

LEGISLATIVE #

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Appendix C - Addendum to Data and Analysis for the Potable Water & Wastewater Element

Exhibit C-1 Addendum to Data & Analysis (Source: GRU, May 19, 2011)

LOS Standards

Water Supply Planning LOS standards are used for determining whether adequate water supply is available to serve future population. The LOS was calculated by dividing the historical average daily flows (residential and commercial - does not include the University of Florida and power plant demands) from the GRU Murphree Water Treatment Plant by the total residential population. This is considered a “gross” gpcd LOS because it is calculated by dividing the total “gross” plant flow by the residential population served. This should not be confused with the “residential” per capita flow, which would be calculated by dividing the water sold only to residential customers by the residential population.

Potable water plant planning is based on the entire demand (residential and commercial) divided by residential population, and excludes University of Florida and power plant demands. Wastewater plant planning is based on the entire demand (residential and commercial) divided by residential population.

GRU Water Reclamation Facilities

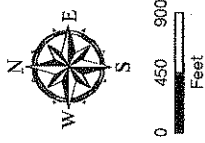
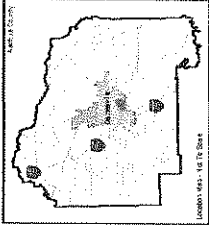
GRU operates two water reclamation facilities, Main Street Water Reclamation Facility (MSWRF) and Kanapaha Water Reclamation Facility (KWRF). The rated capacities of the facilities are 7.5 mgd and 14.9 mgd, respectively.

A portion of the effluent from MSWRF is used for reuse via irrigation and industrial cooling. A figure showing the MSWRF reclaimed water distribution network is attached. The remaining effluent discharges to Sweetwater Branch, which ultimately flows into Alachua Sink and recharges the Floridan Aquifer. GRU, in conjunction with City of Gainesville Public Works Department, is constructing the Paynes Prairie Sheetflow Restoration Project. Other project partners include Florida Department of Transportation, St. Johns River Water Management District and Florida Department of Environmental Protection. This project will treat the flow from Sweetwater Branch and reestablish the natural flow pattern of Sweetwater Branch onto Paynes Prairie, thereby restoring 1,300 acres of natural wetlands in Paynes Prairie Preserve State Park. The project will meet the City’s regulatory requirements from the TMDL for Alachua Sink, improve water quality, protect the Floridan Aquifer, and provide wildlife habitat and public recreation. The project will result in 100 percent of the MSWRF flow being beneficially reused.

All of the flow from the KWRF is beneficially reused for either aquifer recharge or irrigation reuse. Aquifer recharge is accomplished via four recharge wells, and via several aesthetic water recharge features that GRU has constructed. GRU has a reclaimed water master policy that promotes the expansion of the reclaimed water distribution system to serve developments within a designated reclaimed water (RCW) service area. GRU’s RCW service area is attached. This area may be adjusted over time. Currently the service area is outside of the City’s incorporated area. However, portions may extend into the City limits in the future through either future annexations

or due to further expansion of the RCW service area. Alachua County is proposing to adopt land development regulations that will require new developments within the RCW service area to be connected to reclaimed water. The City proposes to adopt similar regulations.

Proposed Reclaimed Water Service Area Boundary - Main St. WRF



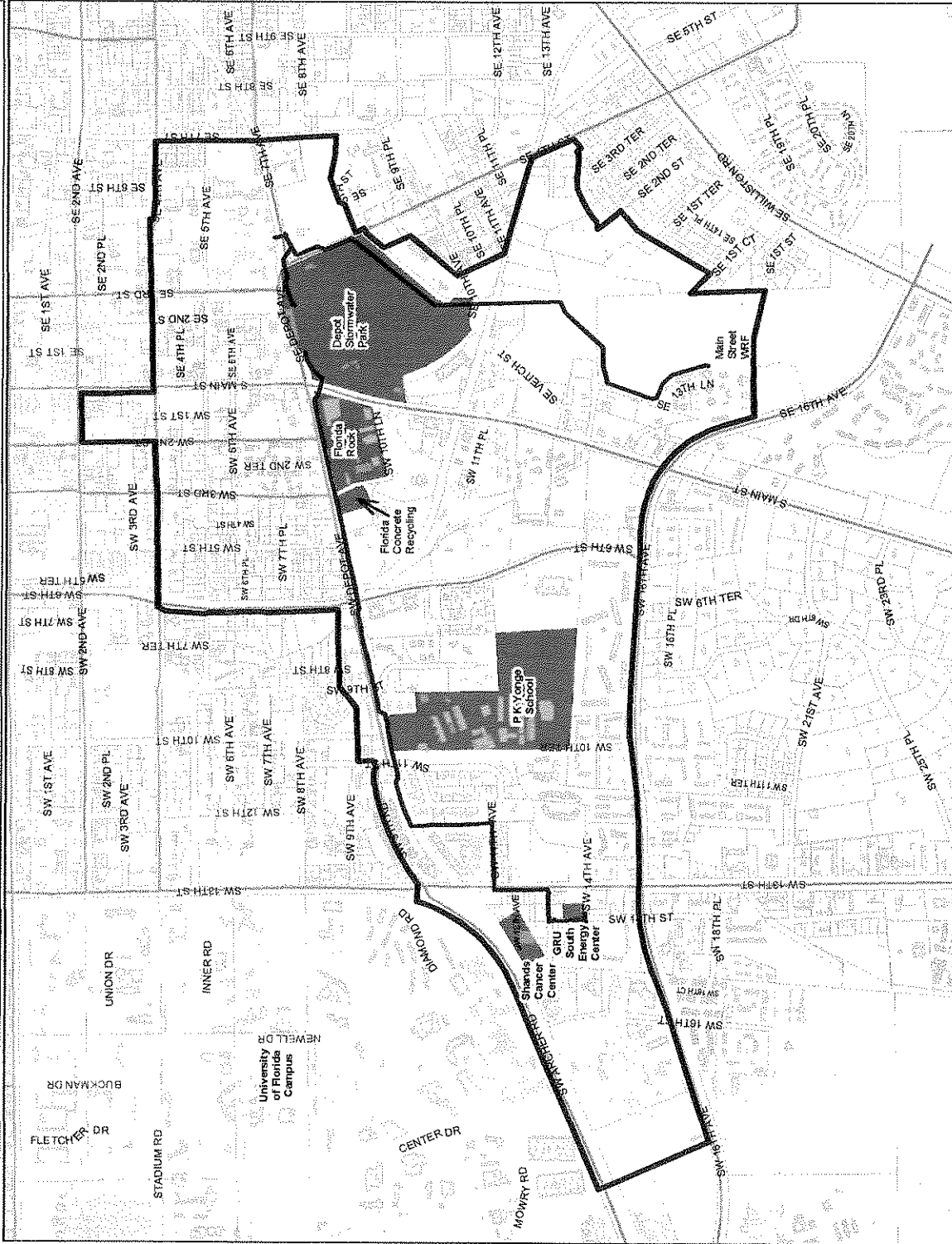
Legend

- Existing RCW Main
- Potential Reuse Sites
- Proposed 5-yr Reclaimed Water Service Area

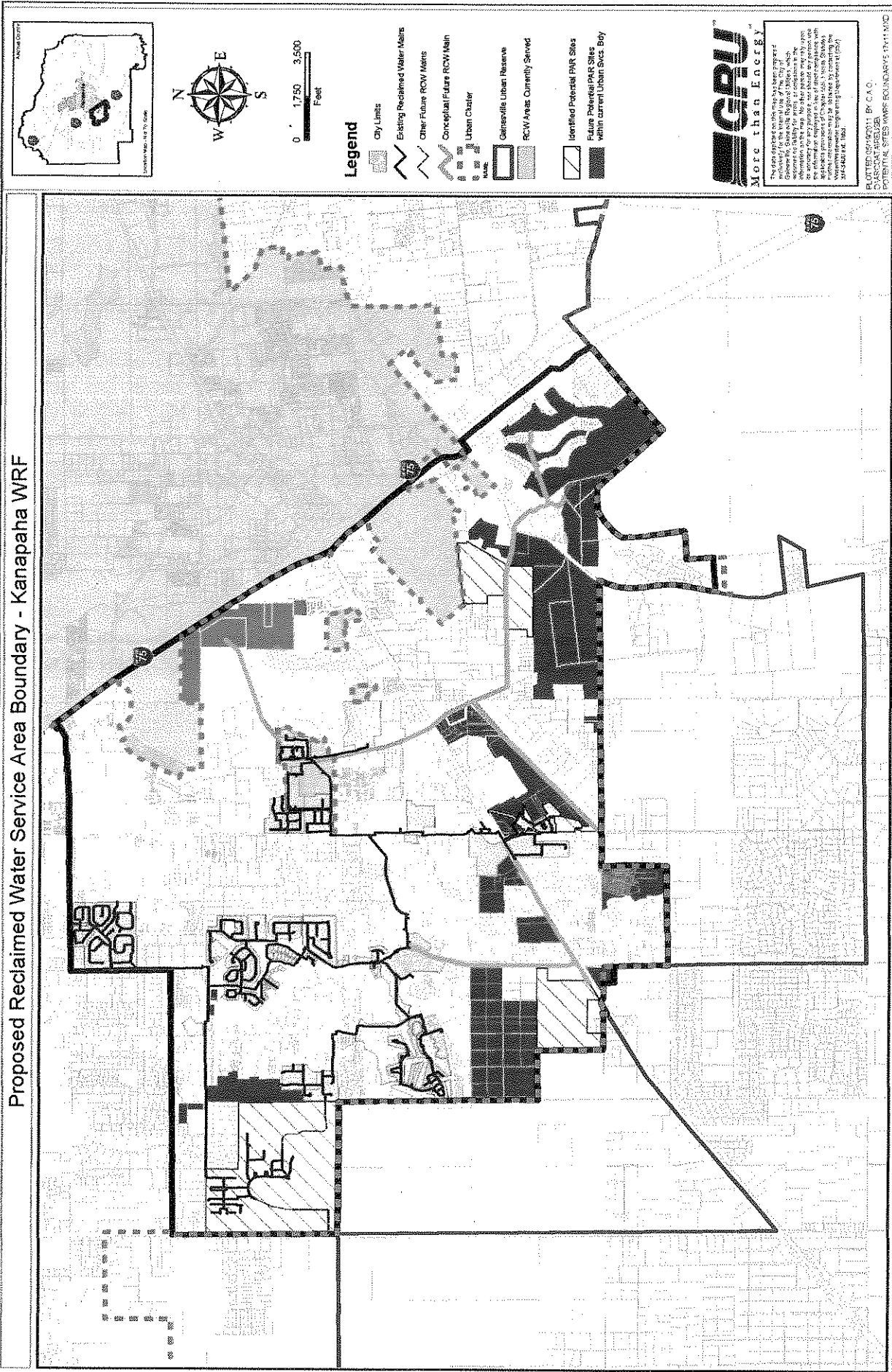


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POTENTIAL SITES\WRF BOUNDARY TX111.MXD



Proposed Reclaimed Water Service Area Boundary - Kanapaha WRF



Paynes Prairie Sheetflow Restoration Project

The Paynes Prairie Sheetflow Restoration Project is a major environmental restoration project which will improve water quality, protect drinking water and restore 1,300 acres of natural wetlands within Paynes Prairie Preserve State Park. The \$25M project is a partnership between Gainesville Regional Utilities, City of Gainesville public works, FDEP, SJRWMD and FDOT, and is broadly supported in the community. The project was initiated in response to nutrient reduction requirements contained in the Total Maximum Daily Load (TMDL) for Alachua Sink, a lake located within Paynes Prairie.

The attached figure (Paynes Prairie Sheetflow Restoration Project Schematic) summarizes the project. GRU's MSWRF discharges to Sweetwater Branch which flows through older areas of Gainesville. In its natural state Sweetwater Branch flowed onto Paynes Prairie in a sheetflow pattern which hydrated wetlands on the prairie. However, like many urban streams, Sweetwater Branch has been highly channelized and incised, and receives significant stormwater flows. In addition, the natural sheetflow pattern onto the prairie has been disrupted by a man-made channel, constructed in the 1930s, which by-passes the natural wetlands and routes the flow directly to Alachua Sink. As a result Sweetwater Branch carries nutrients from the Gainesville area directly to Alachua Sink, and deposits large amounts of trash and sediment onto the prairie.

The project is an integrated approach to solve many of these problems. The project includes four major components (shown in attached figure):

1. Improvements to GRU's Main Street Water Reclamation Facility to remove phosphorus;
2. Construction of a 125 acre enhancement wetland to treat the flow from Sweetwater Branch;
3. Construction of a sheetflow distribution channel which will distribute the high quality flow from the enhancement wetland onto Paynes Prairie, thus re-establishing the natural flow pattern; and,
4. Removal of the man-made bypass channel and restoration of the natural sheetflow onto Paynes Prairie (see attached figure)

The enhancement wetland will treat the entire baseflow of Sweetwater Branch. Thus it will effectively remove nutrients from all sources that enter the stream, including wastewater effluent, stormwater, septic tanks and other sources. It will also remove trash and sediment. The re-establishment of the natural sheetflow pattern onto the prairie will rehydrate and help to restore 1,300 acres of natural wetlands on the prairie. The natural wetlands will further reduce nutrients down to background levels, before the water flows into Alachua Sink, where it will recharge the Floridan Aquifer.

Paynes Prairie Sheetflow Restoration Project Schematic

