

## **TOWN OF WINDSOR AGENDA REPORT**

**Town Council Meeting Date:** November 1, 2006

**To:** Mayor and Town Council  
**From:** Richard W. Burt, Public Works Director/Town Engineer  
**Subject:** Report on Joint Operations for Recycled Water between Windsor, Santa Rosa, and the Sonoma County Water Agency

### **Recommendation to Council:**

Adopt the attached resolution authorizing the Town Manager to negotiate a draft Memorandum of Understanding (M.O.U.) with the Sonoma County Water Agency and the City of Santa Rosa for joint operations of recycled water storage ponds, irrigation lands and infrastructure in the Town, Airport-Larkfield-Wikiup and northern City of Santa Rosa reclamation systems.

### **Background:**

The City of Santa Rosa, the Sonoma County Water Agency and the Town jointly funded a study to explore the benefits of utilizing water recycling infrastructure in a cooperative way. The study considered the transmission mains, storage ponds and irrigation facilities associated with the Town, the Agency's Airport facility and the City's north irrigation lands. The study found that the Town and the Agency could realize significant capital cost savings, in the form of reduced construction of infrastructure, if cooperative operations were employed. The City could potentially gain recycled water to supply farmers at the north end of their irrigation system, who receive less recycled water than previously due to the City's commitment to the Geysers. The study pointed out that superior overall reliability, as well as a more efficient utilization of irrigation lands and storage ponds, could be achieved with joint operations. Joint operations create the potential to avoid the construction of 125 million gallons of recycled water storage ponds and 150 acres in emergency or low efficiency irrigation areas. Combined cost savings for the Town and the Agency have been estimated to be in excess of \$19 million. Cost savings for the Town are projected at \$5 million. On May 31, 2006, the Town held a water-recycling forum where joint operations were discussed. The forum brought together representatives from a number of municipalities, agricultural interests, elected officials and regulators. During the forum, strong positive support for joint operations was voiced by the Agency, City, the Town, Water Quality Control Board and others.

### **Discussion:**

The Town's wastewater reclamation system employs storage ponds to hold tertiary treated recycled water for summer irrigation uses. Recycled water is irrigated on a broad spectrum of lands that include parks, playgrounds, vineyards, pastures, a golf course, and landscaping at schools, commercial establishments and single-family dwellings. The growth of the Town has produced a need for increases in recycled water storage and irrigation areas. The Airport employs similar strategies for waste treatment and reuse, and faces similar needs to expand its system. The study regarding joint operations noted that the Town and Airport could avoid

construction of 125 million gallons of recycled water storage by sharing infrastructure with the Sonoma County Water Agency's Airport facility. This is possible because the Town and the Airport are capacity limited in different types of weather years. The Airport's storage ponds typically fill in the wet weather years whereas the Town's storage is, by design, at capacity in the dry weather years. With shared use of the ponds, the combined capacity needs of the two systems would be less and construction of infrastructure could be reduced.

The next step in the pursuit of joint operations could be the development of a draft memorandum of understanding between the interested entities. The MOU would outline schedules, set forth principles for cost sharing and for operational responsibilities and lead to development of project descriptions and legal agreements.

Attached is a copy of the Executive Summary of the Joint Use Report. A copy of the full report is available in the Town Council office.

**Attachments:**

1. Resolution
2. Executive Summary of the Technical memorandum
3. Map of Joint Use Facilities

Prepared By:



Richard W. Burtt  
Public Works Director  
Town Engineer

Recommended By:



Mathew Mullan  
Town Manager

**RESOLUTION NO. \_\_\_\_\_**

**A RESOLUTION OF THE TOWN COUNCIL OF THE TOWN OF WINDSOR  
AUTHORIZING THE TOWN MANAGER TO NEGOTIATE A DRAFT MEMORANDUM  
OF UNDERSTANDING FOR JOINT OPERATIONS OF WATER RECYCLING  
FACILITIES WITH THE SONOMA COUNTY WATER AGENCY AND THE CITY OF  
SANTA ROSA**

**WHEREAS**, the Town has reviewed the results of an evaluation of joint operations of recycled water facilities prepared and paid for by the Town, the Sonoma County Water Agency and the City of Santa Rosa; and

**WHEREAS**, the evaluation considered potential joint operations of recycled water storage ponds, irrigation lands and infrastructure in the Town, Airport-Larkfield-Wikiup and northern City of Santa Rosa reclamation systems; and

**WHEREAS**, the joint operations would potentially include the shared use of existing water recycling facilities, modification to existing facilities to optimize their use for joint operations, construction of new facilities to enable joint operations, and cooperation on seeking amendments to existing State Water Quality Control Board waste discharge requirements to allow for increased joint operations of water recycling facilities; and

**WHEREAS**, the evaluation of joint operations found that the Town could reduce its construction of infrastructure if the Town pursued joint operations with the Sonoma County Water Agency and the City of Santa Rosa; and

**WHEREAS**, reducing the required construction of water recycling facilities could bring the Town a significant reduction in capital expenditure; and

**WHEREAS**, the evaluation additionally found that there would be more efficient use of recycled water irrigation lands and storage ponds if joint operations were instituted; and

**WHEREAS**, the Town held a Recycled Water Forum on May 31, 2006, where potential joint operation of water recycling facilities was discussed; and

**WHEREAS**, high level representatives of the Town, the Sonoma County Water Agency, the City of Santa Rosa, the City of Healdsburg, the Regional Water Quality Control Board, Calpine Corporation and the Coalition for Sustainable Agriculture participated in the Recycled Water Forum; and

**WHEREAS**, at the Recycled Water Forum, representatives of the Town, the Sonoma County Water Agency, the City of Santa Rosa, and the State Water Quality Control Board voiced strong support for joint operations of water recycling facilities:

**NOW, THEREFORE, BE IT RESOLVED** that the Town Council of the Town of Windsor hereby authorizes the Town Manager to negotiate a draft memorandum of understanding (M.O.U.) for joint operations of water recycling facilities with the Sonoma County Water Agency and the

City of Santa Rosa, and to present the draft M.O.U. to the Council for adoption at a future meeting. The M.O.U. shall outline schedules, set forth principles for cost sharing and for operational responsibilities and lead to development of project descriptions and legal agreements for joint operations of recycled water storage ponds, irrigation lands and infrastructure in the Town, Airport-Larkfield-Wikiup and northern City of Santa Rosa reclamation systems.

**PASSED, APPROVED AND ADOPTED** this 1st day of November 2006.

**AYES:**

**NOES:**

**ABSTAIN:**

**ABSENT:**

---

**Mayor**

**ATTEST:**

---

**Town Clerk**

# **TECHNICAL MEMORANDUM**

---

**EVALUATION OF JOINT OPERATION OF THE WATER RECLAMATION  
SYSTEMS OF THE AIRPORT-LARKFIELD-WIKIUP SANITATION ZONE,  
THE TOWN OF WINDSOR, AND THE CITY OF SANTA ROSA  
SUBREGIONAL RECLAMATION SYSTEM**

**SONOMA COUNTY, CALIFORNIA  
AUGUST 2005**

Prepared for:  
Sonoma County Water Agency  
Town of Windsor  
City of Santa Rosa Subregional Wastewater Treatment Plant

Prepared by:  
Brelje & Race Consulting Engineers  
5570 Skylane Boulevard  
Santa Rosa, CA

## SUMMARY

This technical memorandum has been prepared at the request of the Airport-Larkfield-Wikiup Sanitation Zone (Airport), the Town of Windsor (Town) and the Santa Rosa Subregional Reclamation System (City). The three entities operate adjoining tertiary water reclamation systems northwesterly of Santa Rosa, California. The technical memorandum presents the findings of a study to identify options for joint operation of the irrigation and storage components of the reclamation systems.

Joint operation would consist of shared use of (1) Airport and Town storage reservoirs to optimize storage efficiency and of (2) reclaimed water distribution systems to optimize delivery to irrigators. The study considered the overall Airport and Town reclamation systems and the four nearest City irrigators, for a ten-year study period, through 2015.

The technical memorandum presents the results of quantitative analysis projecting reclaimed water supplies, storage requirements and irrigation needs. The central finding of the quantitative analysis is that joint use could lead to reduced infrastructure construction and increased irrigation reliability. Analysis indicates that without joint use, the Airport and Town will need to construct additional storage by 2008 and 2012, respectively.

Infrastructure requirements are compared with the capacities of existing distribution infrastructure. Potential projects identified as needed to achieve joint use are improvements to two existing pump stations, construction of two new interties and a distribution main extension, and controls systems modifications.

Permitting and environmental issues are considered. The primary regulatory obstacle to joint use is found to be that no Airport effluent is permitted to be discharged to surface water. Obtaining a joint use permit allowing discharge of Airport effluent would be critical to realizing fully joint operations.

Use of existing infrastructure and construction of potential infrastructure are framed as feasible options for joint use. Incremental steps towards a fully joint use system are structured, and costs and cost savings presented. Incremental steps into joint use would be:

**Increment 1:** Transfer of water between entities directly for irrigation.

**Increment 2:** Storage of Airport and Town water in Town and Airport ponds, with protocols to isolate shared storage from the Town's discharge to Mark West Creek.

**Increment 3:** Fully integrated joint use, with permitted storage and discharge of Airport and Town effluent.

The reduced infrastructure construction and operation for joint use would result in significant cost savings. The capital costs for joint use projects that would be needed during the same time period are as follows:

	Joint Use	Airport Alone	Town Alone
Estimated Total Capital Costs	\$ 11,600,000	\$ 23,100,000	\$ 7,700,000

In addition to cost reductions, joint use would offer the following benefits:

- Defer storage construction by four to eight years, for the Airport and Town, respectively.
- Reduce total storage requirement for the Airport and Town by approximately 115 million gallons.
- Provide additional irrigation lands for Airport reclaimed water.
- Provide reclaimed water to the City's north irrigators, freeing City reclaimed water for other uses.
- Create a more reliable supply of reclaimed water than the Airport or Town could provide independently.
- Allow the Town to extend service to long-term contractual fee irrigators.
- Reduce environmental impacts through reduced pond construction and operational footprint.

It is recommended that the Sonoma County Water Agency, Town of Windsor and City of Santa Rosa execute a Memorandum of Understanding (MOU). The MOU would outline schedules, set forth principles for cost sharing and for operational responsibilities and lead to development of project descriptions and legal agreements. Increments could be pursued in parallel, with the environmental work for a joint use discharge permit concurrent with implementation of Increment 1.

**WATER RECLAMATION JOINT USE STUDY:  
AIRPORT LARKFIELD WIKILUP SANITATION ZONE  
TOWN OF WINDSOR  
CITY OF SANTA ROSA**

AUGUST 2005

**Existing System  
Components**

**LEGEND**

- Town Reclamation Main
- Town Storage Pond (Existing)
- Town Storage Pond (Potential)
- Town Irrigation Land
- Town Reclamation Pump Station
- Airport Reclamation Main
- Airport Storage Pond (Existing)
- Airport Irrigation Land
- Airport Reclamation Pump Station
- City Reclamation Main
- City Irrigation Land
- City Reclamation Pump Station
- Airport & City Irrigation Land
- Private Irrigation Main

Figure 1

**Brelje & Race**  
CONSULTING CIVIL ENGINEERS  
8711 Sycamore Blvd., Suite 1000, San Ramon, CA 94583 • 925.934.3327 • www.brelje.com

