

POLK COUNTY DEVELOPMENT REVIEW COMMITTEE STAFF REPORT

DRC Date:	December 29, 2022	Level of Review:	4
PC Date:	February 1, 2023	Type:	LDC Text Amendment
BoCC Date:	March 7, 2023	Case Numbers:	LDCT-2022-25
	March 21, 2023	Case Name:	Reclaimed Water Alternatives
Applicant:	Polk County Utilities	Case Planner:	Erik Peterson, AICP

Request:	An LDC text amendment to Chapter 7, Section 702.G, Reclaimed Reuse Systems and Section 932.B, (Waiver) Authority, to enable development to use specified alternative irrigation systems to County reclaimed water connection; providing for severability; and providing for an effective date.
Location:	n/a
Property Owner:	n/a
Parcel Size (Number):	n/a
Development Area:	n/a
Nearest Municipality:	n/a
DRC Recommendation:	Approval
Planning Commission Vote:	Approval 7:0

Among the changes to Chapter 7, Section 702.G, Reclaimed Reuse Systems are:

This proposed amendment allows a development to utilize three alternative water sources to provide irrigation services within it. These are: surface water; an existing groundwater well; or wet stormwater ponds, cisterns, or other apparatus that enables the collection and storage of rainwater.

Among the changes to Chapter 9, Section 932.B, (Waiver) Authority are:

This proposed amendment will add Section 702, Connection to Centralized Water, Sewer, and Reuse Water Provisions to the list of Sections in the code that are eligible for administrative waivers.

Summary:

Water conservation is going to be a major topic of discussion in years to come. Central Florida has seen record growth over the past ten years, and it doesn't appear to be letting up. With more people comes more water demand. Central Florida is blessed with the upper Floridan Aquifer that has given us large quantities of relatively pure water. However, there is a finite limit to the upper Floridan Aquifer. As population growth continues as expected, we will need to either find new alternative sources of water or learn to use much less of it per capita. One of the highest uses of water these days is irrigation. This amendment is targeted towards new developments with landscaping that requires irrigation.

The County's three largest wastewater treatment plants convert sanitary sewage into reuse water that is safe for lawn watering. Development within three of the County's five major utility service areas requires all new development to connect to reclaimed water when lines are within a mile. In the Northwest Utility Service Area, connection to sanitary sewer requires connection to reclaimed because it is a closed system where there are no other forms effluent disposal available. While these areas are dedicated to water efficiency, reclaimed water cannot provide for the total amount of irrigation demand. On average, it takes the sanitary sewer output of three homes to equal the irrigation demands for one.

Water conservation calls for more than just connection to reclaimed water. To meet the water demands of the future, we must use less water and use alternative sources to potable water. This amendment enables new developments to seek alternative water sources such as lined stormwater ponds and surface waters to provide landscape irrigation to common areas and possibly individual homes and businesses.

Data and Analysis Summary

The data review and analysis conducted by staff involved the work of consultants for the Polk County Utilities Division and the Polk Regional Water Cooperative. Staff also conducted a survey of other 14 jurisdictions as to how they were handling situations where the demand for reclaimed water exceeds the output of the treatment plants. The consultants recently made staff aware that it takes the wastewater generation from three (3) homes into the system to supply enough reclaimed water to meet the irrigation demand of one (1) home. Staff discovered that establishing reclaimed water with newer facilities from the start is more likely to result in a water supply deficit than in jurisdictions where older plants and systems were in place prior and then later retrofitted for reclaimed service. This is because much of the system developed without additional reclaim water lines so there is an excess of homes supplying wastewater into the system that are not using it. As new development is added to the network with reclaimed lines, the excess supply diminishes.

Staff surveyed the counties along the I-4 corridor, abutting counties, similar counties, and the two largest cities in Polk. They were asked if they provided reclaimed water in their jurisdiction, was connection to it required, and if other non-potable water alternatives were allowed in lieu of reclaimed connection. While only nine of the 14 provided reclaimed water, 11 of them required connection to reclaimed if it was available even if it was from private sources. Nine of the jurisdictions allowed or required non-potable sources of water to be used before access to potable sources would be allowed.

This amendment is applicable to reclaimed water and irrigation systems throughout the County. It applies to properties in the Green Swamp Area of Critical State Concern. It will undergo review by

the Florida Department of Economic Opportunity (DEO) Community Planning Department Areas of Critical State Concern Program prior to it becoming effective.

Findings of Fact

1. *The request is a Land Development Code text of Chapter 7, Section 702.G, Reclaimed Reuse Systems and Section 932.B, (Waiver) Authority, to enable development to use specified alternative irrigation systems to County reclaimed water connection.*
2. *POLICY 3.102-A2.d of the Comprehensive Plan states that a “treated reclaimed water (recycled) distribution system shall be incorporated in the design of all new wastewater treatment systems and, as feasible, in any existing plant capacity upgrades.”*
3. *POLICY 3.102-A2.e of the Comprehensive Plan states that a “As part of the process for implementing new developments, developers shall be required to identify and use treated reclaimed water as an alternative water source to meet irrigation and aesthetic needs, where available or planned within the five-year schedule of capital improvements, consistent with the Land Development Code.”*
4. *POLICY 3.102-D2 of the Comprehensive Plan states that a “As part of the 10-Year Water Supply Plan, the County shall adopt and implement, in coordination with the water managements districts and FDEP, programs which incorporate strategies and techniques to implement water-conservation, reclaimed water-use, and any other activity equivalent to a consumption rate of 110 gallons per capita per day with the intent of reducing the need for additional demand on the hydrological system.”*
5. *POLICY 3.102-D6 of the Comprehensive Plan states that a “The County, as part of the 10-year Water Supply Plan, shall develop and implement a program to implement the use of properly treated wastewater (reclaimed) for agricultural and residential irrigation, industrial coolant, and other activities which do not require the use of potable water in all of its utilities service areas.”*
6. *POLICY 3.106-B6 of the Comprehensive Plan states “POLICY 3.106-B6: The County shall implement established development regulations that promote the use of reclaimed water and treated wastewater for industrial and agricultural uses in areas identified as high or prime recharge areas.”*
7. *LDC Section 702.G requires all development to connect to reclaimed water based on the number of units in a proposed development or the estimated flow of a non-residential use.*
8. *Planning staff has reviewed the land development the reclaimed water requirements of 11 central Florida counties that bear commonalities with Polk and the two largest municipalities in the County. Staff found that nine (9) of the 14 provided reclaimed water, 11 of them required connection to reclaimed if it was available, and nine (9) of the jurisdictions allowed or required non-potable sources of water to be used before potable could be used for irrigation.*

Development Review Committee Recommendation:

The Land Development Division, based on the information provided with the proposed text amendment application, finds that the proposed text change request is **CONSISTENT** with the Polk County Land Development Code and the Polk County Comprehensive Plan. Staff recommends **APPROVAL** of LDCT-2022-25.

Planning Commission Recommendation:

On February 1, 2023, at an advertised public hearing, the Planning Commission voted 7-0 to recommend approval of this application.

Analysis:

The upper Floridan Aquifer has been the primary and often sole source of water for agriculture, mining, manufacturing, and municipal utility systems in central Florida since the first habitation of the area. The planning and development of new water supplies can take years, even decades, and is affected by population growth, use of reclaimed water, conservation measures, and environmental factors. The upper Floridan Aquifer has limits to its use, and there is no end in sight to growth in central Florida, so alternative supplies must be sought. As we look at the individual and regional needs of our communities, we know something needs to be done to ensure future water supplies. While the state has identified sustainable water services as one of its top environmental and legislative priorities, the County and cities have formed the Polk Regional Water Cooperative to lead planning for Polk County's future water supply needs. But there is no better water supply than the one we have currently, and the best way to make it last is to use less of it. This amendment is the first in a series of Land Development Code amendments to facilitate greater water conservation in development.

This amendment provides all forms of development an option for irrigation water sources other than potable water. Potable water is chlorinated and fluorinated which makes it the worst and most expensive source of irrigation for turf or landscaping. No one should ever prefer it as an irrigation source. Potable water is infused with chloride for sanitary purposes and fluoride to improve dental health. Neither of these additives is good for the growth of plants or grass. Therefore, when reclaimed water is available there are additional reasons to connect. But when reclaimed is not available, there should be other options available rather than potable water. This amendment facilitates the use of wet retention ponds or other surface water resources. It also allows for the repurposing of raw agricultural wells that are taken offline to develop property.

History

It has been a struggle ever since the County developed its first wastewater treatment plant with reuse water refinement capabilities to find consistent consumers of the irrigation quality water produced by the plant. Our first users were golf courses then slowly thereafter we began offering financial incentives such as fee reductions and reciprocal service agreements. With these incentives, residential developments began incorporating the dual systems into their infrastructure construction. In the Northwest Utility Service Area, land for wastewater effluent was as such a premium that the County created a closed system. This made reclaimed water connection a requirement for connection to wastewater service. In the Central Utility Service Area, the County and Bartow teamed up to use their reclaimed water to supply water for cooling a major power plant which reduced their dependance on groundwater. In the Southwest Utility Service Area, much of the reclaimed water was diverted to wetland restoration in the Alafia River watershed. Today there are

many more residential reclaimed water customers than in the past and the systems have to be augmented with former agricultural wells to maintain adequate flow for customers.

Limits of the Proposed Ordinance

This amendment applies to development proposed within the unincorporated areas of the County where reclaimed water lines are within proximity and relative to the size of the development. This amendment will apply to development in the Green Swamp or in any Selected Area Plan that is served by a reclaimed water network. The Department of Economic Opportunity (DEO) requires a 45-day review on all policy changes affecting development in the Green Swamp Area of Critical State Concern regardless of whether it has a direct relationship to the primary purpose of the Critical Area which is aquifer recharge and protection. Therefore, this request will be reviewed by the DEO Community Planning Department Areas of Critical State Concern Program prior to becoming effective. Staff believes that this amendment will benefit the Critical Area.

Comparisons to other Jurisdictions:

It wasn't until the early 1990s when municipal wastewater programs began planning for an alternative to large scale land application of their wastewater residuals. Polk County was one of the first utility providers to consider it in the design of new facilities. Under the reauthorization of the U.S. Clean Water Act of 1990, wastewater treatment facilities were encouraged to improve the quality of their effluent. Through federal and state grants and other incentives many municipalities began retrofitting or redesigning their plants as they expanded. This survey reveals that today there is widespread use of reclaimed water.

Table 1

Jurisdiction <i>(code citation)</i>	Do wastewater systems provide reclaimed water in the jurisdiction?	Is connection to Reclaimed Water required, if so when and where?	Are other non-potable water alternatives allowed in lieu of reclaimed?
Alachua County <i>Sec. 407.116.5</i>	Yes , through Gainesville Regional Utilities	Yes . In Areas where available.	Yes . Temporary irrigation wells.
Brevard County <i>Sec. 110-308</i>	Yes , the County is a regional provider.	Yes . All new development connecting to County wastewater service	No. But there is a variance process.
Duval County <i>Sec. 752.104</i>	Yes , in 5 out of 7 systems that serve the county	Yes . Where available by the provider countywide	No .
Hardee County <i>Sec. 3.13.02(k)</i>	No.	No.	Yes , under stormwater regulations.
Highlands County <i>Sec. 12.11.202.C</i>	No.	Yes , if it comes available.	Yes , if available.
Hillsborough County <i>Sec. 102-226, 6.06.03.F</i>	Yes .	Yes .	Yes . "An irrigation system shall use the lowest quality water available".
Lake County <i>Section 9.01.00</i>	No.	No.	No.
Manatee County <i>Section 7.01.11</i>	Yes .	Yes .	Yes . "Shallow wells and wet retention/detention ponds shall also be in used as an alternative to potable water."
Orange County <i>Section 24-6, 37-4</i>	Yes .	Yes . For PDs and DRIs if capacity exists within 2 years.	No. Only exemptions for xeriscaping
Osceola County <i>Section 4.8.10</i>	No. but TOHO does.	Yes . All development except for individual lots not within a PD.	Yes . "the use of harvested rainwater or stormwater reuse for irrigation is permitted, with the option of

Table 1

Jurisdiction <i>(code citation)</i>	Do wastewater systems provide reclaimed water in the jurisdiction?	Is connection to Reclaimed Water required, if so when and where?	Are other non-potable water alternatives allowed in lieu of reclaimed?
			<i>potable water as a last resort for temporary systems"</i>
Seminole County <i>Sec. 30.1377</i>	Yes.	Yes , in areas being "retrofitted" for reclaimed water	Yes. "All landscaped areas shall be provided with a non-potable water supply for the irrigation system."
Volusia County <i>Sec. 122-185, 72-1364</i>	Yes.	Yes. For new development connecting to Volusia County water and wastewater if "beneficial use of the reclaimed water resource".	Yes. "Potable water may be used only on single-family residential lots if no lesser quality source is available, but shall be converted to a lesser quality source when it becomes available"
City of Lakeland <i>Sec. 4.5.11.3</i>	No. All reclaimed water goes to power plant cooling or wetland restoration	No.	Only at the discretion of the Water Utilities Department.
City of Winter Haven <i>Sec. 19-36</i>	Yes , but mostly on public properties and golf courses.	Yes , if located within 500 ft of a reclaimed water main.	No.

Based on the results of this survey, staff believes that this amendment is a part of prudent management of the County's water resources. The only jurisdictions that were found to not encourage alternative sources to potable water use were using their reclaimed water for other purposes as the case in the City of Lakeland where the reclaimed is dedicated to power plant cooling or wetland restoration.

Consistency with the Comprehensive Plan

The proposed ordinance is consistent with the Comprehensive Plan. POLICY 3.102-A2.d of the Comprehensive Plan states that a "*treated reclaimed water (recycled) distribution system shall be incorporated in the design of **all new wastewater treatment systems** and, as feasible, in any existing plant capacity upgrades.*" POLICY 3.102-A2.e of the Comprehensive Plan states that "*a part of the process for implementing new developments, **developers shall be required to identify and use treated reclaimed water as an alternative water source to meet irrigation and aesthetic needs, where available or planned within the five-year schedule of capital improvements, consistent with the Land Development Code.***" These policies have been implemented in the County's Northeast, Northwest, and Southwest Utility Service Areas.

POLICY 3.102-D6 of the Comprehensive Plan states that a "*The County, as part of the 10-year Water Supply Plan, shall develop and implement a program to implement the use of properly treated wastewater (reclaimed) for agricultural and residential irrigation, **industrial coolant**, and other activities which do not require the use of potable water in all of its utilities service areas.*" Wastewater from the Central Utility Service Area is sent to the Bartow Wastewater Treatment Plant where the water is reclaimed and piped to the Hines Power Plant for use in the steam cogeneration power and coolant of the fossil fuel combustion energy facility.

Consistency with the Florida Statutes

There are numerous statutes and administrative codes addressing reclaimed water and water conservation. This request is consistent with all statutes as long as non-potable water is not mixed with potable sources.

Comments from Other Agencies: Planning and Utilities staff worked together to develop language in the proposed ordinance.

Draft Ordinance: under separate attachment