

Project Name: Project RENEW

Project Location: Orange County

Project Number: 44

Project Type: Reclaimed Water

Description of Project:

Project RENEW is a regional reuse project. The original project planned to provide 9.2 mgd of reclaimed water from the City of Orlando to Northwest Orange County to offset adverse impacts from Orlando Utilities Commission's (OUC's) pumping at the full CUP allocation. RENEW was modeled and accepted by the SJRWMD in 2006 to bring 8.55 mgd of reclaimed water to Apopka and 0.65 mgd to Winter Garden for a total of 9.2 mgd. The source of the reclaimed water is the City of Orlando's Iron Bridge Water Reclamation Facility (WRF) or raw wastewater diverted from the Iron Bridge service area and treated at the Conserv II WRF (also known as McLeod Rd. WRF). The project as currently planned includes wastewater collection system upgrades to divert wastewater to the Conserv II WRF, wastewater treatment improvements at the Conserv II WRF, and construction of a reclaimed water pump station and transmission mains. The attached figure shows the current piping configuration for Project RENEW.

The project will be re-evaluated in order to determine the best location/s for reclaimed water in the region that is environmentally, technologically, and economically feasible. Project RENEW may also be used to meet an adopted MFL prevention and recovery strategy.

Planning-Level Project Details:

Components of the project include the following:

Wastewater Collection and Treatment System Upgrades

Wastewater collection system upgrades will be needed in order to divert raw wastewater from the City of Orlando's Iron Bridge service area to the Conserve II WRF for treatment. This includes upgrades to City of Orlando lift station Nos. 1, 5 and 7 and wastewater collection piping improvements. The City of Orlando recently completed several improvements to the Conserv II WRF, which provides reliable treatment up to 18 mgd including nutrient removal. Additional treatment improvements may be needed depending on the amount of raw wastewater diverted for RENEW and the results of the rerating study of the recent improvements.

Reclaimed Water Pump Station

A reclaimed water pump station will be constructed at the Conserv II WRF in order to pump reclaimed water to Apopka.

Transmission Mains

A 24-inch diameter, 13 mile transmission main will be constructed to convey 8.55 mgd on an average annual basis from the Conserv II WRF to the City of Apopka WRF.

Project Yield:

Project RENEW is planned to provide a total of 9.2 mgd of reclaimed water as follows:

Phase 1 – 3 mgd

Phase 2 – 6.2 mgd additional; 9.2 mgd total

Estimated planning-level costs:

Planning level costs for Project RENEW were made using the cost estimation (CE) tool developed for the CFWI Solutions team process. Phase I constructs the full size reclaimed water pump station and transmission pipeline from Orlando’s Conserv II WRF to Apopka’s WRF with O&M costs for pumping 3 mgd. More than half of the land costs have been spent on acquiring necessary pipeline easements. Phase II builds improvements to Orlando’s raw wastewater collection and Conserv II treatment system to redirect flow from east to west, so that 9.2 mgd of reclaimed can be delivered to the NW area of Orange County.

Table X. Summary of Estimated Planning-Level Costs for the Project RENEW

Planning Level Estimate	Phase 1 (3 mgd delivered)	Phase 2* (9.2 mgd delivered)
Construction costs	\$19,706,000	\$45,482,000
Non-construction costs	\$3,941,000	\$4,017,000
Land costs	\$1,000,000	\$1,000,000
Total Capital Costs	\$24,647,000	\$50,499,000
Total Annual Costs (O&M)	\$104,000	\$291,000
Unit Cost of Production (\$/kgal)	\$0.51	\$0.90

*total project cost (includes Phase 1 costs).

Estimated Implementation Schedule:

Per OUC’s CUP No. 3159, an engineering study must be submitted within 2 years after adoption of the MFL Prevention/Recovery Strategy for South Lake, Orange and Seminole Counties by the SJRWMD Governing Board. Phase 1 of Project RENEW is required to be completed by October, 2020, and be capable of supplying at least 3 mgd of reclaimed water

for reuse and/or recharge. Phase II shall be completed by October, 2022, and must provide a total of 9.2 mgd of reclaimed water for reuse and/or recharge.

Water Resource Constraints:

The intent of Project RENEW is to offset adverse impacts to wetlands and lakes from Orlando Utilities Commission's (OUC's) pumping at full CUP allocation. Project RENEW is being re-evaluated given changes that have occurred over the last ten years to determine if a better regional option is viable considering the MFL Prevention/Recovery Strategy for South Lake, Orange and Seminole Counties.

Project Feasibility:

The construction of the project is very feasible given the amount of design work that has been completed. The preliminary design report is final for the reclaimed water pump station and draft for the raw wastewater collection system (see references below). Also, the construction drawings for the reclaimed water pipeline are 80% complete and all necessary easements were identified and most were acquired.

Because Project RENEW is being re-evaluated, RENEW in its current form is uncertain. Completion of the CFWI Solutions Phase and the MFL Prevention/Recovery Strategy for South Lake, Orange and Seminole Counties in the next few years will assist in re-evaluating and optimizing the project for regional benefit.

The availability of the reclaimed water, in the quantities specified for Phases I and II, could be a project constraint depending on when the project is needed. It is possible that the reclaimed water quantities may be less than originally planned. The extended period of reduced growth during the economic downturn has reduced both the availability of reclaimed water and the need for reclaimed water by end users for many years into the future.

Permittability:

OUC's CUP issued by the SJRWMD in 2004. The most recent modification is dated May 21, 2014.

Cost-Benefit Analysis of Yield:

Given the low unit production costs of \$0.51/kgal and \$0.90/kgal for Phase I and II, the cost-benefit is favorable when compared to other AWS costs. As currently planned, the reclaimed water from this project is directly offsetting pumping from two utilities from the upper Floridan aquifer to serve irrigation water.

Other Considerations:

OUC will be coordinating with the City of Orlando to explore viable reclaimed water options throughout the city's system including Orlando's 50 % share of Conserv II distribution system.

Potential Partners and Governance Options:

OUC currently has agreements with the City of Orlando and the City of Apopka for Project RENEW. The City of Orlando and Orange County have an agreement to serve reclaimed water to Winter Garden. If RENEW is revised, existing agreements may need to be modified and/or new agreements may be needed.

Funding Sources:

OUC applied for SJRWMD District funding under the Water Protection and Sustainability Program for Project RENEW for a number of years until funding was cut in FY2009. OUC plans to apply for any available District and State funding in the future when appropriate. OUC and the end-use partners would pay for the remaining portions of the project that are not covered by funding.

References:

Orlando Utilities Commission Project RENEW Phase 2 – Lift Stations and Force Mains Project, Preliminary Design Report, Draft, September 2010, prepared by AECOM

Orlando Utilities Commission Project RENEW Reclaimed Water Pumping Station, Preliminary Design Report, Final, August 2009, prepared by HDR

Regulatory Sheet Placeholder