

CHAPTER 9: RECLAIMED WATER IMPLEMENTATION PLAN

9.1 Introduction

The primary objectives of this project are to provide recommendations and evaluate the feasibility of reclaimed water projects for the City of Fort Worth and to develop an implementation plan for the viable reclaimed water projects. Advancement of Fort Worth's Reclaimed Water Program will involve the development of a number of policies and procedures and establishment or modification of ordinances supporting the program. The development of the program will also build upon the experience of the Waterchase Golf Course reclaimed water project, which has been in operation since 1999. Additionally, an organizational structure will need to be established to provide the leadership, marketing, and operations infrastructure necessary for a successful program.

The City has already taken significant steps towards establishing the administrative framework for its reclaimed water program. As a part of this project, a reclaimed water workgroup was established that included members from the City's water and wastewater divisions, as well as a legal representative. The specific goals and accomplishments of this workgroup are discussed in Section 9.2.2.

9.2 Implementation Plan

This section discusses the various actions and proposed schedule for further developing the City of Fort Worth Reclaimed Water Program and pursuing the implementation of recommended reclaimed water projects. The proposed projects and associated costs are summarized in Table 9-1. The next steps for implementation are outlined in Table 9-2. A summary of the proposed project phasing timeline is provided in Figure 9-1 and a detailed timeline is presented in Figure 9-2.

9.2.1 Administrative Actions

The following are recommended administrative actions that are fundamental to the reclaimed water program. Many of the recommendations included in this section have already been implemented by the reclaimed water workgroup, as will be discussed in Section 9.2.2.

9.2.1.1 Reclaimed Water Program Organization

In order to implement a reclaimed water program, the City will need to establish a program organization with a designated manager, limited administrative staff, functional support from Water Operations and Wastewater Operations, and interdepartmental support. This approach will utilize the experience of the existing water/wastewater operations staff and will minimize the initial costs of establishing a reclaimed water program.

It is recommended that the City identify a program manager and a marketing person who will be responsible for implementation of the Reclaimed Water Program. The initial focus of these staff members will be on establishing the required policies and procedures, securing customer contracts, developing and implementing the public information/public awareness campaign, and coordinating with other City programs, such as the water conservation program.

Table 9-1: Summary of Recommended Reclaimed Water Projects and Costs

Alt.	Service Area	Annual Avg. Demand	Peak System Demand	Identified Capital Benefits ¹	Capital Cost ²		
		MGD	MGD	\$MM	\$MM		
E1	Eastern	2.77	14.69	\$2.08	\$13.44		
N2	Northern	4.19	11.07	\$3.14	\$13.94		
W1	Western	3.79	18.12	\$2.84	\$37.10		
CS2	Central/Southern	2.179	14.47	\$1.63	\$39.12		
Total, All Projects		12.93	58.35	\$9.70	\$103.61		
Alt.	Service Area	Debt Service ³	O&M	Energy	Purchase Cost ⁴	Operational Benefits ⁵	Overall Unit Cost ⁶
		\$/yr	\$/yr	\$/yr	\$/1000G	\$/1000G	\$/1000G
E1	Eastern	\$1,125,000	\$215,000	\$95,000	N/A	\$0.37	\$0.39
N2	Northern	\$1,167,000	\$188,000	\$103,000	\$0.25	\$0.65	\$0.10
W1	Western	\$3,105,000	\$455,000	\$772,000	N/A	\$0.65	\$1.13
CS2	Central/Southern	\$3,273,000	\$412,000	\$135,000	N/A	\$0.65	\$1.68
Total, All Projects		\$8,670,000	\$1,270,000	\$1,105,000	\$0.08	\$0.59	\$0.73

¹Includes credit for deferral of WTP expansions (see Section 7.3.4)- benefit distributed based on annual average demand of each project.

² Net Present Value of capital cost after accounting for interest during construction.

³Assumes a capital recovery period of 20 years and an annual interest rate of 5.5%.

⁴Purchase cost applies to water purchased from TRA's DCRWS for the Northern System.

⁵Includes credit for purchase of raw water. On Eastern system, only water used by wholesale customers is credited.

⁶Assumes 50-year project life.

The City will need to determine which operational responsibility associated with the reclaimed water program will be assigned to wastewater and water operations. Sample assignments are provided below, but can be modified to accommodate specific City organizational priorities:

Wastewater Operations

- Responsibility for wastewater treatment functions, whether at the existing WWTP or at water recycling centers (Note: Remote booster disinfection may be performed by the water operations group.)

Table 9-2: Reclaimed Water Implementation Steps

FISCAL YEAR 2006-2007
<ul style="list-style-type: none"> ● Perform Administrative Actions <ul style="list-style-type: none"> ● Initiate actions to establish reclaimed water program organizational structure. ● Develop and adopt policies and procedures. ● Update City ordinances (i.e. rates, financial provisions). ● Develop and adopt reclaimed water standard contract. ● Pursue state/federal funding opportunities ● Negotiate and finalize agreement with TRA for DCRWS reclaimed water. ● Identify any specific water quality requirements for potential customers. If necessary, perform testing for additional parameters at WWTP. ● Initiate Public and Water Customer Reclaimed Water Awareness Program. ● Initiate reclaimed water marketing and sales activities. ● Perform routing delineation and surveying for Northern System, Phase 1 pipeline and pump station. ● Perform environmental permitting for Northern System, Phase 1 pipeline and pump station.
FISCAL YEAR 2007-2008
<ul style="list-style-type: none"> ● Continue Wastewater Treatment Plant testing of additional parameters, as necessary. ● Continue Public and Water Customer Reclaimed Water Awareness Program. ● Continue reclaimed water marketing and sales activities. ● Begin and complete right-of-way acquisition and design for Northern System, Phase 1 pipeline and pump station. ● Perform routing delineation and surveying for the Western System, Phase 1 pipeline and pump station. ● Perform environmental permitting for the Western System, Phase 1 pipeline and pump station.
FISCAL YEAR 2008-2009
<ul style="list-style-type: none"> ● Continue Wastewater Treatment Plant testing of additional parameters, as necessary. ● Continue Public and Water Customer Reclaimed Water Awareness Program. ● Continue reclaimed water marketing and sales activities. ● Perform routing delineation and surveying for Eastern System, Phase 1 pipeline and pump station. ● Perform environmental permitting for Eastern System, Phase 1 pipeline and pump station. ● Begin construction of Northern System, Phase 1 pipeline and pump station. ● Begin and complete right-of-way acquisition and design for Western System, Phase 1 pipeline and pump station.
FISCAL YEAR 2009-2010
<ul style="list-style-type: none"> ● Continue Wastewater Treatment Plant testing of additional parameters, as necessary. ● Continue Public and Water Customer Reclaimed Water Awareness Program. ● Continue reclaimed water marketing and sales activities. ● Begin and complete right-of-way acquisition and design for Eastern System, Phase 1 pipeline and pump station. ● Complete construction of Northern System, Phase 1 pipeline and pump station. ● Perform routing delineation and surveying for Northern System, Phase 2 pipeline. ● Perform environmental permitting for Northern System, Phase 2 pipeline. ● Begin construction of Western System, Phase 1 pipeline and pump station. ● Perform routing delineation and surveying for Western System, Phase 2 pipeline and pump station. ● Perform environmental permitting for Western System, Phase 2 pipeline and pump station.
FISCAL YEAR 2010-2011
<ul style="list-style-type: none"> ● Continue Wastewater Treatment Plant testing of additional parameters, as necessary. ● Continue Public and Water Customer Reclaimed Water Awareness Program. ● Continue reclaimed water marketing and sales activities. ● Begin construction of Eastern System, Phase 1 pipeline and pump station. ● Begin and complete right-of-way acquisition and design for Northern System, Phase 2 pipeline. ● Complete construction for Western System, Phase 1 pipeline and pump station. ● Begin and complete right-of-way acquisition and design for Western System, Phase 2 pipeline. ● Perform routing delineation and surveying for Western System, Phase 3 pipeline and pump station. ● Perform environmental permitting for Western System, Phase 3 pipeline and pump station.

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Table 9-2: Reclaimed Water Implementation Steps (cont'd)

FISCAL YEAR 2011-2012
<ul style="list-style-type: none"> ● Continue Wastewater Treatment Plant testing of additional parameters, as necessary. ● Continue Public and Water Customer Reclaimed Water Awareness Program. ● Continue reclaimed water marketing and sales activities. ● Complete construction of Eastern System Phase 1 pipeline and pump station. ● Perform routing delineation and surveying for Eastern System Phase 2 and 3 pipelines. ● Perform environmental permitting for Eastern System Phase 2 and 3 pipelines. ● Begin construction of Northern System, Phase 2 pipeline. ● Begin construction for Western System, Phase 2 pipeline and pump station. ● Begin and complete right-of-way acquisition and design for Western System, Phase 3 pipeline and pump station. ● Perform routing delineation and surveying for Western System, Phase 4 pipeline. ● Perform environmental permitting for Western System, Phase 4 pipeline.
FISCAL YEAR 2012-2013
<ul style="list-style-type: none"> ● Continue Wastewater Treatment Plant testing of additional parameters, as necessary. ● Continue Public and Water Customer Reclaimed Water Awareness Program. ● Continue reclaimed water marketing and sales activities. ● Begin and complete right-of-way acquisition and design for Eastern System Phase 2 pipeline. ● Begin and complete right-of-way acquisition and design for Eastern System Phase 3 pipeline. ● Complete construction of Northern System, Phase 2 pipeline. ● Complete construction of Western System, Phase 2 pipeline and pump station. ● Begin construction of Western System, Phase 3 pipeline and pump station. ● Begin and complete right-of-way acquisition and design for Western System, Phase 4 pipeline. ● Perform routing delineation and surveying for Central System, Phase 1 pipeline and pump station. ● Perform environmental permitting for Central System, Phase 1 pipeline and pump station.
FISCAL YEAR 2013-2014
<ul style="list-style-type: none"> ● Continue Wastewater Treatment Plant testing of additional parameters, as necessary. ● Continue Public and Water Customer Reclaimed Water Awareness Program. ● Continue Reclaimed water marketing and sales activities. ● Begin and complete construction of Eastern System, Phase 2 pipeline. ● Begin and complete construction of Eastern System, Phase 3 pipeline. ● Complete construction of Western System, Phase 3 pipeline and pump station. ● Begin construction of Western System, Phase 4 pipeline. ● Begin preliminary studies for Western System, Phase 7 WRC. ● Begin and complete right-of-way acquisition and design for Central System, Phase 1 pipeline and pump station. ● Perform routing delineation and surveying for Central System, Phase 2, 3 and 4 pipelines. ● Perform environmental permitting for Central System, Phase 2, 3 and 4 pipelines.
FISCAL YEAR 2014-2015
<ul style="list-style-type: none"> ● Continue Wastewater Treatment Plant testing of additional parameters, as necessary. ● Continue Public and Water Customer Reclaimed Water Awareness Program. ● Continue reclaimed water marketing and sales activities. ● Complete construction of Western System, Phase 4 pipeline. ● Complete preliminary studies for Western System, Phase 5 WRC. ● Begin design of Western System, Phase 5 WRC. ● Begin construction of Central System, Phase 1 pipeline and pump station. ● Begin and complete right-of-way acquisition and design for Central System, Phase 2, 3 and 4 pipelines.
FISCAL YEAR 2015-2016
<ul style="list-style-type: none"> ● Continue Wastewater Treatment Plant testing of additional parameters, as necessary. ● Continue Public and Water Customer Reclaimed Water Awareness Program. ● Continue reclaimed water marketing and sales activities. ● Complete design of Western System, Phase 5 WRC. ● Complete construction of Central System, Phase 1 pipeline and pump station. ● Begin and complete construction of Central System, Phase 2 pipeline. ● Begin construction of Central System, Phase 3 pipeline. ● Begin and complete construction of Central System, Phase 4 pipeline. ● Perform routing delineation and surveying for Central System, Phase 5 and 6 pipelines. ● Perform environmental permitting for Central System, Phase 5 and 6 pipelines.

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Table 9-2: Reclaimed Water Implementation Steps (cont'd)

FISCAL YEAR 2016-2017
<ul style="list-style-type: none"> ● Continue Wastewater Treatment Plant testing of additional parameters, as necessary. ● Continue Public and Water Customer Reclaimed Water Awareness Program. ● Continue reclaimed water marketing and sales activities. ● Begin construction of Western System, Phase 5 WRC. ● Complete construction of Central System, Phase 3 pipeline. ● Begin and complete right-of-way acquisition and design for Central System, Phase 5 pipeline. ● Begin and complete right-of-way acquisition and design for Central System, Phase 6 pipeline. ● Perform routing delineation and surveying for Central System, Phase 7 pipeline and pump station. ● Perform environmental permitting for Central System, Phase 7 pipeline and pump station.
FISCAL YEAR 2017-2018
<ul style="list-style-type: none"> ● Continue Wastewater Treatment Plant testing of additional parameters, as necessary. ● Continue Public and Water Customer Reclaimed Water Awareness Program. ● Continue reclaimed water marketing and sales activities. ● Complete construction of Western System, Phase 5 WRC. ● Begin construction of Central System, Phase 5 pipeline. ● Begin and complete construction of Central System, Phase 6 pipeline. ● Begin and complete right-of-way acquisition and design for Central System, Phase 7 pipeline and pump station. ● Perform routing delineation and surveying for Central System, Phase 8 pipeline. ● Perform environmental permitting for Central System, Phase 8 pipeline.
FISCAL YEAR 2018-2019
<ul style="list-style-type: none"> ● Continue Wastewater Treatment Plant testing of additional parameters, as necessary. ● Continue Public and Water Customer Reclaimed Water Awareness Program. ● Continue reclaimed water marketing and sales activities. ● Begin and complete preliminary studies for Western System, Phase 6 WRC expansion. ● Complete construction of Central System, Phase 5 pipeline. ● Begin construction of Central System, Phase 7 pipeline and pump station. ● Begin and complete right-of-way acquisition and design for Central System, Phase 8 pipeline.
FISCAL YEAR 2019-2020
<ul style="list-style-type: none"> ● Continue Wastewater Treatment Plant testing of additional parameters, as necessary. ● Continue Public and Water Customer Reclaimed Water Awareness Program. ● Continue reclaimed water marketing and sales activities. ● Begin and complete design of Western System, Phase 6 WRC expansion. ● Complete construction of Central System, Phase 7 pipeline and pump station. ● Begin construction of Central System, Phase 8 pipeline.
FISCAL YEAR 2020-2021
<ul style="list-style-type: none"> ● Continue Wastewater Treatment Plant testing of additional parameters, as necessary. ● Continue Public and Water Customer Reclaimed Water Awareness Program. ● Continue reclaimed water marketing and sales activities. ● Begin construction for Western System, Phase 6 WRC expansion. ● Complete construction of Central System, Phase 8 pipeline.
FISCAL YEAR 2021-2022
<ul style="list-style-type: none"> ● Continue Wastewater Treatment Plant testing of additional parameters, as necessary. ● Continue Public and Water Customer Reclaimed Water Awareness Program. ● Continue reclaimed water marketing and sales activities. ● Complete construction for Western System, Phase 6 WRC expansion.

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Figure 9-2: Reclaimed Water Implementation Plan Detailed Timeline

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Central System																					
Phase 1																					
Route Delineation/Survey/Permitting																					
ROW/Design																					
Construction																					
Phase 2																					
Route Delineation/Survey/Permitting																					
ROW/Design																					
Construction																					
Phase 3																					
Route Delineation/Survey/Permitting																					
ROW/Design																					
Construction																					
Phase 4																					
Route Delineation/Survey/Permitting																					
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Phase 6																					
Route Delineation/Survey/Permitting																					
ROW/Design																					
Construction																					
Phase 7																					
Route Delineation/Survey/Permitting																					
ROW/Design																					
Construction																					
Phase 8																					
Route Delineation/Survey/Permitting																					
ROW/Design																					
Construction																					
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026

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Water Operations

- Take over custody of the treated effluent when it enters reclaimed water pumping facilities, storage facilities, or distribution pipeline.
- Operate and maintain the reclaimed water storage and pumping facilities.
- Operate and maintain the reclaimed water distribution system including pipelines, tie-ins, metering facilities, and cross-connection inspection.

9.2.1.2 Policies and Procedures

The Reclaimed Water Program will require the development and implementation of a number of policies and procedures. The following presents a number of considerations that are typically addressed by policies and procedures for reclaimed water programs.

- Infrastructure technical design specifications
- Cross-connection control requirements
- Funding sources and rules
- Rate structure
- Site inspection authority
- Enforcement policies
- Reclaimed Water Program operation and maintenance manual
- Reclaimed Water User manual
- Emergency Response Plan

The development of reclaimed water program policies and procedures should be coordinated with existing City of Fort Worth policies and procedures.

9.2.1.3 Update City Ordinances to Include Reclaimed Water Provisions

Several aspects of the reclaimed water program may require modification of existing ordinances or creation of new ordinances. Some possible considerations relative to City ordinances include:

- Establishment of pricing structure and pricing policies for reclaimed water.
- Potential restrictions on the use of raw water within the targeted reclaimed water service areas.
- Potential requirements for the use of reclaimed water for specific user groups within the targeted reclaimed water service areas.

- Potential requirements for developers to install dual distribution systems in new developments within the targeted reclaimed water service areas.

9.2.1.4 Reclaimed Water Customer Contract

A standard contract to be executed with reclaimed water customers should be developed and adopted. The contract should include provisions necessary to address the following issues as well as other considerations typically included in City water customer contracts.

- Delineation of the City's and customer's responsibilities
- Intended uses and description of areas of application of reclaimed water
- Prohibited uses of reclaimed water
- Quantities of reclaimed water
- Price of reclaimed water
- Compliance with City rules, regulations, policies, and procedures
- Compliance with TCEQ rules and regulations
- Right for the City to review and comment on customers' reclaimed water systems
- Right for City and plumbing inspection
- Enforcement provisions
- Facilities construction
- Delivery of reclaimed water
- Quantity and unit measurement
- Quality to be provided
- Pressure requirements
- Payments by purchaser
- Suspension of service
- Obligation of the parties
- Remedies upon default
- Procedures for contract amendment

It is important that the contract includes provisions that protect the potable water system from cross connection with the recycled water.

9.2.1.5 Waterchase Golf Course Reclaimed Water Project Experience

As discussed elsewhere in this report, the City has been providing reclaimed water to the Waterchase Golf Course since 1999. The City can use this project as a development tool and building block for future reclaimed water projects. Much has been learned during the development and implementation of this project, and many of the assumptions and policies can be reviewed and refined based on this experience and provide beneficial knowledge for future operations and maintenance practices.

Specifically, the City should evaluate the existing reclaimed water use agreement with Waterchase to identify any items that require amendment for subsequent user agreements. The City should also review the policies and procedures being used for the Waterchase project and refine them as necessary for future projects.

Another benefit that can be derived from the Waterchase Golf Course Project is development of information and actual operating and maintenance experience that can be used in marketing and public information campaigns. Public acceptance of recycled water projects will be critical to their success. Developing a track record of safe, reliable and beneficial operations will contribute to the success of Fort Worth's future public acceptance efforts.

9.2.1.6 Wastewater Treatment Plant Testing Program

Based on a review of historical effluent data at Village Creek WWTP (VCWWTP) and TRA's Denton Creek Regional Wastewater System (DCRWS), both plants have demonstrated the ability to meet the quality requirements for both Type I and Type II reclaimed water applications (see Chapter 5). In Type I applications, there is likely public contact in areas irrigated with reclaimed water. In Type II projects, public contact is controlled. However, as flows from these plants increase, and approach their rated design capacities, careful observations should be made of the CBOD and turbidity levels. Any trends of increased concentrations should be addressed, possibly with optimization of operations or additional treatment capacity. Under the current flow and loading conditions, the effluent from either plant could be used for Type I or Type II reclaimed water projects.

In addition to monitoring of parameters required for regulatory compliance, when marketing new users and negotiating customer agreements, the City should inquire about any specific water quality expectations or requirements, particularly for industrial customers. As necessary, the City may need to provide additional water quality data or undertake special monitoring programs to quantify concentrations of other constituents of interest to specific customers.

9.2.1.7 Chapter 210 Reclaimed Use Notification

At the commencement of the study, the City held a reclaimed water authorization for Type II reclaimed water service to the Waterchase Golf Course. As a part of this study, the City submitted a general reclaimed water notification to the TCEQ to cover both Type I and Type II uses of reclaimed water throughout a much larger service area. The notification identified a

number of potential uses for the reclaimed water. Official authorization for this notification was received from the TCEQ on August 28, 2006. A copy of the reuse authorization is included as Appendix M.

9.2.1.8 Public Information/Public Awareness Campaign

Since well-designed public outreach programs have been demonstrated to play a significant role in the success of reclaimed water projects, an important component of the City's implementation plan will be developing an effective public outreach program. Such a program would inform stakeholders, solicit their input, and develop and enhance their support for the beneficial use of reclaimed water. It is anticipated that this effort would continue the use of a Public Information Committee (PIC), specific to reclaimed water, as has already been established for this project (see Section 8.5).

Public Announcements and Response

To ensure that City of Fort Worth reclaimed water projects are not misrepresented in the public domain, press releases should be used as a means of disseminating the project parameters and goals accurately.

Upon release of a reclaimed water project announcement to the press, the public and City leaders may have questions or be asked questions about the project. City staff and leaders need to be made aware of and be briefed on the project to respond knowledgeably to public inquiries. An example of "Frequently Asked Questions" about reclaimed water uses is included in Appendix K. A "Glossary of Terms" that relate to reclaimed water projects is also included in Appendix J.

Coordination with Water Conservation Program

The City's water conservation awareness program is ongoing and complementary to this project. The findings and recommendations of the Reclaimed Water Priority and Implementation Plan should be coordinated with and incorporated into the City's water conservation efforts.

Stakeholder Workshops

The City of Fort Worth will work with and inform its customer cities and other stakeholders of the scope and implications of the reclaimed water program. In addition to potential involvement on the Public Information Committee, it is recommended that customer cities and other stakeholders be invited to participate in workshops to inform, encourage, and build consensus on the reclaimed water program.

9.2.1.9 Reclaimed Water Marketing Efforts

Identifying potential customers and understanding their needs and expectations are vital to successfully marketing reclaimed water. Many of the potential customers identified in this report have already been contacted directly in order to provide them with information about the reclaimed water program and to obtain specific information related to quantity and quality requirements. A standard transmittal letter and questionnaire have been developed and are provided in Appendices C and D, respectively. The City should continue to contact and meet

with potential customers in order to keep them apprised of progress with the reclaimed water program and to develop updated information regarding customer interest and quantity/quality requirements.

In conjunction with other policies and procedures, reclaimed water marketing material should be developed. Various marketing schemes and philosophies may be employed such as:

- News Media Applications
- Web Site Development
- Public Television Announcements
- Video Development
- Public Presentations
- Special Promotional Events (perhaps also incorporating water conservation)

As discussed in Chapter 8, some initial marketing materials were developed as a part of this project, including web site information, brochures and signs. Marketing surveys may also be employed to develop marketing materials through surveys to potential customers, businesses, stakeholders, and the general public.

9.2.2 Reclaimed Water Workgroup Goals and Accomplishments

As discussed above, a reclaimed water workgroup was established in order to begin the process of developing the appropriate administrative framework to support the reclaimed water program. The workgroup held 9 meetings between October 31, 2006 and March 8, 2007. The primary goals of the workgroup were as follows:

1. Identify and develop a general description of administrative documents necessary for the reclaimed water program;
2. Development of draft administrative documents identified in item 1, above. Draft documents developed by the workgroup include:
 - a. A reclaimed water ordinance that defines the purpose of the program, application procedures, user and provider responsibilities, and prohibitions;
 - b. A standard service agreement for reclaimed water users;
 - c. The rate and fee structure for the reclaimed water program.
3. Identify existing City documents that require modification to incorporate aspects of the reclaimed water program. Establish and procedure and timeline for modification of these documents.

Copies of the draft reclaimed water ordinance and standard service agreements are included in Appendices N and O, respectively. It should be noted that in addition to the projects recommended in this report, the City is planning the construction of a truck depot at its Village Creek WWTP. Reclaimed water will be available at this depot to permitted haulers for transport to user sites. The ordinance and service agreement documents incorporate special provisions to address this reclaimed water hauling program.

The rate structure adopted by the workgroup is the same as the structure discussed in Section 7.5.3. These rates include an in-system volume charge of \$0.75/1000 gallons and an out-of-system volume charge of \$0.94/1000 gallons. In addition it was decided that the same general fee structure used for the potable water system would be used for the reclaimed water system. The reclaimed water rates will be incorporated into the City's existing ordinance for water and wastewater rates.

The ordinance and service agreement documents, together with the rate structure are scheduled to be taken to the City Council for approval in April 2007. Adoption of these documents by the City Council will provide the necessary foundation to begin contracting with users once facilities have been constructed.

With respect to item 3, above, several documents are currently being revised in order to incorporate design standards and installation policies that are unique to the reclaimed water program. These documents include:

- *Water and Wastewater Installation Policy*
- *Policies and Procedures for Processing Water and Wastewater Projects for Design and Construction*

As a part of the workgroup meetings, a reclaimed water implementation team was established to oversee the modifications to these documents and to identify additional policies and procedures required for implementation of the reclaimed water program. In addition, the implementation team has had several meetings to facilitate communication about the reclaimed water program to other City departments.

9.3 Summary- Recommended Reclaimed Water Projects

This study has identified four direct, nonpotable reclaimed water projects that can be implemented to serve the City of Fort Worth and surrounding communities (see Table 9-1). The feasibility evaluation has indicated that these projects are viable and provide a number of benefits to the City, its wholesale customers, its raw water provider (Tarrant Regional Water District), and surrounding communities participating in the reclaimed water program. In addition, a partnership with Trinity River Authority to use treated effluent from the Denton Creek Regional Wastewater System for the Northern service area may help TRA to defer upgrades necessary to comply with more stringent TPDES permitting requirements.

As a part of this project, the City has taken significant steps toward the implementation of its reclaimed water program. Development of the ordinance and service agreement documents,

together with modifications to existing policy and procedure documents to incorporate specific provisions of the reclaimed water program are well underway.

The recommendation to implement the four proposed reclaimed water projects is based on the likelihood of customer interest and feasibility of the projects. Potential customers in both the Northern and Eastern service areas have expressed a serious interest in purchasing reclaimed water as soon as it is available. In addition, the developer of the Walsh Ranch area in the Western service area has indicated willingness to install dual distribution systems for that area. The City needs to pursue further discussions with these potential customers to finalize their commitment to reclaimed water use. Other potential customers identified in this report should also be contacted directly to confirm their interest, needs and expectations.

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