City of Dallas
Water Utilities

Briefing to
Economic Development & Housing Committee

Recycled Water Business Plan

October 16, 2006
Purpose Of Briefing

• Provide background and update on the City’s use of recycled water

• Seek support for hiring a consultant to assist in the development of a business plan
Background  What is Recycled Water?

- Recycled water is the treated effluent produced from the wastewater treatment process.
- The City’s wastewater treatment plants use advanced secondary treatment followed by filtration which produces high quality effluent well suited for recycling.
Background  Types of Recycled Water Use

**Direct** recycling involves providing water directly to the customer for non-potable uses such as irrigation, cooling towers, industrial processes, etc.

**Indirect** reclamation involves transporting the water to a reservoir to augment the drinking water supply. It is processed through a water treatment plant before being delivered to the customer.

This briefing focuses on **Direct** recycling.
Background

What Have We Already Done?

• A pilot project to irrigate the Cedar Crest Golf Course was placed in service in 2005

• A high-level, strategic implementation plan for direct recycling was completed in 2005.
What is the History of the Cedar Crest Golf Course Pilot Project?

- Implemented April 2005
- Fully irrigated with recycled water for 18 months
- Maximum month usage of 15.2 million gallons (July 2005)
- Total pipeline construction cost of $1.4 million
- Constructed in conjunction with golf course and irrigation system improvements
What are the Key Objectives of the Cedar Crest Golf Course Pilot Project?

- Document the suitability of Dallas’s existing high quality WWTP effluent for a variety of recycled water uses.
- Develop an understanding of operations and maintenance issues related to use of recycled water.
- Develop a protocol for Water Utilities and customer compliance with regulatory requirements.
- Evaluate financial information for assessing cost (capital and operational) of recycled water.
- Develop basis for expanding the Water Utilities Recycled Water Program to other sites.
- Identify responsibilities and benefits of partnerships between Water Utilities and future customers on recycled water projects.
Background  Implementation Drivers

• Water recycling is efficient use of water supply
  • Extends life of current water supply
  • Provides long term dependable supply
  • Supports economic development potential
• Water recycling is included as a strategy in the Dallas Long Range Water Supply Plan and in the Region C Water Plan (Included in draft “2007 State Water Plan”)
  • Direct Recycling – Minimum of 18 MGD by 2012
  • Indirect Recycling
    • 60 MGD by 2015
    • 60 MGD by 2022
Background Implementation Drivers

• Water recycling is considered a Best Management Practice for water conservation
  • Must demonstrate “highest practicable” conservation to obtain inter-basin transfers for both connection to existing water supplies (e.g. Wright-Patman) and development of any future reservoirs.

• Water recycling is considered a dependable supply which is attractive to and promotes economic development.
What is the High-Level Implementation Plan for Direct Use of Recycled Water?

A high-level, strategic implementation plan for direct recycling was completed in 2005. It:

- Evaluated feasibility of potential recycled water projects
  - Identified DWU major water users
  - Identified candidates for recycled water
  - Defined potential recycled water service areas

The Plan

- Concluded that Recycled water is feasible and its cost is competitive with other water supply options.
- Recommended proceeding with additional implementation steps.
Identification of Potential Direct Recycled Water Service Areas

- Identify major water users
- Group major water users
- Evaluate potential water quality requirements
- Identify feasible service areas
Recommended Initial Direct Recycled Water Service Areas

- **Cedar Crest Corridor**
  - Includes Dallas Zoo & Stevens Park Golf Course
  - Target In-service by 2010

- **White Rock Creek Corridor**
  - Various customers
  - Alignment needs refinement
  - Target In-service by 2012

Target in-service dates are dependent on interest of potential customers
## What Actions Are We Doing Now?

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<thead>
<tr>
<th>Action</th>
<th>Status</th>
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<tbody>
<tr>
<td>Monitoring of Cedar Crest Golf Course project</td>
<td>Ongoing</td>
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<tr>
<td>Design extension of Cedar Crest pipeline</td>
<td>Currently underway in-house; Alignment survey- FY07; Design completion date- FY08</td>
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<tr>
<td>Obtain City-wide TCEQ reuse authorization (for Type I uses)</td>
<td>Currently underway in-house; Target completion date- FY09</td>
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Recycled Water: A New ‘Business’

• The recycled water program will be a new business area for Dallas Water Utilities.
• Like any new business, the recycled water program needs a sound business plan that will strategically plan for the creation and development of an efficient cost effective program that addresses the following major objectives:
  • Strategically identify and plan to serve customers in high use corridors to minimize the construction of high cost infrastructure (miles of pipeline)
  • Development of Public Relations information that aids in successfully marketing the business to our customers
• The Business Plan must be strategically coordinated with and help to achieve the objectives of the City’s Comprehensive Plan and promote economic development.
• A business plan can be developed that will draw from the experience and lessons learned from other previously implemented recycled water systems.
What Will We Get?

A Business Plan and Implementation Strategy that will:

• Develop general policies/procedures and evaluate the need to modify specific City ordinances
• Determine customer groups to be served (parks, schools, commercial, industrial) or not served (residential?)
• Recommend standard contract provisions
• Define customer requirements for quality and recommend the overall water quality parameters for the system
• Develop a cost-of-service model, rate structures, and a system financing plan
• Develop marketing strategies to reach the targeted customers
• Develop the initial Operation and Maintenance Plan
• Coordinate with and compliment the Dallas Comprehensive Plan
• Cooperate with and support efforts of the Economic Development Department
What Will We Get? Cont’d

• Services to expand and refine previous work through detailed efforts that will:
  • Evaluate the pilot project at Cedar Crest to determine any operational or customer issues to consider
  • Evaluate additional customers and potential service areas and usage projections
    • Initial effort was based on very large water users to determine feasible service areas
    • This work will identify more users in those service areas based on the City’s top 3,000 water users
  • Review and modify service area pipeline alignments based on the findings
Conclusion/Recommendation

• Conclusion
  • In order to achieve recycled water goals, we must develop a business plan

• Recommendation
  • Committee approval is requested to support Council Award of a contract with Alan Plummer & Associates for $674,875.00 to develop a Recycled Water Business Plan
Questions?