Table 5, the City's current (2009) water use is less than half of the City's total water allocation. Table 6 is a summary of the 2008 water use by customer type.

E. Regulatory Framework

A number of federal and State agencies manage and regulate water resources for the City with the intention of safeguarding these resources for domestic and agricultural use, environmental conservation, and power generation. In summary, these regulations generally mandate local assessment of, and planning for, a long-term water supply.

1. Federal Safe Drinking Water Act

The Safe Drinking Water Act (SDWA), adopted in 1974, is the initial federal legislation passed to ensure a minimum quality of drinking water. Under the SDWA, the U.S. Environmental Protection Agency sets standards for drinking water quality and oversees the water suppliers who implement those standards. Regulatory standards established by the SDWA include maximum allowable levels of chemicals and other substances in drinking water, protocols for monitoring drinking water quality and methods for treating drinking water.

CITY OF VACAVILLE
 GENERAL PLAN UPDATE
 WATER SUPPLY AND SERVICE IN VACAVILLE

TABLE 5 CITY OF VACAVILLE SUMMARY OF TOTAL WATER USE

| Year | Total Water Use ^a (AF) | Year | Total Water Use ^a (AF) |
|------|--------------------------------------|------|--------------------------------------|
| 1995 | 14,695 | 2003 | 17,462 |
| 1996 | 15,055 | 2004 | 18,520 |
| 1997 | 15,155 | 2005 | 18,375 |
| 1998 | 14,247 | 2006 | 18,917 |
| 1999 | 16,011 | 2007 | 19,693 |
| 2000 | 16,879 | 2008 | 19,894 |
| 2001 | 17,662 | 2009 | 17,690 |
| 2002 | 17,874 | | |

^a Water use was calculated by summing volumes of water produced.

TABLE 6 CITY OF VACAVILLE 2008 WATER USE BY CUSTOMER TYPE

| Customer Type | Water Use (AF) |
|---------------------------|-------------------|
| Single-Family Residential | 11,263 |
| Multi-Family Residential | 2,107 |
| Commercial | 1,164 |
| Industrial | 1,104 |
| Institutional | 951 |
| Dedicated Irrigation | 2,055 |
| Recycled Water | 0 |
| Other | 0 |
| Unaccounted | 1,250 |
| Total | 19,894 |

The quality of drinking water supplied by the City is regularly monitored to comply with SDWA.

2. State and Regional Agencies, Regulations, and Plans

This section summarizes State and regional agencies, regulations, and plans pertaining to the water supply in the Vacaville General Plan study area.

a. California State Water Resources Control Board

The California State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCB) have the authority in California to protect and enhance water quality.

The RWQCB Region 5 office in Sacramento regulates water quality for waters that flow into the Sacramento River. Because wastewater discharged by the City flows into the Sacramento River through a series of creeks and canals, the City is under the jurisdiction of RWQCB Region 5. The RWQCB establishes water quality objectives, administrates the National Pollutant Discharge Elimination System (NPDES) permit program for stormwater and construction site runoff, and regulates infill of jurisdictional wetlands or waters of the United States under Section 404 of the Clean Water Act.

b. Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) of 1969 requires the State to adopt water quality policies, plans, and objectives to protect the State's waters for the use and enjoyment of the people. The Porter-Cologne Act states that the SWRCB and RWQCBs must adopt and periodically update quality control plans to establish water quality objectives and implementation programs for each of the nine RWQCBs in California. Vacaville falls under the Water Quality Control Plan (Basin Plan) for the Sacramento River Basin and the San Joaquin River Basin. The Porter-Cologne Act also requires waste dischargers to notify the RWQCB of their activities by submitting a Report of Waste Discharge prior to the discharge of wastewater. The SWRCB and RWQCBs are authorized to issue and enforce Waste Discharge Requirements, NPDES permits, Section 401 water quality certifications, and other approvals.

c. Water Quality Control Plan for the Sacramento River Basin and San Joaquin Basin

The RWQCB Region 5 office regulates water quality in the Sacramento River and San Joaquin River Basins in accordance with the Water Quality Control Plan (Basin Plan). The Basin Plan presents the beneficial uses that the Regional Board has designated for surface water, groundwater, marshes, and mudflats, as well as the water-quality objectives and criteria that must be met to protect these uses. A number of existing beneficial uses have been designated for Putah Creek and the Sacramento River Delta. The existing beneficial uses for Putah Creek include agricultural, municipal, and domestic supply, recreation, and wildlife habitat. The existing beneficial uses of the Sacramento River Delta include agricultural, municipal and domestic supply, industrial, recreation, wildlife habitat, and navigation.

d. California Safe Drinking Water Act

In 1976, California enacted its own Safe Drinking Water Act, requiring the California Department of Public Health (CDPH), previously called Department of Health Services, to regulate drinking water by:

- ◆ Setting and enforcing federal and State drinking water standards.
- ◆ Administering water quality testing programs.
- ◆ Administering permits for public water systems operations.

The standards established by CDPH are found in the California Code of Regulations, Title 22.

The City performs all testing required and supplies potable water of quality consistent with Title 22. The City's potable water system is permitted through CDPH.

e. Urban Water Management Planning Act

Through the Urban Water Management Act of 1983, the California Water Code requires all urban water suppliers within California to prepare and adopt an Urban Water Management Plan (UWMP) and update it every five

years. The Act is intended to support conservation and efficient use of urban water supplies at the local level. The Act requires the following:

- ◆ Total projected water use within each water authority jurisdiction must be compared to available water supply sources over the next 20 years in five-year increments.
- ◆ Planning must occur for single and multiple dry water years.
- ◆ Plans must include a water recycling analysis that incorporates a description of the wastewater collection and treatment system within an agency's service area along with current and potential recycled water users.

The City is in compliance with the Urban Water Management Planning Act. The 2005 UWMP Update was submitted to, and has been approved by, DWR. The City is currently preparing the 2010 UWMP Update and is on schedule to meet the July 2011 due date.

f. Senate Bill 610 and Senate Bill 221

Statutes of 1995, Chapters 330 and 854, require local water agencies to assess the reliability of their water supplies. Statutes of 1995, Chapter 881, requires consultation with local water agencies to determine if adequate water supply is available to accommodate pending land use planning decisions. Senate Bill (SB) 610 and SB 221 amended State law to better coordinate local water supply and land use decisions and ensure adequate water supply for new development. Both statutes require that detailed information regarding water availability is provided to City and County decision-makers prior to approval of large development projects. Large development projects are defined as those that include 500 residential units or more, or that would increase the number of existing service connections to the public water system by 10 percent.

The City has complied with SB 610 and SB 221. The most recent SB 610 reports were prepared for the Rice McMurtry, Southtown, and Lagoon Valley

projects. SB 221 reports will be prepared for these projects once they are constructed.

g. Area of Origin Protections

Area of origin protections were added to the California Water Code to protect local northern California supplies from being depleted by water projects. County of origin statutes reserve water supplies for counties from which the water originates when, in the judgment of the SWRCB, transporting water out of a county would deprive that county of water necessary for its present and future development.

As described in Section A.3, the City is allocated 9,320 AFY through DWR based on an area of origin water rights application.

h. Groundwater Management Act

The Groundwater Management Act of California Water Code (AB 3030) provides guidance for applicable local agencies to develop a voluntary Groundwater Management Plan (GMP) in State-designated groundwater basins. GMPs can allow agencies to raise revenue to pay for measures influencing the management of the basin, including extraction, recharge, conveyance, facilities' maintenance, and water quality.

The City previously adopted a GMP consistent with AB 3030. The City is currently updating the GMP to be consistent with more recent legislation and conditions of the City groundwater system.

i. Assembly Bill 1881

Assembly Bill (AB) 1881 required that DWR distribute a model water efficient landscape ordinance to counties and cities by January 1, 2009. By January 1, 2010, every county and city, including charter cities, was required to adopt either DWR's model ordinance or a water efficient landscape ordinance that is at least as effective as the DWR model ordinance. If a county or city failed to adopt an ordinance, AB 1881 requires that local officials enforce DWR's model ordinance as if it had been adopted by the county or city.

The City compared its existing Water Efficient Landscape Regulation (Regulation) with the State's Model Water Efficient Landscape Ordinance (MWELo) and found the Regulation was consistent with MWELo. The City is therefore in compliance with AB 1881.

j. Senate Bill x7-7

SB x7-7 sets a statewide goal of reducing per capita urban water use by 20 percent by December 31, 2020. The State shall make incremental progress towards this goal by reducing per capita water use by at least 10 percent by December 31, 2015. An urban retail water supplier shall include the following information in its urban water management plan due July 2011:

- ◆ Baseline daily per capita water use
- ◆ 2020 water use target
- ◆ Interim water use target
- ◆ Compliance with daily per capita water use goals

Effective 2016, urban retail water suppliers who do not meet the water conservation requirements established by SB x7-7 will not be eligible for State water grants or loans.

The City is currently performing the analyses required by SB x7-7, which will be included in the 2010 UWMP Update.

k. Regulations for Water Use Efficiency

The California Constitution prohibits the waste, unreasonable use, unreasonable method of use and unreasonable method of diversion of water. It also declares that the conservation and use of water "shall be exercised with a view to the reasonable and beneficial use thereof in the public interest and for the public welfare." Water Code Section 275 directs DWR and SWRCB to "take all appropriate proceedings or actions before executive, legislative, or judicial agencies to prevent waste or unreasonable use of water."

Through compliance with SB x7-7 and AB 1881, as well as the City's general operating practices, the City is conservative in its water use.

1. Statewide Bond Measures

In recent years, a number of statewide bond measures have been approved by California voters, establishing funding for a wide range of water-related programs and improvements aimed at protecting the State's critical water resources.

Among these is the Safe Drinking Water, Clean Water, Watershed Protection, and Flood Protection Bond Act, passed in 2000. This bond authorized \$1.97 billion for water-related projects throughout the State. SWRCB was authorized to allocate \$763.9 million of these funds to local projects, such as pollution control programs for coastal and inland waters, watershed protection programs, and pesticide source and mitigation programs, mostly through competitive grants.

Passed in March 2002, Proposition 40, the California Clean Water, Clean Air, Safe Neighborhood Parks, and Coastal Protections Act, authorizes over \$1 billion for a broad range of water conservation programs, including land acquisition. Later in 2002, an additional \$3 billion in bonds was authorized by the voters as part of the Water Quality, Supply, and Safe Drinking Water Projects bond measure. The bond funds are to be directed to a wide variety of water resource programs including the CALFED Bay-Delta Program, safe drinking water programs, and integrated regional water management programs, among others.

In November 2006, voters approved an initiative allowing the State to sell \$5.4 billion in bonds for projects related to safe drinking water, water quality and supply, flood control, natural resource protection, and park improvements.

At this time, the City of Vacaville has not received any of this bond money.

3. Local Plans and Regulations

This section summarizes the local plans and regulations pertaining to water supply in the Vacaville General Plan study area.

a. Vacaville General Plan

Water supply and service is addressed in the Land Use Element and the Public Facilities, Institutions, and Utilities Element of the General Plan. The policies related to water supply and service are listed in Table 7.

TABLE 7 **EXISTING GENERAL PLAN POLICIES RELATED TO WATER SUPPLY AND SERVICE**

| Policy Number | Policy |
|-------------------------|---|
| Land Use Element | |
| 2.2-G 3 | <p>Ensure that scarce natural resources, such as water, are allocated and utilized to maximize community benefits, and manage growth so that the quantity and quality of public services and utilities within the city provided to existing businesses and residents will not drop below an acceptable level of service because of new development. New development is not responsible for resolving all existing service or facility deficits. Existing development bears some responsibility to fund improvements that will resolve such deficits, and development is likewise responsible for funding the costs of maintenance and depreciation of facilities.</p> |
| 2.2-G 10 | <p>Ensure that all new urban development within the Planning Area occurs within the City of Vacaville. A single exception is the Elmira area where infill of the town site area under the jurisdiction of the Solano County is anticipated. New urban developments within the city limits are expected to annex to the City of Vacaville as a prerequisite to development.</p> <p>Consistent with this annexation requirement, the City's policy is that City utility services, water, and sanitary sewer, will not be extended to new development outside of the city limit (with the exception of infill in the Elmira area). The City Council, with the approval of the Local Agency Formation Commission (LAFCO), may approve exceptions to this policy in situations where the following three conditions are met:</p> <ul style="list-style-type: none"> ◆ The area in question cannot annex to the City immediately, because it is not currently contiguous to the city limit. ◆ The property owner signs a recorded, irrevocable agreement to annex the property to the City when such annexation is requested by the City. ◆ The development is consistent with the Vacaville General Plan and is found to meet all appropriate City development standards. |

TABLE 7 EXISTING GENERAL PLAN POLICIES RELATED TO WATER SUPPLY AND SERVICE (CONTINUED)

| Policy Number | Policy |
|---------------|--|
| 2.2-I 1 | <p>In accordance with the May 1995 City of Vacaville/Solano Irrigation District Master Water Agreement, urban services will be extended only to development within the Urban Service Area. Any consideration by the City to expand the Urban Service Area will be in accordance with the provisions of the agreement, which addresses future extension of the urban service area.</p> <p>In conjunction with the consideration of a Specific Plan for the property located east of Leisure Town Road and south of the Locke Paddon subdivision (within the existing Urban Service Area), a determination shall be made regarding the potential expansion of the Urban Service Area to the east in order to establish a permanent agricultural buffer on the eastern edge of the city. The City will allow no development east of Leisure Town Road until this determination is made. This will also ensure that any development and extension of urban services and infrastructure east of Leisure Town Road is not planned in a piecemeal manner.</p> |
| 2.2-I 4 | <p>Maintain and implement agreements with the Solano Irrigation District, nearby cities, and the County and negotiate agreements with other local government entities to help direct the provision of urban services while maintaining as much viable agriculture on prime agricultural soils as is practical and supportive of regional agricultural production consistent with the policies of this General Plan.</p> |
| 2.2-I 6 | <p>Do not permit development of such intensity or density that, if built without commensurate transportation or other infrastructure improvements, the resulting water and sewer service requirements and traffic generated will create substantial problems or unacceptable levels of service, unless an acceptable mitigation program to provide these services is implemented.</p> |
| 2.2-I 10 | <p>Require new development to pay capital improvement fees for public facilities as necessary to maintain adequate resources and service levels.</p> <p>Adequate public facilities should be provided for new urban development, and new developments should bear their "fair share" cost of providing such facilities. In order to make reasonable provision for these new public facilities, the City of Vacaville has established public facilities fees which are applied to all new development. The fees are intended to provide for facilities that are required in addition to the normal onsite and offsite development improvements. Such fees are established to implement the policy of the General Plan and may include charges for connection to the water system, connection to the sanitary sewer system, parkland and improvements, school facilities, drainage</p> |

TABLE 7 **EXISTING GENERAL PLAN POLICIES RELATED TO WATER SUPPLY AND SERVICE (CONTINUED)**

| Policy Number | Policy |
|---|--|
| | improvements, and other capital improvements such as streets, bridges, traffic signals, and public buildings. The City Council may enact other public facilities fees if it finds that such fees are required to implement the policy of the General Plan. |
| 2.2-I 11 | Continue to monitor new development where infrastructure limits are being reached or exceeded so linkages with necessary improvements can be established and funded. |
| Public Facilities, Institutions, and Utilities Element | |
| Policy 5.1-G 1 | Assess the adequacy of utilities in existing developed areas, and program any needed improvements to coordinate with providing facilities to serve developing portions of the Planning Area. |
| Policy 5.1-G 3 | Require buffer landscaping and multiple use, where feasible, of utility sites and rights-of-way to harmonize with adjoining uses. |
| Policy 5.1-G 8 | Do not extend utility services into the Upper Lagoon Valley that would promote its urban development. |
| Policy 5.1-I 1 | Continue to update the five-year Capital Improvement Plan to provide for the facilities determined to be needed in relation to the City's financial resources and develop a long-range strategic capital development plan consistent with the General Plan. |
| Policy 5.1-I 2 | Revise and update the Water Master Plan. The Water Master Plan provides the City a guide to plan for adequate water supplies, storage facilities, pipeline improvements and pump stations to meet existing and projected water demands. The Water Master Plan shall set standards for storage and supply capacity to meet the General Plan buildout condition. |
| Policy 5.1-I 3 | Replace existing water mains with larger mains, as necessary, to serve intensified land use in developed areas. |
| Policy 5.1-I 12 | Do not approve any development that will not, even with identified mitigation measures, maintain standards for water, sewer, police, and fire service unless there are overriding findings of special circumstances or economic or social benefits and the service standards will be achieved at the time of project occupancy. |
| Policy 5.1-I 13 | Evaluate the feasibility of using wastewater for irrigation. Whenever possible, use non-treated water for irrigation in large landscaped areas. |
| Policy 5.1-I 15 | Do not allow development in the Zone 1 water system to exceed an elevation of 220 feet unless and until an Upper Zone water storage and distribution system has been constructed. |

TABLE 7 **EXISTING GENERAL PLAN POLICIES RELATED TO WATER SUPPLY AND SERVICE (CONTINUED)**

| Policy Number | Policy |
|----------------------|--|
| Policy 5.1-I 16 | Implement the Master Water Agreement with the Solano Irrigation District, and pursue other potential sources, to obtain an additional water supply for the buildout of the General Plan. |

Source: Vacaville General Plan, 1990.

b. Water Efficient Landscape Requirements

The City of Vacaville adopted water efficient landscape requirements in 1991 and most recently revised the requirements in 1998. To ensure compliance with AB 1881, which is discussed in Section E.2.i, the City compared the water efficient landscape requirements with the State’s model water efficient landscape ordinance, and found them to be consistent.

c. Solano Irrigation District Master Water Agreement

As explained in Section A.1, Vacaville entered into a Master Water Agreement with SID in 1995, which was most recently amended in 2010. This agreement determines the amount of water that the City of Vacaville will receive from SID through the year 2050. In addition, it establishes a long-term urban service area boundary and restricts water delivery for non-agricultural purposes outside of that boundary. The land use implications of this boundary are discussed in the Land Use Technical Memorandum prepared for the General Plan Update.

F. Implications for the General Plan Update

Based on the information contained in this TM, the General Plan Update process should consider the following:

- ◆ **SB x7-7 Compliance.** As indicated in Section E.2.j, SB x7-7 requires the State of California to reduce municipal per capita water use by 20 percent by the year 2020. The reduction amount for the City will not be determined until DWR releases the final method for determining water use

targets. However, the General Plan Update process should keep in mind that the City will be required to reduce water use and should consider policies that promote water conservation.

- ◆ **Water Service Deficiencies.** The General Plan Update process should consider improvements to areas with inadequate water service (i.e. deficiencies) described in the existing General Plan and this TM.
- ◆ **Water Distribution System Adequacy.** The General Plan Update process should verify that the existing and planned water distribution system pipelines are adequate for the anticipated growth, specifically east of Leisure Town Road.
- ◆ **Water Service.** As indicated in Section B.4, the City has known water service issues in the North Orchard, Eubanks Drive, and Midway Road areas. While improvements for these areas have been suggested, all of them are driven by development. When focusing on the new growth areas, the General Plan Update should keep in mind that development in the northeast sector of the city has the potential to help resolve known water service issues in the Eubanks Drive area.

CITY OF VACAVILLE
GENERAL PLAN UPDATE
WATER SUPPLY AND SERVICE IN VACAVILLE