



INTEROFFICE MEMORANDUM
FROM
PUBLIC WORKS
UTILITIES

Date: June 14, 2010

TO: Matt Noble
Lee County Planning Department

From: Howard S. Wegis *HSW*
Staff Engineer

**SUBJECT: Proposed Mixed Use Communities in DRGR
Analysis of LCU's Ability to Serve**

The Lee County Planning Department has requested LCU to revise the analysis of the ability to provide water and wastewater service to the Mixed Use Communities being proposed as part of the transfer of development rights (TDR) program for the DRGR Comprehensive Plan Amendment that was provided in a memorandum to Matt Noble on May 5, 2010.

According to the Lee County Planning Department the following revisions to the analysis is required. Sites A, C, D, E, F, and G are to be removed from the analysis, as they are no longer proposed. In addition, Sites H, I, J, and K are to have their retail square footage increased by 300,000 sq. ft. Attached is a revised map titled "Rural Communities & Mixed-Use Communities without TDR's" depicting the location of the five remaining communities proposed for increased density as a result of the TDR program (see Attachment 1). Each of the five remaining sites are labeled on this map. LCU has also revised the table titled "Maximum Development Capacity for DR/GR Communities (see Attachment 2) to reflect the revised retail square footages and the remaining Mixed-Use Developments. The table provides the maximum retail square footage, maximum office square footage, and number of dwelling units for each community. These square footages and number of dwelling units were utilized to develop the gallons per day demand for potable water and determine the amount of wastewater that would be generated for each community to determine the potential impact of each community on the water and wastewater systems that would be serving these communities.

For the purpose of this analysis, the following assumptions were made with respect to which LCU facility would provide water and wastewater service to these communities.

- Site B would be provided water service by LCU's Pinewoods WTP and wastewater service would be provided by LCU's Three Oaks WWTP
- Site H would be provided water service by LCU's Corkscrew WTP and wastewater service would be provided by LCU's Gateway WWTP.
- Sites I, J, and K would be provided water service by LCU's Green Meadows WTP and wastewater service by LCU's Gateway WWTP.

Regarding the means with which the projected potable water demands and wastewater

flows were calculated, Florida Administrative Code (FAC), Chapter 64E-6, was utilized to derive the projected flows for commercial development. The following assumptions were made based on FAC 64E-6: Flows for office space flow were assumed to be 15 gallons per day per 100 square foot of area and flows for retail was assumed to be 0.1 gallon per day per square foot. For Dwelling Units the adopted level of service for Lee County, 250 gallons per day per dwelling unit was utilized as a projected flow.

Utilizing the assumptions discussed above a projected water demand and wastewater flow was determined for each community. These flows were then assigned to the various LCU facilities discussed above. A spreadsheet showing the results of the analysis is shown in Attachment 3 titled, "DRGR TDR Projected Flows".

Given the assumptions described above and the analysis shown on Attachment 3, the following summarizes the potential impact to LCU's treatment facilities.

Corkscrew Water Treatment Plant

- An increase in demand for potable water from the Corkscrew WTP of 299,953 gallons per day on annual average (0.30 MGD) is projected as a result of the proposed amendment.
- The Corkscrew WTP is currently producing and annual average of 8.2 MGD with a permitted treatment capacity of 15.0 MGD.
- The committed capacity to developments that are proposed to be served by the facility total 1.85 MGD.
- Increases in demand at the Corkscrew WTP are being met with a combination of permitted fresh and brackish groundwater.

Three Oaks Wastewater Treatment Plant

- An increase in wastewater flow to the Three Oaks WWTP of 148,262 gallons per day on annual average (0.148 MGD) as a result of the proposed amendment.
- The Three Oaks WWTP current annual average flow is 2.3 MGD and the permitted treatment capacity of the facility is 6.0 MGD.
- The committed capacity to developments that are proposed to be served by the facility total 2.5 MGD.
- The demand for reclaimed water in the Three Oaks WWTP regional reuse service area far exceeds the supply. Therefore, the additional reclaimed water generated as a result of this amendment will be utilized to meet the high demand for reclaimed water in this area.

Gateway Wastewater Treatment Plant

- An increase in wastewater flow to the Gateway WWTP of 1,011,881 gallons per day on annual average (1.012 MGD) as a result of the proposed amendment.
- The Gateway WWTP current annual average flow is 0.62 MGD and the facility is currently permitted at 1.0 MGD.
- The committed capacity to developments that are proposed to be served by the facility total 0.078 MGD.
- The facility is currently being expanded to a capacity of 3.0 MGD. Construction of the expansion to 3.0 MGD is 95% complete.
- The demand for reclaimed water in the Gateway community far exceeds the supply. Therefore, the additional reclaimed water generated as a result of this

amendment will be utilized to meet the high demand for reclaimed water in this area.

Pinewoods Water Treatment Plant

- An increase in demand for potable water from the Pinewoods WTP of 148,262 gallons per day on annual average (0.148 MGD) as a result of the proposed amendment.
- The committed capacity to developments that are proposed to be served by the facility total 0.964 MGD.
- The Pinewoods WTP current annual average flow is 3.99 MGD and the facility is currently permitted at 5.3 MGD.
- Increases in demand at the Pinewoods WTP are being met with brackish groundwater from the Lower Hawthorn Aquifer.

Green Meadows Water Treatment Plant

- An increase in demand for potable water from the Green Meadows WTP of 711,928 gallons per day on annual average (0.712 MGD) as a result of the proposed amendment.
- The committed capacity to developments that are proposed to be served by the facility total 1.849 MGD.
- The Green Meadows WTP current annual average flow is 5.62 MGD and the facility is currently permitted at 9.0 MGD.
- A design of an expansion of the Green Meadows WTP to a capacity of 10.0 MGD is currently underway. The proposed source of the increased capacity is brackish groundwater from the Lower Hawthorn Aquifer.

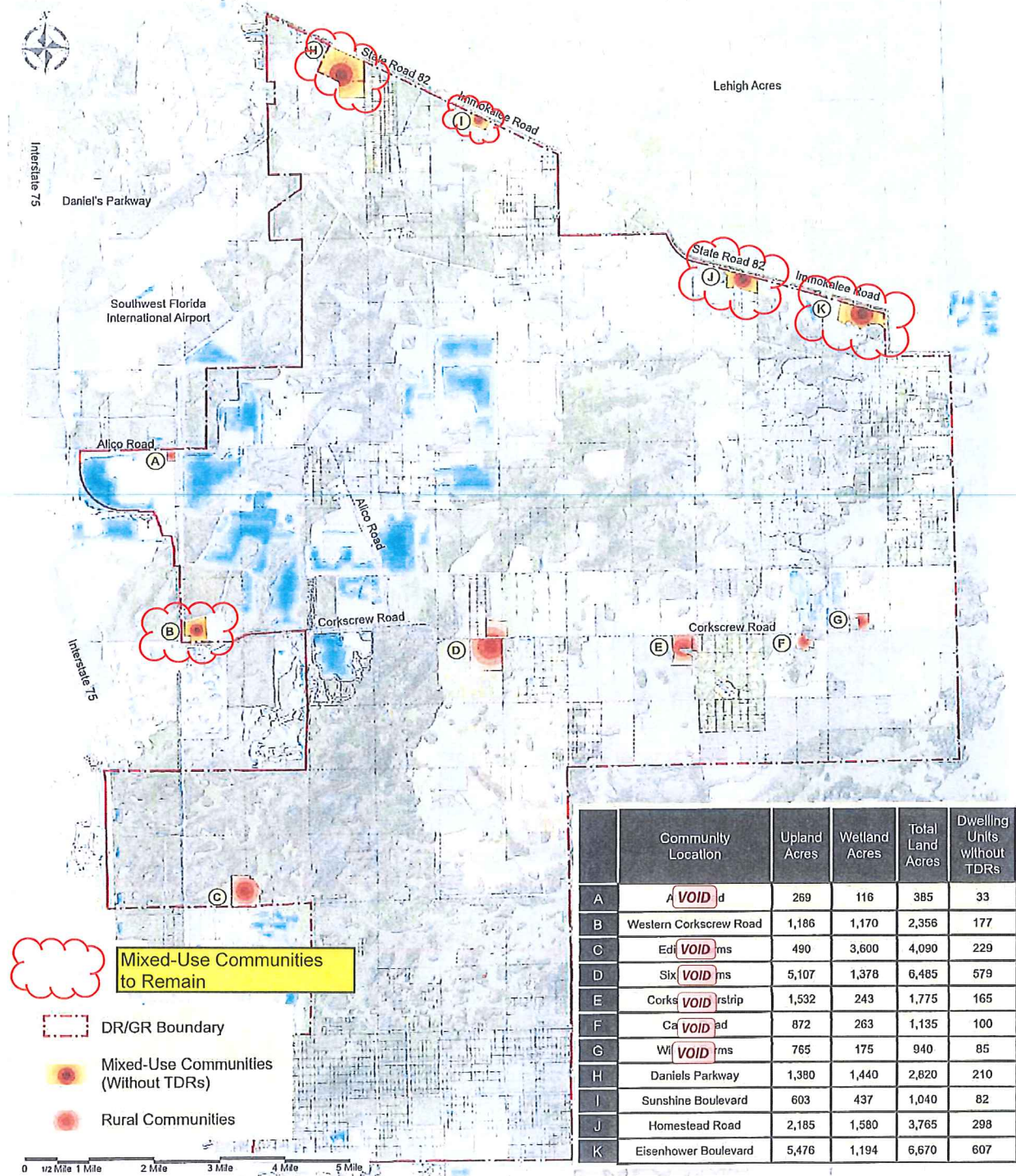
It should be noted that LCU's water transmission and distribution system is configured in such a way that potable water produced at the various points of entry (treatment facilities) can travel through interconnections between the various systems. To a limited extent, these interconnections allows for flexibility with respect to managing deficits and surpluses that may arise at one particular treatment facility.

ATTACHMENT 1

TRANSFERABLE DEVELOPMENT RIGHTS IN SOUTHEAST LEE COUNTY

RURAL COMMUNITIES & MIXED-USE COMMUNITIES WITHOUT TDRs

One strategy involves clustering the development rights of the largest, single-owner, tracts on major roads*.



	Community Location	Upland Acres	Wetland Acres	Total Land Acres	Dwelling Units without TDRs
A	A VOID d	269	116	385	33
B	Western Corkscrew Road	1,186	1,170	2,356	177
C	Edi VOID ms	490	3,600	4,090	229
D	Six VOID ms	5,107	1,378	6,485	579
E	Corks VOID rstrip	1,532	243	1,775	165
F	Ca VOID ad	872	263	1,135	100
G	Wi VOID ms	765	175	940	85
H	Daniels Parkway	1,380	1,440	2,820	210
I	Sunshine Boulevard	603	437	1,040	82
J	Homestead Road	2,185	1,580	3,765	298
K	Eisenhower Boulevard	5,476	1,194	6,670	607

* See Chapter 4 for tract outlines.

ATTACHMENT 2

Maximum Development Capacity for DR/GR Mixed-Use Communities

		Retail SF	Office SF	# Dus
B	West Corkscrew	73047	73047	520
H	Daniels Parkway	463812	163812	916
I	Sunshine Blvd	342028	42028	449
J	Homestead Road	408107	108107	660
K	Eisenhower Blvd	343575	43575	1185
	Total	1630569	430569	3730

**ATTACHMENT 3
DRGR TDR MIXED COMMUNITY PROJECTED FLOWS**

Site	Site Name	Retail SF	Office SF	# of DU's	Retail SF	Office SF	# of DU's	Flow (gpd)	Flow (gpd)	Flow (gpd)	Total Flow (gpd)	Proposed Utility Water Service	Proposed Utility Sewer Service
B	West Corkscrew	73,047	73,047	520	7,305	10,957	130,000	148,262	148,262	LCU Pinewoods	LCU Three Oaks		
H	Daniels Parkway	463,812	163,812	916	46,381	24,572	229,000	299,953	299,953	LCU Corkscrew	LCU Gateway		
I	Sunshine Blvd	342,028	42,028	449	34,203	6,304	112,250	152,757	152,757	LCU Green Meadows	LCU Gateway		
J	Homestead Road	408,107	108,107	660	40,811	16,216	165,000	222,027	222,027	LCU Green Meadows	LCU Gateway		
K	Eisenhower Blvd	343,575	43,575	1,185	34,358	6,536	296,250	337,144	337,144	LCU Green Meadows	LCU Gateway		

Facility	Flow (gpd) (AADF)
LCU Corkscrew WTP TTL	299,953
LCU Three Oaks WWTP TTL	148,262
LCU Gateway WWTP TTL	1,011,881
LCU Pinewoods WTP TTL	148,262
LCU Green Meadows WTP TTL	711,928

Notes: 1. Flow Calculations: 15 gpd per 100 sq. ft. of office space
Per FAC 64E-6 0.1gpd per sq. ft. of retail space

2. DU flows based on Lee County LOS = 250 gpd/du