

Utility Analysis Report

September 11th, 2020

UTILITY ANALYSIS
TOWN OF LADY LAKE UTILITIES

Prepared By:



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- EXHIBIT C: Town of Lady Lake Vacant Property Aerial Map
- EXHIBIT D: Town of Lady Lake ERU Spreadsheet

REPORT PURPOSE

1.0 Report Purpose

The purpose of this report is to conduct a utility analysis of all available vacant parcels from CR 466 south to Lake Ella road, and east of Round Lake Road. This analysis includes potential utility needs.

UTILITY ANALYSIS

2.0 Utility Analysis

A. Existing Conditions.

Existing conditions were based on information provided from Town Staff. The current Consumptive Use Permit (CUP) allows for a maximum of 1,188,000 gpd withdrawals for the Town of Lady Lake. Data provided indicated that as of December 2019, the Town was consuming 730,193 gpd leaving 457,807 gpd available for future development located within the Town limit or outside. The available capacity is limited by the CUP which is valid through 2026. Prior to the expiration of the CUP, the Town will negotiate new permit capacity as part of the CUP renewal process.

B. Future Conditions via Town Projections.

The Town staff have identified developments within the Town limits that will consume 81,250 gpd, and other projects they know of that may develop that are currently outside the Town limits would use an additional 407,375 gpd (see Exhibit D, Town of Lady Lake ERU Spreadsheet). Taking these two factors into consideration that equals 488,625 gpd. Therefore, the Town will exceed the maximum allocation of the CUP just with the anticipated developments identified.

Two scenarios were evaluated; (1) looking at historic usage from the past six (6) years and averaging the usage, and (2) the other scenario is taking the highest annual flow and using that flow over the period of time until 2026.

1) Average Usage Method.

Using the average, the annual rate is 2.2% of increase in water usage annually and shows that the Town will use 850,342 gpd by 2026. This equates to an available capacity for use by new customers of 337,658 gpd. This scenario contends that the developments outlined by the Town will not be completed and consuming their anticipated water usage by 2026. Only a portion of them will be online, or approximately 25% of the identified projects. The additional 337,658 gpd available can be utilized for new customers in the utility service area which

coincides with the Interlocal Service Boundary Area (ISBA) between CR 466 and Lake Ella Road, and Cherry Lake and Round Lake Road.

2) Highest Percentage of Growth Method.

Using the highest year as the new norm, 5% for each year until 2026, the water consumption increased dramatically to 1,027,455 gpd by 2026. This shows an increase in consumption of 297,262 gpd, or the potential of 60% of the projects the Town staff have identified. The volume remaining is approximately 160,545 gpd for future projects. The Town staff still shows the need for 195,450 gpd in outstanding projects that they know of, so the need to renew and add additional capacity to the CUP in 2026 is evident.

C. Growth Areas within Western Portion of ISBA.

The closest growth area for the Town is the area bordered on the north by CR 466, south by Lake Ella Road, west by Cherry Lake Road, and the east of U.S. 27/Hwy 441. This area is a natural growth area and has already become an established annexation area with several annexations already approved to establish a pattern.

The Town staff has directed that LPG use an average of 4 units per acre in our analysis to establish the number of potential residential units that could be developed within this geographic region. GIS was used to review vacant tracts and three methodologies were utilized to review the impacts of water usage potential for the Town of Lady Lake.

The analysis was conducted utilizing data from the Lake County and Sumter County Property Appraisers to identify vacant parcels within the Town of Lady Lake and three proposed sites in unincorporated Sumter County (see Exhibit A). Provided are two figures, Town of Lady Lake Vacant Property Zoning Map (see Figure 1), and Town of Lady Lake Vacant Property FLU Map (see Figure 2), both of which also include three parcels located in unincorporated Sumter County.

Three additional parcels in unincorporated Sumter County that abut Cherry Lake Road were included since they have direct access to Lady Lake water and sewer lines and only Lady Lake can be the central utility to serve due to several political/jurisdictional/agency agreements.

The analysis illustrates a total of 3,867 ERUs within the area outlined. The Town uses three methods to calculate water consumption:

- 1) High Usage: The first method is based off of Lady Lake Code and utilizes a figure of 250 gpd per residential unit.

ERUs	GPD (250 gpd/unit)	Total GPD
3,867	250	966,750

- 2) Medium Usage: The second method utilizes level of service of 100 gpd per person. At 1.89 persons per household, there is a projected population of 7,309 new persons.

ERUs	Projected Population	Total GPD
3,867	7,309	739,600

- 3) Low Usage: The third method utilizes average daily consumption of 125 gpd per unit.

ERUs	GPD (125 gpd/unit)	Total GPD
3,867	125	483,375

All three methods, when added to your current available capacity clearly shows that the Town will need to increase the allocation under the next CUP to keep up with the maximum withdrawal capacity to keep up with projected water demand. The saving grace to all this development is that it will not occur over night or too quickly, it will take anywhere from 5, 10, or 15 years. The town has time to work with the development community to plan the expansion of its utilities and plants.

3.0 Summary

The analysis was completed by using GIS, and determining the number of potential units on vacant parcels utilizing the 4 units per acre recommended to LPG by Town staff. There are 3,487 possible ERUs in Lake County, and 380 ERUs in Sumter County, for a total of 3,867 ERUs per our calculations.

The Town of Lady Lake's Consumptive Use Permit (CUP) maximum capacity is 1,188,000 gpd. The 2019 Town of Lady Lake current daily maximum flow was 730,193 gpd. The Town of Lady Lake has allocated commitments of 81,250 gpd. Therefore, the Town of Lady Lake's available flow capacity is 376,557 gpd. In addition, both scenarios from Section A illustrated projects defined by the Town, but are still yet to be developed until after the Consumptive Use Permit (CUP) is to expire in 2026. Under Scenario 1, 75% of development remains to be completed, leaving 337,658 gpd available capacity. Under Scenario 2, 40% of development remains to be completed, leaving 160,545 gpd available capacity. Both scenarios show a deficit between the Town of Lady Lake's available flow capacity and the completion of identified projects by Town staff.

We utilized three different methodologies to obtain a high, medium, and low estimate for the analysis. Please see below in detail for each methodology and the results of the analysis.

1. This method is based off of Lady Lake Code and utilizes a figure of 250 gpd per residential unit, which represents the same volume of water as an ERU. Using GIS to identify all vacant parcels in the subject area, it was determined that there would be a need for 3,867 ERUs. Using this methodology, it was determined that a total of 966,750 gpd would be needed, and if taken into

consideration the Town of Lady Lake’s available flow capacity of 376,557 gpd, would create a deficit of 590,193 gpd.

2. The second method utilizes an average daily consumption of 125 gpd per person, which volume is similar to the actual average consumption rate in the Town. The average persons per household for the Town of Lady Lake is 1.89. Therefore, an additional 3,867 ERUs would produce a population of approximately 7,309 persons. It was determined that a total of 739,600 gpd would be needed, and if taken into consideration the Town of Lady Lake’s available flow capacity of 376,557 gpd, would create a deficit of 363,043 gpd.
3. The third method utilizes an average of 125 gpd per unit, which volume is similar to the actual average consumption rate in the town. With 3,867 ERUs, the water consumption needed would be 483,375 gpd, which would create a deficit of 106,818 gpd.

	High	Medium	Low
Water Consumption (GPD)	966,750	739,600	483,375
Town of Lady Lake Available Flow Capacity	376,557	376,557	376,557
Deficit	-590,190	-363,043	-106,818

The Town of Lady Lake is the only public water and sewer provider in the northwest section of Lake County.

The Town faces choices, to look at increasing the capacity of the water system (working with developers to finance) and in 2026 seek an increase in the CUP capacity from SJRWMD to keep up with the current and anticipated demand. A municipal public utility system provides a public benefit by replacing the proliferation of wells and septic tanks as the option for development or small private utilities.

Figure 1

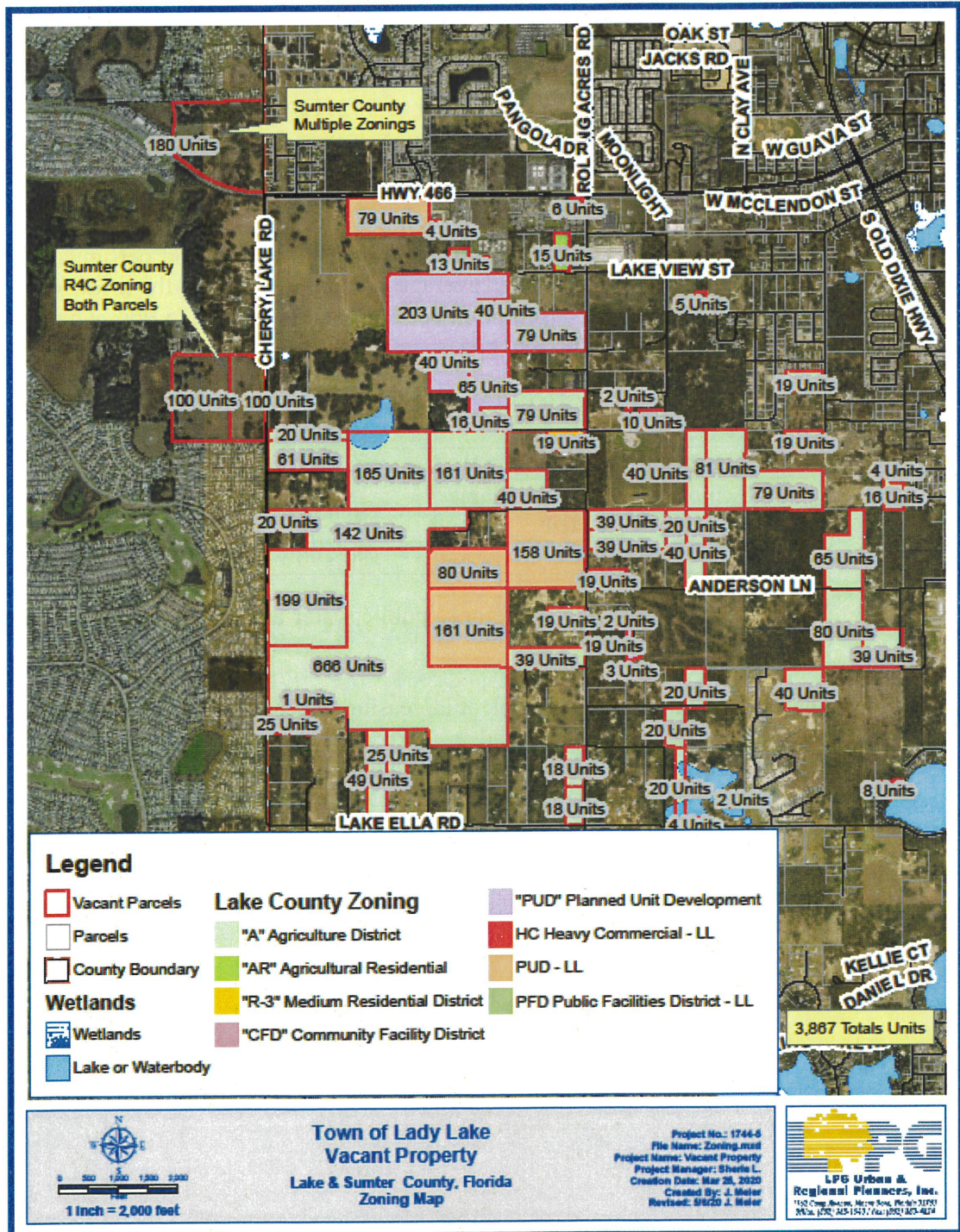
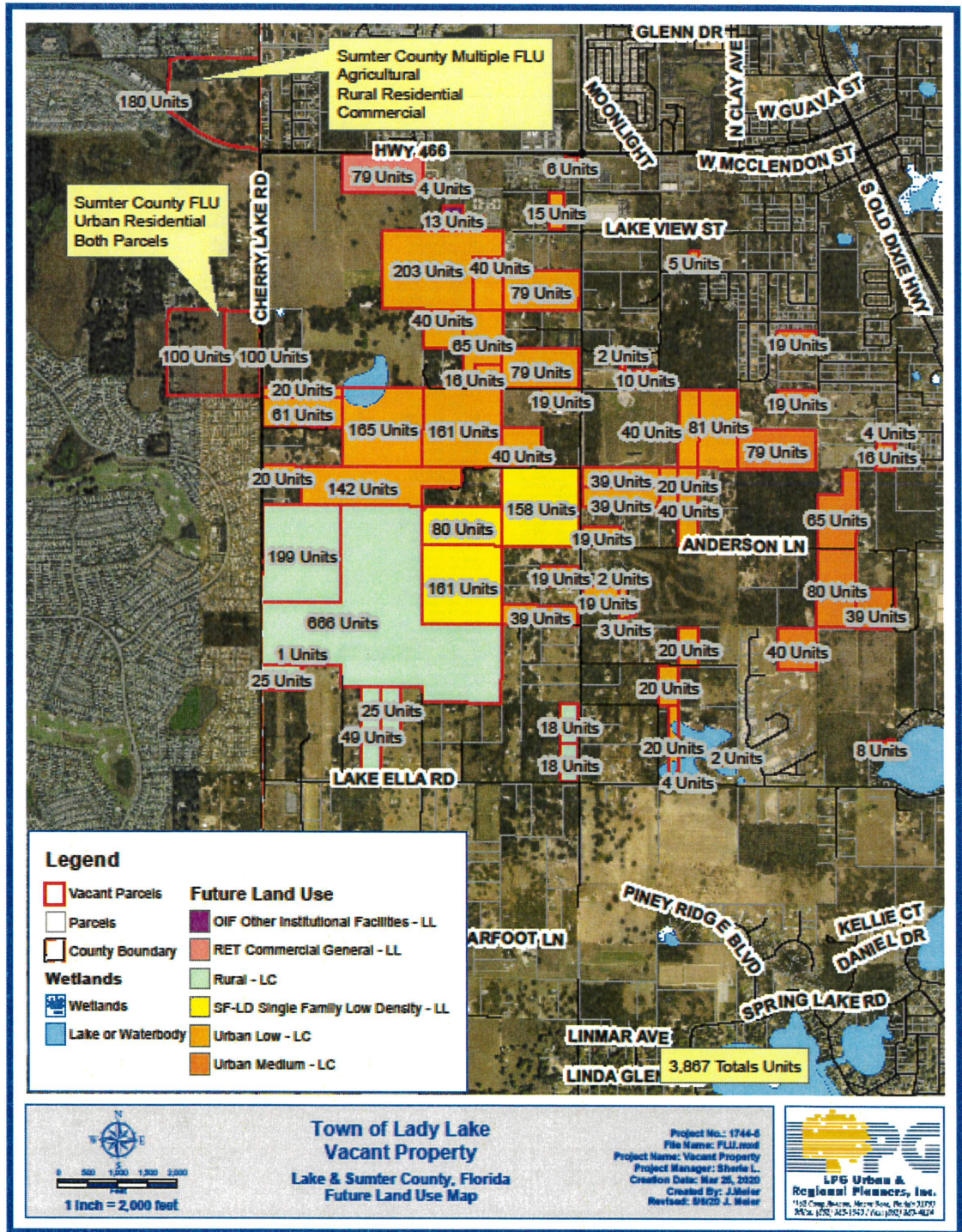


Figure 2



ApKey	PropertyAd	LandUseDes	Property 1	Acres	FLU	Zoning	Units	High	Medium	Low
				19.400195	Urban Residential	R4C	100	25,000	18,900	12,500
				32.014446	Urban Residential	R4C	100	25,000	18,900	12,500
				4.811515	Urban Medium	Multiple Zonings	190	46,000	34,000	22,500
				19.667555	Urban Low	A	19	4,750	3,600	2,375
				9.966931	Urban Low	PUD	79	19,750	14,900	9,875
				10.091312	Urban Low	PUD	40	10,000	7,600	5,000
				50.708568	Urban Low	PUD	203	50,750	38,400	25,375
				19.059441	RET Commercial General - LL	PUD - LL	79	19,750	14,900	9,875
				1.466715	RET Commercial General - LL	HC Heavy Commercial - LL	6	1,500	1,100	750
				4.038502	Urban Medium	A	16	4,000	3,000	2,000
				1.000205	Urban Medium	A	4	1,000	800	500
				10.064326	Urban Low	A	40	10,000	7,600	5,000
				20.126829	Urban Low	A	81	20,250	15,300	10,125
				19.603734	Urban Medium	A	79	19,750	14,900	9,875
				4.946422	Urban Low	A	20	5,000	3,800	2,500
				0.900203	Urban Low	A	4	1,000	800	500
				0.375872	Urban Low	A	2	500	400	250
				4.757836	Urban Low	RA	19	4,750	3,600	2,375
				10.066712	Urban Medium	A	40	10,000	7,600	5,000
				19.900515	Urban Medium	A	80	20,000	15,100	10,000
				10.092379	Urban Low	A	40	10,000	7,600	5,000
				9.84447	Urban Low	A	39	9,750	7,400	4,875
				9.831177	Urban Medium	A	39	9,750	7,400	4,875
				9.834763	Urban Low	A	39	9,750	7,400	4,875
				16.151217	Urban Medium	A	65	16,250	12,300	8,125
				49.036437	Rural	A	199	49,750	37,600	24,875
				0.328342	Rural	A	1	250	200	125
				6.270172	Rural	A	25	6,250	4,700	3,125
				4.800206	Urban Low	A	20	5,000	3,800	2,500
				9.850719	Urban Low	A	39	9,750	7,400	4,875
				4.469315	Rural	A	18	4,500	3,400	2,250
				166.571305	Rural	A	666	166,500	125,900	83,250
				39.528041	SF-LD Single Family Low Density - LL	PUD - LL	199	39,500	29,900	19,750
				1.012362	Urban Low	CFD	4	1,000	800	500
				2.056692	Urban Medium	A	8	2,000	1,600	1,000
				4.045437	Urban Low	A	2	500	400	250
				12.229262	Rural	A	19	4,750	3,600	2,375
				4.779233	Urban Low	A	49	12,250	9,300	6,125
				4.045437	Urban Low	A	16	4,000	3,000	2,000
				40.326469	Urban Low	A	191	40,250	30,400	20,125
				41.134159	Urban Low	A	165	41,250	31,200	20,625
				15.129024	Urban Low	A	61	15,250	11,500	7,625
				16.125987	Urban Low	A	65	16,250	12,300	8,125
				35.596969	Urban Low	PUD	142	35,500	26,800	17,750
				6.169158	Rural	A	19	4,750	3,600	2,375
				4.810733	Rural	A	16	4,500	3,400	2,250
				10.088342	Urban Low	A	40	10,000	7,600	5,000
				4.796092	Urban Low	R-3	19	4,750	3,600	2,375
				20.031952	SF-LD Single Family Low Density - LL	PUD - LL	80	20,000	15,100	10,000
				40.224262	SF-LD Single Family Low Density - LL	PUD - LL	191	40,250	30,400	20,125
				19.804975	Urban Low	AR	161	15,375	11,500	7,625
				3.980207	Urban Low	A	19	4,750	3,600	2,375
				4.802515	Urban Medium	A	19	4,750	3,600	2,375
				0.570629	Urban Low	PUD	3	750	600	375
				0.730165	Urban Low	PUD	2	500	400	250
				2.54279	Urban Low	A	10	2,500	1,900	1,250
				4.945304	Urban Low	A	19	4,750	3,600	2,375
				4.819363	Urban Low	A	20	5,000	3,800	2,500
				5.098939	Urban Low	A	20	5,000	3,800	2,500
				5.044773	Urban Low	A	20	5,000	3,800	2,500
				1.969075	Urban Low	A	20	5,000	3,800	2,500
				3.185028	Off Other Institutional Facilities - LL	PFD Public Facilities District - LL	13	3,250	2,500	1,625
				5.045403	Urban Low	A	20	5,000	3,800	2,500
				1.139605	Urban Low	R-1	5	1,250	900	625

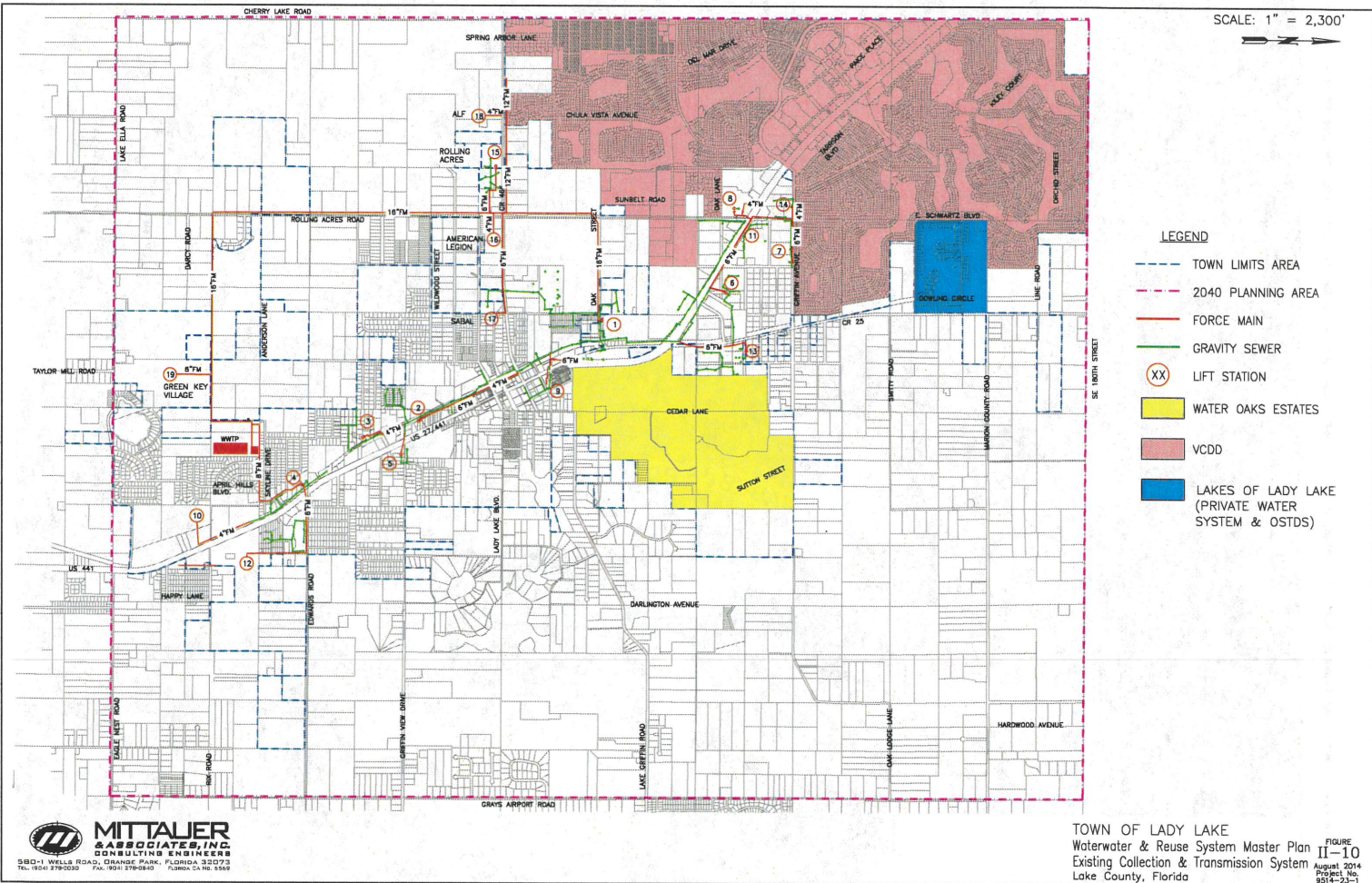
negative 590,153 gpd negative 383,043 gpd negative 106,819 gpd

3867
Total Lake County Units: 3,487
Total Sumter County Units: 380

Town of Lady Lake Consumptive Use Permit Max Capacity: 1,188,000 gpd
Town of Lady Lake 2019 Current Daily Maximum Flow: 730,193 gpd
Town of Lady Lake Allocated Commitments: 81,250 gpd
Town of Lady Lake Available Flow Capacity: 376,557 gpd available capacity

M:\CAD Files\Lady Lake\9514231\exhibits\Figure II-10 Existing Collection and Transmission System.dwg, 6/30/2014, 10:22:47 AM

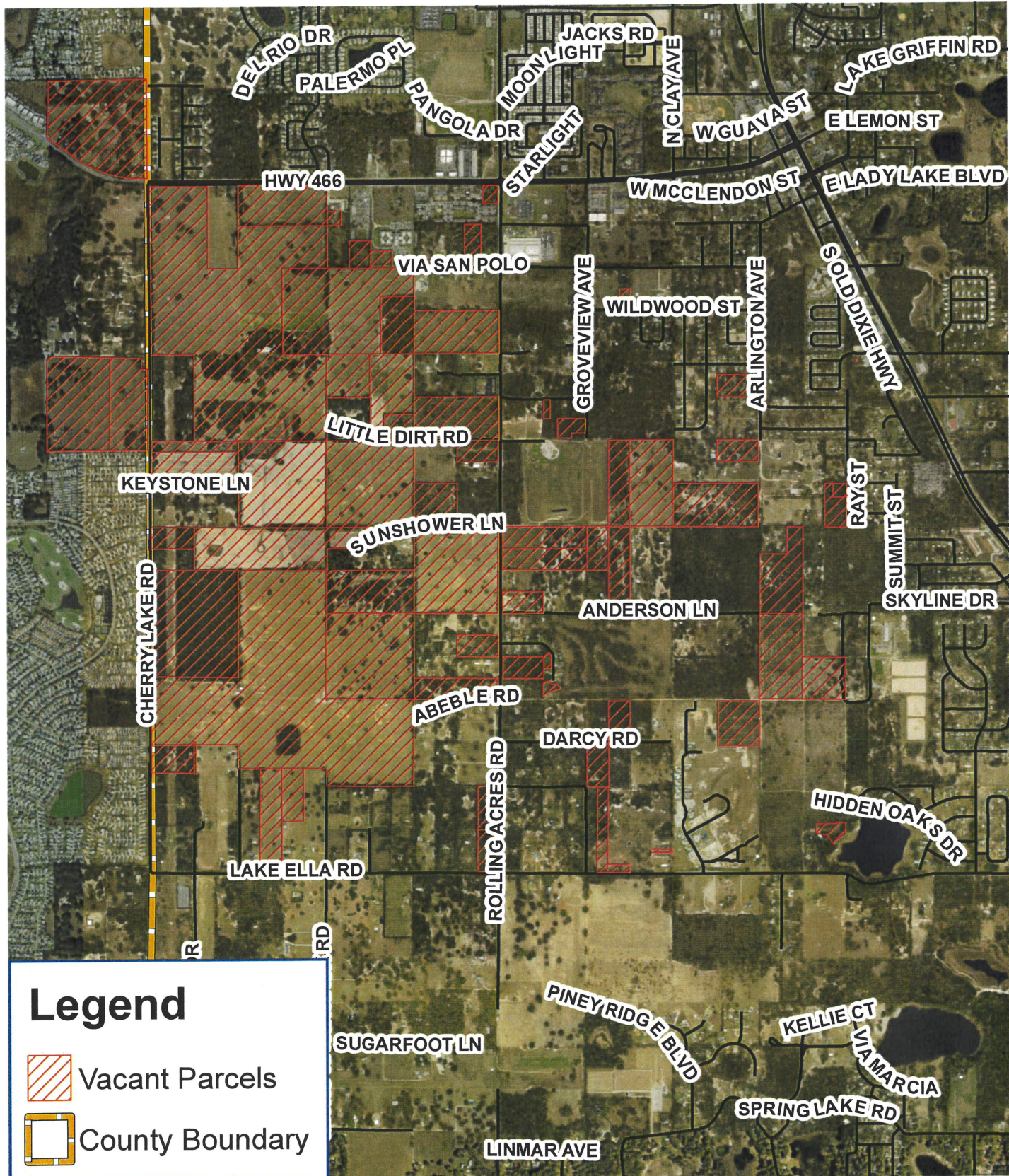
SCALE: 1" = 2,300'



- LEGEND**
- TOWN LIMITS AREA
 - 2040 PLANNING AREA
 - FORCE MAIN
 - GRAVITY SEWER
 - XX LIFT STATION
 - WATER OAKS ESTATES
 - VCDD
 - LAKES OF LADY LAKE (PRIVATE WATER SYSTEM & OSTDS)

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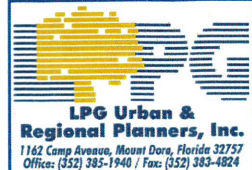
TOWN OF LADY LAKE
 Wastewater & Reuse System Master Plan **FIGURE II-10**
 Existing Collection & Transmission System
 Lake County, Florida
 August, 2014
 Project No. 9514-23-1



1 inch = 2,000 feet

**Town of Lady Lake
Vacant Property**
Lake & Sumter County, Florida
Aerial Map

Project No.: 1744-5
File Name: Aerial.mxd
Project Name:
Project Manager: Sherie L.
Creation Date: Apr 3, 2020
Created By: J.Meier
Revised: 4/30/20 J. Meier



Town of Lady Lake Assignments and Estimated Consumption for Approved Development Projects

	Assignment (gpd)	Units	Use	Reduct.	Estimated Consumption (gpd)
Phillips	15,000				15,000
Meucci	402,500	1274 Res	125	159,250	243,250
Bailey	135,000	483 Condo	125	60,375	74,625
Cullison 25 (ALF)	15,500				15,500
Lady Lake Square	95,000	312 Apts	125	39,000	56,000
Lighthouse Storage	3,000				3,000
	666,000				407,375
Current Flow	730,193				730,193
Allocated	81,250				81,250
GPD	1,477,443				1,218,818