WWD RESOLUTION NO. 1850-14

A RESOLUTION OF THE WINDSOR WATER DISTRICT BOARD APPROVING AN URBAN RECYCLED WATER PROGRAM POLICY

WHEREAS, the Windsor Water District (District) owns and operates a water reclamation utility system and facilities (WRF) which includes a wastewater collection system, a water reclamation treatment plant, recycled water storage ponds, conveyance system that discharges recycled water to Mark West Creek, recycled water distribution system providing for agricultural irrigation and urban uses, and infrastructure for delivery to the Geysers geothermal steam fields; and

WHEREAS, the District's urban recycled water system is an element of the WRF consisting of the delivery system of recycled water to urban customers defined as non-agricultural customers; and

WHEREAS, the District also owns and operates a water utility system and facilities for the production, treatment and delivery of potable water; and

WHEREAS, the District and the Town have been studying and improving the water recycling program for over ten years and throughout this planning process, the Town has indicated that its top priority for wastewater disposal is water reuse within its service area; and

WHEREAS, the importance of acquiring a water supply source to supplement the District's current Russian River water supply source has made potable water offsets, such as urban recycled water , a valuable commodity because acquiring a supplemental water supply source is a difficult and lengthy undertaking; and

WHEREAS, given the District's current organizational and institutional structure of its recycled water program, The Reed Group, Inc. was retained to study and analyze the District's current urban recycled water program to better implement the policy for prioritizing recycled water use and more appropriately assign costs to water customers in recognition of recycled water as a potable water offset and a viable supplemental water supply; and

WHEREAS, The Reed Group, Inc. determined that a wholesale/retail framework whereby the water reclamation utility provides recycled water on a wholesale basis to the District's water utility for distribution to urban recycled water customers, offers many benefits to the Town, the District, its residents, and businesses, as outlined in the report prepared by The Reed Group, Inc. (Report), attached hereto as Exhibit A and incorporated herein by reference.

NOW, THEREFORE, the Board of the Windsor Water District (Board) does resolve as follows:

1. The Board accepts the findings in the Report and determines that they support the proposed changes to the urban recycled water program policy.

2. The Board approves the recommendations for the alternative framework referred to as "Scenario 3" in the Report..

3. The Board directs the General Manager to take such actions as are necessary or appropriate to implement the approved changes to the Town's urban recycled water program policy with the goal of completing the changes for fiscal year 2015-2016.

PASSED, APPROVED AND ADOPTED this 19th day of November 2014, by the following vote:

AYES:	**BOARD MEMBERS ALLEN, FUDGE, GOBLE AND PRESIDENT OKREPKIE**
NOES:	**NONE**
ABSTAIN:	**NONE**
ABSENT:	**BOARD MEMBER SALMON**

BRUCE OKREPKIE, PRESIDENT

ATTEST:

MARIA DE LA O, SECRETARY

Attachment to Resolution:

- Exhibit A – The Reed Group, Inc., Report dated 11/4/14

EXHIBIT A
THE REED GROUP, INC.
REPORT
dated 10/30/14

2353308.1

TOWN OF WINDSOR/WINDSOR WATER DISTRICT

Institutional and Organizational Analysis of Urban Recycled Water Operations

Final Report

November 4, 2014



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I. EXECUTIVE SUMMARY

Background

The Windsor Water District (District) owns and operates a water reclamation utility system, which includes a wastewater collection system, a water reclamation treatment plant, recycled water storage ponds, a transmission system that discharges to Mark West Creek, a recycled water distribution system providing for agricultural irrigation and urban uses, and infrastructure for delivery to the Geysers Geothermal Project.

The Town of Windsor (Town) and the District have been studying and improving its water reclamation treatment and water recycling program for over ten years. Throughout this planning process, the Town has indicated that its top priority for wastewater disposal is reuse within the Town limits or sphere of influence.

In 2013, the Town completed an *Urban Recycled Water Facilities Study* with a grant from the State Water Resources Control Board. That study included a market assessment of potential recycled water demand and an analysis of recycled water project alternatives, and indicated the potential for significant expansion of urban recycled water usage with favorable project areas south of Shiloh Road and west of Highway 101 and in the Airport area. In addition, these areas may be best served with recycled water from Sonoma County Water Agency's (SCWA) Airport/Larkfield/Wikiup Sanitation Zone (ALWSZ), rather than with recycled water from the Town's water reclamation treatment plant.

Beyond the need to dispose of treated wastewater, the Town is increasingly viewing recycled water for its water supply benefits. Recycled water can offset uses of potable water and help to firm up the Town's supply reliability. As the Town considers plans for expanding urban recycled water delivery, attention is turning to the operational aspects of the recycled water program, as well as the water supply benefits that recycled water offers. The current framework with recycled water housed within the water reclamation utility does not reflect the co-equal benefits the program provides of wastewater disposal and supplemental water supply for the Town.

This report examines issues associated with the operation of the District's urban recycled water program. It summarizes some of the recent decisions made regarding urban reuse (e.g., recycled water pricing policies) and presents the rationale for an alternative operational structure and other related issues. The report is intended to assist the Town Council in making a policy decision related to the urban recycled water program.

This report does not address agricultural recycled water use, the disposal of recycled water on discretionary lands, delivery to the Geysers project, or river discharge. Each of these disposal operations is assumed to continue to be dictated and controlled by water reclamation's operational needs.

Proposed Institutional and Organizational Scenario for Urban Recycled Water Operations

When the Town's Public Works Department began to consider expansion of the District's urban recycled water program, it also decided to examine its organization and operation. At present, all recycled water activities occur within the water reclamation utility. However, the expansion

of urban recycled water invites consideration of the water supply benefits of recycled water, as well as the operational aspects of recycled water distribution in the urban area. With these considerations in mind three different organizational/operational scenarios were identified and evaluated. These included:

- *Scenario #1 – Water Reclamation Utility (status quo)* – Currently the District's water reclamation utility operates the entire recycled water system and is the service provider to end-users. The District's water utility is not involved.
- *Scenario #2 – Separate Recycled Water Enterprise* – The recycled water program could be set up as a separate enterprise within the Public Works Department, with costs and revenues segregated from other utility operations.
- *Scenario #3 – Wholesale/Retail* – The District's water reclamation utility could provide recycled water to the District's water utility on a wholesale basis, with the water utility operating the recycled water distribution system and being the retail service provider to end-users.

The three institutional and operational scenarios were conceptually discussed with the Directors of Public Works and Administrative Services. The wholesale/retail framework surfaced as the preferred approach for a variety of reasons. Establishing a new enterprise within the Public Works Department was the least preferred of the three options considered.

Benefits to the Town of Windsor and Windsor Water District

Primary benefits of the wholesale/retail framework to the Town, the District and to residents/business of the two utilities are:

- Clearer alignment of water and water supply issues residing within the water utility and wastewater treatment and disposal issues residing within the water reclamation utility
- Improved operational efficiency, as the operational requirements of the recycled water distribution system are very similar to potable water distribution
- Stronger financial capacity in the water utility to support additional capital investment in recycled water distribution infrastructure
- A stronger nexus for justifying recycled water rates and recycled water capacity fees
- An enhanced public view of urban recycled water as an integral element of the Town's water supply and water resource management strategy (the status quo emphasizes wastewater disposal)
- A structure to distinguish and separately address water and water reclamation issues, and to consider each from their own perspective, particularly if recycled water is obtained from ALWSZ
- Water reclamation maintains primary focus on wastewater treatment and disposal while the wholesale water rate serves as a convenient and equitable means of cost coverage.

Section II of this report provides additional information on the institutional and operational frameworks considered, and the benefits of the wholesale/retail framework, which is recommended and supported by staff.

II. INSTITUTIONAL AND ORGANIZATIONAL ANALYSIS

The District's water reclamation utility currently provides tertiary treated recycled water directly to over 500 urban irrigation users within the Town limits delivering over 500 AF of recycled water annually. In addition, recycled water is provided to agricultural irrigators and to discretionary land application sites to assist with the disposal of treated wastewater. The 2013 *Urban Recycled Water Facilities Planning Study* identified nearly 3,000 AF of additional potential urban recycled water demand within the Town limits and over 500 AF of additional potential recycled water demand in the Airport area.

The Public Works Department recently decided to assess the current institutional and operational structure of the water reclamation utility as the direct provider of recycled water service to urban end users, as well as alternatives that may be more suitable in the future as recycled water is increasingly valued as a water resource. The evaluation was conducted because expansion of urban recycled water distribution may require a more extensive water distribution system within Town limits and Airport area, may ultimately serve many more customers, and may only be feasible when constructed to meet the combined needs of both wastewater disposal and water supply.

In addition, the *Urban Recycled Water Facilities Planning Study* identified SCWA's Airport/Larkfield/Wikiup Sanitation Zone (ALWSZ) wastewater treatment plant as a potential source of recycled water for urban use. Therefore, a significant portion of the Town's future urban recycled water operation may be independent water reclamation treatment and disposal operations. Since recycled water obtained from ALWSZ would serve water supply purposes, it seems appropriate for a contractual arrangement to go through the water utility.

Scenarios Evaluated

To determine the most effective and efficient way to incorporate expanded urban recycled water into the District's utility operations, three options were evaluated to share responsibilities, facilities, costs, and revenues for urban recycled water operations. The three institutional and operational scenarios for the provision of urban recycled water service that were evaluated are:

- ***Scenario #1 – Water Reclamation Utility*** – This is essentially the framework currently used to provide recycled water to urban customers in the Town of Windsor. Under this structure, the water reclamation utility would continue to be the service provider to all urban recycled water customers, including an expanded system. The water reclamation utility would bear all operating and maintenance costs of the project and receive all revenues associated with the sale of recycled water.
- ***Scenario #2 – Separate Recycled Water Utility*** – Under this approach, a separate enterprise (within the Public Works Department) would be established to be the provider of recycled water service. Under this scenario, the recycled water utility would acquire recycled water from the water reclamation utility and distribute the water to customers. The recycled water utility would be responsible for operating and maintaining the recycled water system in urban areas. It would receive the revenues

from recycled water sales and would purchase recycled water from the water reclamation utility. The District's water utility would not be directly involved in recycled water utility operations.

- ***Scenario #3 – Wholesale/Retail Framework*** – Under this scenario, the water reclamation utility would provide recycled water on a wholesale basis to the District's water utility for urban distribution to recycled water customers. The water utility would be responsible for operation and maintenance of the recycled water distribution system and be the service provider to end-users. The water utility would receive the revenue from recycled water sales, but would also purchase recycled water on a wholesale basis from the water reclamation utility.

Scenarios 1, 2, and 3 are presented in schematic diagrams on the following pages and are used to illustrate the general concepts associated with each of the three institutional and operational frameworks. These diagrams are not definitive, but illustrate and identify various issues, implications, and relationships associated with each scenario.

The evaluation of each scenario included assessing the institutional, management, operational, financial (accounting), economic (cost sharing), capital investment, and public perception issues associated with operation under each alternative.

The District currently operates both the water and water reclamation utilities. Each of the utilities is operated as a separate enterprise and costs of operations are either directly borne by the utilities or indirectly allocated to the utilities. At present, recycled water operations are an integral part of water reclamation operations. Under the alternative scenarios, future urban recycled water operations would either continue to be entirely a water reclamation operation, become a separate (third) enterprise, or be divided between the water reclamation and water utilities.

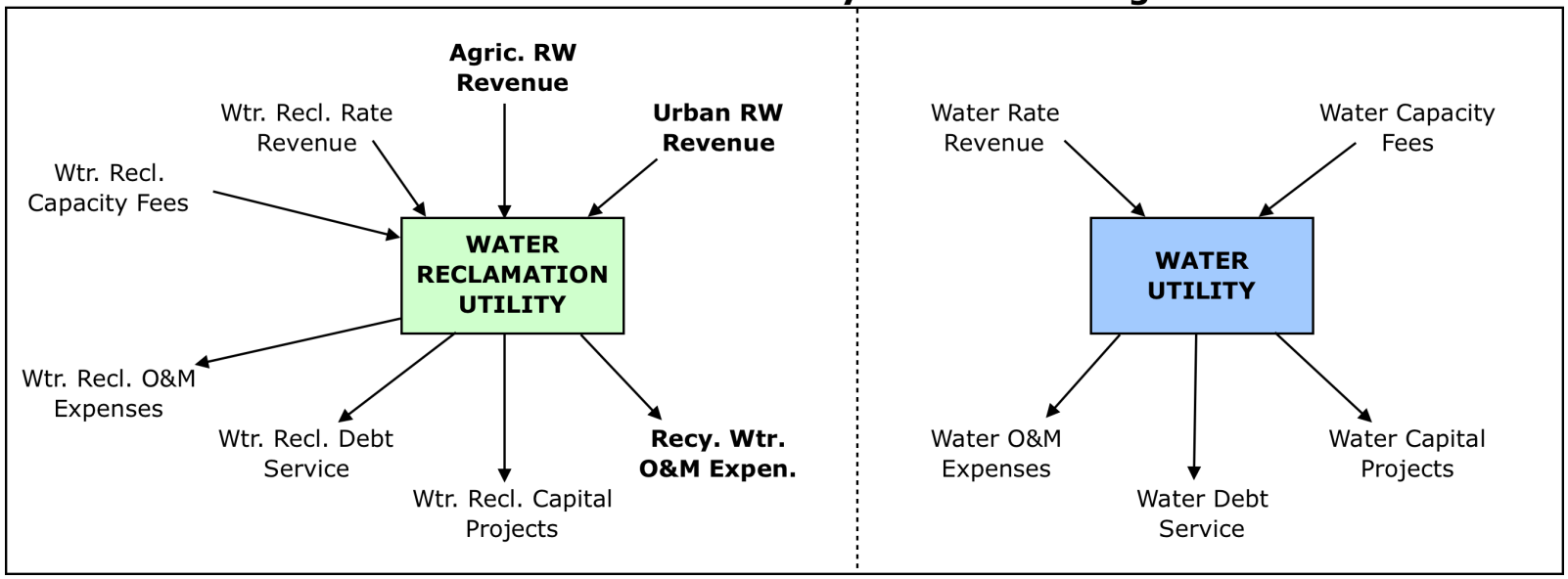
The Directors of both Public Works and Administrative Services gravitated to the wholesale/retail framework as a preferred approach. While each scenario has some advantages over the others, the wholesale/retail framework appears to have the most advantages and fewest disadvantages.

Comparison of the relative advantages and disadvantages of each of the three scenarios is summarized below and examines key operational issues individually.

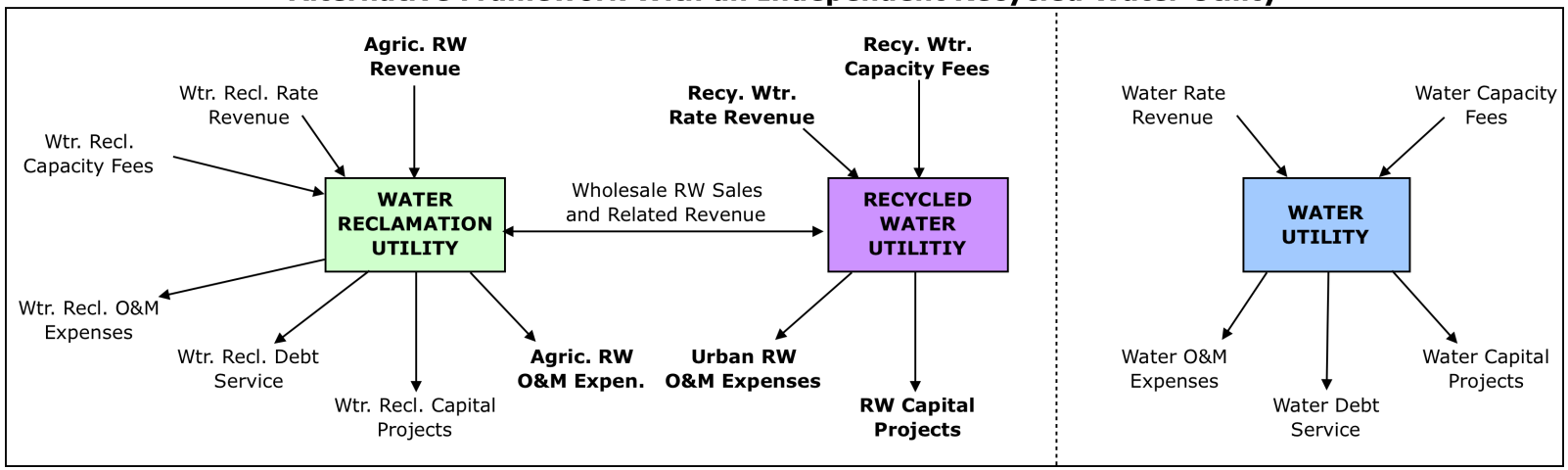
Institutional Considerations

While the District Board and District's management team both preside over both the water and water reclamation utilities, at times it is important that the needs and interests of each utility are considered independently from the needs and interests of the other. For example, the fiduciary responsibility the District has for each utility is separate and distinct for each utility. Under the current structure, the water reclamation utility would become increasingly involved in water policy decisions that may be more appropriately addressed from a water utility perspective. The Town's interests as well as the interests of end-users will be better served if water supply and wastewater disposal issues are each addressed from the perspective of the two independent utilities. Incorporating a third independent utility adds complications to the institutional policy framework by creating competing, rather than aligned, objectives.

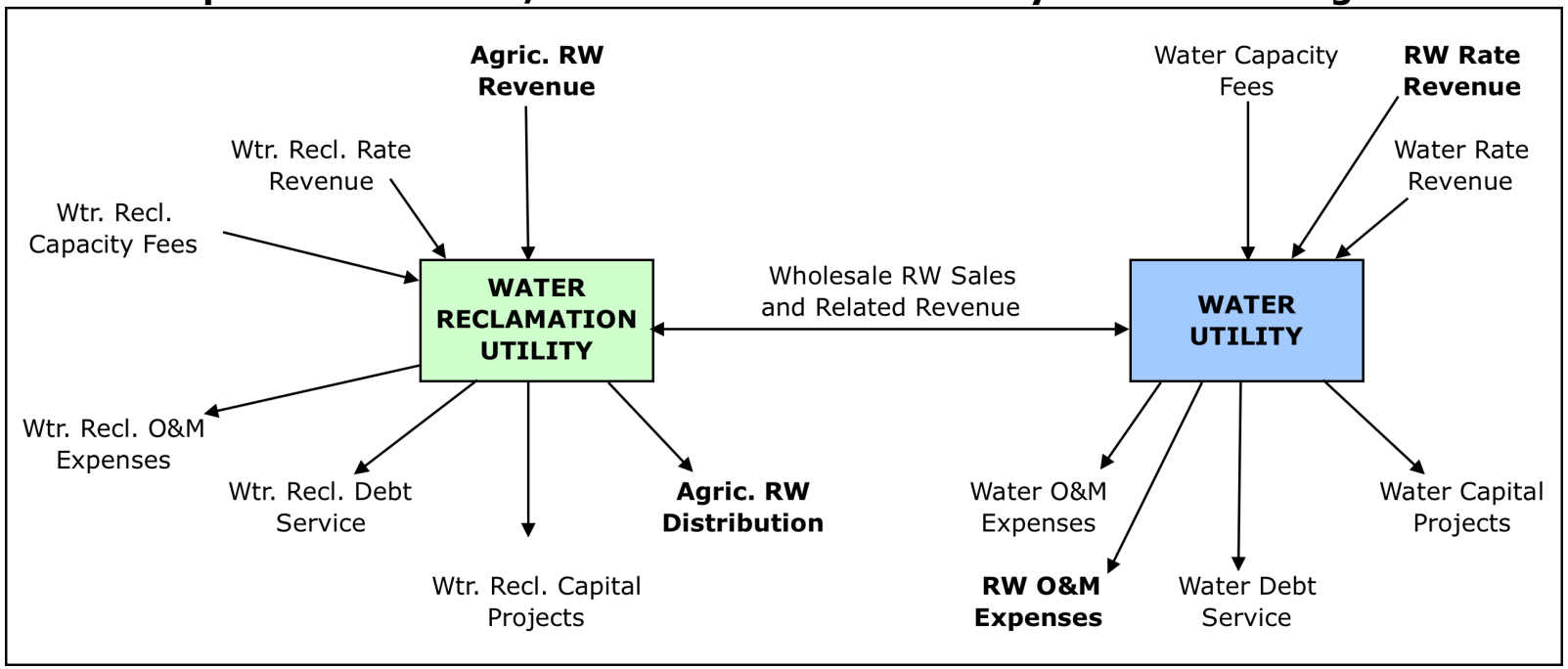
Scenario 1
Windsor Water District
Current Framework for Recycled Water Program



Scenario 2
Windsor Water District
Alternative Framework With an Independent Recycled Water Utility



Scenario 3
Windsor Water District
Proposed Wholesale/Retail Framework for Recycled Water Program



Creating a recycled water enterprise may be worthwhile if it is important to demonstrate that the recycled water utility would be independent and self-sufficient from the other utilities. However, because the recycled water program meets important wastewater disposal and water supply objectives, independence is not a significant consideration and may distract from those purposes.

The Windsor Water Code requires the use of recycled water when available and appropriate, in lieu of potable water (Section 12-7-105). The wholesale/retail framework aligns with the Town's policy objectives of using recycled water to supplement water supplies and offset potable water use more than the other options considered. Maintaining the status quo may result in water policy decisions (those related to recycled water) being guided primarily by water reclamation considerations.

In addition, expansion of the District's urban recycled water program may include obtaining recycled water from the ALWSZ wastewater treatment plant. As recycled water from ALWSZ would serve water supply and resource management purposes, it seems appropriate for a contractual arrangement to come from the water utility.

Management Considerations

Both existing utility enterprises are organized and managed by the District. A new (recycled water) enterprise could be created within the department. This would entail establishing new operating and capital funds and mirroring existing financial account and budget structures for a new enterprise. Doing so would create new administrative costs and management burdens that could be avoided under the other two scenarios considered. Therefore, the recycled water enterprise scenario has some cost and administrative disadvantages over the other options.

The Public Works Department has effectively organized its staff and operations to address the specific needs of each of the two existing District utilities. Staffing and deployment of resources for water operations overlaps partially with those of water reclamation operations, in that water system staff maintain the recycled water distribution system for Vintage Greens, and manages backflow testing in that area. Water reclamation operations include wastewater collection, treatment, and disposal, and the disposal operation includes creek discharge, water delivery to the Geysers project, agricultural reuse, and urban reuse.

From a management and resource deployment perspective, the operation of the urban recycled water distribution system is more aligned with water distribution operations than water reclamation operations. The wholesale/retail framework takes advantage of the current organizational and operational resources and expertise. Under this structure, recycled water distribution operations would be an extension of water distribution operations.

Operational Considerations

Specific aspects of recycled water distribution operations closely parallel that of water distribution operations. Specific operating tasks and activities such as customer service, utility billing, meter reading, meter maintenance, valve exercising, facilities maintenance and repair, pipeline maintenance and repair, USA mark outs, water conservation, water quality monitoring, new service planning, pipeline construction, and other tasks are all nearly identical

between potable water and recycled water systems. The regulatory compliance aspect of recycled water operations would be the one new and distinct responsibility of the water utility regarding the recycled water system, although this regulatory compliance responsibility could remain with the water reclamation utility.

Much of water reclamation's disposal operations have been focused on operation of the existing agricultural reuse and delivery to the Geysers project, with less emphasis on the urban recycled water system. With the exception of Vintage Greens, most of the urban operation involves a limited number of urban recycled water service connections (and the recycled water distribution in Vintage Greens is already performed by water system staff). Limiting water reclamation disposal operations to agricultural and delivery to the Geysers project is considered more efficient and contained than extending the operation into a new urban recycled water distribution system intertwined with the potable water system and potentially located more broadly throughout the Town. That extension seems particularly incongruous of the source of recycled water is ALWSZ.

Financial (accounting) Considerations

The Town's accounting system currently separately tracks and accounts for the costs and revenues of each of the District's two utilities. Many costs are directly borne by each utility while others are indirectly allocated to the utilities on various appropriate bases. The costs of recycled water operations could be accounted for in whatever operational scenario is chosen. For example, if the current framework is selected, but water utility staff and resources are designated to operate the recycled water distribution system (as is done in Vintage Greens), the District could capture (as it currently does) the costs of this operation as a water reclamation utility cost. Expanding the cross-operation deployment of staff resources could add to accounting and administrative complexity. In other words, under the existing structure, an efficient operating structure (with water utility staff operating the recycled water distribution system on behalf of the water reclamation utility) could increase administrative costs. The wholesale/retail framework would take advantage of the more efficient operating structure and avoid the need to separately track recycled water distribution operating costs from water utility costs.

Creating an independent third utility would unnecessarily increase administrative costs and complexity.

Economic (cost sharing) Considerations

The urban recycled water program provides both wastewater disposal and water supply benefits to the Town. Operation and maintenance costs of the urban recycled water program are generally expected to be covered by the recycled water sales revenue. However, costs and revenues must be shared (allocated) between the water reclamation and water utilities.

Under the current framework, all operating costs and all recycled water revenues would accrue to the water reclamation utility. The water utility is not involved. It should be recognized that the water utility would, in effect, lose customers to the water reclamation utility (i.e., the current structure might ultimately put the water reclamation utility at odds with the water utility). Under the wholesale/retail framework the water utility would receive the revenue from

recycled water sales and be responsible for the costs of recycled water operations. Recycled water operating costs would include the cost of purchasing recycled water from the water reclamation utility. The wholesale water rate would serve as a convenient mechanism for ensuring that the water reclamation utility is "made whole" through the wholesale sale of recycled water. In developing an appropriate wholesale water rate for recycled water consideration should be given to:

- The cost of alternative water supplies (existing and future)
- The cost of wastewater treatment required to create the recycled water, as well as any incremental storage and delivery costs
- The current revenue generated from urban recycled water sales, as well as distribution costs that would be shifted from the water reclamation utility to the water utility
- An assessment of the "fair" value of recycled water from both the water reclamation utility and the water utility perspectives, independently.

The determination of the wholesale rate for recycled water need not reflect an exact and precise calculation, but should be a reasonable amount that is attractive to both utilities. In effect, it should be a price that creates a win-win for both utilities, as might result from a contract negotiation.

The water reclamation utility's historical pricing practices for agricultural reuse and urban reuse were previously based on the need to dispose of the water, and not on the cost of providing the water. New pricing adopted in 2012 shifted the pricing for urban recycled water more towards cost recovery and the recognition of economic value, although agricultural pricing still emphasizes the needs for disposal. Recycled water rates and capacity fees adopted in 2012 are consistent with the wholesale/retail framework. The cost of service nexus justifying the rates and capacity fees follow a "water is water" perspective in which water rates and capacity fees are essentially the same for potable water and recycled water customers[1].

Capital Investment Considerations

Additional capital investment will be required to construct additional recycled water facilities in the urban area. The *Urban Recycled Water Facilities Planning Study* evaluated the potential financial implications of alternative financing options that may be available to the District for the construction of new recycled water distribution facilities. That study indicated that based on the Town's 2012 *Water and Water Reclamation Financial Plan and Rate Update Study*, that the water utility has greater financial capacity to accommodate the increased costs associated with new recycled water projects, relative to the water reclamation utility. This greater financial capacity is evidenced by:

- A smaller amount of existing annual debt service costs, in absolute and relative terms, and a higher current debt service coverage ratio within the water utility
- A generally lower cost-of-service to customers for water service, relative to water reclamation service

[1] Urban recycled water rates and capacity fees are discounted from potable water rates and fees by 20 percent to reflect the increased customer costs associated with use and management of recycled water.

- An ability to spread recycled water costs to irrigation customers through water rates, which would not be possible through water reclamation rates.

The *Urban Recycled Water Facilities Planning Study* also recommended that the Town consider the advantages of funding additional recycled water projects through the water utility, rather than the water reclamation utility, in recognition of the water supply benefits (potable water offset) and greater financial capacity.

These financial capacity considerations for the additional capital investment in recycled water distribution facilities provide additional support for the proposed wholesale/retail framework.

Public Perception Considerations

The success of the urban recycled water program (particularly potable water offset conversions) may be tied to how the community reacts to the Town's efforts. The Town has approached recycled water as an important component of its water supply and water resource management strategy rather than solely a disposal alternative. For this reason, it is advantageous that the public image of recycled water is primarily from the water perspective. The wholesale/retail framework is more consistent with the water resource message the Town wants to foster regarding the urban recycled water usage.

* * * * *

Exhibit 1 summarizes each of the three institutional and operational scenarios considered in this study. The wholesale/retail framework is the preferred approach. As the Town and District consider the potential expansion of the urban recycled water program, it is recommended that operating and organization decisions be made consistent with this structure.

Steps to Implementation

Some of the key steps towards implementing the proposed organizational structure for urban recycled water operations include:

- Obtaining policy consent and direction from the Town Council/Windsor Water District, as applicable
- Reviewing the Windsor Water Code, wastewater discharge permits, and other legal documents that may need to be revised to align with the proposed changes
- Identifying an appropriate point(s) of delivery of recycled water to the water utility and means of measuring the delivery of water
- Developing and adopting a wholesale recycled water rate
- Transferring existing urban recycled water assets from the water reclamation utility to the water utility
- Effectuating changes in budgeting and the accounting for expenses related to urban recycled water distribution and receipt of urban recycled water rate and capacity fee revenue to the water utility.

It is believed that none of the Town and District's existing long-term debt obligations would be affected by the changes being proposed for the urban recycled water program.

Exhibit 1
Windsor Water District
Comparison of Institutional and Operational Scenarios for Urban Recycled Water

	Scenario #1 - Current Framework	Scenario #2 - Recycled Water Utility	Scenario #3 - Wholesale/Retail Framework
Description	> Water reclamation acts as recycled water service provider to urban users	> Separate new enterprise created in Public Works Department for providing recycled water to urban users	> Water reclamation utility provides recycled water wholesale to water utility for retail distribution to urban users
Ownership of Urban Recycled Water Facilities	> Water reclamation utility	> Recycled water utility	> Water utility
Policy Considerations	> Water reclamation utility acts as a water service provider (gets into water policy issues)	> Legal organization and start-up costs > Expectation for independence and financial self-sufficiency > Requires coordination with both water reclamation and water utilities	> Policies for urban recycled water marketing align with water utility and water supply objectives including rate setting and requirement for recycled water use
Financial Considerations	> Weaker nexus for rates and capacity fees > Limited capacity for additional capital investment	> New utility may be dependent on water reclamation and/or water utility financial support (i.e, independent financial capacity is uncertain) > No developed financial capacity for new capital investment	> Shared financial responsibility -- wholesale water rate provides a convenient and equitable mechanism for cost recovery > Greater financial capacity for additional capital investment
Benefits	> Status quo	> Provides greater transparency on economics of urban recycled water program	> Better enables the water supply benefits of recycled water to be incorporated into decision-making > Stronger nexus for rates and capacity fees > Improved operational efficiency > Better from perspective of public perception
Challenges	> Basis for water utility participation uncertain > Operational redundancy > Water reclamation utility has limited water distribution operational experience	> New accounting and budgeting structure adds costs and complexity > Uncertain independent financial capacity > Operational redundancy	> Requires modest organizational restructure from the status quo