

DATE: November 1, 2012

TO: Mayor and City Council Members

FROM: Kenneth V. Payne, Environmental & Water Resources Department

SUBJECT: **A PRESENTATION TO THE CITY COUNCIL ON THE FINDINGS OF THE CITY'S WATER SYSTEM OPTIMIZATION REVIEW PROGRAM AND SEEKING CITY COUNCIL DIRECTION ON THE ALTERNATIVES FOR THE USE OF WATER SUPPLIES MADE AVAILABLE BY THE CITY'S SYSTEM OPTIMIZATION REVIEW PROGRAM AND BY THE STATE MANDATED WATER CONSERVATION DEMAND REDUCTIONS, KNOWN AS SBX7 OR THE WATER CONSERVATION ACT OF 2009**

BACKGROUND / ISSUE

Presentations regarding the City's Water System Optimization Review (SOR) Program were provided to the City Council at their March 27, 2012 and June 12, 2012 meetings. At these meetings, staff identified estimated water savings from the City's water management programs. The SOR Program is partially funded through a \$299,468 grant assistance agreement received from the U.S. Department of the Interior, Bureau of Reclamation, Challenge Grant Program: System Optimization Reviews. The City's Water Conservation Program seeks to comply with the requirements of the State's comprehensive 2009 water legislation package known as Senate Bill x7 (SBx7). SBx7 was introduced by Senator Darrell Steinberg (D-Sacramento) and requires a statewide goal of a 20% reduction in statewide per capita water use by 2020.

Because the State requires the City to increase the efficiency of water uses, the City must develop a strategy on maximizing its water rights needed for build-out and water rights that have historically been diverted from the American River. Unless a beneficial use is identified by the City, the water saved through the SOR and the City's Water Conservation Program will flow down the American River into the Sacramento River and Delta as a public resource. To retain its water rights, the City must report to the State Water Resources Control Board (SWRCB) the amounts of conserved water, and identify how the conserved water can be applied for beneficial uses as defined in the California Water Code (CWC).

The SWRCB declared that an agency can retain, for its own use, including future demand needs, the right to the amount of water that it stopped using or diverting because of its conservation measures, even if the agency's operations or customers were not consuming that water. Thus, the City developed six draft alternatives to maximize the use of the existing water rights and entitlements as follows:

1. A direct exchange with a regional water purveyor
2. Sacramento Central Basin Groundwater Authority in-Lieu Banking
3. Water supply diversion from the Folsom South Canal
4. Central basin groundwater aquifer storage and recovery (ASR)
5. No action alternative and use water within the City's water service area
6. Hybrid/combination from the previous five alternatives
7. No action alternative and let water flow downstream

These six draft alternatives seek to provide a strategy that would maximize the benefits of the water supply savings developed from the SOR Program and SBx7 water conservation requirements. Generally, the alternatives are described as follows:

1. Direct Exchange: Alternative 1 considers a direct exchange from Folsom Reservoir in normal and wet water years and delivered to a regional water purveyor in exchange for taking that water purveyor's American River Water at the City's existing diversion facilities in Folsom Reservoir and Folsom South Canal in dry water years.
2. SCGA Wet-Year Banking & Extraction in Dry-Years: Alternative 2 considers Sacramento Central Basin Groundwater Authority using the City's normal and wet water year supplies in lieu of pumping and using groundwater from the Sacramento Central Groundwater Basin and would create a bank of stored groundwater for use by the City in dry water years.
3. Folsom South Canal Diversion: Alternative 3 considers using the Folsom South Canal (FSC) as a point of diversion for delivering normal and wet water year supplies to other FSC purveyors, which would provide the City with a dry water year water supply.
4. Folsom Wet Year banking with SCGA & Extraction in Dry-Years: Alternative 4 considers banking a portion of the City's normal and wet water years supply in the Sacramento Central Groundwater Basin through aquifer storage and recovery (ASR) efforts with the banked groundwater available to the City at any time.
5. Maximize Beneficial uses within Folsom Service Area: Alternative 5 considers options for using the SOR/conserved water supplies within the Folsom Service Area, including the Folsom Plan Area, to meet build-out water demands and provide some economic benefits to the East Area customers. Water available beyond the needs identified for build-out water demands would be exchanged or banked.
 - a. This option is consistent with the City adopted Resolution No. 8457, which affirmed the City's declaration to retain water rights for the conserved water under California Water Code (CWC) Section 1011.
 - b. This option is consistent with the SWRCB declaration that an agency can retain, for its own use, including future demand needs, the right to the amount of water that it stopped using or diverting because of its conservation measures, even if the agency's operations or customers were not consuming that water.
 - c. If, as a result of conservation measures, an agency were to divert less water than allowed by its right, but later were to increase its diversions back to the maximum allowed, other legal users of water cannot complain because the agency would have stayed within its original unchanged water right.
6. Hybrid/Combination of Alternatives: Alternative 6 considers a combination of Alternatives 1-5 for long-term maximizing the use of the water supplies within the City's service areas and the use of banking/exchanging/transferring during normal and wet-year water supplies for use during dry-year water events.
7. No Action: Alternative 7 is a "No Action" alternative where the City considers not identifying a beneficial use of water realized from the SOR and conservation programs, and the water supplies are allowed to flow down the American River into the Sacramento river and Sacramento-San Joaquin Delta as anticipated under SBx7 legislation.

Staff is seeking direction from the City Council for the use of water supplies made available by the City's System Optimization Review program and by the State's water conservation mandate, known as SBx7 or the Water Conservation Act of 2009.

POLICY / RULE

Under the Water Conservation Act of 2009, the City is required by the State to increase the efficiency of water uses. In anticipation of the Water Conservation Act of 2009, the City adopted Resolution No. 8457 as an affirmative declaration to retain water rights for the conserved water. Additionally, California Water Code (CWC) Section 1011 states that: (1) the State Water Resources Control Board (SWRCB) can require water agencies to report the amounts of water that they have conserved; and (2) conserved water can be transferred under certain conditions.

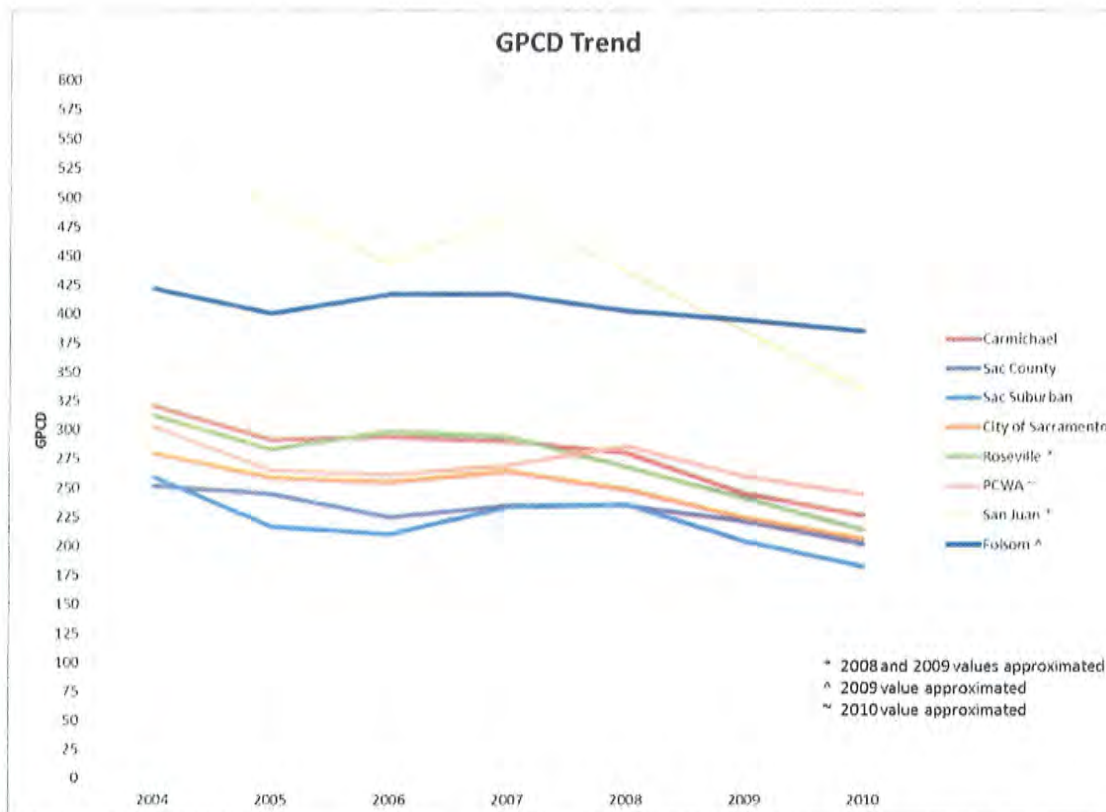
Under CWC §§ 1702 and 1706, water transfers are determined to involve changes to water rights and generally must not injure other legal users of water. Additionally, the SWRCB declared that an agency can retain, for its own use, including future demand needs, the right to the amount of water that it stopped using or diverting because of its conservation measures, even if the agency's operations or customers were not consuming that water. If, as a result of conservation measures, an agency were to divert less water than allowed by its right, but later were to increase its diversions back to the maximum allowed, other legal users of water cannot complain because the agency would have stayed within its original unchanged water right.

ANALYSIS

City of Folsom Water Management

The State of California and the United States have independently applied unfunded water conservation mandates on water purveyors throughout California. These water conservation mandates include:

- a. **Meter Implementation**: The City has completed full meter implementation to all customers in compliance with federal law and far ahead of the deadline requirements of State law.
- b. **Model Water Efficient Landscape Ordinance (MWELO)**: The City has enacted a landscape ordinance for developments in accordance with State law.
- c. **20% Conservation by 2020**: In accordance with 2009 State law (SBx7), the City will meet its requirements to demonstrate 20% overall water conservation savings by 2020. At this time, the City is ahead of the mandated timeline requirement, but still anticipates additional conservation savings in order to reach projected 2020 per-capita water-use targets. As indicated in the chart below, several regional water purveyors have reduced their GPCD through some of the same measures implemented by the City. These measures include improved irrigation efficiency (less water used for same landscaped area), water conservation, metered billing, and leak repairs. The City would expect to see similar results, specifically more efficient use of water for irrigation.
- d. **Green Building Code**: The City is complying with the Green Building Code in all new developments.
- e. **Inclined Rate Billing Structure**: The City has implemented its inclined rate billing structure ahead of the legally scheduled timeline and will begin using this structure in billing and collections in 2013. This billing complies with volumetric billing required by the California Water Code.



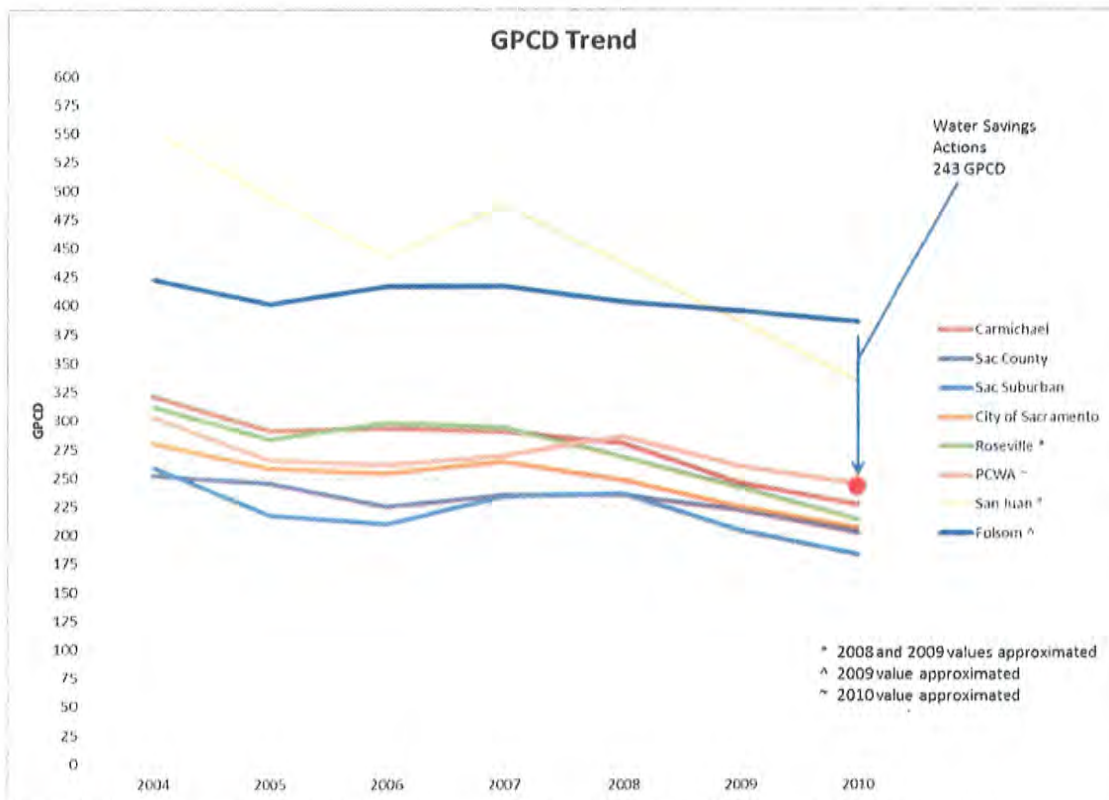
Not only has the City of Folsom fully complied with the mandates identified above, it has taken additional voluntary steps to encourage conservation in its service area:

- a. **Implementation of Best Management Practices:** The City signed the California Urban Water Conservation Council’s (CUWCC) Memorandum of Understanding implementing numerous water conservation Best Management Practices (BMPs).
- b. **System-wide Leak Detection Effort:** The City completed a comprehensive leak detection effort to understand the condition of its aging infrastructure as well as the number of system leaks and the amount of water being lost from these leaks, and is systematically working to repair identified leaks and associated infrastructure.
- c. **Water Conservation Programs:** The City initiated the “iConserve” program and appliance rebate programs to encourage end user water conservation and the installation of water efficient appliances in homes, businesses, and landscapes. The City also actively supports regional conservation programs managed by the Regional Water Authority that target consumers throughout the Sacramento area.
- d. **Willow Hill Pipeline Rehabilitation Project:** The City installed a new raw water meter at the inlet to the Willow Hill Reservoir to compare the volume of raw water measured at the City’s water treatment plant to the volume of water measured at the inlet to the reservoir. Through this work, the City determined the system has an estimated loss of nearly one-million gallons-per-day during the peak summer period. Repairs to this system will allow the City to reduce water waste and reduce conveyance costs in the system.

Collectively, all of these unfunded mandates and City-sponsored and City-financed conservation programs result in significant water savings to the City. The City is looking to continue efforts to become more efficient in delivering the water to our customers. The goal of these efforts is to ensure the long-range reliability of water supply for the City, as well as preserving our natural resources including the American River. The following table provides the estimated water savings from each of the water management and conservation activities.

Water Savings Action	Low Savings Estimate (AF)	Likely Savings Estimate (AF)	High Savings Estimate (AF)
CUWCC BMPs	500	750	1,000
Metering	1,000	2,800	4,000
Willow Hill Pipeline Project	900	1,100	1,200
System Upgrades	2,300	4,600	6,900
Other	500	750	1,000
Total	5,200	10,000	14,100

As shown in the graphic below, the City projects a downward trend in GPCD based on the water savings actions listed in the above table.



SBx7 and Water Conservation

SBx7 is an unfunded state mandate because it provides no state funding to cover the cost of implementing its requirements. Because the City is required to increase the efficiency of water uses, the use of the water historically diverted from the American River will need to be addressed by the City. In addition to its basic confirmation that water agencies retain rights to the water that they conserve, CWC Section 1011 states that: (1) the State Water Resources Control Board (SWRCB) can require water agencies to report the amounts of water that they have conserved; and (2) conserved water can be transferred under certain conditions.

SWRCB decisions distinguish between conserved water that an agency can continue to use for its own purposes and conserved water that an agency can transfer to others. The SWRCB has declared that agencies can only transfer the water that they can show that their operations or customers would have

consumed but for the conservation measures.¹ According to the SWRCB, this limitation on conserved water transfers is necessary in order to ensure that such a transfer will not injure other users of water.

Under California law, transfers involve changes to water rights and generally must not injure other legal users of water. (See Water Code §§ 1702 and 1706.) In contrast, the SWRCB declared that an agency can retain, for its own use, including future demand needs, the right to the amount of water that it stopped using or diverting because of its conservation measures, even if the agency's operations or customers were not consuming that water. If, as a result of conservation measures, an agency were to divert less water than allowed by its right, but later were to increase its diversions back to the maximum allowed, other legal users of water cannot complain because the agency would have stayed within its original unchanged water right. As a result of these rules, as the City of Folsom conserves water under SBx7, it likely will have a right to the following alternatives:

1. A direct exchange with a regional water purveyor
2. Sacramento Central Basin Groundwater Authority in-Lieu Banking
3. Water supply diversion from the Folsom South Canal
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FINANCIAL IMPACT

As an unfunded mandate, the State of California requires a reduction of average per capita daily water consumption by December 31, 2020, and a requirement that "all water suppliers to increase the efficiency of this essential resource"². The City took necessary actions to increase its efforts for water management in order to comply with SBx7 and protect its water supplies:

1. In 2009, in anticipation of SBx7 conservation requirements, the Folsom City Council adopted Resolution No. 8457 as an affirmative declaration to retain the water rights for the 27,000 acre-foot of appropriative water supply (Pre-1914 water rights). California Water Code (CWC) Section 1011 provides that a holder of an appropriative water right may retain control of any water conserved from the supply that may be diverted under that right.
2. In 2009, City staff applied for and the Bureau of Reclamation (USBR) awarded the City a Grant Assistance Agreement for \$299,468. This grant helps recover expenses identified in the City's System Optimization Review (SOR) program, which seeks to improve water system management in the distribution system and provide greater efficiencies in water use through leak detection; water pressure management within the City's 7 zones of its distribution system; and quantify potential water savings.
3. In 2011, the California Department of Water Resources awarded the City a grant for \$1.94 million through the Regional Water Authority as part of the City's SOR program. The City identified the Willow Hill Pipeline System for repairs to reduce water waste and reduce conveyance costs in the system. This system has an estimated loss of nearly one-million gallons-per-day during the peak

¹ The SWRCB's main decisions on this point are its Orders WR 99-012 and WR 2000-01, which concern Natomas Central Mutual Water Company's conservation measures. Under these decisions, the consumption of water includes not only customers' end use of water, but also includes, among other things, consumption by plants along conveyance facilities and percolation of water to groundwater aquifers that are not linked to the relevant surface stream.

² California Water Code Section 10608.4(a)

summer period. The proposed project will line the existing pipeline and save approximately 1,100 acre-feet of water.

At this time, City staff is seeking direction for alternatives to use water supplies saved from various water management activities. As the alternatives and the associated costs are further developed, each project will either be incorporated into the City's operational activities or be presented to the City Council as part of the capital improvement program.

ENVIRONMENTAL REVIEW

The proposed budget adoption is not considered a "project" as defined by the California Environmental Quality Act (CEQA) (CEQA Guidelines § 15378). Consequently no CEQA action is required.

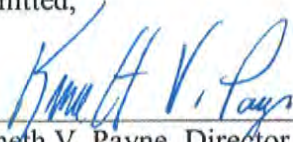
ATTACHMENTS

1. Map of the Folsom Service Area and service zones
2. Resolution No. 8457

RECOMMENDATION/CITY COUNCIL ACTION

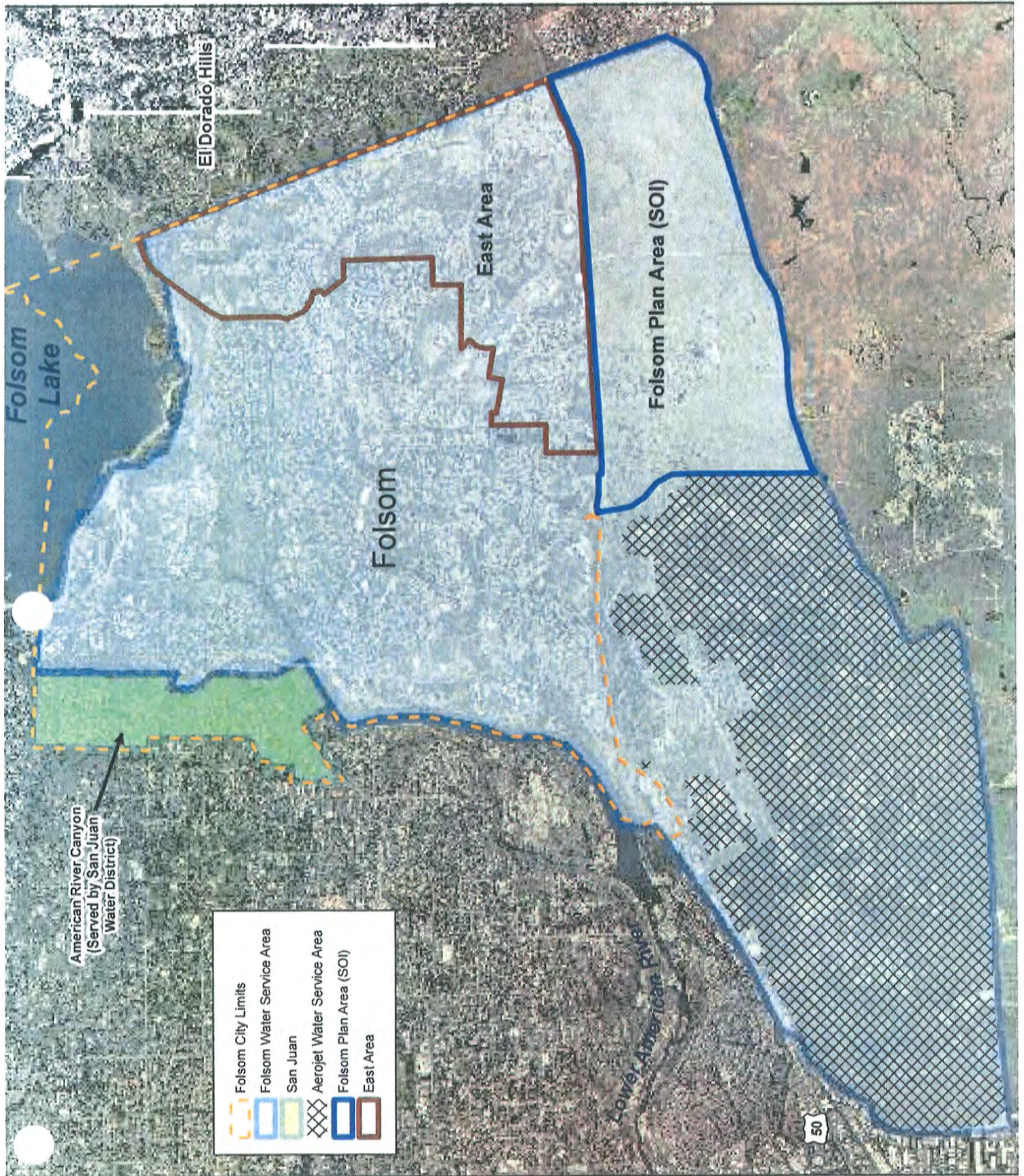
City staff is seeking direction from the City Council regarding the alternative concepts for the use of water supplies developed through the City's current system optimization efforts and water management activities that will be used to develop a Water Supply Management Plan for the beneficial use of conserved water.

Submitted,



Kenneth V. Payne, Director
Environmental & Water Resources Department

ATTACHMENT 1



ATTACHMENT 2

RESOLUTION NO. 8457

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF FOLSOM DECLARING
AN INTENT TO RETAIN CONTROL OF CONSERVED WATER**

WHEREAS, the City of Folsom has appropriative rights to divert 27,000 acre-feet of water from the American River through a diversion located at the Folsom Dam and Reservoir; and

WHEREAS, the City plans to implement a series of water conservation projects and programs for the purpose of eliminating losses of water within its water transmission and distribution system and for reducing consumption of water by its customers through on-site efficiency improvements and curtailment of water waste; and

WHEREAS, Water Code, Section 1011, provides that water is deemed conserved when less water is used to accomplish the same purposes of use allowed under the City's water rights and that such cessation or reduction in use is deemed a beneficial use of the City's water rights to the extent of such cessation or reduction in use; and

WHEREAS, Water Code, Section 1011, authorizes the City to make the water conserved as a result of such water conservation projects and programs available for use, sale, lease, exchange or short- or long-term transfers inside and outside of the City:

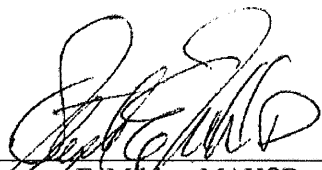
NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Folsom as follows:

1. The City Council finds and determines that: (a) making significant investments in infrastructure and administrative resources protects the City's water supplies for the benefit of all residents and water users in the City; (b) protecting all of the City's water supplies is of paramount importance to the health and welfare of the City's residents; (c) conserving water through reductions in use is intended to promote statewide policies mandating and encouraging beneficial use of water; and (d) preserving conserved water supplies and making those supplies available for use, sale or transfer is in the best interests of the City and its residents and water users.
2. The City Council declares that, by instituting programs to conserve water, it abandons no right, title or interest in or to any City water rights, contractual entitlements or any appurtenant rights necessary to exercise such water rights or entitlements.
3. In accordance with Water Code, Section 1011, the City reserves the right to sell, lease, exchange, or otherwise transfer for use within or outside of the City's boundaries all water that has been conserved as a result of its water conservation projects and programs.
4. The Utilities Director are directed to take all actions necessary to implement this Resolution, including the filing of annual reports of reductions in water use resulting from any water conservation projects and programs carried out under this Resolution with the State Water

Resources Control Board.

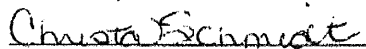
PASSED AND ADOPTED this 24th day of February, 2009, by the following roll-call vote:

AYES:	City Council Members:	Howell, Morin, Sheldon, Starsky, Miklos
NOES:	City Council Members:	None
ABSENT:	City Council Members:	None
ABSTAIN:	City Council Members:	None



Stephen E. Miklos, MAYOR

ATTEST:



Christa Schmidt, CITY CLERK