

Application for Grant Funding
From The South Florida Water Management District
Cooperative Funding Program



For
Alternative Water Supply Project
Pilot Project to Demonstrate Indirect Surface Water Public Reuse
November 4, 2016

Project Title: Supplementing Reclaimed Water with indirect surface water from manmade canals

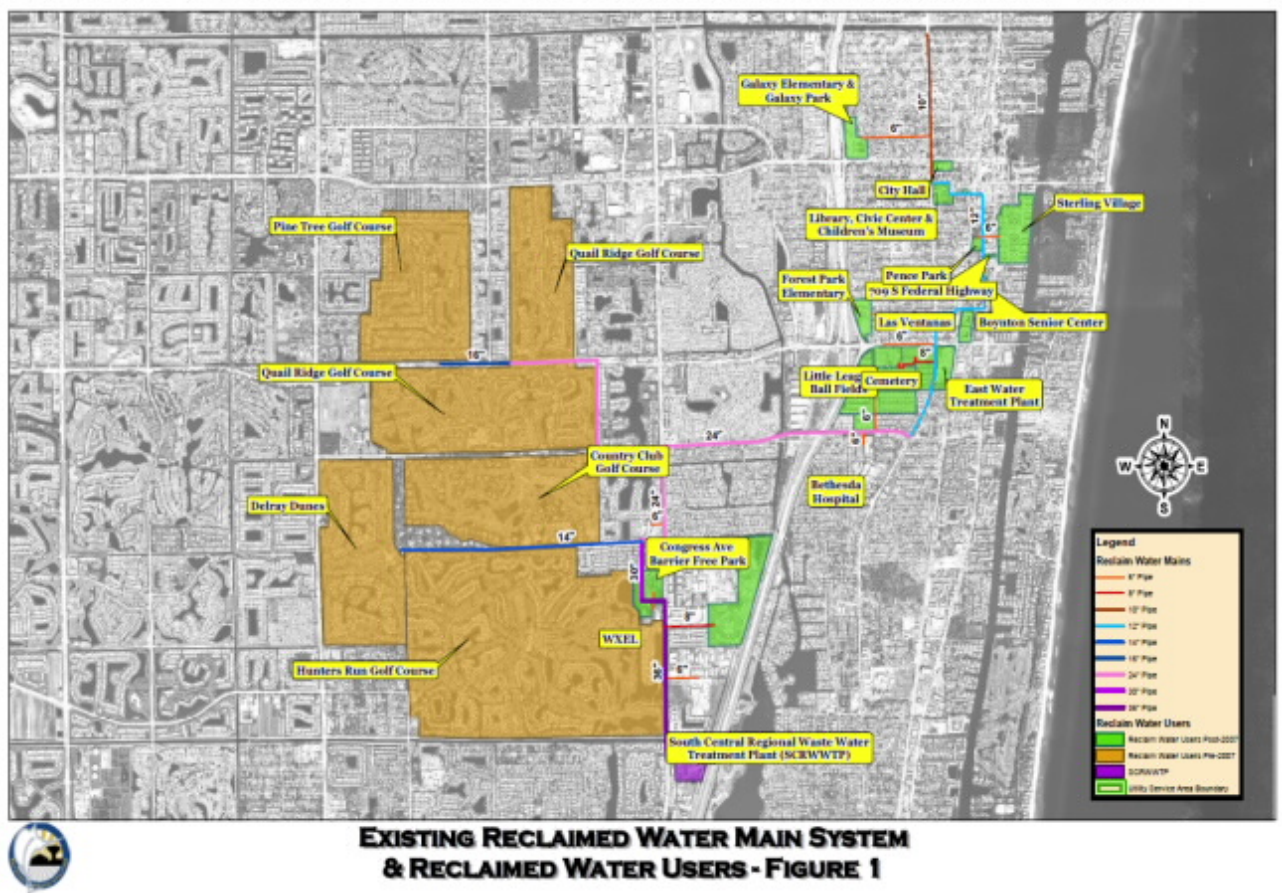
A. Introduction/Background

The City of Boynton Beach (in Palm Beach County) is part of SFWMD Lower East Coast Water Supply Planning Area. This planned alternate water supply project meets the statutory considerations for a Pilot Program project under Section 373.037:

1. This project is located within the Lower East Coast Water Supply Planning Area., which is statutorily defined as a restricted allocation area.
2. This project will provide both water supply and environmental (e.g., nutrient reduction) benefits.
3. This project is a continuation of a SFWMD AWS project in the LEC Regional Water Supply Plan, as adopted in 2011.

The City of Boynton Beach obtains reclaimed water from the South Central Regional Wastewater Treatment Plant (SCRWWTP). The City of Boynton Beach and the City of Delray jointly manage the regional plant. Boynton Beach reused approximately 170 million gallons of treated wastewater in 2015. The majority of the water is used by commercial and residential users for irrigation. The City of the Boynton Beach reclaimed water is used to reduce the demand for potable water. The current reclaimed water system is made up of over 12 miles of distribution piping, 7 million gallons of wet weather storage and High service pumps.

The City's current reclaimed system is shown in Figure 1. The City serves 5 large users and several smaller users with reclaimed water. The City has plans to expand the its reclaimed water use in the near future. The City is very interested in exploring alternate water supply options.



The City of Boynton Beach is interested in constructing a pilot project that would utilize canal water to supplement its reclaimed water supply

B. Objectives

To develop and evaluate pilot project that will allow indirect withdrawals of canal water released from Water Conservation Areas (WCAs) to provide additional reclaimed water during the peak demand while reducing the amount of water and nutrients sent to tide and reduce the potential for coastal algae Blooms.

C. Scope of Work

The pilot project will consist of a 100 gallon per minute skid mounted filter and disinfection similar to that shown in Figure 2. The supply water to feed the pilot skid would be withdrawn from a shallow well adjacent to the canal by a vertical turbine pump. The well water would be pumped through a disk filter prior to entering a holding tank where sodium hypochlorite would disinfect the fresh water prior to entering the booster pump basin. Horizontal close coupled pumps placed adjacent to the Holding tank will pump the water into the reclaimed distribution system. A conceptual site plan is shown in Figure 3 below.

Mentoring Nutrient Removal:

The City of Boynton Beach will develop a sampling plan that will consist of sampling the following:

- Canal water
- Well discharge
- Filter discharge
- Filter backwash discharge
- Reuse pump discharge

Residual chlorine concentrations will also be monitored to insure conformance conform to public reuse standards.

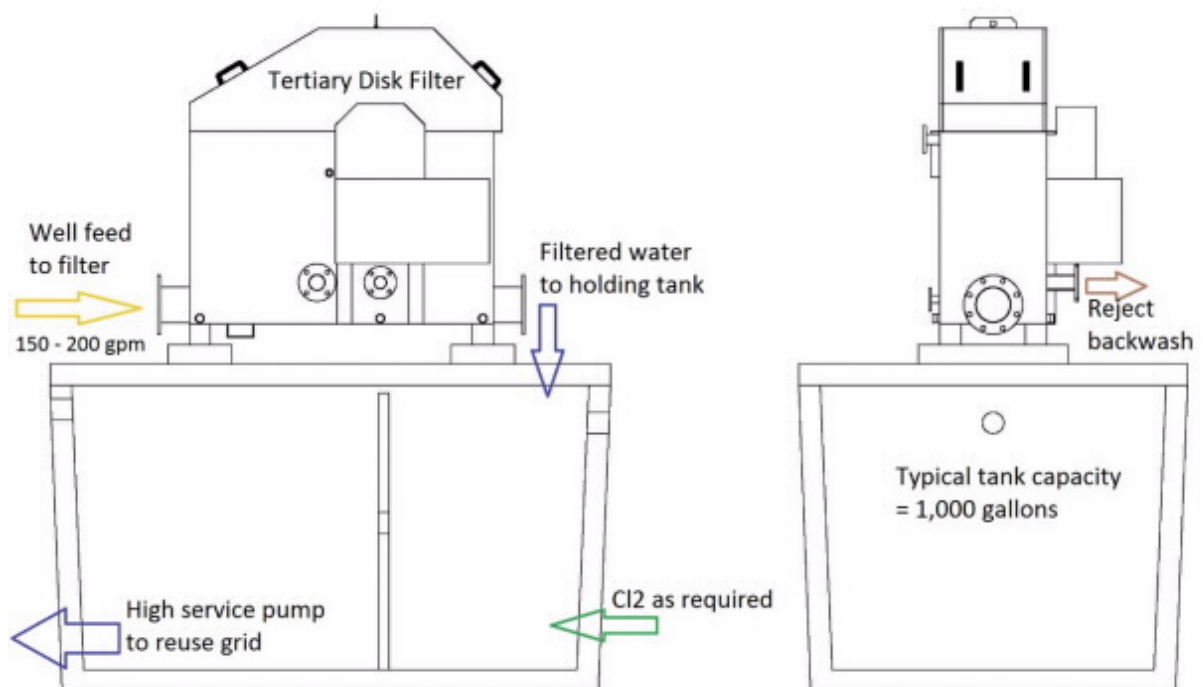


Figure 2 - Skid Mounted Filter disinfection System

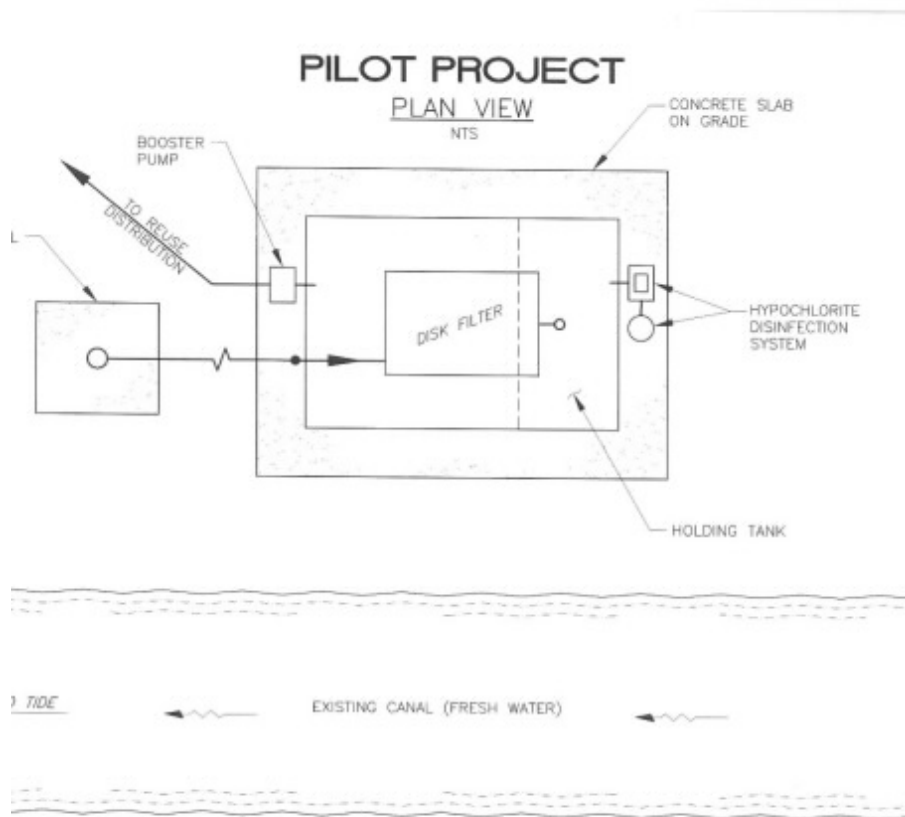


Figure 3 - Conceptual Site Plan

C. Estimate of Probable Cost

The City has prepared a conceptual estimate of probable cost for the installation of the project.

The City of Boynton Beach will operate and conduct monitoring of water quality information gathered during the pilot project

Table 1 – Estimate of probable Pilot Construction Cost

Item Number	Component Description	Probable Cost
1	Well system and piping	\$20,000
2	Skid Mounted Filter, Tank & Appurtenances	\$150,000
3	Disinfection System	\$4,000

4	Booster Pumping Facility and Transmission Main	\$20,000
5	Associated Site Work	\$5,000
	Total Probable Cost	\$199,000