BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In Re: Application for increase in water and wastewater rates in Charlotte, Highlands, Lake, Lee, Marion, Orange, Pasco, Pinellas, Polk and Seminole Counties by Utilities, Inc. of Florida	/ / / / /	Docket No. 160101-WS FILED: March 6, 2017

DIRECT TESTIMONY

OF

ANDREW T. WOODCOCK

ON BEHALF OF THE CITIZENS OF THE STATE OF FLORIDA

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OF

ANDREW T. WOODCOCK P.E., MBA

On Behalf of the Office of Public Counsel

Before the

Florida Public Service Commission

Docket No. 160101-WS

I. INTRODUCTION/BACKGROUND/SUMMARY

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Andrew T. Woodcock. My business address is 201 East Pine St., Suite 1000, Orlando, FL 32801.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND WORK EXPERIENCE.

A. I am a Professional Engineer licensed in the State of Florida, P.E. license No. 47118. I graduated from the University of Central Florida in 1988 with a B.S. degree in Environmental Engineering, and in 1989 with an M.S. degree in Environmental Engineering. In 2001, I graduated from Rollins College with an MBA degree. In 1990, I was hired at Dyer, Riddle, Mills and Precourt as an engineer. In May 1991, I was hired at Hartman and Associates, Inc., which has since become Tetra Tech. My experience has been in the planning and design of water and wastewater systems with specific emphasis on utility valuation, capital planning, utility financing, utility

mergers and acquisitions, and cost of service rate studies. I have also served as utility rate regulatory staff for St. Johns, Charlotte, and Collier Counties in engineering matters. Exhibit ATW-1, Resume of Andrew T. Woodcock, provides additional details of my work experience.

Q. HAVE YOU PREVIOUSLY FILED TESTIMONY IN UTILITY RATE CASE PROCEEDINGS?

A. Yes. I have filed testimony in a number of proceedings before the Florida Public Service Commission, on behalf of the Office of Public Counsel (OPC). In 2007, I filed testimony in the Aqua Utilities Florida Rate Case (Docket No. 060368-WS). I also filed testimony regarding the Used and Useful Rule for Water Treatment Systems (Docket No.070183-WS), the Aqua Utilities Florida Rate Case (Docket No. 080121-WS), and the Water Management Services, Inc. rate case (Docket 100104-WU). I have also filed testimony on behalf of OPC in two previous KW Resort Rate Cases (Dockets Nos. 070293-SU and 150071-SU).

In addition, I have filed testimony before other agencies and in other jurisdictions. In 2002, I filed testimony on behalf of the St. Johns County Regulatory Authority at a special hearing in an overearnings case against Intercoastal Utilities. I have also filed testimony before the Kentucky Public Service Commission in 2007 on behalf of the Henry County Water District No.2 (Case No. 2006-00191) regarding system development charges. In 2012, I filed testimony on behalf of Charlotte County regarding a rate increase in wastewater rates filed by Utilities, Inc. of Sandalhaven.

Q. ON WHOSE BEHALF ARE YOU FILING TESTIMONY IN THIS PROCEEDING?

A. I am testifying on behalf of the Florida Office of Public Counsel (OPC or Citizens).

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A. My testimony will address the excessive inflow and infiltration, excessive unaccounted for water, used and useful percentages for the Utilities Inc. of Florida (UIF or Company) systems, as well as, the costs and engineering aspects of the proposed post-test year pro forma adjustments to rate base.

Q. WHAT INFORMATION DID YOU REVIEW WHEN FORMING YOUR OPINIONS AND RECOMMENDATIONS IN YOUR TESTIMONY?

A. I reviewed the Company's Minimum Filing Requirements (MFRs); the Direct Testimony of Frank Seidman and Jon Hoy; the Company's filings in Docket No. 160101-SU; and its responses to OPC and Staff discovery. In addition, I reviewed the relevant Commission rules and Statutes applicable to UIF's request, and some Commission Orders. Finally, with UIF personnel, I conducted site visits of several UIF systems to inspect the plant in service and the progress of some of the major proposed pro forma projects and to obtain a general understanding of the operation of the systems.

Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS IN THIS CASE.

A. In my professional opinion, I have found excessive unaccounted for water in ten systems and excessive inflow and infiltration in three systems that are a part of this rate case. I conducted an analysis on and provide an opinion for the appropriate U&U percentages of seven system wastewater treatment plants and two wastewater collection systems. I am not providing an opinion on the U&U of the remaining systems that are a part of this rate case.

Finally, I provide an opinion on UIF's pro forma rate base additions. Of the total $30,835,444 requested for approval in the original UIF filing, $21,256,538 was reasonable and supported by UIF's direct testimony and exhibits and should be allowed in the rate case. The amounts unsupported by reliable documentation should be considered in a subsequent proceeding, but not allowed in this rate case.

II. EXCESSIVE UNACCOUNTED FOR WATER AND EXCESSIVE INFLOW AND INFILTRATION

Q. WHAT DID YOU FIND WITH RESPECT TO EXCESSIVE UNACCOUNTED FOR WATER (EUW) IN THE SYSTEMS INCLUDED IN THIS RATE CASE?

A. I first reviewed and relied upon data provided by UIF in its MFRs. Utilities have to account for all water pumped, purchased, or otherwise used for utility purposes. Water that cannot be accounted for (i.e. sold, used for flushing, or other utility purposes) is considered unaccounted for water. In determining the amount of excessive unaccounted for water, I used a threshold of 10% or greater of the pumped or

purchased water, as defined by Rule 25-30.4325(1)(e) Florida Administrative Code (F.A.C.), which states "Excessive unaccounted for water (EUW) is unaccounted for water in excess of 10 percent of the amount produced." Accordingly, any unaccounted for water over the 10% threshold was deducted from the used and useful calculation.

Q. WHAT WERE THE RESULTS OF YOUR EUW ANALYSIS?

A. A summary of my analysis in provided in Exhibit ATW-2. I found excessive EUW in the following systems:

System	Excessive unaccounted for water (expressed as a percent of total water pumped or purchased)
Labrador	4.60%
Lake Placid	3.06%
Pasco – Orangewood et.al.	7.66%
UIF Marion	1.35%
UIF Pinellas – Lake Tarpon	10.20%
UIF Seminole – Ravenna Park et. al.	0.95%
UIF Seminole – Little Wekiva	4.81%
UIF Seminole – Oakland Shores	2.23%
UIF Seminole – Phillips	1.56%
UIF Seminole – Weathersfield	1.31%

Q. DO YOU HAVE ANY CONCERNS REGARDING OTHER WATER USES FOR ANY SYSTEMS IN THE RATE CASE?

A. I found exceptionally high water uses in the Lake Saunders and Summertree water systems. Both systems had reported "water for other uses" in excess of 47% of the total water pumped.

Q. WILL YOU DESCRIBE WHAT "WATER FOR OTHER USES" IS?

A. Water for other uses ("WFO") is an industry term that represents water not sold to customers but can be otherwise accounted for by the utility. Some examples of this are water used in the treatment process, line flushing in the system, and water used for firefighting. The amount of WFO can vary greatly from system to system but in my experience is usually less than 20% of the total water pumped. A utility should keep WFO to a low number to conserve water resources, minimize operating costs, and improve system efficiency.

Q. WHAT DID YOU FIND WITH THE WFO FOR THESE TWO SYSTEMS?

A. Through discovery I determined that the Lake Saunders water use is due to the filtration process used to treat the water. While the WFO is still high in my opinion, I can accept that filtration is a water intensive form of water treatment and adds to a system's WFO.

For Summertree, the high WFO is due to significant system flushing performed by UIF to minimize the effects of the poor water quality in the system. In December 2016, UIF interconnected the system with Pasco County for a new water source in an effort to improve water quality and reduce the flushing required to maintain water quality. As of the date of this testimony, I understand UIF continues to vigorously flush the Summertree system as part of the interconnection process. This is a standard practice when switching water sources; it allows the chemistry in the water system to adjust to the new source while minimizing short-term water quality changes. Any

costs associated with vigorously flushing the Summertree system are temporary expenses. Over time, I would expect that water used for flushing the Summertree system to decline to a more reasonable percentage.

Q. PLEASE DESCRIBE INFILTRATION AND INFLOW AND HOW IT AFFECTS WASTEWATER SYSTEMS?

A. Infiltration is groundwater that seeps into a wastewater gravity collection system through pipe joints or cracks. Inflow is usually stormwater that enters a wastewater collection system during rain events through inappropriately connected drains or other entrances to the system. Water from inflow and infiltration (I&I) entering the wastewater system is treated along with customer produced wastewater, and increases the cost of wastewater treatment. Further, I&I decreases the amount of available capacity in a wastewater system and can compromise the ability of the system to treat wastewater flows generated by a utility's customers. Since customers are not the cause of I&I, they should not be required to pay for the costs associated with treating excessive I&I in a wastewater system.

Q. WHAT IS YOUR METHODOLOGY FOR DETERMINING WHETHER I&I IS EXCESSIVE?

A. My methodology is consistent with the Commission's conventional methodology described on pages 14 and 15 of Order No. PSC-16-0013-PAA-SU. My threshold for allowable infiltration are based upon 500 gallons per day (gpd) per inch-mile. My threshold for excessive inflow is based on inflows of 10% or greater than the billed

water returned to the wastewater treatment plant (WWTP). In estimating the amount of billed water returned to the wastewater treatment plant, I used a factor of 80% of billed water for residential connections and 90% of billed water for non-residential connections. If the reported flows at the WWTP exceed estimated flows returned to the WWTP plus the I&I allowance, the difference is considered excessive I&I.

Q. IN THE COURSE OF THIS ANALYSIS, WAS THERE A NEED TO DEVIATE FROM THIS METHODOLOGY?

A. Yes. Two systems, Cross Creek and Longwood, are wastewater only systems with a flat rate that is billed independent of water usage. According to the MFRs, UIF was unable to obtain billed water data for these two systems. As a result, the billed water data necessary to implement the excessive I&I methodology was unavailable and an excessive I&I number could not be calculated using this methodology. For these systems, I used a more generalized approach based on an excessive wastewater generation threshold of 120 gallons per capita day (gpcd). I estimated a functional population served by using meter equivalents and divided the result into the reported Test Year WWTP flows. In my professional opinion, any calculated amount over 120 gpcd is considered excessive I&I. My calculations for Cross Creek and Longwood did not reveal any excessive I&I for these two wastewater only systems.

Q. WHAT ARE THE RESULTS OF YOUR EXCESSIVE I&I ANALYSIS?

A. Exhibit ATW-3 presents a summary of my analysis. I found excessive I&I in three systems as shown in the table below:

System	Test Year Excessive I&I (gallons)	Test Year Excessive I&I (as a percent of WWTP flow)
Sandalhaven	4,225,819	8.37%
UIF Pasco – Wis Bar	951,518	17.22%
UIF Seminole – Lincoln Heights	8,717,900	37.41%

III. USED AND USEFUL

Q. DESCRIBE YOUR APPROACH TO USED AND USEFUL FOR THE UIF SYSTEMS IN THE RATE CASE.

A. I limited my used and useful (U&U) analysis to utility plant assets in systems that have not been previously determined to be 100% U&U by the Commission in prior rate proceedings unless a settlement was involved. As a result, my analysis focuses on wastewater facilities in the following systems:

a. Lake Utility Services, Inc. (LUSI) wastewater treatment system;
b. Mid County wastewater treatment and collection system;
c. Lake Placid wastewater treatment system;
d. Labrador wastewater treatment system;
e. Eagle Ridge wastewater system;
f. Crownwood wastewater treatment system; and
g. Sandalhaven wastewater treatment and transmission system.

The U&U percentage approved for the Sandalhaven wastewater system by Order No. PSC-16-0013-PAA-SU, was protested and preserved for redetermination and recalculation in this consolidated rate case by a settlement between OPC and UIF

approved by Order No. PSC-16-0151-FOF-SU. While the Commission previously determined the Eagle Ridge wastewater system to be 100% U&U in Order No. PSC-11-0587-PAA-SU, this determination was protested and a settlement between UIF and OPC approved by Order No. PSC-12-0346-FOF-SU struck the U&U language from the PAA Order.

Q. DESCRIBE IN GENERAL YOUR APPROACH TO YOUR USED AND USEFUL ANALYSIS FOR WASTEWATER TREATMENT SYSTEMS?

A. My approach to determining U&U for wastewater treatment systems follows the provision set forth in Rules 25-30.431 and 25-30.432, F.A.C., (U&U Rules) and Section 367.081(2) Florida Statutes (F.S.) (U&U Statute). With the exceptions that are noted below in my testimony, my approach to used and useful starts with the test year wastewater flow which is adjusted to reflect growth for a five-year period beyond the test year and the removal of any excessive inflow and infiltration. This adjusted test year flow is divided by the capacity of the treatment facilities to determine the U&U percentage of the treatment facilities. Exhibit ATW-4 presents a summary of my U&U analysis for each of the wastewater treatment systems.

Q. PLEASE DESCRIBE YOUR APPROACH TO YOUR U&U ANALYSIS TO WASTEWATER COLLECTION SYSTEMS?

A. For collection systems, I based my U&U evaluation on the lot count methodology, which looks at the ratio of unserved lots with access to collection lines to all lots with

access to collection lines. I applied this methodology to my evaluation of the Mid County and Eagle Ridge Systems.

Q. WHAT IS YOUR OPINION OF UIF'S USED AND USEFUL METHODOLOGY AND PERCENTAGES FOR THE SYSTEMS YOU ANALYZED?

A. In many cases, I disagree with the U&U methodology and calculated U&U percentages UIF has presented in this case. For the most part, my disagreements focus on a few key concepts.

Q. WHAT IS YOUR FIRST POINT OF DISAGREEMENT?

A. I take exception to the use of prepaid connections and guaranteed revenue payments in determining used and useful. UIF includes prepaid connections in the U&U calculations for both the LUSI and Sandalhaven systems.

Q. WHY SHOULD PREPAID CONNECTIONS BE EXCLUDED FROM THE U&U CALCULATION FOR THE LUSI AND SANDALHAVEN WASTEWATER TREATMENT FACILITIES?

A. Prepaid ERC connections (prepaids) represent potential future connections which may eventually connect to the system. With prepaid connections, there is no timing if or when these connections will happen. The agreements simply say that the utility will provide the service when the connections occur. In that sense, these connections are

independent of timing. The prepaids could connect in one year, two years, five years, ten years or potentially never.

Section 367.081(2), F.S., already contains provisions for a growth allowance for five years beyond the test year at a rate no greater than 5% per year, and prepaids are not referenced in the statute. Adding the prepaid connections to the statutory growth allowance creates two conflicts. First, there is the potential that the prepaids could connect within that five-year growth period resulting in a double counting of growth and an over statement of U&U. Second, since there is no timeframe when these prepaids may actually connect, their inclusion in U&U arbitrarily extends the growth period to an undefinable time period beyond the allowable five-year statutory horizon that would end only when the last prepaid connects. This growth is speculative and contrary to the way that Commission orders have applied Section 367.081(2), F.S. in prior rate cases, including prior LUSI and Sandalhaven rate cases. Applying prepaid ERCs to U&U erroneously inflates the U&U percentages and requires current rate payers to indefinitely pay for unused system capacity that may never be used by future customers.

Q. WHAT DOES THE U&U STATUTE AND RULES STATE ABOUT USING PREPAIDS IN THE U&U CALCULATION?

A. They are silent. Prepaid connections are not mentioned in either Section 367.081(2), F.S., or Rule 25-30.432, F.A.C., for Wastewater Treatment Plant Used and Useful

Calculations. Therefore, in my opinion, prepaid ERCs should be excluded from the U&U calculation.

Q. ARE YOU AWARE OF ANY INSTANCES WHERE THE COMMISSION HAS INCLUDED PREPAID CONNECTIONS IN THE U&U CALCULATION FOR WATER AND WASTEWATER SYSTEMS?

A. Yes, in two instances. One instance occurred in Order No. PSC–16-0013-PAA-SU, in Docket 150102-SU, Sandalhaven's last rate case; however, that U&U calculation was specifically protested and preserved for determination in this consolidated case. In the protested order, the U&U for the system components included demand from un-built guaranteed revenue agreements and prepaid ERC commitments. Including prepaids was a departure from the U&U calculation in the prior Commission Sandalhaven rate case (Commission Order No. PSC-07-0865-PAA-SU) and the Charlotte County rate case.

Another similar but different instance occurred in Order No. PSC-09-0057-FOF-S, in Docket No. 070293-SU, involving KW Resort Utilities Corp. (KWRU). In the KWRU Final Order No. PSC-09-0057-FOF-SU, at page 20, the Commission mentions that Monroe County reserved the remaining KWRU plant capacity so that existing Stock Island residents using septic system could later connect to its wastewater system and repay the county through their property taxes. In that case, the customers already existed and would be required to connect to KWRU's system. In Sandalhaven, however, the future customers did not exist at the time the developers reserved

capacity. Other than these two instances, the Commission to my knowledge has not included prepaid ERCs in any other U&U calculations.

Q. WHAT IS YOUR OTHER CONCEPTUAL DISAGREEMENT WITH UIF'S APPROACH TO U&U?

A. In several instances, UIF claims that the system service area is built-out and therefore the system should be considered 100% U&U. I disagree with allowing such a blanket qualification to be the sole necessary justification for considering a system 100% U&U. The WWTP U&U Rule 25-30.432, F.A.C., states that in determining the used and useful amount, the Commission will consider "…the extent to which the area served by the plant is built out…" A further refinement of this concept is provided in the Commission's rules for water treatment used and useful calculations. The water treatment and storage U&U Rule 20-30.4325(4), F.A.C., states "A water treatment system is considered 100 percent used and useful if the service territory the system is designed to serve is built out and there is no apparent potential for expansion of the service territory…." Even though this U&U rule applies to water systems, it provides parallel guidance for used and useful evaluations of wastewater systems. The water U&U rule lays out a two-part test for 100% U&U: (1) the design service area must be built-out and; (2) there must be no apparent expansion potential the service territory. Since there is no similar U&U rule for wastewater systems, my used and useful evaluation of the built-out wastewater service territories, and in some cases the WWTP, utilizes both parts of this two-part test.

Lake Utility Services, Inc. (LUSI) U&U

Q. WHAT IS YOUR OPINION OF THE U&U OF THE LUSI WASTEWATER TREATMENT PLANT?

A. I find the U&U for the LUSI WWTP to be 53.55%. My U&U calculations for the LUSI wastewater treatment plant are included in Exhibit ATW-5. My analysis differs from UIF's analysis largely because of the prepaid connections UIF adds to the U&U calculation. In Schedule F-8 of the LUSI MFRs, UIF adjusts the U&U for the five-year growth period using 126.22 ERCs per year at 131.2 gpd/ERC. The utility then inflates the U&U number by adding an additional 187 prepaid connections at 280 gpd/ERC, which increases the U&U of the facilities to 59%. As I stated previously, prepaid connections should be excluded because they are not identified in any of the Commission's U&U rules or statute, and the application of these prepaid connections to a U&U analysis potentially double counts connections and adds speculative assumptions to the U&U calculations.

Q. IN THIS PARTICULAR CASE, HOW IS INCLUDING PREPAID CONNECTIONS DOUBLE COUNTING GROWTH IN THE U&U CALCULATION?

A. UIF's analysis includes not only the standard allowance for growth allowed by Section 367.081(2), F.S., but also adds the prepaid connections. It is quite likely that at least some of these prepaids could connect within the five-year statutory growth period. However, if a prepaid ERC makes connection during the five-year period occurs, it is already accounted for in the statutory growth allowance. If prepaids are added to the

statutory growth allowance, then current customers will be paying for these prepaid connections twice in current rates.

Q. AND WHAT ARE THE SPECULATIVE ASSUMPTIONS UIF MAKES IN APPLYING THESE PREPAIDS TO THE U&U CALCULATION FOR LUSI?

A. First, UIF assumes that the prepaid connections will someday connect to the system, and this speculative assumption distorts the U&U calculation. If the prepaids do not connect within the allowable growth period, UIF is extending the growth period to some unidentifiable date in the future.

Second, UIF assumes the LUSI prepaid connections will use an unreasonably high 280 gpd/ERC, which is more than twice the 131 gpd/ERC calculated for the rest of the existing LUSI system. Again, there is no way to specifically predict the exact gpd contribution of these nonexistent connections and UIF did not provide any valid support for how it calculated the 280/gpd/ERC number. However, if one were to erroneously include prepaid connections in the U&U calculation, it would be much more reasonable to use the average historical rate of 131/gpd/ERC.

Mid County U&U

Q. WHAT IS YOUR OPINION OF THE U&U OF THE MID COUNTY WASTEWATER TREATMENT PLANT (WWTP)?

A. Using the statutory growth rate, I find the calculated U&U for the Mid County WWTP to be 93.67%. My U&U calculations for the Mid County wastewater treatment plant

are included in Exhibit ATW-6. My analysis is slightly higher than UIF's number of 91.75% largely because the Test Year Flows I obtained from the Florida Department of Environmental Protection (FDEP) Discharge Monitoring Reports (DMRs). These flows are greater than what UIF utilized in the MFRs. In prior Orders, the Commission determined that the U&U of the WWTP to be 92%. In Order No. PSC-09-0373-PAA-SU, the Commission maintained the 92% U&U number in recognition that "some additional capacity is available as redevelopment and some growth in the service area occurs."

Despite UIF's U&U calculation of 91.75% for this system, UIF deems Mid County to be 100% U&U. On Schedule F-6 of the Mid County MFRs, UIF "contends that the limits of redevelopment in the service area appear to have been reached as evident in the stability of the meter equivalent growth in Schedule F-10 and the plant should now be found to be 100% U&U." I find this statement to be at odds with the fact that UIF on the same Schedule F-6 includes 52,368 gpd of projected post test year flow generated by 27 new ERCs per year in the U&U calculation. It seems quite clear that additional growth in the system can occur. As a result, it is my opinion that 100% U&U for this system is unwarranted.

Q. WHAT IS YOUR OPINION OF THE MID COUNTY COLLECTION SYSTEM?

A. In my review of the system maps UIF filed with the MFRs, I identified approximately 50 unserved lots that have access to collection lines. However, this is such a small

number compared to the total lots in the service area that the U&U of the collection system is essentially 100%; therefore, I do not take exception to UIF's proposal for this system.

Lake Placid U&U

Q. WHAT IS YOUR OPINION OF THE U&U OF THE LAKE PLACID WWTP?

A. I calculated the U&U for the Lake Placid WWTP to be 29.79%. My U&U calculations for the Lake Placid WWTP are included in Exhibit ATW-7. My analysis is slightly higher than UIFs calculated number of 20.83% largely because UIF neglected to include an adjustment for growth in the system that is supported by the analysis on Schedule F-10 of the Lake Placid MFRs. Despite UIF's U&U calculation of 20.83%, on schedule F-6 for lake Placid, UIF claims this Lake Placid system should be 100% U&U since "the system is not over built and the Commission has found in the last rate case that there is no growth or potential for growth."

The no-growth claim is completely refuted by the fact that the Commission has historically found this WWTP to be 28.5% as stated in Order PSC-14-0335-PAA-WS. The growth data UIF supplies in the Schedule F-10 of its MFRs clearly shows that growth has occurred in the system. In addition, a review of the system maps of the Lake Placid service area that UIF submitted as part of its filing show that there is substantial area in the service territory that can accommodate new growth. Furthermore, Exhibit ATW-8 presents an FDEP construction application to construct a wastewater collection system for a new Dollar Store in the Lake Placid service area.

Moreover, page 10 of 13 of this exhibit shows UIF signed the FDEP application as the Company that will assume ownership of the facilities after it is placed into service. Clearly, growth is occurring in this service area. Therefore, the calculation for U&U taking into account the five-year period for growth should be 29.79%.

Labrador U&U

Q. WHAT IS YOUR OPINION OF THE U&U OF THE LABRADOR WWTP?

A. I calculated the U&U for the Labrador WWTP to be 40.59%. My U&U calculations for the Labrador WWTP are included in Exhibit ATW-9. UIF calculates the U&U to be 40.27%; however, UIF contends that, since there has been no growth in the service area and customer usage has actually declined since the last rate case, the system should be considered 100% U&U. Nevertheless, the Company recognizes that there is an 11.6 acre undeveloped parcel in the service area. In addition, a review of the area around the Labrador certificated service territory shows that there is extensive undeveloped land adjacent to the service territory boundary (see Exhibit ATW-10). Clearly, there is potential for new customer development to occur either inside or adjacent to the certificated service territory. Because the service area is not built-out and there is the ability for the service area to expand, this system does not satisfy the two-part test I borrowed from Rule 20-30.4325(4), F.A.C. Therefore, the unused capacity in the WWTP could be used to provide service to new customers and this system should not be considered 100% U&U.

Eagle Ridge U&U

Q. WHAT IS YOUR OPINION OF THE U&U OF THE EAGLE RIDGE WWTP?

A. UIF requests the WWTP be considered 100% U&U, claiming the service area is built out. In evaluating UIF's claim, I applied the two prong test mentioned above in my testimony. I reviewed the system maps provided by UIF as part of the MFRs, as well as aerial photographs. In addition, I conducted a site visit to the WWTP site and drove through a portion of the Eagle Ridge service area. The entire service area is a planned community and is located in a highly developed region of Lee County. I am of the opinion that the design service area is 100% built-out and, since Eagle Ridge is a planned community, there is little likelihood for redevelopment to occur. Furthermore, the surrounding area is developed with centralized service provided by other utilities, so there is no potential to expand the service territory of the system. Even though I calculated the U&U for the Eagle Ridge WWTP to be 84.49% (My U&U calculations for the Eagle Ridge WWTP are included in Exhibit ATW-11), I find both prongs of my build-out test are met and that the Eagle Ridge WWTP should be considered 100% U&U; I do not take exception to UIF's U&U proposal for this system.

Q. WHAT IS YOUR OPINION OF THE U&U FOR THE EAGLE RIDGE COLLECTION SYSTEM?

A. Based on my review of the system maps UIF provided with the MFRs and my evaluation of the service area, I find that the Eagle Ridge collection system is 100% U&U.

Crownwood U&U

Q. WHAT IS YOUR OPINION OF THE U&U OF THE CROWNWOOD WWTP?

A. I calculated the U&U for the Crownwood wastewater treatment plant to be 53.20%. My U&U calculations for the Crownwood WWTP are included in Exhibit ATW-12. In Crownwood Schedule F-6, UIF calculates the U&U to be 53.73% and then goes on to say that in Docket 020071-WS the U&U for this system was previously set by the Commission at 68.65%. UIF goes on to say that in Order No. PSC 14-0025-PAA-WS, the Commission found all systems to be 100% U&U. However, this Order clearly states that the Marion County systems, one of which is Crownwood, were not a part of that rate proceeding. In reviewing this system, I found that the certificated service territory is built out. However, the area around the service territory indicates that there is extensive undeveloped land adjacent to the service territory boundary (see Exhibit ATW-13). Only one part of my two-part test is met since the service territory is built out but there is the ability for the service area to expand. There is clearly the potential for new customer development to occur adjacent to the certificated service territory, and for the Company to seek an expansion of its service territory to provide service to any new customers. Therefore, the unused capacity in the WWTP could be used to provide service to new customers and this system should not be considered 100% U&U. The appropriate U&U to apply to this system is 53.20%.

Sandalhaven U&U

Q. WHAT IS YOUR OPINION OF THE U&U FOR SANDALHAVEN WASTEWATER TREATMENT CAPACITY WITH ENGLEWOOD WATER DISTRICT?

A. As noted above, the U&U methodology utilized by UIF in the Sandalhaven MFRs overstates the amount of U&U for the wastewater treatment capacity with Englewood Water District (EWD). First, UIF includes prepaid and guaranteed revenue connections in lieu of including an adjustment for growth in the calculations. Second, in the MFRs, UIF provides a narrative describing the conditions that led to the decision to purchase the EWD capacity and construct the force main and lift station. UIF claims that the EWD capacity should be considered 100% U&U because UIF was prudent in its decisions with respect to purchasing capacity. Based on my review of the documentation, it appears that the decision to purchase capacity and construct the facilities was prudent at the time the decision was made. However, being prudent in acquiring capacity is not a justification that all components should be considered 100% U&U. I testified to this effect in the Sandalhaven rate proceeding before Charlotte County in 2012, and the County agreed with my position.

As I previously discussed, the inclusion of prepaid connections in U&U inappropriately extends the period for the growth adjustment to an indefinite period of time and distorts the U&U calculation. Sandalhaven is a perfect example of how adding prepaid connections in the U&U calculation forces the current customers to carry the costs for growth indefinitely. Exhibit ATW-14 Sandalhaven Composite

Exhibit includes page 4 of 4 of Schedule F-6 from the Sandalhaven MFRs, UIF's responses to OPC's 1st Request for Admission, and UIF's responses to OPC's 9th Set of Interrogatories.

MFR Schedule F-6 in Exhibit ATW-14 shows the status of the prepaid commitments for Sandalhaven as well as ERCs not built. The dates associated with these prepaids go back at least as far as 1995 with one noted as "predates UI ownership." If prepaid connections were allowed in the U&U calculation in 1995, the Sandalhaven customers would have been paying for that capacity for more than twenty years. The majority of the remaining prepaid connection transactions occurred in the 2003 to 2006 timeframe and, over ten years later, many still have not connected.

Q. WHAT IF THE PREPAID ERC COMMITMENTS WILL NEVER MATERIALIZE, SHOULD THAT BE CONSIDERED?

A. Yes, but only if the Commission accepts UIF's proposal for including prepaid ERC connections in the U&U calculation. In response to OPC's First Request for Admissions, No. 29, UIF admits that 322 of the prepaid ERCs will never be used at the Placida Commons/Coral Caye (formerly 8401 Placida Road) project. The original developer prepaid for 418 ERCs, but this project was later redeveloped into a 96 lot development, so 322 prepaid ERCs will never be used. It is unreasonable for current customers to pay indefinitely in their rates for growth that will never happen. There are two other projects on Schedule F-6 for Sandalhaven, Hammocks at Cape Haze and

Cape Haze Resort, which have 85 and 120 ERCs not built. These prepaid commitments might also never be built.

On March 2, 2017, UIF updated the total prepaid commitments/ERCs not built remaining. MFR Schedule F-6 showed 862 prepaid ERCs not built as of December 31, 2015; UIF response to OPC 9th Interrogatory No. 219 (revised) shows 847 prepaid ERCs not built as of December 31, 2016. To ensure that current customers do not pay for 322 ERCs that will never be used, the total 847 prepaid ERCs not built should be reduced to 525 prepaid ERCs not built (847 less 322). However, I do not recommend that any prepaid commitments be included in the U&U calculation.

Q. WHAT OTHER CONCERNS DO YOU HAVE REGARDING UIF'S USE OF PREPAIDS IN THE SANDALHAVEN U&U ANALYSIS?

A. UIF uses an unreasonable gpd/ERC wastewater generation rate in its U&U calculation. UIF's U&U calculation uses a 190 gpd/ERC wastewater generation rate which is almost double the average historical rate of 101 gpd/ERC for Sandalhaven. In response to OPC Interrogatory No. 219 (revised), UIF updates "ERCs not built" and "Prepaid Capacity Not Used" on MFR schedule F-6 page 4 of 4. The update reduces prepaid connections to 847 ERCs not built and Prepaid Capacity Not Used to 160,930 gpd of wastewater flow. However, this update does not account for the 322 ERCs that will never connect and does not use the appropriate wastewater generation rate of 101 gpd/ERC. If both were updated, the Prepaid Capacity Not Used would be reduced further to 53,025 gpd (101 gpd x 525 ERCs not built). In my opinion, using prepaid

connections in a U&U analysis is inappropriate, but if included, the appropriate wastewater flows associated with the prepaids is 53,025 gpd, which results in a substantially smaller U&U percentage for Sandalhaven.

Q. WHAT OTHER CONCERNS DO YOU HAVE REGARDING UIF'S SANDALHAVEN U&U ANALYSIS?

A. As in previous rate cases, UIF claimed "economies of scale" as a justification for a 100% U&U analysis of this system. While I agree in principle that there is the potential for economies of scale in utility construction, the mere mention of the concept is not sufficient evidence to support a 100% U&U value. It is important to note that constructing larger than needed facilities adds to the operations and maintenance costs of a utility which could in turn lead to higher rates. Any consideration of economies of scale in the context of U&U should include specific, measurable advantages, with offsets for corresponding increases in costs related to the extra capacity of the utility. UIF has not provided specific evidence to document the level of economies of scale associated with these facilities, and this argument should be disregarded.

Q. WHAT HAS THE COMMISSION'S POSITION BEEN HISTORICALLY REGARDING ECONOMIES OF SCALE IN THE U&U CALCULATION?

A. In Order No. PSC-16-0013-PAA-SU, the Commission recognized UIF's argument for economies of scale in prudently sizing the facilities to meet the long term needs of the service area. However, in calculating the U&U for Sandalhaven, there is no mention

of economies of scale nor is there any U&U adjustment that is attributed to economies of scale.

Q. HOW WAS THE ECONOMY OF SCALE ISSUE DEALT WITH IN THE 2012 RATE CASE BEFORE CHARLOTTE COUNTY?

A. There was no U&U adjustment for economies of scale in the Order adopted by Charlotte County.

Q. CAN YOU DESCRIBE YOUR APPROACH TO THE U&U CALCULATION FOR THE COMPONENTS OF THE SANDALHAVEN SYSTEM?

A. My approach to U&U for the Sandalhaven system follows the methodology I used in the 2012 Rate Case under Charlotte County's jurisdiction which was accepted by the hearing officer and approved by the County Commission. The components I evaluated are the EWD capacity, master lift station, pumping plants, and force main. Each component is associated with providing wastewater service to the customers; however, each has a different capacity and the U&U analysis should account for these differences. Therefore, I evaluated each component separately for U&U which is similar to the approach taken by the Commission in previous Sandalhaven rate cases. *See* FPSC Order No. PSC-07-0865-PAA-SU and Order No. PSC-16-0013-PAA-SU. In identifying the capacity of these components, I relied upon documentation provided by UIF in previous rate cases including the 2004 Sandalhaven Wastewater Treatment Facility Wastewater Master Plan and two letters. One letter was dated June 26, 2007 from CPH, an engineering company, and one letter was dated October 9, 2015 from

Kimley Horn, another engineering company, both signed by Stephen Romano, a Florida Registered PE (These three documents are included in ATW-15). I also relied upon the prior Sandalhaven Orders issued by the Commission and Charlotte County. Based on my review of these documents, I used the following capacities in my U&U analysis:

- Englewood Water District Capacity – 300,000 gpd
- Master Lift Station Structure – 665,000 gpd
- Pumping Plant – 275,000 gpd
- Force Main – 935,000 gpd

Q, ARE THESE THE SAME CAPACITIES THAT WERE USED BY THE COMMISSION AND CHARLOTTE COUNTY IN PREVIOUS RATE CASES?

A. No. The Commission historically has considered the master lift station as having a capacity of 500,000 gpd. However, in referring to the June 26, 2007 letter from CPH Engineers, the engineer states that the master lift station was designed to serve 665,000 gpd so I have revised the capacity of the master lift station to equal this design capacity. In addition from the same letter, the installed lift station pumps (pumping plants) have a lower capacity of 275,000 gpd which I have also used. I make the distinction between the lift station pumps and the master lift station to incorporate the lower capacity of the pumps, which in turn increases the pumps' U&U percentage.

Since the WWTP has been demolished, the force main to EWD now provides service to the entire Sandalhaven service area. The 2004 Sandalhaven Master Plan identifies

the projected build out flow for the service area as 935,000 gpd, so I have used that capacity for the force main U&U calculation.

Q. HOW DO YOU TREAT THE TEST YEAR FLOWS FOR THE SANDALHAVEN U&U CALCULATION?

A. According to the flow data presented in Schedule F-2 of the Sandalhaven MFRs, both the WWTP and EWD were receiving wastewater flows through October and a part of November. Since the WWTP was removed from service, the entire wastewater flow generated in the system has been treated by EWD. For my U&U analysis, I utilized the total Test Year flows for the EWD Capacity and the Force Main. For the Master Lift Station and Pumping Plant, I utilized the Test Year flow that was sent to EWD for treatment as a conservative value.

Q. **WHAT ARE THE U&U PERCENTAGES YOU DETERMINED FOR THE SANDALHAVEN SYSTEM COMPONENTS?**

A. My U&U calculations for the Sandalhaven system components are included in Exhibit ATW-15. The results of the analysis are:

- Englewood Water District Capacity – 42.24% U&U
- Master Lift Station – 11.27% U&U
- Pumping Plant – 27.25% U&U
- Force Main – 13.55% U&U

Q. HOW WOULD YOUR U&U ANALYSIS DIFFER FROM ANALYSIS PROTESTED IN ORDER NO. PSC-16-0013-PAA-SU?

A. As I noted before, OPC protested Order No. PSC-16-0013-PAA-SU and the U&U calculation was preserved for determination in this case. I have several concerns with the methodology used for the U&U calculation in that Order. First, the U&U statute and Rule do not mention prepaid or guaranteed revenue connections, thus I would not include prepaid connections and guaranteed revenue connections in the U&U calculation for the reasons stated earlier in this testimony.

Second, I would not use peaking factors. I believe it was an error to use peaking factors to adjust test year flows used in the U&U calculation which in turn overstated the PAA Order U&U calculation. Both methods of calculating U&U for the Sandalhaven system were substantial deviations from the Commission's historical method for calculating U&U.

Q. PLEASE EXPLAIN YOUR CONCERNS REGARDING THE USE OF PEAKING FACTORS IN A U&U CALCULATION?

A. Wastewater flows and capacity can be expressed in a number of ways. Frequently with wastewater treatment plants, capacity is expressed in terms of the average annual daily flow, or AADF, which is simply the average of all of the daily flows in a year. Yet, within that year there is also a maximum month (the month with the highest average of daily flows), a maximum day (the day with the highest flow within the year) and even a peak hour (the hour with the highest flow within a day). The

relationship between these flows is usually expressed as a ratio of the AADF. For example, the maximum daily flow is typically 1.5 to 2 times the annual average daily flow, and peak hour flow is typically 3 to 4 times the annual average daily flow. Expressing the flows for a system in different ways is important for planning, design, and proper sizing. A wastewater pipeline intended to provide service to a 1 MGD AADF service area but will actually be designed to accommodate the peak hour flow of 3 to 4 MGD. When doing a U&U analysis, it is crucial that the basis of flow (AADF, peak hour, maximum day) be the same for both the numerator (the adjusted flow) and the denominator (the facility capacity).

Q. PLEASE DESCRIBE THE ERROR OF USING PEAKING FACTORS IN THE U&U CALCULATION?

A. The test year flows were adjusted by applying a peaking factor of 2.03; however, there was no corresponding adjustment to the facility capacities which are expressed as AADF. As a result, the U&U was calculated by using peak flows divided by AADF capacity. This overstates U&U by a factor of 2.03 times. Therefore, to ensure an apples to apples U&U analysis, the Commission should calculate using AADF flows divided by the AADF capacity in order to arrive at the proper U&U calculation.

IV. <u>PRO FORMA ADDITIONS TO RATE BASE</u>

Q. WILL YOU GENERALLY DESCRIBE THE PRO FORMA ADDITIONS TO RATE BASE?

A. In this rate case, UIF is requesting approval for approximately $30.8 million in post-test year pro forma rate base additions to be included in rate base and customer rates. Of the 47 proposed projects, 44 can be characterized as renewing aging facilities, replacing aging facilities, or improving operations in a number of UIF systems. There are three projects which do not fit into those categories, and they are as follows: (1) The Myrtle Hills Water Main is a growth related project, extending service to new customers in the Sanlando system; (2) Another project is the replacement of a service truck; and (3) The last project is for establishing a UIF system-wide asset database and GIS mapping system.

Q. HOW DID YOU ORGANIZE YOUR REVIEW OF UIF's REQUESTED PRO FORMA ADDITIONS TO RATE BASE?

A. My review of the requested pro forma projects to rate base fall into four categories or buckets for cost recovery in this rate case:

(1) Pro forma projects with adequate cost justification

(2) Pro forma projects with cost justification supporting less than requested

(3) Pro forma projects lacking adequate cost justification, and

(4) Pro forma projects without any cost justification

Pro forma projects in the first two categories should be included in rate base because the costs appear to be reasonable and were adequately supported by the documentation provided by UIF. Pro forma projects in the second two categories should not be included in rate base for the reasons discussed in my testimony. Throughout my

testimony I use pro forma projects and pro forma additions synonymously to refer to the almost $30.8 million in post-test year plant additions for which UIF is requesting cost recovery in this rate case.

Q. DID YOU ENCOUNTER ANY DIFFICULTIES IN PERFORMING YOUR ANALYSIS OF THE AMOUNTS SUPPORTING THE REQUESTED THE PRO FORMA PROJECTS?

A. Yes. The amounts requested in the MFRs did not match the amounts supported in Mr. Flynn's written direct testimony and the supporting documentation in Mr. Flynn's testimony exhibits did not always add up to the amounts in Mr. Flynn's written direct testimony. These deficiencies create a huge problem for anyone analyzing the reasonableness of costs because one does not know which amounts the Commission will rely upon when making adjustments or setting prospective rates. In this case, Staff's Second Set of Interrogatories Nos. 80, 81 and Fourth Set of Interrogatories No. 112 recognized this problem by asking why there were discrepancies between Schedule A-3 and Mr. Flynn's direct testimony and exhibits. The information contained in the MFRs and Mr. Flynn's testimony should match; however, it does not. UIF stated in each of the interrogatory responses:

> The values in Schedule A-3 represent the cost information that was available for each project when preparing the MFR's. Where the values identified for each project contained in witness Flynn's direct testimony differs from the MFR's, the difference reflects information gathered subsequently such as project bids, contract amounts, and invoices. The amounts noted in either column do not include capitalized time nor interest incurred during construction

While I do not agree that UIF should be allowed to provide different information in testimony compared to the information contained in its MFRs, I needed a starting point for my analysis; therefore, I relied on the amounts in Mr. Flynn's direct testimony for my analysis and recommended adjustments because there were no other data points available.

Q. WHAT HAS BEEN THE QUALITY OF THE SUPPORTING DOCUMENTATION FOR THE PRO FORMA ADDITIONS TO RATE BASE?

A. For the post December 31, 2015 test-year pro forma projects identified in the MFRs, UIF witness Flynn provided only a part of the supporting documentation as Exhibits to his August 30, 2016 testimony. Initially, the MFRs and Mr. Flynn's testimony exhibits were deemed deficient by the Commission.[1] On October 31, 2016, UIF completely replaced all of Mr. Flynn's exhibits in response to Staff's deficiency letter. On November 22, 2016, almost three months after UIF's initial rate filing, UIF's MFR and application deficiencies were deemed cured. Despite the curing of the deficiencies, much of the supporting documentation provided in Mr. Flynn's revised exhibits fall short of the minimum requirements to sufficiently support an addition to rate base.

Q. WHAT DOCUMENTATION IS NECESSARY TO SUPPORT THE ADDITIONS TO RATE BASE?

A. A rate base calculation relies upon plant-in-service amounts that are derived from the actual booked costs of assets in the utility system and are supported by invoices from contractors or equipment suppliers. Therefore, actual invoices that document the full

[1] Document No.07871-16, filed September 29, 2017, in Docket No. 160101-WS.

scope of the projects and their final installed costs represent the best documentation to support additions to rate base. That same documentary standard would apply to plant additions completed during and after the test year.

Q. WOULD ANY OTHER TYPE OF INFORMATION BE SUFFICIENT?

A. Yes, competitive bids plus a signed contract. Competitive bids from contractors or suppliers for a well-defined project scope could be considered so long as the selected contractor also has a signed contract or agreement with the utility to perform the work. Competitive bidding, usually from three or more bidders, is an important aspect of obtaining the best cost available in the marketplace. Three competitive bids usually provide the utility with a range of costs for the project. With the selected contractor bound by an agreement or contract to perform the work, there is reasonable assurance that the project will go forward. However, the level of information in a competitive bid or executed contract is not as reliable as actual booked costs.

Q. PLEASE EXPLAIN WHY A COMPETITIVE BID ALONE IS NOT ENOUGH TO JUSTIFY THE PRO FORMA PROJECT COSTS.

A. Competitive bids do not take into account anything that may happen during the construction of the project, such as contingencies. For example, there may be an unforeseen site condition that increases the overall project cost. In that case, relying upon bids for adjustment to rate base could understate the actual project cost. Conversely, the scope of the project may be reduced after the bids are received, thereby reducing the actual cost. If competitive bids are accepted as documentation for

pro forma additions to rate base, I recommend that, a subsequent true-up should be conducted to reconcile the actual project costs to rate base. In addition, to provide some assurance that the project will actually proceed beyond the bidding process, documentation should be provided demonstrating the contractor is under contract and work on the project is proceeding.

Q. WHAT IS YOUR OPINION OF THE USE OF ESTIMATES PREPARED BY ENGINEERS OR OTHERS AS SUPPORTING DOCUMENTATION FOR PRO FORMA RATE BASE ADDITIONS?

A. Cost estimates come in various levels of detail and accuracy, depending upon the amount of engineering detail and the amount of analysis conducted. One of the primary purposes of an engineering cost estimate is to inform the utility of the amount of funds necessary to complete the project. As a result, cost estimates are conservative in nature. No engineer wants to provide a cost estimate to a utility that underestimates the cost of a project, but that sometimes happens. For example, in the recent KW Resorts Utilities rate case in Docket No. 150071-SU, the initial engineering estimate for the 350,000 gallon treatment tank was significantly less than the competitive bids for the project. If properly performed, an engineering cost estimate is routinely higher than the project cost as determined from competitive bids. Therefore, I do not consider engineering estimates or other estimates as sufficient supporting cost documentation for pro forma rate base additions for cost recovery.

Q. WHAT WAS THE QUALITY OF THE PRO FORMA ADDITION DOCUMENTATION PROVIDED IN RESPONSE TO THE COMMISSION'S DEFFICIENCY NOTICE?

A. In some cases, it was sufficient; however, in many instances, what was provided did not meet the test of valid supporting documentation, and for seven pro forma plant additions, no information was provided at all.

Pro Forma projects with adequate cost justification

Q. WHICH PRO FORMA PLANT ADDITIONS HAVE SUFFICIENT COST JUSTIFICATION?

A. Based on my review, UIF has provided sufficient documentation to support $17,016,571 of the $30,835,444 in pro forma additions in Mr. Flynn's testimony.

Flynn's Exhibit Number	Project	Project Amount per Flynn's Testimony
PCF-2	Cypress Lakes Sediment Removal	$50,200
PCF-4	Labrador Sediment Removal	$61,137
PCF-6	LUSI Oswalt Road WM Relocation	$181,400
PCF-8	LUSI TTHM & HAA5 Study	$79,250
PCF-10	LUSI US 27 Utility Relocation	$1,806,000
PCF-11	Longwood Church Ave. Relocation	$193,880
PCF-12	Longwood I&I Study	$50,000
PCF-15	Mid County Field Office	$65,000
PCF-16	Mid-County Flow Study (I&I)	$80,000

PCF-22	Sanlando Autumn Wood Dr. WM Replacement	$98,970
PCF-23	Sanlando Lift Station RTU Installation	$353,200
PCF-24	Sandlando Markham Wood Utility Relocate	$65,900
PCF-26	Sanlando I&I Study and Remediation	$1,573,884
PCF-29	Sanlando Well 2A Lift Station Electrical Imp.	$343,437
PCF-31	Tierra Verde 8th Ave. Gravity Main Replacement	$84,673
PCF-32	UIF Orange Crescent Heights WM Replacement	$1,806,000
PCF-35	Lake Tarpon Water Main Replacement	$800,000
PCF-38	UIF Seminole Bear Lake WM Replacement	$1,485,270
PCF-39	UIF Seminole Crystal Lake WM Replacement	$1,585,933
PCF-40	UIF Seminole Little Wekiva WM Replacement	$521,681
PCF-41	UIF Seminole Weathersfield Northwest FM	$120,000
PCF-42	UIF Seminole Oakland Shores WM Replacement	$1,571,701
PCF-43	UIF Seminole Phillips WM Replacement	$1,188,247
PCF-44	UIF Seminole Ravenna Park WM Replacement	$2,160,808
PCF-45	UIF Seminole Ravenna Park Crystal Lake Int	$646,000
PCF-46	Truck Upgrade	$44,000
	Total	$17,016,571

Pro forma projects with cost justification supporting less than requested

Q. WHICH PRO FORMA PROJECT COST LESS THAN UIF ESTIMATED?

A. There were 12 pro forma projects where the supporting documentation provided shows the project cost less than what UIF requested in Mr. Flynn's testimony. I have summarized those projects and costs in Exhibit ATW-16. According to Mr. Flynn's testimony, these 12 projects were estimated to cost a total of $4,905,450; however, after reviewing supporting documentation provided through either Flynn's revised

testimony exhibits or discovery, I determined these 12 projects cost $4,239,967. So I am recommending $655,483 in reductions from the total amount as shown in the table below:

Flynn's Exhibit Number	Project	Project Amount per Flynn's Testimony	Supported Amount
PCF-1	Hydrotank Replacement	$30,000	$25,732
PCF-3	WWTP EQ Tank and Headworks	$350,000	$106,388
PCF-5	Sludge Dewatering Equipment	$245,000	$240,000
PCF-7	SCADA	$470,000	$458,902
PCF-18	Methanol Pumps and Nutrient Analyzer	$102,000	$92,576
PCF-19	US Hwy 19 Relocation	$230,000	$172,879
PCF-21	Placida Road Utility Relocation	$250,000	$217,034
PCF-25	Myrtle Hills WM	$695,450	$684,271
PCF-30	Wekiva WWTP Rehabilitation	$1,803,000	$1,729,034
PCF-36	Electrical Improvements at Little Wekiva	$323,000	$268,830
PCF-37	WM Replacements	$57,000	$0
PCF-47	GIS Mapping Services	$350,000	$244,321
	Total	$4,905,450	$4,239,967

Q. IN WHAT WAY WAS THE SUPPORTING DOCUMENTATION FOR THESE PROJECTS DEFIFICIENT?

A. In most cases the invoices or competitive bids did not add up to the amount in Mr. Flynn's direct testimony. However, for the Eagle Ridge EQ Tank and Headworks (Exhibit PCF-3), the Wekiva WWTP Rehabilitation (Exhibit PCF-30), and the WM Replacements (Exhibit PCF-37) projects, there are other reasons for the reductions.

Q. WHAT IS YOUR REASON FOR THE EAGLE RIDGE EQ TANK ADJUSTMENT?

A. Exhibit PCF-13, the Eagle Ridge EQ Tank and Headworks project, is being constructed in a number of phases by different contractors. Much of the supporting documentation, including the cost of the EQ Tank which is the largest component of the project, did not have competitive bids or signed agreements that would adequately support the costs for inclusion into rate base.

Q. WHAT IS YOUR REASON FOR THE WEKIVA WWTP REHABILITATION ADJUSTMENT?

A. For Exhibit PCF-30, the Wekiva WWTP Rehabilitation project, I disagree with UIF's estimate for the sales tax.

Q. WHY DOES YOUR SALES TAX ESTIMATE DIFFER FROM UIF'S ESTIMATE FOR THE SANLANDO WEKIVA WWTP REHABILITATION PROJECT?

A. UIF's contract executed with the contractor for this project does not include any sales tax. Since this project is currently being constructed, there is no way of obtaining the exact amount of taxes that will apply. In Mr. Flynn's Exhibit PCF-30, he estimates the taxes at 7% for the entire value of the project. However, this is clearly overestimated since a large portion of this contract includes project costs that are non-taxable, such as labor.

For my estimate of taxes, I looked at some of the actual contractor invoices that UIF provided during discovery and found that taxes were only being paid on the equipment portion of the contract at a rate of 6%. Exhibit ATW-17 shows one of the invoices I considered. Therefore, I estimated total sales tax for this project at 6% on the total equipment costs.

Q. WHAT IS YOUR REASON FOR THE WM REPLACMENTS ADJUSTMENT?

A. Documentation provided for Exhibit PCF-37, the UIF-Orange & Seminole Water Main (WM) Replacements, supports engineering costs for a number of different water systems costs that are also supported with the individual system projects; therefore, I have removed the $57,000 amount to avoid double counting.

Pro Forma projects lacking adequate cost justification

Q. WHAT PRO FORMA PROJECTS ARE LACKING ADEQUATE COST JUSTIFICATION?

A. There are two projects, the Mid-County Electrical Improvements and Sanlando Shadow Hills Diversion projects, which lack adequate cost justification to be included in customer rates in this rate case.

Q. WHAT ARE YOUR CONCERNS WITH THE MID-COUNTY ELECTRICAL IMPROVEMENTS PROJECT (EXHIBIT PCF-14)?

A. The information provided in Mr. Flynn's testimony did not include any invoices, competitive bid information, contractor agreements, or invoices. To the extent that

any supporting information was provided, it was provided in discovery first provided on February 25, 2017, a little more than a week before my testimony was due to be filed. Based on the scant information that was provided, I have significant concerns about how this project was bid.

My first concern has to do with the bid forms that were received in discovery. As I explained above, competitive bids are a necessary component to ensure the reasonableness of a project's costs. Typically, the bidding process consists of a number of potential contractors, usually three, submitting a binding bid price based on the same set of drawings and specifications. This is important because in order to get competitive prices each contractor must have access to the same information.

In response to OPC's discovery, UIF provided two bids related to this project, one from APG Electric for $1,017,000 and one that *appears to be* from EMS of Central Florida for $1,110,000. Both bids are attached as Exhibit ATW-18. The bid from APG is typical of what I would expect for a binding contractor's bid. The bid is on a standardized form signed by a representative of APG and notarized. The bid includes a valid date, contract price, listing of subcontractors and other information that is helpful in evaluating bids.

The "bid" from EMS of Central Florida is on a single sheet of paper, un-dated, un-signed, and contains none of the information that should have been included as compared to APG's bid. The full name of a representative of the company is missing

from the form. In my professional opinion, the document from EMS is not a valid bid and throws into question the validity of costs for this project. This project needs to be re-bid and excluded from rate base in this case. Therefore, I find that the estimated costs for this project are unsupported and $900,000 should not be included in this rate case.

Q. WHAT ARE YOUR CONCERNS WITH THE SHADOW HILLS DIVERSION PROJECT (EXHIBIT PCF-27)?

A. The Shadow Hills Diversion project is the largest project in this rate case, *initially* estimated to cost over $4.2 million. It is broken down into six phases and will have five different contractors coordinating to complete the project. In UIF's original submission in its MFRs, an engineer's estimate was provided to support the $4,243,423 cost. To the extent that any supporting information was provided, it was provided in discovery first provided on February 25, 2017, a little more than a week before my testimony was due to be filed. Based on a preliminary review of the supporting information provided, it appears that the cost for this pro forma improvement has increased to approximately $7,800,000, an increase of more than $3,600,000 from UIF's original estimated cost. UIF received bids for the four most expensive phases of the project in early January 2017, and contracts for the work were executed on February 20, 2017.

As a professional engineer, I have a major concern with an 88% increase in project's estimated cost and feel that additional investigation and substantial vetting is required

to determine why the numbers are $3,600,000 more than UIF's original estimate. With the contracts only recently executed on February 20, 2017, there was insufficient time to conduct additional discovery to fully review the prudence and reasonableness of the cost numbers. Therefore, I recommend that $4,243,423 in costs be excluded from the current rate case.

Pro Forma projects without any cost justification

Q. WHICH PRO FORMA ADDITIONS HAS UIF FAILED TO PROVIDE ANY SUPPORTING DOCUMENTATION?

A. As of February 25, 2017, UIF has failed to provide any supporting documentation on seven projects totaling approximately $3,800,000 as shown in the table below.

Flynn's Exhibit Number	Project	Project Amount per Flynn's Testimony
PCF-9	TTHM & HAA5 Study	$450,000
PCF-13	Longwood Groves I&I Remediation	$450,000
PCF-17	Mid-County Excess I&I Remediation	$600,000
PCF-20	Pennbrooke WTP Electrical Improvements	$270,000
PCF-28	Wekiva WWTP Blower Replacement	$600,000
PCF-33	Orangewood, Buena Vista WM Replacement	$1,200,000
PCF-34	Summertree Well Abandonment	$200,000
	Total	$3,770,000

Mr. Flynn stated in his August 30, 2016 testimony that the supporting information for these projects will be submitted either 60 or 90 days after filing depending upon the project. The exhibit pages in his testimony that refer to these projects state: "held for

future use." As of February 25, 2017, 179 days have passed since the filing of the rate case and supporting information has not been received, 116 days since Mr. Flynn's revised exhibits were filed on October 31, 2016, and 95 days since the Commission deemed UIF's MRFs to be complete. Therefore, UIF has had more than enough time to provide support for these seven projects. Since UIF failed to timely meet its burden of proof for including these pro forma additions in rate base, $3,770,000 should be exclude from rate base.

Q. WHAT ABOUT UIF'S RESPONSE TO STAFF'S SEVENTH SET OF INTERROGATORIES, NO. 179 RECEIVED ON MARCH 2, 2017?

A. UIF's response to Staff's 7th Set of Interrogatories, No. 179, served to OPC and Staff on March 2, 2017, four days before the Intervenor testimony deadline, contains eight Amended Exhibits to Mr. Flynn's testimony, Exhibits PCF-1, 9, 13, 17, 20, 27, 33, and 34. There is no opportunity to verify any of the information in the amended exhibits, conduct discovery, or adequately review all the documents.

In order to incorporate all the requested pro forma projects into rate base and the requested revenue requirement, UIF had the burden to demonstrate the reasonableness of the costs when it filed its MFRs, direct testimony, and exhibits. UIF clearly failed to provide the necessary support for the reasonableness of all its requested pro forma projects at the time of its initial filing in August or even by the time its MFR deficiencies were cured in November. It is unreasonable to inject such late information into this rate case with no time for review.

Q. WHAT IS THE TOTAL AMOUNT OF YOUR ADJUSTEMENTS TO THE PRO FORMA ADDITIONS?

A. Of the total $30,835,444 requested by UIF in its MFRs, direct testimony, and exhibits, the documentation provided supports allowing up to $21,256,538 pro forma additions to rate base at this time.

Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS IN THIS CASE.

A. Consistent with my testimony, adjustments in the following areas should be made related to: (1) excessive unaccounted for water in ten systems; (2) excessive inflow and infiltration in three systems; (3) recalculating the appropriate U&U percentages for seven system wastewater treatment plants and two wastewater collection systems; and (4) allowing no more than $21,256,538 in pro forma rate base additions. These recommended adjustments are reasonable and supported by the documents provided by UIF in its original filing and responses to discovery.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

CERTIFICATE OF SERVICE

DOCKET NO. 160101-WS

I HEREBY CERTIFY that a true and correct copy of the foregoing Direct Testimony of Andrew T. Woodcock has been furnished by electronic mail to the following parties on this 6th day of March, 2017.

Walter Trierweiler
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/s/ Erik L. Sayler
Erik L. Sayler
Associate Public Counsel

TETRA TECH

Andrew T. Woodcock, PE

Senior Project Manager

General

Mr. Woodcock has been involved with many different facets of environmental engineering for 25 years. He has special expertise in utility master planning, due diligence investigations, utility valuations, financial feasibility analyses and business plans. Mr. Woodcock's skills include assisting utilities prepare operating and capital programs and supporting those programs with a series of rates and charges to provide for their successful implementation. He is also experienced in conducting economic and feasibility analyses and serves as an expert witness on utility rate regulatory matters.

Education:
MBA, Rollins College, 2001

MS, Environmental Engineering, University of Central Florida, 1989

BS, Environmental Engineering, University of Central Florida, 1988

Registrations/Certifications:
Professional Engineer, Florida, No. 47118

Professional Affiliations:
Water Environment Federation

American Water Works Association

Office Location:
Orlando, FL

Total Years of Experience:
25

Years with Tetra Tech:
23

Utility Planning

Mr. Woodcock's water and wastewater utility planning experience includes several master plans, and capital improvements programs that include water, wastewater and reclaimed water utilities. Recent planning projects include the City of Clermont Water, Wastewater and Reclaimed Water Master Plans, the City of Bartow Water Master Plan, and the City of Naples Integrated Water Supply Study. As part of the planning process, Mr. Woodcock has conducted numerous economic, present value and feasibility analyses that evaluate the financial impacts of utility programs and provide useful decision criteria for capital planning.

Mr. Woodcock has participated in over 60 water and wastewater utility valuations and acquisitions for utility systems located throughout the Southeast United States. The acquisition projects cover a wide range of utility system configurations and sizes and include engineering due diligence inspections, valuations, and financing activities associated with the transactions.

Additionally, Mr. Woodcock has experience in the review and analysis of water and wastewater utility rates, charges and impact fees. His experience also extends to providing financial feasibility documentation in support of revenue bonds and utility financial feasibility studies in support of capital funding.

International

Mr. Woodcock has been an integral team member on several infrastructure improvement programs for the US Agency for International Development (USAID). He has conducted field visits to Nigeria and Zambia to evaluate existing infrastructure; meet with prospective teaming partners to identify and recruit local designers; and interview local agency officials and stakeholders to identify project challenges, build consensus, formulate technical approaches, and secure buy-in for development programs.

Prior to his work on international development projects, Mr. Woodcock concentrated on water and wastewater utility planning in the United States. His experience includes master planning and capital improvements programs that include water, wastewater and reclaimed water utilities for major cities. As part of the planning process, Mr. Woodcock has conducted numerous economic, present value and feasibility analyses that evaluate the financial impacts of utility programs and provide useful decision criteria for capital planning. Additionally, Mr. Woodcock has experience in the review and analysis of water and wastewater utility rates, charges, and impact fees. His experience also extends to providing financial feasibility documentation in support of revenue bonds and utility financial feasibility studies in support of capital funding.

TETRA TECH

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EXPERIENCE

Utility Planning

20-Year Reuse Water Master Plan, Daytona Beach, FL. Project Manager. The Daytona Beach 20-Year Reuse Water Master Plan evaluated the existing city reuse system and provided a listing of projects to expand the City's use of reclaimed water over the projection period. A hydraulic model of the system was created in Innovzye software using the City's existing CAD drawings and as-builts of recent projects. A unique feature of the modeling effort was to effectively simulate a low pressure reclaimed water transmission line that also acts as an outfall to the Halifax River. When the WWTP produces water that does not meet public reuse standards the pipeline is the sole form of effluent disposal. The model was used to develop an operational protocol for the pipeline given these two conflicting uses. Once the CIP was determined a full reclaimed water rate study was performed to demonstrate how varying levels of investment in the CIP would affect reclaimed rates.

Water, Wastewater, and Reclaimed Water Rate Study, Naples, FL. 2007. Project Manager. Performed a study for the evaluation and adjustment of the City's rate structures for water, wastewater and reclaimed water as necessary to recover costs from capital improvement projects and to promote water conservation. The rate study recommended the development of a tiered structure to promote water conservation and also provided for lower reclaimed water rates to promote the connection to the City's non-mandatory reclaimed water system. The project included multiple public workshops for citizen input and presentations to the City Council, with ultimate adoption of the rate structure.

Water and Wastewater Utility Master Plan, Marion County, FL. Project Manager. In the previous four years prior to initiation of the Water and Wastewater Master Plan Marion County had quadrupled its utility customer base through a series of utility acquisitions is key growth areas. The primary focus of the Water and Wastewater Master Plan was to provide a roadmap to efficiently consolidate utility systems and establish four County sub regions that would serve as the future basis for utility planning and operations. The Master Plan presented a program for systematically decommissioning small package plants and expanding sub regional facilities to accommodate the existing customer base and projected growth.

Water System Master Planning, Mapping and Modeling, City of Bartow, FL. Project Manager. Tetra Tech was contracted by the City in 1996 to perform a water master plan. In 2008 Tetra Tech updated the master plan with new projections, an expanded hydraulic model and a revised CIP. The hydraulic model was revised to include completed system improvements and projected extensions to serve growth areas. The resulting CIP was classified by three project types; pressure improvements, fire flow improvements, and growth improvements. The master plan also included an upper level financial analysis that evaluated the impact of CIP funding on the cash flows of the system.

Integrated Water Resources Plan, City of Naples, FL. Financial Evaluation. Tetra Tech developed an integrated water resources plan for the City of Naples that evaluated all water supply options for a twenty year planning period. All available water supply source were considered including brackish ground water, stormwater, and surface water from the Golden Gate Canal and Naples Bay. Mr. Woodcock performed a financial evaluation of the most technically feasible alternatives to determine the short term impact of capital and operations costs on the utility's cash flows.

Water and Wastewater Master Plan, City of Deltona, FL. Project Engineer. The water and wastewater master plans for the City of Deltona were the first master plans prepared on the systems since the City's acquisition in 2003. In addition the projections and capacity analysis of facilities a hydraulic model was prepared for both the water and wastewater systems to document system behavior and act as a planning tool to develop the proposed CIP. Hydraulic deficiencies in the water and wastewater systems were already well documented by City staff. The models however, were very useful in determining the magnitude of the deficiencies and the appropriate course of corrective action. The wastewater model was used to determine

force main routing to a new WWTP in the developing area of the City. The water model was field calibrated through pressure data record by the City and at remote locations as well as hydrant testing.

Water, Wastewater and Reclaimed Water Master Plan, City of Clermont, FL. 2014. Project Manager for three Master Plans for the City. The master plans were driven by near term permit limitations and accelerated growth in the City's service area. A key component of the joint master planning effort was developing new hydraulic models for all three systems using WaterGEMS™. Critical to the modeling effort was to simulate system changes as potable water irrigation customers are systematically converted to reclaimed service. As a result of the modeling pressure problems in the potable were alleviated once the conversions were complete allowing the City to reduce its near term CIP without compromising customer levels of service.

Water and Wastewater Connection Charge and Development Fee Study, City of Bartow, FL. Project Manager: Performed a development fee study to evaluate the impacts of projects on the City's capital recovery charges. The study also included an analysis of the City's connection fees for water meters and water and wastewater services. The development fee portion of the study utilized the replacement cost of the applicable portions of the water and wastewater system to establish the current system cost of capacity. The treatment and transmission components of both the water and wastewater system were evaluated separately to provide a functional component breakdown. The City's industrial wastewater development surcharge was also reviewed. The study also evaluated the capacity definitions of an equivalent residential connection (ERC). Finally, the study updated the meter installation and water and wastewater connection fees to account inflationary changes.

Orange Tree Utilities Utility Valuation, Collier County, FL. Project Manager. Providing assistance to Collier County for the evaluation of the Orange County water and wastewater utility system to determine its condition and needs for improvement prior to acquisition by Collier County.

Series 2014 Water and Sewer Refunding Revenue Bonds, Pasco County, FL. 2014. Project Manager. Served as the Financial Feasibility Consultant for a $105 million revenue bond issue to fund capital improvement projects. Based on the financial strength of the utility and the projections performed by Tetra Tech the bonds have received a rating of AA from Fitch and AA+ from Standard and Poors.

Series 2008 Water and Sewer Refunding Revenue Bonds, Pasco County, FL. 2008. Project Manager. Served as the Financial Feasibility Consultant for a $182.5 million revenue bond issue to fund capital improvement projects. Based on the financial strength of the utility and the projections contained in Tetra Tech's report the bonds have received an uninsured rating of AA- from Fitch.

West Virginia Planning and Development Council Regions 4 and 7

Source Water Protection Plans - Alternative Source Water Feasibility Analysis for over 20 water systems, 2015.

Deltona, FL

Consulting Engineers Report, Series 2003; Utility System Revenue Bonds, $81.72 million.

Water and Wastewater Impact Fee Study (2005)

Water and Wastewater Rate Study (2006)

Stormwater Utility Rate Study (2008, 2015)

Water and Wastewater Master Plans (2007)

Marion County, FL

Water and Wastewater Impact Fee Study (2005)

Water and Wastewater Utility Master Plan (2005)

TETRA TECH

Andrew T. Woodcock, PE
Senior Project Manager

City of Orlando, FL

Research Park Reuse Economic Impact Evaluation (2005)

Collier County, FL

Impact Fee Calculation Review (2011)

Meter Accuracy Program and Assessment (2012)

Meter Sizing Policy Review (2012)

Fire Assembly Inventory and Review (2013)

Utility Conveyance Policy Review (2014)

Orange Tree Utilities Due Diligence Investigation (2013)

St. Johns County, FL

Utility Regulatory Services – Intercoastal Utilities (2002, 2005)

Pasco County, FL

Comprehensive Water, Wastewater and Reclaimed Water Rate and Charge Study (2003, 2007, 2011, 2015)

Series 2008 Water and Sewer Revenue Bonds, $182 million

Series 2014 Water and Sewer Revenue Bonds, $104 million

City of Naples, FL

Reclaimed Water Project Assessment and Funding Program (2006)

Comprehensive Water, Wastewater and Reclaimed Water Rate Study (2007)

Stormwater Utility Financial Review (2007)

Integrated Water Supply Study (2008)

City of Minneola, FL

Water Impact Fee Update (2006)

Stormwater Utility Rate Study (2006)

State of Florida - Office of Public Counsel

Utility Regulatory Services – Aqua America Utilities (2007, 2008, 2011)

Utility Regulatory Services – Water Used and Useful Rule (2008)

Utility Regulatory Services – Water Management Services, Inc. (2010)

Utility Regulatory Services – KW Resort Utilities (2008)

City of Punta Gorda, FL

Water Treatment cost Analysis Report (2010, 2014)

City of Huntsville, AL

Alternative Water Supply Study (2008)

City of Daytona Beach, FL

20 Year Reuse System Master Plan (2012)

TETRA TECH

Andrew T. Woodcock, PE
Senior Project Manager

City of Jacksonville, AR

Acquisition of Little Rock AFB Water System (2015)

City of Clermont, FL

Water, Wastewater and Reclaimed Water Master Plans (2014)

International

USAID, Sustainable Water and Sanitation for Africa, Zambia. 2012 - 2013. Senior Technical Lead for a Cost of Service Study of the 11 utilities that serve domestic, intuitional and commercial customers to ensure that the utilities can operate as commercially viable utilities, and reliably meet the water and sanitation demand within the service areas. The project supports Zambia's National Water Supply and Sanitation Council (NWASCO) with the overall goal to improve sustainability through promotion of cost recovery throughout Zambia's urban water sector. Conducted initial interviews with NWASCO management and other stakeholders including USAID, MCC, and the eleven commercial utilities. Developed a comprehensive cost of service model to benchmark utility costs against known values and project future costs of service based on numerous escalation factors. The model was presented to NWASCO and representatives of the utilities in two workshops that included not only an overview of the model purpose but also specific training in the use of the model.

USAID, Sustainable Water and Sanitation for Africa, Nigeria. 2012 – 2014. Water Supply Investment Expert for development of an investment plan for urban water supply and sanitation sector of Bauchi State. The plan provides advice for improving budgeting, financial planning, and attracting external funding sources. Prepared a Water Supply Investment Plan, Long Term Business Plan, and Medium Term Business Plan for the local water service provider, Bauchi State Water Board (BSWB). The overall goal of this project is to improve the operating environment of the urban water service provider through promoting good governance, autonomy of the water service provider and promotion of sustainable financing for urban water supply and sanitation services. Conducted a field mission to Nigeria to meet with the BSWB leaders, study existing funding arrangements for capital and recurrent urban water supply expenditure, and assist in assess capital investment needs as well as operations and maintenance needs. The Water Supply Investment Plan and Business Plans will be used to attract investments from international bilateral donors.

USAID Liberia Municipal Water Project, Liberia. 2014. Team Leader for strategic and business planning development of five water supply outstations. The development consisted of two sets of workshops designed to educate and develop business plans for five water systems in Liberia. The workshops were attended by numerous utility stakeholders including system operations and management personnel, community leaders and representatives from the Liberia Water and Sanitation Corp. The first workshop introduced the concepts and components of a business plan. The audience was divided into several working groups that were guided through a number of exercises to develop the major components of a business plan. The second round of workshops introduced the business plan template and guided the working groups through the initial development of the business plan that was later finalized by the water systems.

USAID Sustainable Water and Sanitation for Africa, South Sudan. 2014. Technical Leader for the development of an Investment Plan for sanitation for the City of Juba. The goal of the investment plan is to provide a pathway for the technical, financial and institutional expansion of sanitation in a city of approximately 500,000 people. The plan expands coverage of sanitation in the city initially through the expansion of latrines, supported by a system of exhauster trucks and a treatment lagoon. In later stages the plan envisions the gradual implementation of a piped sewerage system. The plan also provides guidance on the development of an institutional framework, defining the roles of national, state and, local governing bodies. Finally the plan provides a financial plan with emphasis on the steps required to attract investment from the private and donor sectors.

TETRA TECH

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PAPERS/PRESENTATIONS

"Water and Wastewater Impact Fees: An Overview" Alabama Water Pollution Control Association, July 28, 2008.

“Developing Multi-Year Business Plans and Infrastructure Master Plans,” Institute for Public Private Partnerships (IP3), August 2015.

System	Water Pumped	Water Purchased	Water Sold	Other Uses	UAW	% UAW	% Other Uses
Cypress Lakes	68.16	-	44.58	16.82	6.75	9.91%	24.68%
Labrador	22.46	-	17.21	1.97	3.28	14.60%	8.77%
Lake Placid	5.36	-	4.66	-	0.70	13.06%	0.00%
LUSI - Main	1,393,933.00	-	1,313,905.00	9,704.00	70,324.00	5.05%	0.70%
LUSI - Four Lakes	6.85	-	5.99	0.24	0.61	8.96%	3.53%
LUSI Lake Saunders	4.34	-	2.28	2.07	(0.02)	-0.39%	47.78%
Pasco - Summertree	58.60		27.36	27.85	3.39	5.78%	47.53%
Pasco - Orangewood, etc.	75.99	-	61.93	0.64	13.42	17.66%	0.84%
Pennbrooke	141.73	-	130.05	1.66	10.03	7.07%	1.17%
Sanlando	2,352.81	-	2,222.14	9.98	120.69	5.13%	0.42%
UIF Marion	55.32	-	48.29	0.75	6.28	11.35%	1.36%
UIF Orange - Davis Shores	-	3.68	3.72	0.01	(0.05)	-1.41%	0.33%
UIF Orange - Crescent Hts	-	17.86	17.44	0.00	0.42	2.34%	0.01%
UIF Pinellas - Lake Tarpon	16.56	0.01	12.85	0.38	3.35	20.20%	2.27%
UIF Seminole - Bear Lake	14.35	3.03	15.13	0.55	1.70	9.77%	3.16%
UIF Seminole - Ravenna Park, etc.	23.86	-	20.63	0.62	2.61	10.95%	2.58%
UIF Seminole - Crystal Lake	-	10.70	10.67	0.12	(0.09)	-0.84%	1.14%
UIF Seminole - Jansen	20.60	-	19.01	0.58	1.02	4.94%	2.81%
UIF Seminole - Little Wekiva	4.95	-	3.42	0.80	0.73	14.81%	16.12%
UIF Seminole - Oakland Shores	24.37	0.11	21.05	0.43	2.99	12.23%	1.77%
UIF Seminole - Park Ridge	6.09	-	5.82	0.22	0.06	0.95%	3.58%
UIF Seminole - Phillips	5.84	0.34	5.33	0.13	0.71	11.56%	2.07%
UIF Seminole - Weathersfield	73.44	6.35	69.74	1.03	9.03	11.31%	1.29%

System	Total WW flow	Water Returned to WWTP	Allowable Inflow	Allowable Infiltration	Excess I&I
Cypress Lakes	36,381,010	33,765,678	3,376,568	13,408,012	(14,169,248)
Eagle Ridge	77,809,970	83,004,400	8,300,440	15,718,504	(29,213,374)
Cross Creek	21,260,885	see below	see below	see below	see below
Labrador	20,500,225	13,553,817	1,355,382	7,694,034	(2,103,008)
Lake Placid	6,843,385	5,698,896	569,890	1,148,920	(574,321)
Longwood	137,344,000	see below	see below	see below	see below
LUSI	164,655,150	295,419,535	29,541,954	25,218,113	(185,524,451)
Mid-County	282,269,100	271,317,200	27,131,720	24,983,006	(41,162,826)
Pennbrooke	35,914,905	84,773,128	8,477,313	12,945,333	(70,280,869)
Sandalhaven	50,474,390	30,735,000	3,073,500	12,440,071	4,225,819
Sanlando	731,730,830	1,318,088,203	131,808,820	134,980,595	(853,146,788)
Tierra Verde	129,033,140	116,650,200	11,665,020	13,269,167	(12,551,247)
UIF Marion	6,205,000	5,328,009	532,801	773,689	(429,499)
UIF Pasco					
Wis Bar	5,526,330	2,986,999	298,700	1,289,114	951,518
Summertree	33,347,000	21,828,732	2,182,873	10,227,189	(891,794)
UIF Seminole					
Weathersfield	48,584,209	55,678,206	5,567,821	13,285,101	(25,946,919)
Lincoln Heights	23,302,461	12,124,100	1,212,410	1,248,051	8,717,900

LONGWOOD

Longwood Subschedule	Based on No of Bills Sched E2	Equivalency Factor	ERUs
Res	1553	1	1,553.25
GS 5/8	51	1	50.83
GS 1	10	2.5	25.21
GS 1.5	7	5	35.42
GS 2	7	10	70.00
GS 3	4	20	80.00
		Total	1,814.71
		WW flow (gpd)	376,284.93
		gpd/ERU	207.35
		cap/ERU	2.50
		gpd/cap	82.94

CROSS CREEK

Longwood Subschedule	Equivalency Factor	ERUs Form 2015 AR
Res	1	908.00
GS 5/8	1	-
GS 1	2.5	-
GS 1.5	5	-
GS 2	10	-
GS 3	20	-
	Total	908.00
	WW flow (gpd)	58,249.00
	gpd/ERU	64.15
	cap/ERU	2.50
	gpd/cap	25.66

System	Wastewater Treatment	Wastewater Collection
Crownwood	53.20%	NA
Eagle Ridge	100.00%	100%
Labrador	40.59%	NA
Lake Placid	29.79%	NA
LUSI	53.55%	NA
Mid County	93.67%	100.00%
Sandalhaven - EWD Cap	42.24%	NA
Sandalhaven - Lift Station	11.27%	NA
Sandalhaven - Force Main	13.55%	NA
Sandalhaven - Pumps	27.25%	NA

LUSI

Line	Description	
1	Test Year Flows[1]	
2	Annual Average (MGD)	0.452
3		
4	Growth Adjustment	
5	Test Year ERCs[2]	3441
6	Annual Growth Using Linear Regression (ERCs/yr)[3]	126
7	Growth for Five year Period (ERCs)	631
8	Test Year gpd/ERC (Line 2 /Line 5)	131
9	Growth Allowance (MGD) (Line 8*Line 7)	0.083
10		
11	Test year Flow Plus Growth Allowance (Line 2+line 9)	0.535
12		
13	Inflow/Infiltration Adjustment	
14	Excess I&I (gpy)	-
15	Excess I&I (gpd)	-
16		
17	Test year Flow with Growth Allowance Less I&I (Line 11-Line 15)	0.535
18		
19	Capacity (MGD)	0.999
20		
21	Used and Useful Percentage	53.55%
22	Non-Used and Useful Percentage	46.45%

Notes
(1) From test year DMRs
(2) From MFR Schedue F-10
(3) From MFR Schedue F-10

Mid County

Line	Description	
1	Test Year Flows[1]	
2	Annual Average (MGD)	0.789
3		
4	Growth Adjustment	
5	Test Year ERCs[2]	2001
6	Annual Growth Using Linear Regression (ERCs/yr)[3]	27
7	Growth for Five year Period (ERCs)	136
8	Test Year gpd/ERC (Line 2 /Line 5)	395
9	Growth Allowance (MGD) (Line 8*Line 7)	0.054
10		
11	Test year Flow Plus Growth Allowance (Line 2+line 9)	0.843
12		
13	Inflow/Infiltration Adjustment	
14	Excess I&I (gpy)	-
15	Excess I&I (gpd)	-
16		
17	Test year Flow with Growth Allowance Less I&I (Line 11-Line 15)	0.843
18		
19	Capacity (gpd)	0.900
20		
21	Used and Useful Percentage	93.67%
22	Non-Used and Useful Percentage	6.33%

Notes
(1) From test year DMRs
(2) From MFR Schedue F-10
(3) From MFR Schedue F-10

Lake Placid

Line	Description	
1	Test Year Flows[(1)]	
2	Annual Average (MGD)	0.018
3		
4	Growth Adjustment	
5	Test Year ERCs[(2)]	349
6	Annual Growth Using Linear Regression (ERCs/yr)[(3)]	32
7	Growth for Five year Period (ERCs)	159
8	Test Year gpd/ERC (Line 2 /Line 5)	53
9	Growth Allowance (MGD) (Line 8*Line 7)	0.008
10		
11	Test year Flow Plus Growth Allowance (Line 2+line 9)	0.027
12		
13	Inflow/Infiltration Adjustment	
14	Excess I&I (gpy)	-
15	Excess I&I (gpd)	-
16		
17	Test year Flow with Growth Allowance Less I&I (Line 11-Line 15)	0.027
18		
19	Capacity (gpd)	0.090
20		
21	Used and Useful Percentage	29.79%
22	Non-Used and Useful Percentage	70.21%

Notes
(1) From test year DMRs
(2) From MFR Schedue F-10
(3) From MFR Schedue F-10

Florida Department of Environmental Protection

NOTIFICATION/APPLICATION FOR CONSTRUCTING A DOMESTIC WASTEWATER COLLECTION/TRANSMISSION SYSTEM

PART I - GENERAL

Subpart A: Permit Application Type

Permit Application Type (mark one only)	EDUs Served	Application Fee*	"X"
Are you applying for an individual permit for a domestic wastewater collection/transmission system? Note: an EDU is equal to 3.5 persons. Criteria for an individual permit are contained in Rule 62-604.600(7), F.A.C.	≥ 10	$500	
	< 10	$300	
Is this a Notice of Intent to use the general permit for wastewater collection/transmission systems? Criteria for qualifying for a general permit are contained in Rule 62-604.600(6), F.A.C. Projects not meeting the criteria in Rule 62-604.600(6), F.A.C., must apply for an individual permit.	N/A	$250	X

*Note: Each non-contiguous project (i.e., projects that are not interconnected or are not located on adjacent streets or in the same neighborhood) requires a separate application and fee.

Subpart B: Instructions

(1) This form shall be completed for all domestic wastewater collection/transmission system construction projects as follows:
- If this is a Notice of Intent to use the general permit, this notification shall be submitted to the Department **at least 30 days prior to initiating construction**.
- If this is an application for an individual permit, the permit must be obtained prior to initiating construction.

(2) One copy of the completed form shall be submitted to the appropriate DEP district office or delegated local program along with the appropriate fee, and one copy of the following supporting documents. Checks should be made payable to the Florida Department of Environmental Protection, or the name of the appropriate delegated local program.

- If this is a Notice of Intent to use the general permit, attach a site plan or sketch showing the size and approximate location of new or altered gravity sewers, pump stations and force mains; showing the approximate location of manholes and isolation valves; and showing how the proposed project ties into the existing or proposed wastewater facilities. The site plan or sketch shall be signed and sealed by a professional engineer registered in Florida.
- If this is an application for an individual permit, one set of plans and specifications shall be submitted with this application, or alternatively, an engineering report shall be submitted. Plans and specifications and engineering reports shall be prepared in accordance with the applicable provisions of Chapters 10 and 20 of *Recommended Standards for Wastewater Facilities*. The plans and specifications or engineering report shall be signed and sealed by a Professional Engineer registered in Florida.

(3) All information shall be typed or printed in ink. Where attached sheets (or other technical documentation) are utilized in lieu of the blank spaces provided, indicate appropriate cross-references on the form. For Items (1) through (4) of Part II of this application form, if an item is not applicable to your project, indicate "NA" in the appropriate space provided.

PART II – PROJECT DOCUMENTATION

(1) Collection/Transmission System Permittee

Name MR. GREG FERRELL Title PROJECT MANAGER
Company Name HRES LAKE PLACID, LLC
Address 5100 W. KENNEDY BOULEVARD, SUITE 100
City TAMPA State FLORIDA Zip 33609
Telephone 813-289-5511 Fax Email gferrell@huntresco.com

(2) General Project Information

Project Name FAMILY DOLLAR STORES - LAKE PLACID
Location: County HIGHLANDS City LAKE PLACID Section 22 Township 37 Range 30
Project Description and Purpose (including pipe length, range of pipe diameter, total number of manholes, and total number of pump stations):

Sanitary sewer service for 8,352 SF Family Dollar Store including: +/-115 LF 4" PVC SDR-35; one (1) Sanitary Clean-out; +/-3 LF 2" PVC Force Main; one (1) Sanitary Lift Station; +/- 1,219 LF 4" PVC Force Main

Estimated date for: Start of construction JANUARY - 2017 Completion of construction AUGUST - 2017
Connections to existing system or treatment plant ONE (1)

(3) Project Capacity

A = Type of Unit	B = Number of Units	C = Population Per Unit	D = Total Population (Columns B x C)	E = Per Capita Flow	F = Total Average Daily Flow (Columns D x E)	G = Peak hour flow
Single-Family Home						
Mobile Home						
Apartment						
Commercial, Institutional, or Industrial Facility*	8,352 SF	1	8,352	0.1 GPD/SF	835 GPD	104 GPH
Total			8,352		835 GPD	104 GPH

* Description of commercial, institutional, and industrial facilities and explanation of method used to estimate per capita flow for these facilities:

FAC Chapter 64E-6 [Table 1] - Shopping Center without food or laundry - 0.1 GPD / Square Foot
Avg. Daily Flow: 8,352 SF x 0.1 GPD/SF = 835 GPD
Peak Hourly Flow: Avg. Daily Flow (835 GPD) x 1 day / 24 hours x Peak Factor (3) = 104 GPH

(4) Pump Station Data (attached additional sheets as necessary)

Location	Type	Estimated Flow to the Station (GPD) Maximum	Average	Minimum	Operating Conditions [GPM @ FT (TDH)]
Family Dollar	3 HP Grinder Pump	835	835	0	88 GPM @ 24 TDH

(5) Collection/Transmission System Design Information

A. This information must be completed for all projects by the applicant's professional engineer, and if applicable, those professional engineers in other disciplines who assisted with the design of the project.

If this project has been designed to comply with the standards and criteria listed below, the engineer shall initial in ink before the standards or criteria. If any of the standards or criteria do not apply to this project or if this project has not been designed to comply with the standards or criteria, mark "X" before the appropriate standard or criteria and provide an explanation, including any applicable rule references, in (5)B. below.

Note, if the project has not been designed in accordance with the standards and criteria set forth in Rules 62-604.400(1) and (2), F.A.C., an application for an individual permit shall be submitted. However, if Rules 62-604.400(1) and (2), F.A.C., specifically allow for another alternative that will result in an equivalent level of reliability and public health protection, the project can be constructed using the general permit.

General Requirements

BB 1. The project is designed based on an average daily flow of 100 gallons per capita plus wastewater flow from industrial plants and major institutional and commercial facilities unless water use data or other justification is used to better estimate the flow. The design includes an appropriate peaking factor, which covers I/I contributions and non-wastewater connections to those service lines. [RSWF 11.243]

BB 2. Procedures are specified for operation of the collection/transmission system during construction. [RSWF 20.15]

BB 3. The project is designed to be located on public right-of-ways, land owned by the permittee, or easements and to be located no closer than 100 feet from a public drinking water supply well and no closer than 75 feet from a private drinking water supply well; or documentation is provided in Part II.(5)B., showing that another alternative will result in an equivalent level of reliability and public health protection. [62-604.400(1)(b) and (c), F.A.C.]

BB 4. The project is designed with no physical connections between a public or private potable water supply system and a sewer or force main and with no water pipes passing through or coming into contact with any part of a sewer manhole. [RSFW 38.1 and 48.5]

BB 5. The project is designed to preclude the deliberate introduction of storm water, surface water, groundwater, roof runoff, subsurface drainage, swimming pool drainage, air conditioning system condensate water, non-contact cooling water except as provided by Rule 62-610.668(1), F.A.C., and sources of uncontaminated wastewater, except to augment the supply of reclaimed water in accordance with Rule 62-610.472(3)(c), F.A.C. [62-604.400(1)(d), F.A.C.]

BB 6. The project is designed so that all new or relocated, buried sewers and force mains, are located in accordance with the separation requirements from water mains and reclaimed water lines of Rules 62-604.400(2)(g)(h) and (i) and (3), F.A.C. Note, if the criteria of Rules 62-604.400(2)(g) 4. or (2)(i) 3., F.A.C., are used, describe in Part II.(5)B©. alternative construction features that will be provided to afford a similar level of reliability and public health protection. [62-604.400(2)(g), (h), and (i) and (3), F.A.C.]

Gravity Sewers

BB 7. The project is designed with no public gravity sewer conveying raw wastewater less than 8 inches in diameter. [RSWF 33.1]

BB 8. The design considers buoyancy of sewers, and appropriate construction techniques are specified to prevent flotation of the pipe where high groundwater conditions are anticipated. [RSWF 33.3]

BB 9. All sewers are designed with slopes to give mean velocities, when flowing full, of not less than 2.0 feet per second, based on Manning's formula using an "n" value of 0.013; or if it is not practicable to maintain these minimum slopes and the depth of flow will be 0.3 of the diameter or greater for design average flow, the owner of the system has been notified that additional sewer maintenance will be required. The pipe diameter and slope are selected to obtain the greatest practical velocities to minimize solids deposition problems. Oversized sewers are not specified to justify flatter slopes. [RSWF 33.41, 33.42, and 33.43]

BB 10. Sewers are designed with uniform slope between manholes. [RWSF 33.44]

X 11. Where velocities greater than 15 fps are designed, provisions to protect against displacement by erosion and impact are specified. [RSWF 33.45]

X 12. Sewers on 20% slopes or greater are designed to be anchored securely with concrete, or equal, anchors spaced as follows: not over 36 feet center to center on grades 20% and up to 35%; not over 24 feet center to center on grades 35% and up to 50%; and not over 16 feet center to center on grades 50% and over. [RSWF 33.46]

BB 13 Sewers 24 inches or less are designed with straight alignment between manholes. Where curvilinear sewers are proposed for sewers greater than 24 inches, the design specifies compression joints; ASTM or specific pipe manufacturer's maximum allowable pipe joint deflection limits are not exceeded; and curvilinear sewers are limited to simple curves which start and end at manholes. [RSWF 33.5]

X 14. Suitable couplings complying with ASTM specifications are required for joining dissimilar materials. [RSWF 33.7]

BB 15 Sewers are designed to prevent damage from superimposed loads. [RSWF 33.7]

BB 16 Appropriate specifications for the pipe and methods of bedding and backfilling are provided so as not to damage the pipe or its joints, impede cleaning operations and future tapping, nor create excessive side fill pressures and ovalation of the pipe, nor seriously impair flow capacity. [RSWF 33.81]

BB 17. Appropriate deflection tests are specified for all flexible pipe. Testing is required after the final backfill has been in place at least 30 days to permit stabilization of the soil-pipe system. Testing requirements specify: 1) no pipe shall exceed a deflection of 5%; 2) using a rigid ball or mandrel for the deflection test with a diameter not less than 95% of the base inside diameter or average inside diameter of the pipe, depending on which is specified in the ASTM specification, including the appendix, to which the pipe is manufactured; and 3) performing the test without mechanical pulling devices. [RSWF 33.85]

BB 18. Leakage tests are specified requiring that: 1) the leakage exfiltration or infiltration does not exceed 200 gallons per inch of pipe diameter per mile per day for any section of the system; 2) exfiltration or infiltration tests be performed with a minimum positive head of 2 feet; and 3) air tests, as a minimum, conform to the test procedure described in ASTM C-828 for clay pipe, ASTM C 924 for concrete pipe, ASTM F-1417 for plastic pipe, and for other materials appropriate test procedures. [RSWF 33.93, 33.94, and 33.95]

X 19. If an inverted siphon is proposed, documentation of its need is provided in Part II.(5)BC. Inverted siphons are designed with: 1) at least two barrels; 2) a minimum pipe size of 6 inches; 3) necessary appurtenances for maintenance, convenient flushing, and cleaning equipment; and 4) inlet and discharge structures having adequate clearances for cleaning equipment, inspection, and flushing. Design provides sufficient head and appropriate pipe sizes to secure velocities of at least 3.0 fps for design average flows. The inlet and outlet are designed so that the design average flow may be diverted to one barrel, and that either barrel may be cut out of service for cleaning. [RSWF 35]

Manholes

X 20. The project is designed with manholes at the end of each line; at all changes in grade, size, or alignment; at all intersections; and at distances not greater than 400 feet for sewers 15 inches or less and 500 feet for sewers 18 inches to 30 inches, except in the case where adequate modern cleaning equipment is available at distances not greater than 600 feet. [RSWF 34.1]

X 21. Design requires drop pipes to be provided for sewers entering manholes at elevations of 24 inches or more above the manhole invert. Where the difference in elevation between the incoming sewer and the manhole invert is less than 24 inches, the invert is designed with a fillet to prevent solids deposition. Inside drop connections (when necessary) are designed to be secured to the interior wall of the manhole and provide access for cleaning. Design requires the entire outside drop connection be encased in concrete. [RSWF 34.2]

X 22. Manholes are designed with a minimum diameter of 48 inches and a minimum access diameter of 22 inches. [RSWF 34.3]

X 23. Design requires that a bench be provided on each side of any manhole channel when the pipe diameter(s) are less than the manhole diameter and that no lateral sewer, service connection, or drop manhole pipe discharges onto the surface of the bench. [RSWF 34.5]

X 24. Design requires: 1) manhole lift holes and grade adjustment rings be sealed with non-shrinking mortar or other appropriate material; 2) inlet and outlet pipes be joined to the manhole with a gasketed flexible watertight connection or another watertight connection arrangement that allows differential settlement of the pipe and manhole wall; and 3) watertight manhole covers be used wherever the manhole tops may be flooded by street runoff or high water. [RSWF 34.6]

X 25. Manhole inspection and testing for watertightness or damage prior to placing into service are specified Air testing, if specified for concrete sewer manholes, conforms to the test procedures described in ASTM C-1244 [RSWF 34.7]

X 26. Electrical equipment specified for use in manholes is consistent with Item 46 of this checklist. [RSWF 34.9]

Stream Crossings

X 27. Sewers and force mains entering or crossing streams are designed to be constructed of ductile iron pipe with mechanical joints or so they will remain watertight and free from changes in alignment or grade. Appropriate materials which will not readily erode, cause siltation, damage pipe during placement, or corrode the pipe are specified to backfill the trench. [RSWF 36.21 and 48.5]

X 28. Stream crossings are designed to incorporate valves or other flow regulating devices (which may include pump stations) on the shoreline or at such distances from ~~form~~ the shoreline to prevent discharge in the event the line is damaged. [62-604.400(2)(k)5., F.A.C.]

X 29. Sewers and force mains entering or crossing streams are designed at a sufficient depth below the natural bottom of the stream bed to protect the line. At a minimum, the project is designed with subaqueous lines to be buried at least three feet below the design or actual bottom, whichever is deeper, of a canal and other dredged waterway or the natural bottom of streams, rivers, estuaries, bays, and other natural water bodies; or if it is not practicable to design the project with less than three-foot minimum cover, alternative construction features (e.g. a concrete cap, sleeve, or some other properly engineered device to insure adequate protection of the line) are described in Part II.C. [62-604.400(2)(k)1., F.A.C., and RSWF 36.11]

X 30. Specifications require permanent warning signs be placed on the banks of canals, streams, and rivers clearly identifying the nature and location (including depths below design or natural bottom) of subaqueous crossings and suitably fixed signs be placed at the shore, for subaqueous crossings of lakes, bays, and other large bodies of water, and in any area where anchoring is normally expected. [62-604.400(2)(k)2., F.A.C.]

X 31. Provisions for testing the integrity of subaqueous lines are specified. [62-604.400(2)(k)4 , F.A.C.]

X 32. Supports are designed for all joints in pipes utilized for aerial crossings and to prevent overturning and settlement. Expansion jointing is specified between above ground and below ground sewers and force mains. The design considers the impact of floodwaters and debris. [RSWF 37 and 48.5]

X 33. Aerial crossings are designed to maintain existing or required navigational capabilities within the waterway and to reserve riparian rights of adjacent property owners. [62-604.400(2)(k)3., F.A.C.]

Pump Stations

BB 34. In areas with high water tables, pump stations are designed to withstand flotation forces when empty. When siting the pump station, the design considers the potential for damage or interruption of operation because of flooding. Pump station structures and electrical and mechanical equipment are designed to be protected from physical damage by the 100-year flood. Pump stations are designed to remain fully operational and accessible during the 25-year flood unless lesser flood levels are appropriate based on local considerations, but not less than the 10-year flood. [62-604.400(2)(e), F.A.C.]

BB 35. Pump stations are designed to be readily accessible by maintenance vehicles during all weather conditions. [RSWF 41.2]

BB 36. Wet well and pump station piping is designed to avoid operational problems from the accumulation of grit. [RSWF 41.3]

X 37. Dry wells, including their superstructure, are designed to be completely separated from the wet well. Common walls are designed to be gas tight. [RSWF 42.21]

X 38. The design includes provisions to facilitate removing pumps, motors, and other mechanical and electrical equipment. [RSWF 42.22]

X 39. The design includes provisions for: 1) suitable and safe means of access for persons wearing self-contained breathing apparatus are provided to dry wells, and to wet wells; 2) stairway access to wet wells more than 4 feet deep containing either bar screens or mechanical equipment requiring inspection or maintenance; 3) for built-in-place pump stations, a stairway to the dry well with rest landings at vertical intervals not to exceed 12 feet; 4) for factory-built pump stations over 15 feet deep, a rigidly fixed landing at vertical intervals not to exceed 10 feet unless a manlift or elevator is provided; and 5) where a landing is used, a suitable and rigidly fixed barrier to prevent an individual from falling past the intermediate landing to a lower level. If a manlift or elevator is provided, emergency access is included in the design. [RSWF 42.23]

BB 40. Specified construction materials are appropriate under conditions of exposure to hydrogen sulfide and other corrosive gases, greases, oils, and other constituents frequently present in wastewater. [RSWF 42.25]

BB 41. Except for low-pressure grinder or STEP systems, multiple pumps are specified, and each pump has an individual intake. Where only two units are specified, they are of the same size. Specified units have capacity such that, with any unit out of service, the remaining units will have capacity to handle the design peak hourly flow. [RSWF 42.31 and 42.36]

X 42. Bar racks are specified for pumps handling wastewater from 30 inch or larger diameter sewers. Where a bar rack is specified, a mechanical hoist is also provided. The design includes provisions for appropriate protection from clogging for small pump stations. [RSWF 42.322]

X 43. Pumps handling raw wastewater are designed to pass spheres of at least 3 inches in diameter. Pump suction and discharge openings are designed to be at least 4 inches in diameter. [RSWF 42.33] (Note, this provision is not applicable to grinder pumps.)

BB 44. The design requires pumps be placed such that under normal operating conditions they will operate under a positive suction head, unless pumps are suction-lift pumps. [RSWF 42.34]

BB 45. The design requires: 1) pump stations be protected from lightning and transient voltage surges; and 2) pump stations be equipped with lighting arrestors, surge capacitors, or other similar protection devices and phase protection. Note, pump stations serving a single building are not required to provide surge protection devices if not necessary to protect the pump station. [62-604.400(2)(b), F.A.C.]

BB 46. The design requires 1) electrical systems and components (e.g., motors, lights, cables, conduits, switch boxes, control circuits, etc.) in raw wastewater wet wells, or in enclosed or partially enclosed spaces where hazardous concentrations of flammable gases or vapors may be present, comply with the National Electrical Code requirements for Class I Group D, Division 1 locations; 2) electrical equipment located in wet wells be suitable for use under corrosive conditions; 3) each flexible cable be provided with a watertight seal and separate strain relief; 4) a fused disconnect switch located above ground be provided for the main power feed for all pump stations; 5) electrical equipment exposed to weather to meet the requirements of weatherproof equipment NEMA 3R or 4; 6) a 110 volt power receptacle to facilitate maintenance be provided inside the control panel for pump stations that have control panels outdoors; and 7) ground fault interruption protection be provided for all outdoor outlets. [RSWF 42.35]

X 47. The design requires a sump pump equipped with dual check valves be provided in dry wells to remove leakage or drainage with discharge above the maximum high water level of the wet well. [RSWF 42.37]

BB 48. Pump station design capacities are based on the peak hourly flow and are adequate to maintain a minimum velocity of 2 feet per second in the force main. [RSWF 42.38]

BB 49. The design includes provisions to automatically alternate the pumps in use. [RSWF 42.4]

BB 50. The design requires: 1) suitable shutoff valves be placed on the suction line of dry pit pumps; 2) suitable shutoff and check valves be placed on the discharge line of each pump (except on screw pumps); 3) a check valve be located between the shutoff valve and the pump; 4) check valves be suitable for the material being handled; 5) check valves be placed on the horizontal portion of discharge piping (except for ball checks, which may be placed in the vertical run); 6) all valves be capable of withstanding normal pressure and water hammer; and 7) all shutoff and check valves be operable from the floor level and accessible for maintenance. [RSWF 42.5]

BB 51. The effective volume of wet wells is based on design average flows and a filling time not to exceed 30 minutes unless the facility is designed to provide flow equalization. The pump manufacturer's duty cycle recommendations were utilized in selecting the minimum cycle time. [RSWF 42.62]

BB 52. The design requires wet well floors have a minimum slope of 1 to 1 to the hopper bottom and the horizontal area of hopper bottoms be no greater than necessary for proper installation and function of the inlet. [RSWF 42.63]

BB 53. For covered wet wells, the design provides for air displacement to the atmosphere, such as an inverted "j" tube or other means. [RSWF 42.64]

X 54. The design provides for adequate ventilation all pump stations; mechanical ventilation where the dry well is below the ground surface; permanently installed ventilation if screens or mechanical equipment requiring maintenance or inspection are located in the wet well. Pump stations are designed with no interconnection between the wet well and dry well ventilation systems. [RSWF 42.71]

X 55. The design requires all intermittently operated ventilation equipment to be interconnected with the respective pit lighting system and the manual lighting/ventilation switch to override the automatic controls. [RSWF 42.73]

X 56. The design requires the fan wheels of ventilation systems be fabricated from non-sparking material and automatic heating and dehumidification equipment be provided in all dry wells. [RSWF 42.74]

X 57. If wet well ventilation is continuous, design provides for at least 12 complete 100% fresh air changes per hour; if wet well ventilation is intermittent, design provides for at least 30 complete 100% fresh air changes per hour; and design requires air to be forced into wet wells by mechanical means rather than solely exhausted from the wet well. [RSWF 42.75]

X 58. If dry well ventilation is continuous, design provides at least 6 complete 100% fresh air changes per hour; and dry well ventilation is intermittent, design provides for at least 30 complete 100% fresh air changes per hour, unless a system of two speed ventilation with an initial ventilation rate of 30 changes per hour for 10 minutes and automatic switch over to 6 changes per hour is used to conserve heat. [RSWF 42.76]

BB 59. Pump stations are designed and located on the site to minimize adverse effects from odors, noise, and lighting. [62-604.400(2)(c), F.A.C.]

BB 60. The design requires pump stations be enclosed with a fence or otherwise designed with appropriate features to discourage the entry of animals and unauthorized persons. Posting of an unobstructed sign made of durable weather resistant material at a location visible to the public with a telephone number for a point of contact in case of emergency is specified. [62-604.400(2)(d), F.A.C.]

BB 61. The design requires suitable devices for measuring wastewater flow at all pump stations. Indicating, totalizing, and recording flow measurement are specified for pump stations with a 1200 gpm or greater design peak flow. [RSWF 42.8]

BB 62. The project is designed with no physical connections between any potable water supplies and pump stations. If a potable water supply is brought to a station, reduced-pressure principle backflow-prevention assemblies are specified. [RSWF 42.9 and 62-555.30(4), F.A.C.]

Additional Items to be Completed for Suction-Lift Pump Stations

X 63. The design requires all suction-lift pumps to be either self-priming or vacuum-priming and the combined total of dynamic suction-lift at the "pump off" elevation and required net positive suction head at design operating conditions not to exceed 22 feet. For self-priming pumps, the design requires: 1) pumps be capable of rapid priming and repriming at the "lead pump on" elevation with self-priming and repriming accomplished automatically under design operating conditions; 2) suction piping not to exceed the size of the pump suction or 25 feet in total length; and 3) priming lift at the "lead pump on" elevation to include a safety factor of at least 4 feet from the maximum allowable priming lift for the specific equipment at design operating conditions. For vacuum-priming pump stations, the design requires dual vacuum pumps capable of automatically and completely removing air from the suction-lift pumps and the vacuum pumps be adequately protected from damage due to wastewater. [RSWF 43.1]

X 64. The design requires: 1) suction-lift pump equipment compartments to be above grade or offset and to be effectively isolated from the wet well to prevent a hazardous and corrosive sewer atmosphere from entering the equipment compartment; 2) wet well access not to be through the equipment compartment and to be at least 24 inches in diameter; 3) gasketed replacement plates be provided to cover the opening to the wet well for pump units to be remove for service; and 4) no valving be located in the wet well. [RSWF 43.2]

Additional Items to be Completed for Submersible Pump Stations

BB 65. Submersible pumps and motors are designed specifically for raw wastewater use, including totally submerged operation during a portion of each pump cycle and to meet the requirements of the National Electrical Code for such units. Provisions for detecting shaft seal failure or potential seal failure are included in the design. [RSWF 44.1]

BB 66. The design requires submersible pumps be readily removable and replaceable without dewatering the wet well or disconnecting any piping in the wet well. [RSWF 44.2]

BB 67. In submersible pump stations, electrical supply, control, and alarm circuits are designed to provide strain relief; to allow disconnection from outside the wet well; and to protect terminals and connectors from corrosion by location outside the wet well or through use of watertight seals. [RSWF 44.31]

BB 68. In submersible pump stations, the design requires the motor control center to be located outside the wet well, readily accessible, and protected by a conduit seal or other appropriate measures meeting the requirements of the National Electrical Code, to prevent the atmosphere of the wet well from gaining access to the control center. If a seal is specified, the motor can be removed and electrically disconnected without disturbing the seal. The design requires control equipment exposed to weather to meet the requirements of weatherproof equipment NEMA 3R or 4. [RSWF 44.32]

BB 69. In submersible pump stations, the design requires: 1) pump motor power cords be flexible and serviceable under conditions of extra hard usage and to meet the requirements of the National Electrical Code standards for flexible cords in wastewater pump stations; 2) ground fault interruption protection be used to de-energize the circuit in the event of any failure in the electrical integrity of the cable; and 3) power cord terminal fittings be corrosion-resistant and constructed in a manner to prevent the entry of moisture into the cable, provided with strain relief appurtenances, and designed to facilitate field connecting. [RSWF 44.33]

BB 70. In submersible pump stations, the design requires all shut-off and check valves be located in a separate valve pit. Provisions to remove or drain accumulated water from the valve pit are included in the design. [RSWF 44.4]

Emergency Operations for Pump Stations

BB 71. Pump stations are designed with an alarm system which activates in cases of power failure, sump pump failure, pump failure, unauthorized entry, or any cause of pump station malfunction. Pump station alarms are designed to be telemetered to a facility that is manned 24 hours a day. If such a facility is not available and a 24-hour holding capacity is not provided, the alarm is designed to be telemetered to utility offices during normal working hours and to the home of the responsible person(s) in charge of the lift station during off-duty hours. Note, if an audio-visual alarm system with a self-contained power supply is provided in lieu of a telemetered system, documentation is provided in Part II.(5)BC. showing an equivalent level of reliability and public health protection. [RSWF 45]

BB 72. The design requires emergency pumping capability be provided for all pump stations. For pump stations that receive flow from one or more pump stations through a force main or pump stations discharging through pipes 12 inches or larger, the design requires uninterrupted pumping capability be provided, including an in-place emergency generator. Where portable pumping and/or generating equipment or manual transfer is used, the design includes sufficient storage capacity with an alarm system to allow time for detection of pump station failure and transportation and connection of emergency equipment. [62-604.400(2)(a)1. and 2., F.A.C., and RSWF 46.423 and 46.433]

BB 73. The design requires: 1) emergency standby systems to have sufficient capacity to start up and maintain the total rated running capacity of the station, including lighting, ventilation, and other auxiliary equipment necessary for safety and proper operation; 2) special sequencing controls be provided to start pump motors unless the generating equipment has capacity to start all pumps simultaneously with auxiliary equipment operating; 3) a riser from the force main with rapid connection capabilities and appropriate valving be provided for all pump stations to hook up portable pumps; and 4) all pump station reliability design features be compatible with the available temporary service power generating and pumping equipment of the authority responsible for operation and maintenance of the collection/transmission system. [62-604.400(2)(a)3., F.A.C., and RSWF 46.431]

BB 74. The design provides for emergency equipment to be protected from operation conditions that would result in damage to the equipment and from damage at the restoration of regular electrical power. [RSWF 46.411, 46.417, and 46.432]

X 75. For permanently-installed internal combustion engines, underground fuel storage and piping facilities are designed in accordance with applicable state and federal regulations, and the design requires engines to be located above grade with adequate ventilation of fuel vapors and exhaust gases. [RSWF 46.414 and 46.415]

X 76. For permanently-installed or portable engine-driven pumps are used, the design includes provisions for manual start-up. [RSWF 46.422]

X 77. Where independent substations are used for emergency power, each separate substation and its associated transmission lines is designed to be capable of starting and operating the pump station at its rated capacity. [RSWF 46.44]

Force Mains

BB 78. Force mains are designed to maintain, at design pumping rates, a cleansing velocity of at least 2 feet per second. The minimum force main diameter specified for raw wastewater is not less than 4 inches. [RSWF 48.1]

X 79. The design requires: 1) branches of intersecting force mains be provided with appropriate valves such that one branch may be shut down for maintenance and repair without interrupting the flow of other branches; and 2) stubouts on force mains, placed in anticipation of future connections, be equipped with a valve to allow such connection without interruption of service. [62-604.400(2)(f), F.A.C.]

X 80. The design requires air relief valves be placed at high points in the force main to prevent air locking. [RSWF 48.2]

BB 81. Specified force main pipe and joints are equal to water main strength materials suitable for design conditions. The force main, reaction blocking, and station piping are designed to withstand water hammer pressures and stresses associated with the cycling of wastewater pump stations. [RSWF 48.4]

BB 82. When the Hazen and Williams formula is used to calculate friction losses through force mains, the value for "C" is 100 for unlined iron or steel pipe for design. For other smooth pipe materials, such as PVC, polyethylene, lined ductile iron, the value for C does not exceed 120 for design. [RSWF 48.61]

BB 83. Where force mains are constructed of material, which might cause the force main to be confused with potable water mains, specifications require the force main to be clearly identified. [RSWF 48.7]

BB 84. Leakage tests for force mains are specified including testing methods and leakage limits. [RSWF 48.8]

*RSWF = *Recommended Standards for Wastewater Facilities* (1997) as adopted by rule 62-604.300(5)(g), F.A.C.

B. Explanation for Requirements or Standards Marked "X" in II(5)A. Above (Attach additional sheets if necessary):

SEE ATTACHED

PART III - CERTIFICATIONS

(1) Collection/Transmission System Permittee

I, the undersigned owner or authorized representative* of HRES LAKE PLACID, LLC, am fully aware that the statements made in this application for a construction permit are true, correct and complete to the best of my knowledge and belief. I agree to retain the design engineer or another professional engineer registered in Florida, to conduct on-site observation of construction, to prepare a certification of completion of construction, and to review record drawings for adequacy. Further, I agree to provide an appropriate operation and maintenance manual for the facilities pursuant to Rule 62-604.500(4), F.A.C., and to retain a professional engineer registered in Florida to examine (or prepare if desired) the manual. I am fully aware that Department approval must be obtained before this project is placed into service for any purpose other than testing for leaks and testing equipment operation.

Signed _____ Date _____

Name GREG FERRELL Title VICE PRESIDENT OF CONSTRUCTION

*Attach a letter of authorization

(2) Owner of Collection/Transmission System

I, the undersigned owner or authorized representative* of UTILITIES, INC. OF FLORIDA certify that we will be the Owner of this project after it is placed into service. I agree that we will operate and maintain this project in a manner that will comply with applicable Department rules. Also I agree that we will promptly notify the Department if we sell or legally transfer ownership of this project.

Signed Patrick C Flynn Date 2/7/2017
Name PATRICK C. FLYNN Title VICE PRESIDENT
Company Name UTILITIES, INC. OF FLORIDA
Address 200 WEATHERSFIELD AVENUE
City ALTAMONTE SPRINGS State FLORIDA Zip 32714-4027
Telephone 866-842-8432 Fax 407-869-6961 Email PCFLYNN@UIWATER.COM
** Attach a letter of authorization.*

(3) Wastewater Facility Serving Collection/Transmission System**

If this is a Notice of Intent to use a general permit, check here:

☒ The undersigned owner or authorized representative* of the Sun 'n Lakes of Lake Placid wastewater facility hereby certifies that the above referenced facility has the capacity to receive the wastewater generated by the proposed collection system; is in compliance with the capacity analysis report requirements of Rule 62-600.405, F.A.C.; is not under a Department order associated with effluent violations or the ability to treat wastewater adequately; and will provide the necessary treatment and disposal as required by Chapter 403, F.S., and applicable Department rules.

If this is an application for an individual permit, check one:

☐ The undersigned owner or authorized representative* of the _____ wastewater facility hereby certifies that the above referenced facility has and will have adequate reserve capacity to accept the flow from this project and will provide the necessary treatment and disposal as required by Chapter 403, F.S., and applicable Department rules.

☐ The undersigned owner or authorized representative* of the _____ wastewater facility hereby certifies that the above referenced facility currently does not have, but will have prior to placing the proposed project into operation, adequate reserve capacity to accept the flow from this project and will provide the necessary treatment and disposal as required by Chapter 403, F.S., and applicable Department rules.

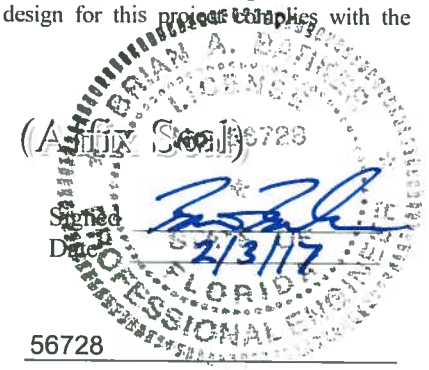
Name of Treatment Plant Serving Project Sun 'n Lakes of Lake Placid
County Highlands City
DEP permit number FL A014386 Expiration Date 6/18/2025
Maximum monthly average daily flow over the last 12 month period 0.0165 MGD Month(s) used Jan-Dec16
Maximum three-month average daily flow over the last 12 month period 0.0212 MGD Month(s) used Jan-Mar16
Current permitted capacity 0.090 MGD ☒ AADF ☐ MADF ☐ TMADF

Signed Patrick C Flynn Date 2/7/2017
Name PATRICK C. FLYNN Title VICE PRESIDENT
Address 200 WEATHERSFIELD AVENUE
City ALTAMONTE SPRINGS State FLORIDA Zip 32714-4027
Telephone 866-842-8432 Fax 407-869-6961 Email PCFLYNN@UIWATER.COM
** Attach a letter of authorization.*
*** If there is an intermediate collection system, a letter shall be attached certifying that the intermediate downstream collection system has adequate reserve capacity to accept the flow from this project.*

(4) Professional Engineer Registered in Florida

I, the undersigned professional engineer registered in Florida, certify that I am in responsible charge of the preparation and production of engineering documents for this project; that plans and specifications for this project have been completed; that I have expertise in the design of wastewater collection/transmission systems; and that, to the best of my knowledge and belief, the engineering design for this project complies with the requirements of Chapter 62-604, F.A.C.

(Affix Seal)



Signed
Date 2/3/17

Name BRIAN A. BARKER, PE Florida Registration No. 56728
Company Name DEUEL & ASSOCIATES
Address 565 S. HERCULES AVENUE
City CLEARWATER State FLORIDA Zip 33764
Telephone 727-822-4151 Fax _____ Email BRIAN@DEUELENGINEERING.COM
Portion of Project for Which Responsible 100%

(Affix Seal)

Signed _____
Date _____

Name _____ Florida Registration No. _____
Company Name _____
Address _____
City _____ State _____ Zip _____
Telephone _____ Fax _____ Email _____
Portion of Project for Which Responsible _____

(Affix Seal)

Signed _____
Date _____

Name _____ Florida Registration No. _____
Company Name _____
Address _____
City _____ State _____ Zip _____
Telephone _____ Fax _____ Email _____
Portion of Project for Which Responsible _____

FAMILY DOLLAR STORES - LAKE PLACID, FLORIDA

ADDRESS: **116 SUN 'N FUN LAKE BOULEVARD, LAKE PLACID, FLORIDA 33852**

[D&A#2015-96]

FDEP NOTIFICATION/APPLICATION FOR CONSTRUCTING A DOMESTIC WASTEWATER COLLECTION/TRANSMISSION SYSTEM
FDEP FORM 62-604.300(8)(a)

ADDITIONAL SHEET(S) FOR ITEM (5)B. EXPLANATION FOR REQUIREMENTS OR STANDARDS MARKED "X" IN II(5)A.

GRAVITY SEWERS:

- **NUMBER - 11** No velocities greater 15 FPS are proposed for this project.
- **NUMBER - 12** No Sewers with slopes greater than 20% are proposed for this project.
- **NUMBER - 14** No joining of dissimilar materials proposed for this project.
- **NUMBER - 19** No inverted siphon proposed for this project.

MANHOLES:

- **NUMBERS 20 - 26** No manholes are proposed for this project.

STREAM CROSSINGS:

- **NUMBERS 27 - 33** No stream crossings are proposed for this project.

PUMP STATIONS:

- **NUMBER 37** This pertains to a "Wet Well / Dry Well" configuration, which the subject Pump Station is not.
- **NUMBER 38** Proposed Ebara Sewage Grinder Pump system contains a Guide Rail system that allows for pulling the pumps without having to enter the wet well.
- **NUMBER 39** This pertains to a "Wet Well / Dry Well" configuration, which the subject Pump Station is not. In addition, the proposed wet well is less than fifteen feet (15) feet deep. Proposed setup is approximately 8.6 feet deep.
- **NUMBER 42** Not Applicable - there is no 30-inch or larger diameter sewer.
- **NUMBER 43** Grinder pumps are to be used.
- **NUMBER 47** Not Applicable.
- **NUMBERS 54 - 58** Not Applicable - These pertain to a "Wet Well / Dry Well" configuration, which the subject Pump Station is not.

ADDITIONAL ITEMS TO BE COMPLETE FOR SUCTION-LIFT PUMP STATIONS:

- **NUMBERS 63 - 64** Not Applicable.

EMERGENCY OPERATIONS FOR PUMP STATIONS:

- **NUMBERS 75 - 77** Not Applicable.

FORCE MAINS:

- **NUMBER 79** Not Applicable - The design does not include branches of intersecting force mains.
- **NUMBER 80** Not Applicable - The design does not require air relief valves to be placed at high points.

Hunt Real Estate

5100 W. Kennedy Blvd.
Suite 225
Tampa, FL 33609
Tel: 813.289.5511
Fax: 813.289.4800

January 5, 2017

Reference: **Family Dollar Store**
US27 and Sun N Lakes Blvd
Lake Placid, FL

To Whom It May Concern:

Please accept this letter as authorization for Greg Ferrell of Hunt Real Estate to act on behalf of Hunt Real Estate Services, aka Hunt Re Acquisitions, LLC and HRES Lake Placid, LLC regarding correspondence and representation of all notices, approvals and permitting matters required for the above referenced project. If you have any questions, please contact me at 813-289-5511.

Sincerely,

Hamilton E Hunt Jr.
President of Hunt Real Estate Services Inc., Manager

STATE OF FLORIDA
COUNTY OF HILLSBOROUGH

Before me personally appeared Hamilton E Hunt Jr who being duly sworn, swears and affirms that the above information is true to the best of his knowledge.

Signed and sworn to before me this 5th day of January 2017, who I personally know.

Notary Public _____
Seal

My Commission Expires: 6/20/17

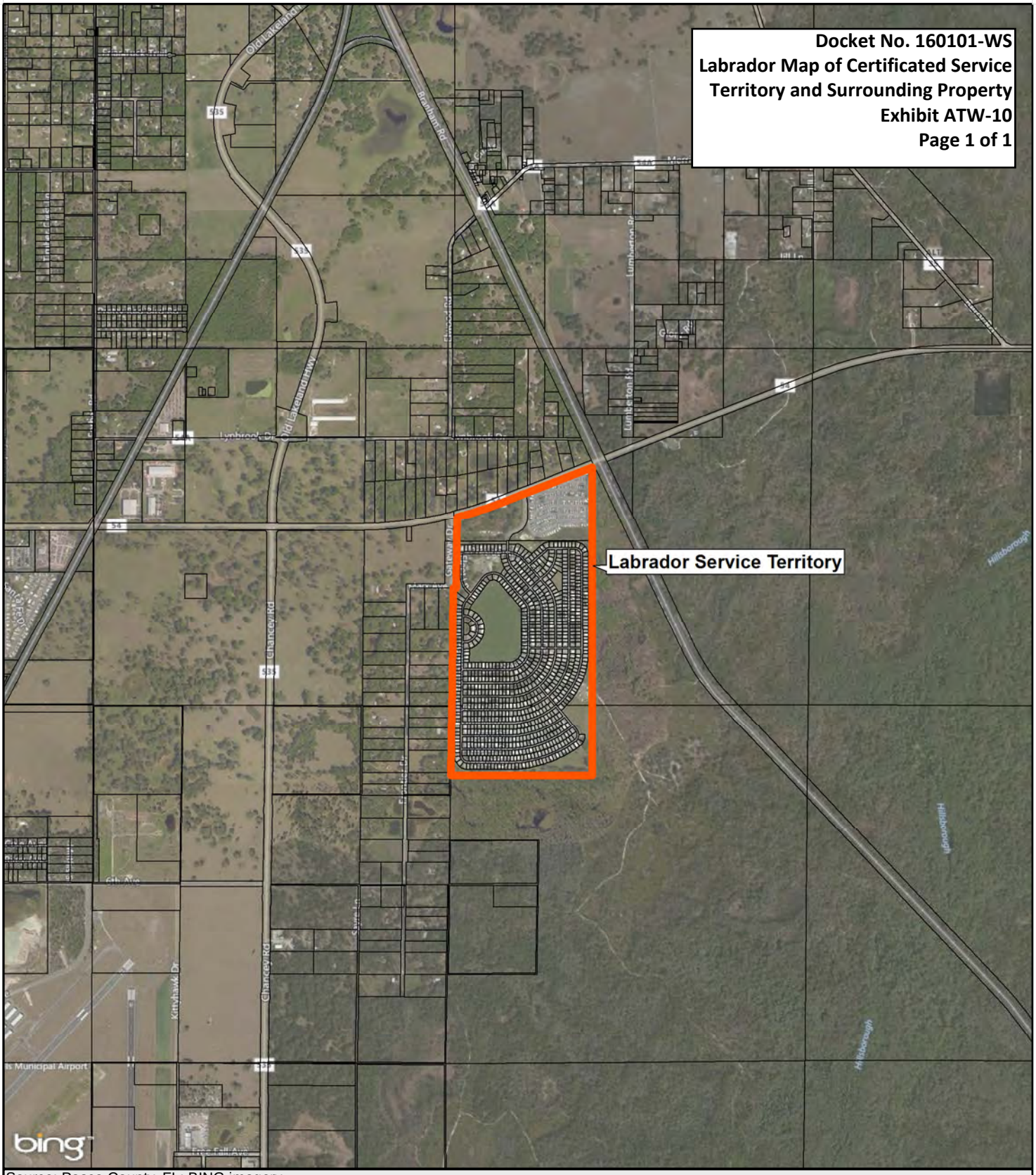
NOTARY PUBLIC STATE OF FLORIDA (407) 398-0153
NICOLE LACY
MY COMMISSION #FF029717
EXPIRES June 20, 2017
FloridaNotaryService.com

Labrador

Line	Description	
1	Test Year Flows[1]	
2	Max Three Month (MGD)	0.088
3		
4	Growth Adjustment	
5	Test Year ERCs[2]	1081
6	Annual Growth Using Linear Regression (ERCs/yr)[3]	0
7	Growth for Five year Period (ERCs)	0
8	Test Year gpd/ERC (Line 2 /Line 5)	81
9	Growth Allowance (MGD) (Line 8*Line 7)	-
10		
11	Test year Flow Plus Growth Allowance (Line 2+line 9)	0.088
12		
13	Inflow/Infiltration Adjustment	
14	Excess I&I (gpy)	-
15	Excess I&I (gpd)	-
16		
17	Test year Flow with Growth Allowance Less I&I (Line 11-Line 15)	0.088
18		
19	Capacity (gpd)	0.216
20		
21	Used and Useful Percentage	40.59%
22	Non-Used and Useful Percentage	59.41%

Notes
(1) From test year DMRs
(2) From MFR Schedue F-10
(3) Linear regression results in negtive growth

Docket No. 160101-WS
Labrador Map of Certificated Service Territory and Surrounding Property
Exhibit ATW-10
Page 1 of 1



Source: Pasco County, FL; BING imagery

LEGEND

- Labrador Service Territory
- Parcels

TETRA TECH

N

0 2,000

Feet

LABRADOR SERVICE TERRITORY

P:\IER\08465\200-08465-16003\GIS\maps\Pasco_APLabradorWSA.mxd[betty.morris 3/1/2017]

Eagle Ridge

Line	Description	Plant
1	Test Year Flows[1]	
2	Max Three Month (MGD)	0.239
3		
4	Growth Adjustment	
5	Test Year ERCs[2]	1312
6	Annual Growth Using Linear Regression (ERCs/yr)[3]	33
7	Growth for Five year Period (ERCs)	165
8	Test Year gpd/ERC (Line 2 /Line 5)	182
9	Growth Allowance (MGD) (Line 8*Line 7)	0.030
10		
11	Test year Flow Plus Growth Allowance (Line 2+line 9)	0.269
12		
13	Inflow/Infiltration Adjustment	
14	Excess I&I (gpy)	-
15	Excess I&I (gpd)	-
16		
17	Test year Flow with Growth Allowance Less I&I (Line 11-Line 15)	0.269
18		
19	Capacity (gpd)	0.318
20		
21	Used and Useful Percentage	84.49%
22	Non-Used and Useful Percentage	15.51%

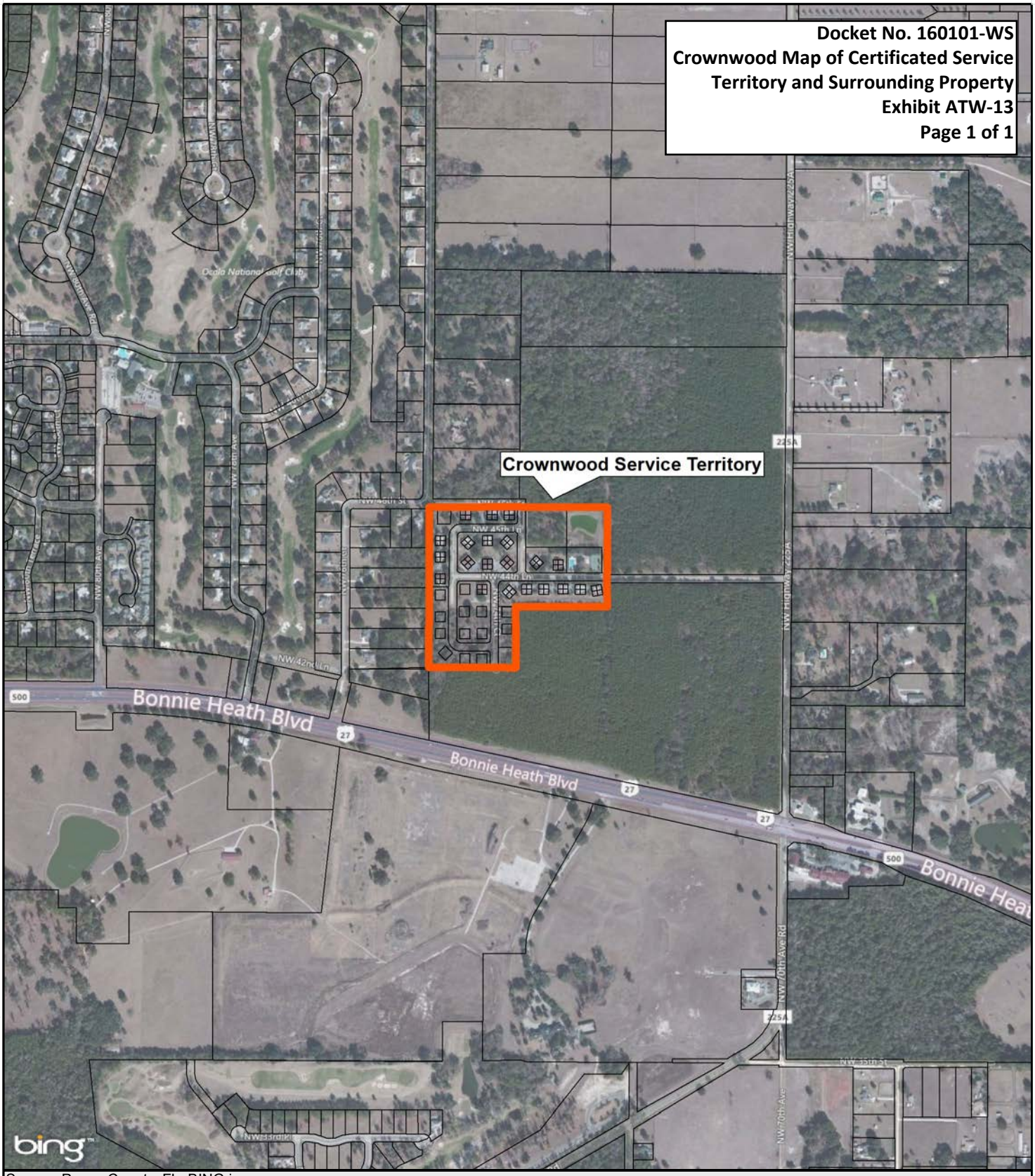
Notes
(1) From test year DMRs
(2) From MFR Schedue F-10
(3) Linear regression results in negtive growth

Crownwood

Line	Description	
1	Test Year Flows[1]	
2	Max Three Month (gpd)	20,667
3		
4	Growth Adjustment	
5	Test Year ERCs[2]	573
6	Annual Growth Using Linear Regression (ERCs/yr)[3]	3
7	Growth for Five year Period (ERCs)	17
8	Test Year gpd/ERC (Line 2 /Line 5)	36
9	Growth Allowance (gpd) (Line 8*Line 7)	613
10		
11	Test year Flow Plus Growth Allowance (Line 2+line 9)	21,280
12		
13	Inflow/Infiltration Adjustment	
14	Excess I&I (gpy)	-
15	Excess I&I (gpd)	-
16		
17	Test year Flow with Growth Allowance Less I&I (Line 11-Line 15)	21,280
18		
19	Capacity (gpd)	40,000
20		
21	Used and Useful Percentage	53.20%
22	Non-Used and Useful Percentage	46.80%

Notes
(1) From test year DMRs
(2) From MFR Schedue F-10
(3) From MFR Schedue F-10

Docket No. 160101-WS
Crownwood Map of Certificated Service Territory and Surrounding Property
Exhibit ATW-13
Page 1 of 1



Source: Pasco County, FL; BING imagery

LEGEND

- Crownwood Service Territory
- Parcels

TETRA TECH

N

0 1,000

Feet

CROWNWOOD SERVICE TERRITORY

P:\IER\08465\200-08465-16003\GIS\maps\Marion_APCrownwoodWSA.mxd[betty.morris 3/6/2017]

Used and Useful Calculations
Wastewater Treatment Plant

Florida Public Service Commission

Utilities, Inc. of Florida - Sandalhaven (256-446)
Docket No. 160101-WS
Test Year Ended: December 31, 2015

Schedule F-6
Page 4 of 4
Preparer: Seidman, F.

Explanation: Provide all calculations, analyses and governmental requirements used to determine the used and useful percentages for the wastewater treatment plant(s) for the historical test year and the projected test year (if applicable).

Schedule of Commitments and Capacity

Calculation of Committed EWD Capacity for Docket No. 160101

		(a)	(b)	(c)	(d)	(e)	(f)
COMMITMENTS		CIAC Paid?	ERCs @ 190 gpd/ERC	Flow (gpd)	ERCS not built	Prepaid Capacity Not Used	Date Paid
Current Annual Average Flow (12 Month RAA) to Sandalhaven WWTP				138,285			
Additional Prepaid Commitments:							
52 lots	Eagles Preserve	No	68	12,920	68	12,920	Guaranteed Rev. Payments
60 lots	Shamrock Shores	Yes	57	10,830	56	10,640	Predates UI ownership
45 lots	Cape Haze Marina, in bankruptcy	Yes	59	11,290	45	8,550	6/12/95
105 condos	Hacienda Del Mar, under constr.	Yes	112	21,280	-	-	2/24/03
48 rooms	Ship's Lantern Hotel, no activity	Yes	51	9,600	51	9,690	1/15/03
234 condos	Hammocks at Cape Haze, under constr.	Yes	234	44,460	85	16,150	10/1/04
Commer'l	Cape Haze Plaza Addition, under constr.	Yes	28	5,260	-	-	3/31/05
264 apts	Cape Haze Resort-under constr.	Yes	264	50,160	120	22,800	2/24/06
	SUBTOTAL 2006		873	165,800	425	80,750	
422 condos	Placida Commons/Coral Caye (formerly 8401 Placida Road)	Yes	418	79,420	408	77,520	9/11/06
	Total Prepaid Commitments through 2006		1,291	245,220	833	158,270	
	Prepaid Commitments added after 2006						
	Placida Plaza	Yes	26	4,922	26	4,940	10/19/08
	Egret Real Estate	Yes	3	619	3	570	3/17/09
			29	5,541	29	5,510	
	Total Prepaid Commitments		1,320	250,761	862	163,780	
	Total Capacity Committed including flows diverted from WWTP			**389,046**			

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In Re: **Application for increase in water and wastewater rates in Charlotte, Highlands, Lake, Lee, Marion, Orange, Pasco, Pinellas, Polk, and Seminole Counties by Utilities, Inc. of Florida**

DOCKET NO. 160101-WS

_____/

UTILITIES, INC OF FLORIDA'S RESPONSES TO OPC'S FIRST REQUEST FOR ADMISSIONS (Nos. 1 – 29)

Utilities, Inc. of Florida ("UIF"), by and through its undersigned counsel, hereby responds to Office of Public Counsel's ("OPC") First Request for Admissions, and states as follows:

Quality of Service

1) UI shareholders earn a return on plant investment to produce, treat, and distribute water. **Admit.**

2) UI shareholders earn a return on plant investment to collect and treat wastewater. **Admit.**

3) UI shareholders do not earn a return on bulk water costs passed through to the customer. **Admit.**

4) UI shareholders do not earn a return on bulk wastewater costs passed through to the customer. **Deny.**

5) UI shareholders earn a greater return on plant investments than on passing through purchased water and wastewater costs to the customer. **Deny.**

6) UIF works hard to resolve primary water quality issues if and when they occur in any of its Florida water systems. **Admit.**

7) The Department of Environmental Protection (DEP) mandates that UIF resolve primary water quality issues and customers pay for that in their water rates. **Deny.**

8) UIF is aware of secondary water quality complaints at the following systems:

a. Cypress Lakes

b. Labrador

c. Lake Utility Services, Inc. (LUSI)

d. Pennbrooke

e. Sanlando

f. UIF-Marion

g. UIF-Pasco – Summertree

h. UIF-Pasco – Orangewood

i. UIF-Pinellas

j. UIF-Seminole

Admit.

9) The following water systems are out of compliance with DEP secondary water quality standards:

a. Cypress Lakes

b. Labrador

c. Lake Utility Services, Inc. (LUSI)

d. Pennbrooke

e. Sanlando

f. UIF-Marion

g. UIF-Pasco – Summertree

h. UIF-Pasco – Orangewood

i. UIF-Pinellas

j. UIF-Seminole

Deny.

10) Other than resolving the secondary water complaints in the Summertree water system, UIF has not resolved any secondary water quality complaints in any of its other Florida systems. **Deny.**

11) Having failed to resolve the secondary water quality complaints in its other Florida systems, UIF has sought a rate increase affecting all UIF systems in Florida. **Deny.**

12) UIF's current rate increase does not include any programs to resolve secondary water complaints in its Florida systems. **Deny.**

13) At the time UIF filed its petition seeking a rate increase (August 30, 2016), UIF did not have any plans to resolve the secondary water quality complaints in any of UIF's systems which currently have secondary water quality complaints. **Deny.**

14) If the Commission grants UIF's request for consolidated rates, customers of Pennbrooke, Sanlando, and UIF-Marion will each see rate increases without resolution to their secondary water quality complaints. **Deny.**

15) If the Commission does not grant UIF's request for consolidated rates, all customers of the systems with secondary water quality complaints will see rate increases. **Deny.**

16) When UIF acquired the Summertree water system, UIF knew there were secondary water quality complaints. **UIF has made reasonable inquiry and the information known or readily obtainable by UIF is insufficient to enable it to admit or deny.**

17) UIF waited almost 25 years (1991-2016) to resolve the secondary water quality complaints in the Summertree water system (i.e. – the interconnection with Pasco Utilities was not completed until 2016). **Deny.**

18) UIF could have interconnected with Pasco County Utilities in the early 1990s, and have resolved Summertree's secondary water quality complaints. **UIF has made reasonable inquiry and the information known or readily obtainable by UIF is insufficient to enable it to admit or deny.**

19) Instead of solving those secondary water quality complaints in the early 1990s, UIF chose to make additional water treatment plant investments. **Deny.**

20) When UIF-Summertree had problems complying with the primary water quality standards in the early 2000s, UIF could have interconnected to Pasco County Utilities which would have resolved both the primary and secondary water quality complaints. **Deny.**

21) Instead of solving those primary and secondary water quality complaints in the early 2000s, UIF chose to make additional water treatment plant investments. **Deny.**

22) UIF's shareholders have earned a return on and return of the additional water treatment plant investments made in Summertree from 1991 to 2016 even though those investments did not resolve the secondary water quality complaints. **Deny.**

23) Regarding many of the major projects identified in UIF's MFRs, UIF delayed starting major infrastructure improvement projects in its various water and wastewater systems until it planned to file for its 2016 rate case. **Deny.**

Sandalhaven

24) After losing the Wildflower Golf Course as a reuse customer, UI did not seek to find any additional reuse customers for the reuse water produced by the Sandalhaven wastewater treatment plant. **Admit.**

25) In 2005, UI Sandalhaven knew that development projects in the Sandalhaven service territory had stalled. **Deny.**

26) In 2006, UI Sandalhaven knew that development projects in the Sandalhaven service territory had stalled. **Deny.**

27) Despite the slowdown in development, UI Sandalhaven entered into two capacity agreements with the Englewood Water District (EWD) for 100,000 and 200,000 gpd. **Deny.**

28) Despite purchasing too much capacity from the Englewood District, UI Sandalhaven has not sought a refund from EWD for capacity payments. **Deny.**

29) Please refer to Schedule A-12, page 3 of 3 (attached hereto) which was provided to the Commission Docket No. 060285-SU, and which was updated in response to staff's fourth data request in Docket No. 150102-SU, dated October 15, 2015:

a. Schedule A-12 is a list of developments in the Sandalhaven service territory for which developers pre-paid CIAC / plant capacity charges to reserve capacity on Sandalhaven's system. **Admit.**

b. The list of 11 developer projects on Schedule A-12 which prepaid CIAC to Sandalhaven (or its predecessor) has not changed since the December 31, 2014 test year. **Deny. [The ERCs not built count has decreased if houses have been built]**

c. Eagles Preserve prepaid CIAC for 68 ERCs, currently pays BFCs to Sandalhaven, but has not connected to Sandalhaven. **Deny. [We collect guaranteed revenue from lot owners because the Eagles Preserve developer did not pre-pay CIAC]**

d. Shamrock Shores prepaid CIAC for 57 ERCs, and 57 ERCs have connected to Sandalhaven. **Deny. [The utility seller did not provide any documentation regarding prepayment of CIAC for Shamrock Shores.]**

e. Cape Haze Marina has 45 lots, prepaid CIAC for 59 ERCs, and 45 ERCs not built. **Admit. [I need to double check, but I believe the marina owner paid the CIAC eventually. We have not been collecting guaranteed revenue thereafter]**

f. Sandalhaven is currently collecting payments from Cape Haze Marina customers connected to the system. **Deny.**

g. Hammocks at Cape Haze had planned for 234 condos, prepaid CIAC for 253 in 2004 and that number of prepaid CIAC decreased to 234 ERCs by 10/15/16. **Deny. [I have no record of the developer paying for anything other than the 234 condos' CIAC]**

h. Hammocks at Cape Haze has developed approximately 149 condos. **Admit.**

i. Hammocks at Cape Haze has indicated it will not develop the remaining condos, even though it has prepaid CIAC for 234 ERCs. **Deny. [I have had no communication with Hammocks at Cape Haze regarding their future development plans.]**

j. Sandalhaven has not refunded any of the unused CIAC back to Hammocks at Cape Haze. **Admit. [We don't refund CIAC]**

k. Cape Haze Resort planned for 264 apartments and prepaid CIAC for 264 ERCs but has not developed or used of its prepaid CIAC? **[…all of its prepaid CIAC? If so.] Admit.**

l. Cape Haze Resort has indicated it will not develop the remaining apartments, even though it prepaid CIAC for 264 ERCs. **Deny. [Don't know their plans]**

m. Sandalhaven has not refunded any of the unused CIAC back to Cape Haze Resort. **Admit.**

n. In 2006, 422 unit condominium project was under design, and Sandalhaven collected prepaid CIAC for 418 ERCs. **Admit.**

o. This 422 unit condominium project went bankrupt and was never built. **Admit.**

p. Another developer bought this 422 unit condominium project out of bankruptcy, and redeveloped it to be about 100 units meaning that 322 units will never be built. **Admit. [A 96-lot s/d was developed; some lots now have homes built, 418-96=322.]**

q. When this 422 unit condominium was redeveloped, Sandalhaven attempted to collect from the developer even though Sandalhaven had previously collected CIAC on this property. **Admit. [As I recall, there was some confusion about whether the new developer was developing some other parcel, not the one planned for the condos. This confusion was cleared up before any CIAC was paid.]**

r. As the successor in interest to the 422 unit condominium project, this developer could request a refund of approximately 322 ERCs of prepaid CIAC. **Deny. [We don't refund CIAC]**

s. Based on changes to the character of these developments which prepaid CIAC, Sandalhaven knows that about 300 ERCs worth of prepaid capacity will never be used. **Admit. [As it relates to the 8401 Placida Rd project payment only, 322 units]**

COENSON FRIEDMAN, P.A.
766 North Sun Drive, Suite 4030
Lake Mary, FL 32746
Telephone: (407) 322-8000
Fax: (407) 878-2178
mfriedman@coensonfriedman.com

/s/ Martin S. Friedman
Martin S. Friedman, Esquire
For the Firm

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In Re: **Application for increase in water and wastewater rates in Charlotte, Highlands, Lake, Lee, Marion, Orange, Pasco, Pinellas, Polk, and Seminole Counties by Utilities, Inc. of Florida**

DOCKET NO. 160101-WS

/

UTILITIES, INC OF FLORIDA'S RESPONSES TO OPC'S NINTH INTERROGATORIES (Nos. 217 – 222)

Utilities, Inc. of Florida ("UIF"), by and through its undersigned counsel, hereby responds to Office of Public Counsel's ("OPC") Eighth Interrogatories, and states as follows:

PRELIMINARY STATEMENT

These responses represent UIF's diligent and best effort to respond to OPC's written discovery based on investigation which UIF has thus far been able to undertake into the facts relative to this litigation. There may exist further information responsive to this discovery request which is not within UIF's present knowledge or reasonably available. There may exist persons with knowledge relating to the subject matter of this discovery request of whom UIF is not presently aware of or who has not yet been interviewed. These responses are based on the facts and information now known to UIF as well as a present analysis of the litigation, and do not constitute an admission or representation that additional facts, documents, or witnesses having knowledge relevant to the subject matter of this discovery request do or do not exist. As this matter proceeds, UIF anticipates that other facts and witnesses having knowledge relevant to this request may be identified. Without in any way obligating itself to do so, UIF reserves the right to alter, supplement, amend or otherwise modify the responses herein in any way at any time.

GENERAL OBJECTIONS

1. UIF objects to any Interrogatory that seeks information that was prepared for or in anticipation of litigation and is protected from disclosure by the attorney/client, accountant/client, work product, joint defense or other applicable privileges. To the extent that an interrogatory may be construed as seeking such privileged or protected information, UIF hereby claims such privilege and invokes such protections and will not intentionally provide such information. To the extent that such information is inadvertently provided, it is to be disregarded upon notification by the undersigned.

2. UIF objects to any interrogatory to the extent that it seeks information that is protected from disclosure by Statute, regulation, Administrative Order or case law.

3. UIF objects to any interrogatory to the extent that it seeks confidential business or proprietary information or trade secrets (absent the entry of an appropriate Protective Order or

agreement between the Parties) or information, which is subject to the terms of any Confidentiality Agreement(s).

4. UIF objects to any interrogatory that is overly broad, unduly burdensome or seeks information available from other sources that are more convenient and less burdensome and expensive (and/or equally available to OPC). UIF further objects to any interrogatory to the extent that it seeks information that is immaterial and unnecessary to the prosecution or defense of this action.

5. UIF objects to any interrogatory which is not reasonably calculated to lead to the discovery of admissible evidence or which seeks information that is irrelevant and is, therefore, beyond the permissible scope of discovery.

6. UIF objects to any instruction or definition contained in the Ninth Interrogatories to the extent that any such instruction or definition seeks to impose upon UIF any greater obligation than is required by applicable law or any Order entered in this proceeding. UIF further objects to any instructions and/or definitions which call for UIF to provide information that is not in UIF's possession, custody or purport to require UIF to search the files of other individuals or entities to cull responsive information, are overly broad and unduly burdensome and seek to elicit information that is wholly irrelevant to this proceeding and therefore beyond the permissible scope of discovery. UIF's provision of an answer in response to any numbered Request is not intended, nor should it be construed, as an acceptance of, or agreement with any of the instructions, definitions, characterizations or descriptions of transactions or events contained in the Request.

7. In providing these answers, UIF does not in any way waive or intend to waive, but rather, to the contrary intends to preserve and is preserving, the following:

A. All objections as to competency, relevance, materiality and admissibility of the discovery and these answers to that discovery, or the subject matter thereof and any aspect of this proceeding or any other court action or judicial or administrative proceeding or investigation;
B. All objections as to vagueness, ambiguity and undue burden;
C. All rights to object on any ground to the use of any of these responses to interrogatories to the subject matter thereof in any subsequent proceeding, including the final hearing in this proceeding or trial in any other action;
D. All rights to object on any ground to any interrogatory for further responses to these or other Requests or any discovery involving or related to the subject matter of the Request; and
E. The right to amend or supplement the interrogatory responses and objections contained herein at a later time.

8. Unless otherwise stated, each of these general objections applies to each of the numbered interrogatory response set forth below and should be deemed related for each numbered Request. All interrogatory responses are made subject to and without waiver of these general objections. Where specific objections are raised, those objections are raised in addition and not to the exclusion of these general objections.

9. All interrogatory responses are made subject to and without waiver of these General Objections. Where specific objections are raised, those specific objections are raised in addition to these General Objections.

RESPONSES TO OPC'S NINTH INTERROGATORIES

217. Employee Benefits Expense. Please refer to the attachment provided for the response to OPC ROG 91, specifically line 549 pertaining to the Health Insurance Claims subaccount. Please respond to the following:

a. Explain, in detail, why the health insurance reserves adjustment of $110,000 booked on December 31, 2015 was made.

b. Please explain and show, in detail, how the amount of the reserve adjustment was determined.

c. Please describe the Company's policy of reserving health insurance claims and indicate when the policy was implemented.

d. Please provide the amount of health insurance reserves adjustments booked in 2013, 2014 and 2016, by month.

RESPONSE: Attached is a breakdown of monthly bills when the services were performed. Using the history in the spreadsheet UIF tries to estimate the amount that is not yet billed, therefore, UIF makes a reserve adjustment for year end. See attached spreadsheet for the health insurance reserve adjustments for 2013-16. These are year- end adjustments; they are not made each month.

218. Employee Benefits Expense. Please refer to the response to OPC ROG 172. Based on the information provided in the attachment, the health insurance claim expense was $926,599 in 2014, $1,153,840 in 2015 and $1,034,444 in 2016. Please explain, in detail, what factors caused the mount of health insurance claims expense to decline by approximately $120,000 between the 2015 test year and 2016.

RESPONSE: The number of claims vary from year to year. 2016 had fewer claims than 2015.

219. For each of the 10 development projects identified on this Schedule A-12 (attached to the request for admissions) and shown as having paid CIAC, please describe how the company verified or determined that the number of "ERCs not built" were in fact not built.

RESPONSE: See document **"Sandalhaven ERC's not built".**

220. For each of these 10 development projects shown on Schedule A-12 (attached to the request for admissions) that are shown as *having paid CIAC*, but have "ERCs not built":

a. has the company contacted the developer to ascertain whether any of those "ERCs not built" can or will ever be built (For example, has the developer changed the scope of the project to reduce the number of ERCs that will connect to UI-Sandalhaven?);

b. and if not, why not;

c. and if so, what did the company learn?

RESPONSE:

a. The Utility has been in contact with the developer of the Ship's Lantern Hotel, now known as Lemon Bay Resort, periodically over the last few years to request an updated construction schedule but none has been forthcoming even when the developer promised to provide it and after the developer had started construction on the structure.

None of the other developers has provided a construction schedule to the Utility nor informed the Utility of any change in the size or scope of their project. The Utility has not asked any developers to confirm their intentions to construct their projects as originally designed.

b. The developer agreements do not specify a deadline to complete construction. The pace of development is totally up to the project developer. The Utility is obligated, by virtue of the terms of the developer agreement, to reserve capacity in perpetuity for the benefit of the developer or his successors. The Utility must have adequate capacity in its

facilities, including the bulk wastewater service agreement, sufficient to provide wastewater service to each development, in whole or in part, when it is connected to the Utility's infrastructure irrespective of the time lag between execution of the agreement and making connection.

c. See above.

221. For any of the prepaid CIAC development projects shown on Schedule A-12 (attached to the request for admissions), please explain the differences in ERCs in 2006 and ERCs in 2015.

RESPONSE: One house was built in Shamrock Shores since 2006, fourteen units were built in Cape Haze Marina. Phase 1 of Hammocks at Cape Haze, containing 149 units and the clubhouse/pool facility, was completed. Phase 1 of Cape Haze Resort, containing 144 units and the clubhouse/pool facility, was completed. Placida Commons, a 95-lot subdivision including a clubhouse/pool, was developed and eight homes started. The Cape Haze Plaza Addition was completed. Hacienda del Mar's 112 condos in seven high rise buildings were completed.

222. Please refer to Schedule A-12 (attached to the request for admissions), please update the number of "ERCs not built" and "Prepaid Capacity Not Used" and explain the reasons for the update.

RESPONSE-REVISED: The developer of Coral Caye (formerly known as Placida Commons) continues to construct new single family homes. In 2015, eight homes and the clubhouse/pool were built. In 2016, 16 additional homes have been built. Therefore, the empty lot count is 71. There was no building activity in 2016 in the other developments listed on the referenced schedule. See **"Sandalhaven ERCs not built"** referenced in Interrogatory No. 219**.**

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For the Firm

Utilities, Inc. of Florida - Sandalhaven (256-446)
Docket No. 160101-WS
Test Year Ended: December 31, 2015
Preparer: Flynn, P.
Calculation of Committed EWD Capacity
Response to OPC 9th ROG, 219

	CIAC Paid	ERCs @ 190 gpd/ERC	Flow (gpd)	ERCs not built as of 12/31/16	Prepaid Capacity Not Yet Used	Verification Method
All Flows to EWD, TY 2015			138,285			
Prepaid Commitments						
Eagles Preserve	No	68	12,920	68	12,920	Counted empty lots in s/d
Shamrock Shores	Yes	57	10,830	56	10,640	Counted empty lots in s/d
Cape Haze Marina	Yes	59	11,290	45	8,550	No construction has occurred
Hacienda Del Mar	Yes	112	21,280	-		
Ship's Lantern Hotel, under constr.	Yes	51	9,600	51	9,690	Hotel construction stopped
Hammocks at Cape Haze, Ph. 1 of 2 built	Yes	234	44,460	85	16,150	County tax records
Cape Haze Plaza Addition	Yes	28	5,260	-		
Cape Haze Resort, Ph. 1 of 2 built	Yes	264	50,160	120	22,800	County tax records
SUBTOTAL 2006		873	165,800	425	80,750	
Coral Caye (fka 8401 Placida Road)	Yes	418	79,420	393	74,670	96-lot s/d developed
Total Prepaid Commitments through 2006		1,291	245,220	818	155,420	
Prepaid Commitments added after 2006						
Placida Plaza	Yes	26	4,922	26	4,940	Developer-supplied info
Egret Real Estate	Yes	3	619	3	570	Developer-supplied info
		29	5,541	29	5,510	
Total Prepaid Commitments		1,320	250,761	847	160,930	
Total Capacity Committed including flows diverted from WWTP			**389,046**			

Note: Coral Caye log of sewer taps includes 8 homes and clubhouse in 2015, 16 homes in 2016.

Utilities, Inc, of Florida
Docket No. 160101-WS
Coral Caye subdivision, log of sewer connections by date

2015	Premise Id	Address	Install Date
1	7714169881	10407 COQUINA CT	3/25/2015
2	8168788272	8881 CONCH AVE CLUB HOUSE	4/1/2015
3	8289579026	10391 COQUINA CT	6/3/2015
4	7533161289	10454 COQUINA CT	6/17/2015
5	0425524790	8816 CONCH AVE	6/19/2015
6	1731273203	10399 COQUINA CT	6/19/2015
7	9524616477	8825 CONCH AVE	7/31/2015
8	7328864940	8897 SCALLOP WAY	12/23/2015
9	3283470043	8976 SCALLOP WAY	12/23/2015

2016	Premise Id	Address	Install Date
1	4703767795	8785 CONCH AVE	1/14/2016
2	4395075072	10438 COQUINA CT	1/14/2016
3	1648073586	10446 COQUINA CT	1/14/2016
4	6246670171	10500 COQUINA CT	1/14/2016
5	7634482325	8793 CONCH AVE	1/18/2016
6	8707557151	8857 CONCH AVE	1/19/2016
7	7831711261	8873 CONCH AVE	1/19/2016
8	8103417965	8760 CONCH AVE	1/22/2016
9	5581122546	8824 CONCH AVE	1/22/2016
10	5695983721	8848 CONCH AVE	1/22/2016
11	7580175225	9000 SCALLOP WAY	1/22/2016
12	6317116260	10382 COQUINA CT	4/1/2016
13	6933537222	8833 CONCH AVE	4/20/2016
14	8247396948	8944 SCALLOP WAY	7/22/2016
15	4297536398	8817 CONCH AVE	10/21/2016
16	3426949060	8912 SCALLOP WAY	11/22/2016

Sandalhaven

Line	Description	Capacity Fees Paid to EWD	Master Lift Station	Pumping Plant	Force Main
1	Test Year Flows[1]				
2	from Schedule F-2	50.474	29.847	29.847	50.474
3	gallons per day (gpd)	138,285	81,773	81,773	138,285
4					
5	Growth Adjustment				
6	Test Year ERCs[2]	1365	xx	xx	1365
7	Annual Growth Using Linear Regression (ERCs/yr)[3]	0	0	0	0
8	Growth for Five year Period (ERCs)	0	0	0	0
9	Test Year gpd/ERC (Line 3 /Line 6)	101.31	xx	xx	101.31
10	Growth Allowance (gpd) (Line 8*Line 9)	-	xx	xx	-
11					
12	Test year Flow Plus Growth Allowance (Line 3+line 10)	138,285	81,773	81,773	138,285
13					
14	Inflow/Infiltration Adjustment				
15	Excess I&I (gpy)[4]	4,225,819	2,498,871	2,498,871	4,225,819
16	Excess I&I (gpd)	11,578	6,846	6,846	11,578
17					
18	Test year Flow with Growth Allowance Less I&I (Line 12 - Line 16)	126,707	74,926	74,926	126,707
19					
20	Capacity (gpd)	300,000	665,000	275,000	935,000
21					
22	Used and Useful Percentage	42.24%	11.27%	27.25%	13.55%
23	Non-Used and Useful Percentage	57.76%	88.73%	72.75%	86.45%

Notes
(1) Since the decomissioning of the WWTP all Sandalhaven flow pass through the force main and is treated by EWD
(2) From MFR Schedue F-10
(3) Linear regression results in negtive growth
(4) Excess I&I for Master Lift Station and Pumping Plant calculated as follows.

	Total	Lift Station	Pumps
Test Year Flow	50,474,000	29,847,000	29,847,000
Ratio to Total	100%	59%	59%
Total Excess I&I	4,225,819	4,225,819	4,225,819
Allocated I&I	4,225,819	2,498,871	2,498,871

SANDALHAVEN WASTEWATER TREATMENT FACILITY

WASTEWATER MASTER PLAN

FOR:

UTILITIES, INC. OF SANDALHAVEN
200 WEATHERSFIELD AVENUE
ALTAMONTE SPRINGS, FL 32714

September 2004

PREPARED BY:

CPH ENGINEERS INC.
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CPH Job No.: U0746

6.1 Master Plan

1.0 INTRODUCTION

Sandalhaven Wastewater Treatment Faci ity is located in eastern Charlotte County east of County Road 775 and south of Gasparilla Pines Boulevard. A location map can be seen in Figure 1-1. The Facility treatment capacity is currently rated at 150,000 gallons per day (gpd). The Facility experiences significant seasonal variation in flows primarily due to an increase in the population during the winter months (November through March).

This master plan was prepared to express the future needs of the Facility and will attempt to project the ultimate wastewater demands in the existing service area by analyzing zoning and future land use maps. This wastewater projection was used to analyze the Utility's future options regarding the wastewater treatment and disposal. The options considered in meeting the flow projections are:

1. Expand the Facility to treat all current and future flows.
2. Abandon the Facility and convert it into a master pumping station and send all the flow current and future to Englewood Water District.
3. Abandon the Facility and convert it into a master pumping station and send all the flow current and future to Charlotte County.
4. Enter into a bulk agreement with Englewood Water District to treat only future flows.
5. Enter into a bulk agreement with Charlotte County to treat only future flows.

2.0 EXISTING

2.1 SERVICE AREA

The Sandalhaven Wastewater Treatment Facility's service area is located in eastern Charlotte County. The service area is bounded by the Intercoastal Waterway on the west, Buck Creek on the north, Arlington Drive and the Rotonda West in the east, and the south end of Don Pedro State Park. There are two golf courses and two parks within the service area, which comprise approximately 33% of the service area. The golf courses, Lemon Bay and Wildflower, are located in the northern portion of the service area. One park is located in the east-central portion, and Don Pedro State Park makes up the southern most boundary point of the service area. The remaining areas consist of high, medium, and low-density residential areas (developed and undeveloped), commercial areas, and industrial areas. There are minimal amounts of wetlands located within the service area; therefore, much of the remaining area could be developed. Figure 2-1 illustrates the zoning in the service area.

The areas of development primarily consist of single-family and multi-family residential homes. Approximately 189 acres of the service area (74%) is undeveloped with the ability to be developed.

The service area has four areas that are zoned commercial, and they are located along County Road 775, as shown in Figure 2-1. There is a small section of area zoned industrial on the Intercoastal where the Marina is located.

2.2 WWTF DESCRIPTION

Sandalhaven Wastewater Treatment Facility is located in the Fiddlers Green community. The Facility operates under Florida Department of Environmental Protection Permit # FLA014053. The treatment plant has a rated capacity of 150,000-gallons per day, annual average daily flow. The facility site plan is shown in Figure 2-2.

The collection/transmission system is comprised of approximately 5.25-miles of gravity sewer, approximately 3.7-miles of force main, and 12 lift stations. The Facility does not contain a master pump station. Locations of the lift stations are shown in Figure 3-1. There are seven (7) lift stations associated with the northern portion of the service area. These lift stations are 4, 5, 6, 7, 8, 9 and 11. Lift stations 8, 9, and 11 serve the Lemon Bay Golf and Country Club Estates. Lift stations 9 and 11 feed into lift station 8. Lift station 8 then pumps raw wastewater across County Road 775 to lift station 4. Lift station 4 also receives flow from lift station 7. Lift station 4 then pumps directly into lift station 5. Lift station 5 then pumps to the WWTP through a 6-inch force main. Lift station 6 also pumps directly to the wastewater plant by manifolding into the 6-inch force main from lift station 5.

The southern portion of the service area is comprised of five (5) lift stations. These lift stations are 1, 2, 3, 10 and 12. Lift stations 3, 10 and 12 all feed a 4-inch force main that runs along County Road 775. This 4-inch force main dumps into a manhole that ultimately feeds lift station 2. Lift station 2 pumps to a manhole that is connected with lift station 1. Then lift station 1 pumps directly to the WWTP through a 4-inch force main.

The influent flow enters the plant through 4-inch and 6-inch force mains, directly from lift stations 1 and 5/6, respectively. The influent flow enters into the circular steel plant through a manual bar-screen and then into the surge chamber. The surge chamber and manual bar-screen are the only pre-treatment processes for the plant. The steel plant also provides extended aeration and clarification. Treated water then enters into one of two sand filters for final filtration. The filtered water then enters one of two chlorine contact chambers for disinfection.

The Facility has two permitted disposal sites (R-001 and R-002) for effluent water. Disposal site R-001 consists of three rapid infiltration basins (RIBS) with a permitted capacity of 0.150 MGD annual average daily flow. These rapid infiltration basins are located on site and contain a bottom area of approximately 32,670 square feet.

Disposal site R-002 is considered a slow-rate public access disposal site for golf course irrigation at the Wildflower golf course. The finished water is stored in a lined storage pond on the wastewater facility site. R-002 has a permitted capacity of 0.100 MGD annual average daily flow. The reuse water is transferred from the Facility's on site storage pond to either one of two off site storage ponds located at the Wildflower Country Club & Golf Course. Both off site holding ponds are isolated from the public. The reuse water can be introduced into the golf course irrigation system from either of the two off site storage ponds. The golf course irrigation system can be supplemented by a main irrigation lake which is supplied by the on site storm water management system.

2.3 EXISTING DEMANDS

The Sandalhaven Wastewater Treatment Facility experiences seasonal flow variations. The Facility usually maintains its peak flows in the months of November through March, due to increases in seasonal residences. As of December 2003, Sandalhaven Wastewater Treatment Facility has 889 service connections. This would produce a flow of 102 gallons per service connection, based on the annual average daily flow (AADF) for 2003 of 0.091 MGD. In 2003, the monthly flow varied from 0.116 MGD in March to 0.073 MGD in May. The service area's large seasonal population accounts for this variation. The flows per connection range from 82-130 gpd. For the purpose of flow projection in this analysis, the water usage chart provided by the Utility was utilized for all future flows.

3.0 FUTURE

3.1 FUTURE DEVELOPMENT

Throughout the Sandalhaven Wastewater Treatment Facility's service area, there are nine (9) main residential areas that are not developed. Four of the areas are zoned for High Density Residential (i.e., apartment homes and condominiums). Two are zoned for Low Density residential (i.e., single family residential homes) and three are zoned for Medium Density Residential (i.e., duplexes or single family residential homes with small lots). Figure 3-1 shows the potential future development of the area. Further, Wildflower Country Club is considering selling half of their golf course for development.

The known and anticipated development in the area includes a 73 unit mobile home community (Pines at Sandalhaven) in the northern portion of the service area, a 48 unit hotel (Ships Lantern) near the marina, a 112 unit high-rise condominium (Hacienda Del Mar) in the southwest portion of the service area, a 200 unit development (Mangrove Point) south of the WWTP, a 100 unit development in the medium density area south of Hacienda Del Mar, and an expansion to the Cape Haze Plaza (commercial). These five known residential developments are anticipated to add 533 connections. The addition to the Cape Haze Plaza is projected to add 4-acres of development, which is approximately equivalent to10 more connections.

In order to determine the approximate build-out for the service area, the nine residential areas were compared to similar areas that have already been developed. The potential amount of units that can be developed in the four High Density Residential areas is approximately 2,105. The 2,105 units, assumes half the golf course would be developed as high-density residential. Redeveloping the golf course area could potentially provide 465 service connections. The two low density areas are located along County Road 775 and east of the Wildflower Golf Course, respectively. The Utility is aware that approximately three 5-acre residential lots were developed in the low density residential area, east of the Wildflower golf course. By taking into account the three 5-acre lots, the potential amount of connections projected for the low density residential are 150. The three medium density areas are along County Road 775, contain approximately 33.5-acres. These areas could potentially add 340 connections. Combined, these nine (9) undeveloped areas could potentially add 2,595 service connections.

Within the service area there are six (6) non-residential areas that can be further developed, including the Cape Haze Plaza. These areas include five (5) commercial areas and one light-intensity industrial area, all of which are located along County Road 775. Combined, the five commercial areas contain approximately 74-acres. Taking a conservative estimate that 30% of the commercial areas remain to be developed leaves approximately 23-acres of building space in the five commercial areas. Since these areas are along County Road 775, we could assume that these areas will be developed into restaurants, offices, hotels, and retail stores. Assuming there could potentially be five (5) restaurants, 720,000 square feet (sf) of store frontage and 250,000 sf of offices, could increase the amount of equivalent connections by 50. The Utility is aware that a

developer is interested in the light density industrial area. The Utility was informed that the developer wants to construct a hotel and other amenities in this area. Currently, the developer is estimating 100,000 gpd of wastewater, which is equivalent to 500 connections.

Table 1: Future Development

Name of Development	Number of Units	Estimated Flow (gpd)	Known / Potential	Time
Pines at Sandalhaven	73	14,600	Known	Currently Accepting Residents
Mangrove Point	250	47,500	Known	December 2006
Ships Lantern Hotel	48	9,600	Known	Unknown
Marina Redevelopment	-	150,000	Potential	September 2006
Hacienda Del Mar	112	17,400	Known	Under Construction
Wild Flower Golf Course Redevelopment	465	93,000	Potential	Property for Sale
Cape Haze Plaza	-	5,260	Known	Under Design
Low Intensity Residential (east of Wild Flower)	100	20,000	Potential	Unknown
Low Intensity residential (west of Fiddlers Green)	50	10,000	Potential	Unknown
Medium Density Residential (south of Hacienda Del Mar)	100	20,000	Known	Under Design
High Density Residential Areas Surrounding the Park	1,640	328,000	Potential	Unknown
Medium Density Residential Areas Along County Road 775	340	68,000	Potential	Unknown
Undeveloped Commercial Areas	-	10,000	Potential	Unknown
TOTAL	*3,178	**793,360		

*Not including the commercial connections.
**Not including the current wastewater flows.

At build-out the Facility could have approximately 4,937 service connections. Since the service area contains a minimal amount of wetlands, it is feasible the remaining undeveloped areas could be developed.

3.2 FUTURE DEMANDS

Future demands on the Facility are dependent upon development within the service area. The known development consists of the Pines at Sandalhaven development (14,600 gpd), the Mangrove point development (40,830 gpd), the Ships Lantern Hotel (9,600 gpd), Hacienda Del Mar (17,400 gpd), the Cape Haze Plaza addition (5,260 gpd), the 100 unit development south of Hacienda Del Mar (20,000 gpd), and the development in the light density industrial area (150,000 gpd). Combined, these additions to the service area would increase the raw wastewater flow by 257,690 gpd. These seven known and anticipated demands potentially place the Facility's seasonal high influent flow at a 357,690 gpd, which is 207,690 gpd over the existing design capacity.

The anticipated development in the area includes the undeveloped residential and commercial areas in the service area. According to the projection, potentially 2,480 residential connections can be added to the service area. By applying a per connection flow of 200 gpd per connection, from the water usage chart, these 2,480 connections can add approximately 496,000 gpd of raw wastewater. This is dependent upon development of the undeveloped areas. That would bring the Treatment Plants influent flow to approximately 853,690 gpd, not including commercial and industrial areas. This flow would necessitate a recommended residential buildout treatment capacity of approximately 900,000 gpd.

The remaining areas, which are comprised of four commercial areas and one industrial area, are dependent upon what type of development occurs. The Utility is aware that a developer is interested in developing the light intensity industrial area and expanding the Cape Haze Plaza. Since, both of these developments are known, their flows have been accounted for. It can be assumed that the four commercial areas will either be stores, offices or restaurants. Approximately 23-acres of the four (4) commercial sites can be developed. Based on the water usage chart, stores will produce approximately 5 gpd per 100 square foot (sf), offices will produce approximately 10 gpd per 1,000 sf, and restaurants will produce approximately 50 gpd per seat. A conservative estimate will approximate 5 restaurants, each with a seating capacity of 150, approximately 720,000 sf of store frontage and 250,000 sf of offices. Combined, these areas could increase the raw wastewater flow by 81,000 gpd, which would increase the overall plant capacity to 935,000 gpd.

ALTERNATIVES

Based on the circumstances the Facility could face in the future, five options have been considered. Currently there are seven projects within the service area that are scheduled for development or anticipated for development. These areas are proposed to increase the wastewater flow by approximately 203,190 gallons per day (based on projected flows in the permit application). Based on zoning and undeveloped areas, build out would require the Facility to have a treatment capacity of approximately 896,190 gpd, nearly five and a half times the existing capacity. A design capacity of at least 1.0 MGD is recommended for any expansions to the facility. Five options have been evaluated based on future development to determine which best suits the Utility's intentions.

The five options are as follows:

1. The first option is to expand the capacity of the existing wastewater treatment facility and disposal sites.
2. The second option is to abandon the Sandalhaven WWTF and construct a master pump station with force main and add additional infrastructure requirements needed to transport all the sewage to the Englewood Water District through a bulk agreement.
3. The third option is to abandon the existing facility and construct a master pump station with force main and add additional infrastructure requirements needed to transport all the sewage to the Charlotte County through a bulk agreement.
4. The fourth option is to maintain the existing treatment plant at the existing capacity of 0.15 MGD and pump the excess flows to Englewood Water District through a bulk agreement.
5. The fifth option is to maintain the existing treatment plant at the existing capacity of 0.15 MGD and pump all excess flows to Charlotte County through a bulk agreement.

4.1 OPTION 1A & 1B

Option 1 modifies the existing WWTP in order to increase the capacity to treat all future flows. In order to increase the design treatment capacity of the Facility to 1.0 MGD, other plant modifications must be done as well. These modifications include increasing the design capacity of the existing percolation ponds and/or increasing the capacity of the reclaimed water disposal sites.

Treatment

The first step expands the existing treatment plant to obtain a higher treatment capacity. While the build-out treatment capacity is estimated at 935,000 gpd, it is recommended that a treatment capacity of 1.0 MGD be pursued. This puts the facility at 93% of capacity at build-out. Further, this allows for excessive flows due to high rains, equipment maintenance, etc.

The expansion of the wastewater facility could be performed in two different ways. Option 1A includes the construction of two (2) 0.500 MGD treatment facilities, which

could be performed in two stages. Option 1B includes the construction of three (3) 0.333 MGD treatment plants, which could be performed in three phases. Both of these scenarios are dependent upon available land.

Option 1A includes the expansion of the Sandalhaven Wastewater Treatment Facility by constructing two (2) 0.500 MGD wastewater package plants. This option could be performed in two stages. The first stage would be the construction of a 0.500 MGD plant, which would give the facility a treatment capacity of 0.650 MGD. As part of the first phase, the Utility would have to construct a new filter, chlorine contact chamber (CCC), transfer pump station, a 1.5 MG reclaimed water ground storage tank, and a high service pumping station. The second phase includes the construction of a second 0.500 MGD treatment plant and modifying the existing 0.150 MGD plant into a surge tank for the facility. This phase also includes modifying the proposed filter and CCC to 1.0 MGD each. The two (2) 0.500 MGD plants would provide the required amount of treatment capacity and the existing 0.150 MGD plant contains enough volume to be sufficient for the surge tank. There are two possible locations for constructing the proposed 0.500 MGD plants. Since Pond #4 has historically had problems percolating, the pond could be decommissioned and the proposed 0.500 MGD plants could be constructed inside Pond #4. Decommissioning Pond #4 to place both WWTP's inside would decrease the capacity of the disposal site R-001 (0.150 MGD annual average daily flow rapid rate infiltration basin) by 56,000 gpd, leaving less than 100,000 gpd available for disposal. The ground storage tanks would have to be constructed in Pond #1, which would further decrease disposal site R-001. Figure 4-1, illustrates the locations of each structure for option 1. The other possible location is an undeveloped area south of the WWTP site. The Utility may have the ability to acquire this piece of land through a developer's agreement. This area is approximately 1.5-acres, which is sufficient enough to accommodate both 0.500 MGD plants. This area would provide the Utility the land necessary for expansion, without having to make any site modifications to the existing WWTP site. Figure 4-2A depicts the proposed site layout. If the Utility can acquire this land through impact fees, it should be more feasible than constructing inside Pond #4, depending upon the site conditions. The costs associated with constructing two (2) 0.500 MGD WWTP and associated equipment capable of producing public access effluent are approximately $8,500,000

Option 1B includes the expansion of the Sandalhaven Wastewater Treatment Facility by constructing three (3) 0.333 MGD package plants. This option could be constructed in three (3) phases. The first phase would include the construction if a 0.333 MGD package plant. This initial phase would place the treatment capacity of the plant at 0.483 MGD. Along with the initial 0.333 MGD package plant, the Utility would have to construct a 1.0 MG ground storage tank to accommodate for the three days wet weather storage, a transfer pump station, high service pumping station, new tertiary filter, and chlorine contact chamber (CCC). The Utility would be able to utilize its existing ponds for one days reject storage. The second phase would include the construction of a second 0.333 MGD package plant, which would increase the treatment capacity to 0.816 MGD. Along with the package plant the Utility would have to increase its storage, pumping and filtration capacities. In the second phase the Utility must have at least 2.0 MG of wet

weather storage. The filter and high service pumps will have to be increased to meet the plant capacity (0.816 MGD). The third phase will provide enough capacity for buildout. This phase includes a third 0.333 MGD package plant and modifying the existing 0.150 MGD plant to a surge tank. A third 1.0 MG ground storage will be required to meet the FDEP storage requirement for wet weather storage. The high service pumping and filtration capacities will have to be increased as well to meet the treatment capacity. The third package plant will provide a treatment capacity of 1.0 MGD. Along with the third plant, the filters and pumps would have to be increased to 1.0 MGD. Figure 4-2B illustrates the possible locations for this option. The total costs associated with three (3) 0.333 MGD package plants and all associated equipment is approximately $10,000,000

Disposal

Along with treatment capacity, the disposal capacity would need to be increased to 0.900 MGD. Currently, the design capacity of the existing rapid infiltration basins (R-001) is rated for 0.150 MGD. R-002 is rated for 0.100 MGD at the Wildflower Golf Course. This yields a total permitted disposal capacity of 0.250 MGD. If half the golf course is redeveloped, the overall disposal capacity should be reduced to 0.200 MGD. Therefore, a capacity increase of 0.800 MGD is required.

The area required for a new percolation pond was analyzed at three (3) different flow rates. The soil information used for this analysis was taken from a geotech report written by The Colinas Group. This report was written as part of an evaluation of the existing percolation ponds onsite. It was determined that the infiltration rate was 5 feet per day and the ground water table was two feet below the pond bottom. It was assumed that these same conditions would apply at a new percolation pond site. The first flow rate analyzed was 300,000 gallons per day (gpd). This flow rate generates a pond area of approximately 12 acres. The other two flow rates analyzed were 600,000 gpd and 1.0 MGD. These flow rates generated a pond area of 25 and 41 acres, respectively. Another percolation pond site can be acquired, however, due to the typically poor percolation capacity in the area, this is not recommended.

The reuse system (R-002) can be expanded to account for some of the flow. If all future single-family homes (approximately 223) were connected, a reclaimed capacity of approximately 0.100 MGD could be added. This expands the disposal capacity of the facility to only 0.300 MGD. Common area irrigation can be added as well to increase capacity, however, there may not be enough common area to make it either technically or financially feasible.

The reclaimed system can also be expanded to deliver reuse to either Charlotte County or Englewood Water District. This allows the facility full disposal capabilities. Part of the cost of any reuse expansion will include the mandatory 3-days wet weather storage and one-day reject storage. Preliminary discussions have been initiated with both Charlotte County and Englewood and both Utilities are willing to accept additional reclaimed water. This solution can be considerably less expensive than trying to expand the reclaimed system within the service area. The main cost for this expansion would be the

construction of a reclaimed pipeline to the neighboring utility and the required storage. At buildout, the required wet weather and reject storage shall be 3.0 MG and 1.0 MG, respectively. However, if the expansion of the facility is kept onsite, the available reject storage is approximately 466,250 gallons, assuming a 3-feet pond depth. That is 533,750 gallons short of the required amount. The wet weather storage can be accommodated by the construction of two (2) 1.5 MG ground storage tanks. The tanks can either be constructed in percolation Pond #4, or on the land south of the existing WWTP site. Currently, the ponds 1, 2, and 3 have an available pond capacity of approximately 742,000 gallons, assuming a 3-feet depth. If pond 1 can be converted from a holding pond to a percolation pond, it will provide the necessary amount of volume required for reject storage, combined with the other ponds.

Of the options for effluent disposal, delivering public access reclaimed water to a neighboring Utility is the most desirable and is the recommended means of disposal. This recommendation would require the Utility to construct a storage tank and high service pumping. According to the preliminary meeting with Englewood Water District, they are willing to accept reclaimed water from Sandalhaven. This option would include the construction of a reclaimed water main along with storage and high service pumping. The major cost associated with this option will be the construction of a reclaimed water main from the Sandalhaven WWTF to Englewood's WWTF. This 10-inch transmission main will approximately be 13,000 feet in length. The cost associated with the construction of the pipe is approximately S325,000. The representatives from Englewood stated that if an agreement were reached, they would like Sandalhaven's reclaimed water main to directly manifold into their clearwell. There is no precedent on which to base an impact fee for the connection of the reclaimed system into the Englewood system. However, Englewood has constructed an 8.0 MGD deep injection well, which cost approximately $4,000,000. Therefore, we can conservatively estimate that the impact fee will be based on Englewood recovering a respective portion of this construction cost. This yields an estimated impact fee of $500,000 per 1.0 MG. According to this report, at buildout the Sandalhaven WWTP will require approximately 1.0 MGD of disposal capacity. This impact fee can likely be spread out over time with the incremental increases to the wastewater facility capacity. In the first phase of construction (0.500 MGD plant) Sandalhaven should require 0.500 MGD of reclaimed disposal. This anticipated disposal flow generates an estimated impact fee of S250,000. The other half of the impact fee (S250,000) could be paid when the second phase of construction (0.500 MGD plant) is complete.

If this option is considered Sandalhaven and EWD together would have to hire a third party consultant to generate a base rate (impact fee) and a per thousand gallon rate. The base rate would cover any costs associated with capacity. The per thousand gallon rate would cover any costs associated with pumping and distribution of the reclaimed water. The representatives from EWD stated a preliminary per thousand gallon rate of $2.00. At buildout this best guess rate would costs Sandalhaven S1,625 per day ($600,000 per year) to send EWD reclaimed water. The estimated total cost for Option 1A (2 - 0.500 MGD plants) for phases 1 and 2, including the reclaimed transmission main are $4,750,000.00 and $4,250,000.00. A combined cost for constructing a 1.0 MGD extended aeration plant

with 3.0 MG of storage capacity is approximately $9,000,000.00, plus the costs per year to send Englewood reclaimed water. The estimated cost for Option 1B (3 - 0.300 MGD plants) for phases 1-3, including the reclaimed transmission main is approximately $10,500,000.

4.2 OPTIONS 2 & 3

Options 2 and 3 both entail abandoning the existing wastewater plant and sending all sewer flows through a bulk agreement to either Englewood (Option 2) or Charlotte County (Option 3). These options include the abandonment of the existing wastewater plant and the construction of a master pump station and associated force main.

The construction of the master pump station allows the Utility to still operate and maintain the collection/transmission system within their service area. The master pump station can be constructed on the wastewater plant site. The capacity of this station should be designed to handle the peak flows through the system. The buildout flows were estimated to be 935,000 gpd or 650 gpm. Peak flows can be approximated at 3 to 4 times the average flows. This yields a pump station capacity of up to 2,600 gpm. A triplex submersible pump station is recommended. The cost to construct the lift station is estimated to be $500,000.00

The Englewood connection point is estimated at approximately 13,000 ft from the plant. The force main would be constructed as shown in Figure 4-3. This force main should be 10-12 inches in diameter to minimize pressure losses in the pipe while maintaining a velocity above two feet per second. The cost to construct this force main is estimated to be $325,000. The total estimated cost of Option 2 is approximately $1,000,000

The actual size and model of the pumps should be further analyzed if this option is chosen. An analysis of the lift station pumping system can be completed to more accurately size the master lift station pumps. This analysis would determine the peak flows based on the pumping rates of the existing and proposed lift stations. Information regarding the connection point to determine the head condition placed on the master lift station pumps would also need to be determined prior to design.

The Charlotte County connection point is approximately 5,000 ft from the plant. The force main would be constructed as shown in Figure 4-4. This force main should be 10-12 inches in diameter to minimize pressure losses in the pipe while maintaining a velocity above two feet per second. The estimated cost to construct this force main is approximately $250,000. The total cost of Option 3 is $550,000. However, Charlotte County stated that they would be hesitant in taking raw wastewater.

The Utility may be able to transfer raw wastewater to Englewood by redirecting their existing lift stations. This would entail modifying several lift stations and installing new force mains. This option was briefly reviewed and is not expected to greatly differ in cost from the proposed option. Further, sufficient information is not available to properly model the system to determine the feasibility of this alternative.

The major drawback to either Option 2 or 3 is the potential loss of revenue. Depending on the bulk treatment rate, these options may not be the best long-range alternative. However, due to the low capital cost the Utility should investigate the bulk rates that Englewood would charge and perform a cost-benefit analysis compared to the other options. In the initial conversations with Charlotte County, they are very hesitant on treating raw wastewater. From a meeting with EWD, they would accept raw wastewater from Sandalhaven. They also stated to us, that they were currently working with a consultant to generate new impact fees for bulk agreements. The representatives from EWD stated that they would prefer Sandalhaven pump their raw wastewater directly to the Englewood's WWTF.

If this option were considered Sandalhaven would have to purchase capacity in Englewood's WWTF. The preliminary costs associated with purchasing capacity in Englewood's WWTF is approximately $1,000,000 for 200,000-gallons of raw wastewater. At buildout, Sandalhaven would have purchase approximately 1.0 MG of capacity. This flow generates a cost of approximately $5,000,000. The per thousand gallon treatment charge generated by PRMG, the third party consultant for Englewood Water District is $7.28 per thousand gallons. At buildout, a flow of 1.0 MGD would cost Sandalhaven approximately $7,280 per day ($2,657,000 per year). The length force main that would connect Sandalhaven's service area to Englewood's WWTF would be approximately 13,000 linear feet. The costs to construct this length of force main and a master lift station would be approximately $1,000,000. The total costs adding the impact fees and per thousand gallon rates for Englewood would be approximately $6,900,000, plus $7.28 per thousand gallon.

4.3 OPTIONS 4 & 5

Options 4 and 5 both involve maintaining the existing plant at the design capacity of 0.150 MGD, and entering into a bulk agreement with Englewood Water District (Option 4) or Charlotte County (Option 5) to treat the additional flows. These options would entail the construction of a new force main to the connection point with the neighboring utility. These options can be pursued in two ways. The first way is to construct a master lift station and force main very similar to Options 2 and 3 with similar costs (maybe slightly less due to lower pumping requirements). The second way is to divert flows from existing lift stations as detailed below.

In order to ensure the plant maintains a flow of 0.150 MGD certain lift stations throughout the service area would have to be directed to either Englewood Water District or Charlotte County. Currently, there are twelve (12) lift stations throughout the service

area. Lift stations 8, 9, and 11 operate and maintain the Lemon Bay Golf & Country Club Estates. At buildout this community will have approximately 93 single-family homes, which constitutes a raw wastewater flow of approximately 19,000 gpd. Lift stations 1, 2, 4, 5, 6, and 7 operate and maintain the northeast portion of the service area. Currently, this area generates the majority of the raw wastewater flow. These lift stations alone account for approximately 70% or 81,000 gpd of the current raw wastewater. This area has little room for growth. Potentially 200 more single family connections could be made, which would increase the raw wastewater to approximately 150,000 gpd from these six lift stations. If half of the golf course is developed into high density residential, it should increase the number of service connections by 465. These 465 connections should produce approximately 93,000 gpd of raw wastewater, which would place the influent flow from the northern portion of the service area at approximately 230,000 gpd at buildout. Lift stations 3, 10, and 12 operate and maintain the southern portion of the service area. This is the area that should experience the majority of the growth. Currently, these three lift stations account for 30% or 35,000 gpd of the raw wastewater. At buildout this area could potentially generate 665,000 gpd of raw wastewater flow, nearly 70% of buildout flow. However, not enough information is known about the existing lift stations. For this report we assumed the construction of a master lift station onsite, similar to option 2.

To connect with Englewood Water District and ensure that the Facility maintains a flow of 0.150 MGD, the Utility would have to construct a new force main. Since, the southern portion of the service area should experience the majority of the growth, it may be easier to transport that flow to Englewood Water District. That would involve transferring lift stations 3, 10, and 12. In order to transport the raw wastewater flow, pump modifications will be required for lift stations 3, 10, and 12. This can be performed by constructing a new force main along County Road 775, which would connect with the existing force main on County Road 775. This force main should be 8-10 inches and would run north along County Road 775 to the connection point with Englewood, which is approximately 13,000 feet north of the Sandalhaven's service area. Adequate valves would be placed along the force main to ensure that Sandalhaven's operators could vary the flow during the non-peak season.

As stated earlier, the representatives from EWD noted that they would prefer Sandalhaven to pump their raw wastewater directly to their WWTF. This option would include construction of a dedicated force main directly to Englewood's WWTF, approximately 13,000 feet in length. The costs associated to modify the existing lift stations to pump directly to Englewood are unknown, due to the lack of information. For this option it was assumed that a master lift station could be constructed onsite to transfer the excess raw wastewater to Englewood. To ensure that the existing plant maintains a flow of 0.150 MGD, modifications to the headworks may be required. The force main would be constructed as shown in Figure 4-5. To construct a new master lift station, make modifications to the headworks, and construct a force main is estimated at approximately $1,100,000. The capacity purchase charge for this option will be less than option 2, since the existing WWTF will be maintained. To purchase 850,000-gallons of capacity (buildout) will approximately cost $4,250,000, plus $7.28 per thousand gallon

sent to Englewood. The total estimated cost for option 4 is approximately $5,350,000, plus the per thousand gallon fee of $7.28.

The Utility has two options to connect with Charlotte County and guarantee the Facility maintains a flow of 0.150 MGD. The Utility would have to construct a force main to connect with Charlotte County. Charlotte County's service area borders Sandalhaven's service area in the east. This can be performed by constructing a new force main from the WWTP to the connection point with Charlotte County. It would be more feasible to transfer the raw wastewater flow from the northern portion of the service area, but this flow could not ensure the plant operates at 0.150 MGD during peak season. By constructing a force main to connect with the influent line from lift station 1 would allow the utility to transfer the flow from the southern portion of the service area to Charlotte County. The proposed force main would run east, adjacent to the 6-inch force main from lift station 5. Sufficient valves would be installed at the WWTP to ensure the plant operates at 0.150 MGD. This option is illustrated in Figure 4-6. The Utility may have the ability to redirect the force main along County Road 775. If the Utility has this option, it may require fewer modifications to the existing force main. The Utility mentioned that they might have the capability of acquiring the ownership of lift station 12 (Cape Haze Plaza). If the Utility acquires this lift station, it might be feasible to modify this lift station into a master lift station. From lift station 12, the Utility could run a force main north along the park, to the connection point with Charlotte County. This option would require the Utility to purchase an easement to construct the force main from lift station 12. This option is illustrated in Figure 4-7. The total estimated cost of Option 5 is $750,000. Since Charlotte County is not interested in treating Sandalhaven's raw wastewater, this option should not be considered.

These Options appear to be the most cost effective to pursue, capitally. The main operating difference between Options 4 and 5, and Options 2 and 3 is that Options 4 and 5 would incur higher operating costs due to manning and maintaining the treatment facility.

5.0 RECOMMENDATIONS

The Options outlined in this report provide only a guide for making future decisions on the treatment of future wastewater flows. There are several other issues to consider, such as the bulk sewer rates, the bulk reuse rates (if any), and the timing of development. The timing of the development of the area could have the greatest impact. The main factor in determining a potential timing problem is the current available capacity in the Charlotte County and Englewood systems.

It was determined that any agreement with Charlotte County would not be feasible, since they are not capable of handling Sandalhaven's needs. To our knowledge, at this time Charlotte County does not have the capacity to receive raw or reclaimed flows. However, Englewood stated to us in a meeting on August 30, 2004 that the timing was good for either a raw wastewater or reclaimed water interconnect. Englewood is scheduled to increase the capacity in their WWTP and their reclaimed disposal system. Englewood's treatment plant expansion has given them the ability to receive over 0.5 MGD in the short term. Englewood further stated that they would give Sandalhaven first refusal when the time came to enter into the bulk agreement. Englewood is in the final stages of permitting their ASR well (aquifer storage and recovery). This will enable them to commit to accepting all of Sandalhaven's reclaimed effluent. Further, Englewood's ASR well may be sufficient to satisfy the wet weather requirements for the Sandalhaven facility, thereby reducing the cost to construct future treatment capacity.

Therefore, the two most feasible options are tabulated below for your reference.

Table 2: Options

*OPTIONS	EQUIPMENT	COST
1A: Expansion of the plant by adding two (2) 0.500 MGD plants	-	
Phase I:	One (1) 0.500 MGD package plant, 1.5 MG ground storage tank, high service pumps, CCC, tertiary filter, transmission main (for disposal), Impact fee	4.75 million (plus $2/1000 gallon)
Phase II:	One (1) 0.500 MGD package plant, 1.5 MG ground storage, 0.5 MGD filter capacity, high service pumps, CCC, Impact fee	4.25 million (plus $2/1000 gallon)
1B: Expansion of the plant by adding three (3) 0.300 MGD plants	-	
Phase I:	One (1) 0.333 MGD package plant, 1.0 MG storage tank, CCC, tertiary filter, high service pumps, transmission main	4.16 million
Phase II:	One (1) 0.333 MGD plant, 1.0 MG storage tank, expansion to filter and high service pumps	3.16 million
Phase III:	One (1) 0.333 MGD plant, 1.0 MG storage tank, expansion to high service pumps and filter	3.16 million
Option 2: Transfer all flow to Englewood	Master lift station, associated components, force main, and impact fees	6.9 million (plus $7.28/1000 gallon)
Option 3: Transfer all flow to Charlotte County	Master lift station, associated components, force main	Not Applicable
Option 4: Maintain existing plant and send future flows to Englewood	Master lift station, associated components, force main, modifications to headworks, and impact fees	5.4 million (plus $7.28/1000 gallon)
Option 5: Maintain existing plant and send all future flows to Charlotte County	Master lift station, associated components, force main, modifications to headworks, and impact fees	Not Applicable

Due to the impact fees, option 1 may be the best solution. Option 1 entails the construction of 1.0 MGD of treatment capacity. This option can be performed in two phases. Phase 1, will consists of a 0.50 MGD extended aeration plant, tertiary filter, and chlorine contact chamber (CCC). This phase will also include a 1.5 MG ground storage tank, high service pumping and electrical building. Phase 2, will consist of a second 0.50 MGD extended aeration plant and a 1.5 MG ground storage tank. The filter and CCC will have to be modified for the phase 2 expansion. The proposed locations for the treatment structures can be observed in Figures 4-1 and 4-2A. However, this option is dependent upon disposal.

Option 1A is recommended over option 1B, due to the lower cost. It will be less expensive to construct two (2) 0.500 MGD plants instead of three (3) 0.333 MGD plants. Option 1 is the recommended option due to the costs associated with sending Englewood reclaimed water compared to raw wastewater. Table 3 illustrates the costs comparing the two alternatives.

Table 3: 10 Year Scenario

Year	Number of Connections Added	Total Number of Connections	Estimated Flow (MGD)	Disposal (MGD)	Option 4 (Millions of $)	Option 1A (Millions of $)
2006	1050	2050	0.390	0.390	$3.74	$4.92
2007	288	2338	0.444	0.444	$0.78	$0.21
2008	288	2626	0.499	0.499	$0.93	$0.25
2009	288	2914	0.554	0.554	$2.07	$0.29
2010	288	3202	0.608	0.608	$1.22	$0.33
2011	288	3490	0.663	0.663	$1.36	$4.62
2012	288	3778	0.718	0.718	$1.51	$0.41
2013	288	4066	0.773	0.773	$2.65	$0.45
2014	288	4354	0.827	0.827	$1.80	$0.49
2015	288	4642	0.882	0.882	$1.95	$0.53
2016	288	4937	0.938	0.938	$2.09	$0.58
Total	3,930	4,937	0.938	0.938	**$20.10**	**$13.12**

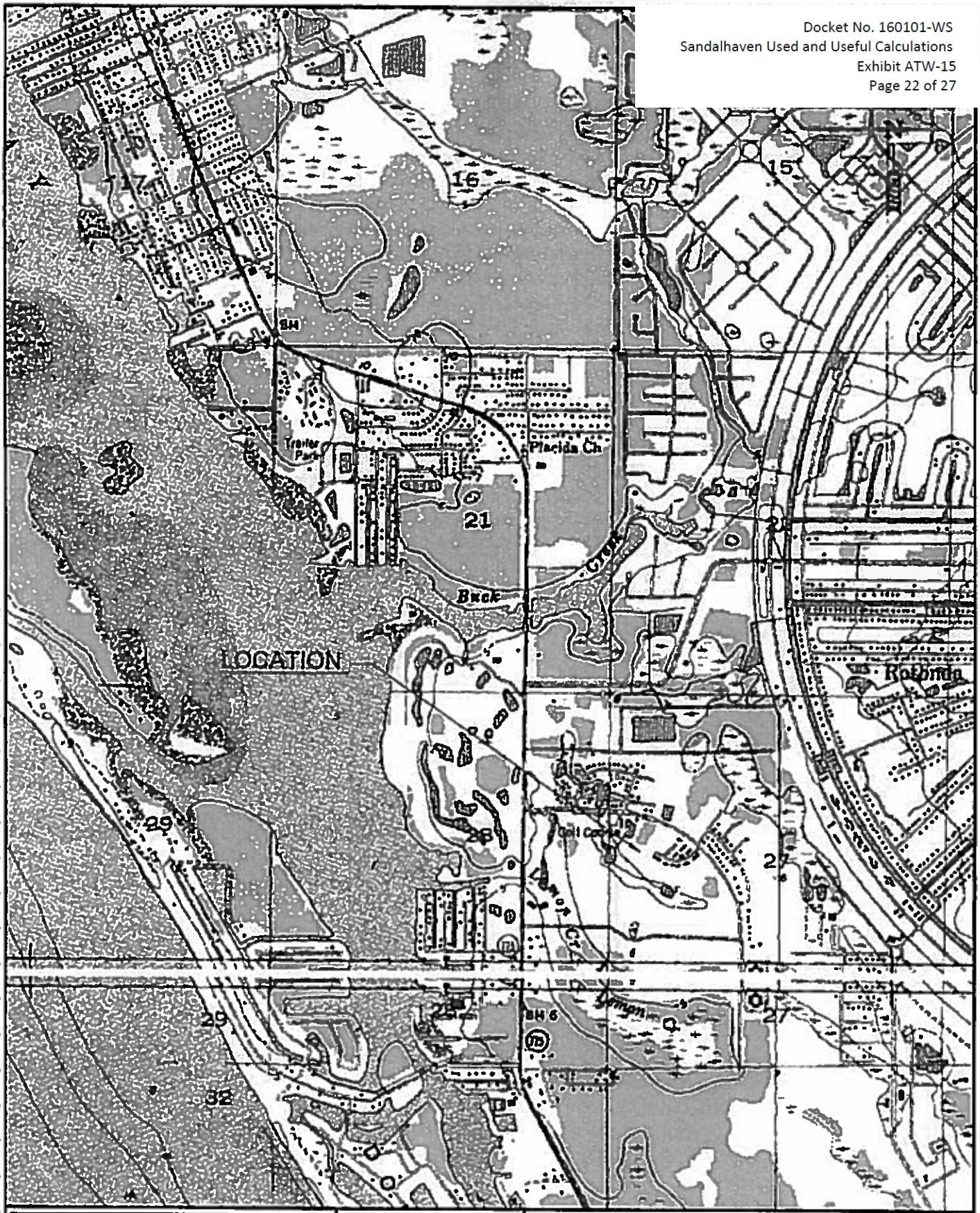
Table 3 demonstrates a 10-year scenario comparing option 1A and option 4. Option 1A includes the construction of a 1.0 MGD plant (in two phases) capable of producing reclaimed effluent. Option 4 includes maintaining the existing plant at 0.150 MGD and transferring all future raw wastewater flows to Englewood for treatment. For this scenario we assumed an aggressive growth. The assumptions for the scenario include buildout of the service area in ten years. By 2006 Mangrove Point and the Marina Redevelopment will be complete, and after 2006, the service area will grow at a rate of 288 connections per year.

Option 4 assumes that Sandalhaven would buy capacity in Englewood's WWTF in 2006 (0.400 MGD), 2009 (0.200 MGD), and 2013 (0.200 MGD). The upfront costs of 3.74 million in 2006 include the construction of the master lift station, raw transmission main, capacity charge, and the per thousand gallon charge. For the years 2007 through 2016 include only the per thousand gallon charge, except for 2009 and 2013, which also include the cost to purchase additional capacity. The costs for Option 4 are adjusted to account for the flow treated at the Sandalhaven WWTF is 0.150 MGD. Option 1A assumes that in 2006, Sandalhaven should have to construct the first phase. The upfront costs illustrated in Table 3, include the construction of a 0.500 MGD package plant, all associated components to produce reclaimed water, and the construction of the reclaimed transmission main to Englewood. According to this scenario, by 2011 Sandalhaven will have to construct the second phase in order to meet the assumed growth. Table 3 illustrates that it will be an estimated 7 million dollars less expensive to construct a plant to treat all future flows and transfer the reclaimed water to Englewood. This scenario

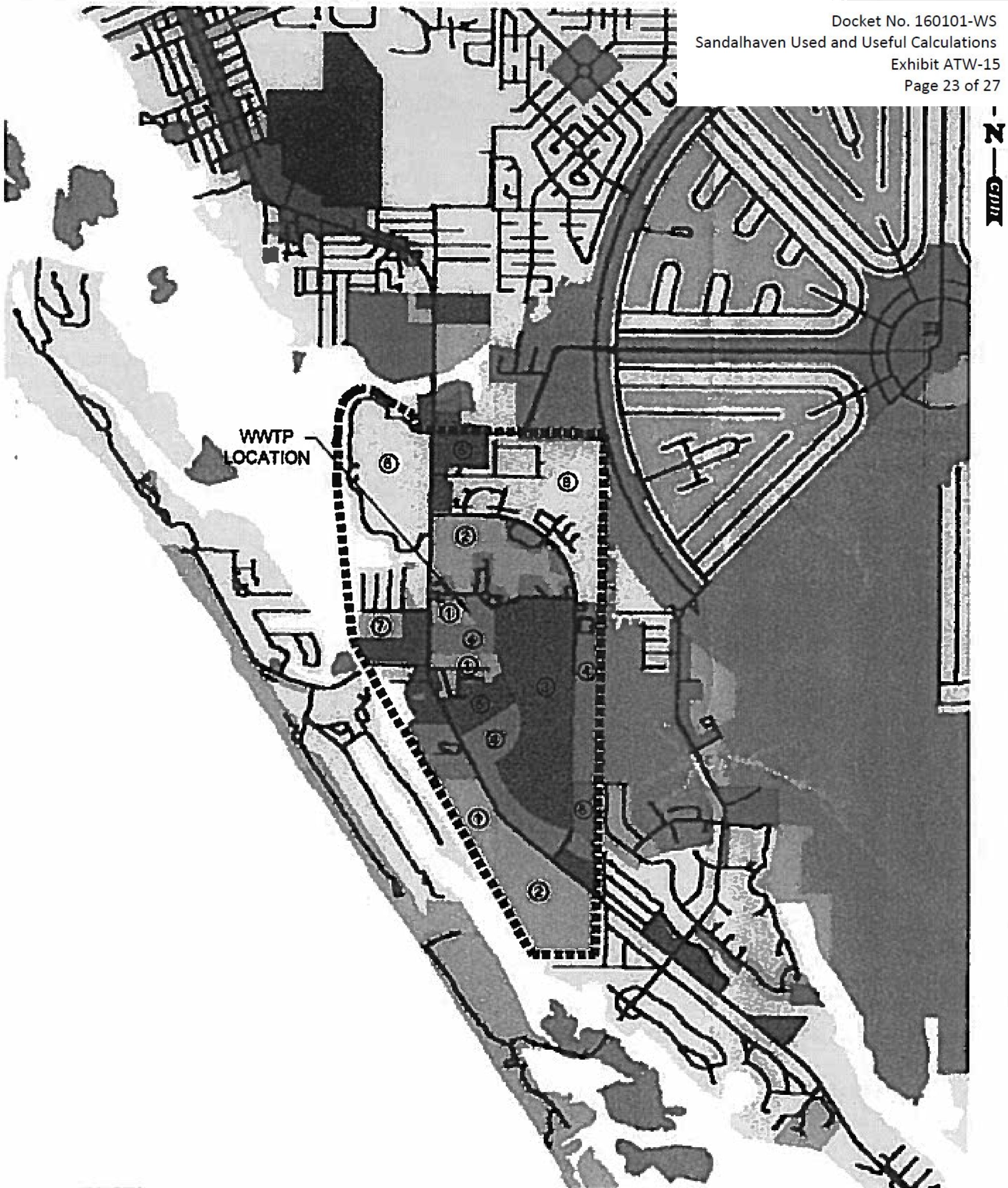
assumes that Sandalhaven will have to pay Englewood to accept the reclaimed for the next ten years. However, the reclaimed water may become an asset instead of a liability to Sandalhaven. Englewood will likely be willing to pay Sandalhaven for their reclaimed water in the future.

It should be noted that as the development starts to occur in the southern portion of the service area, modifications should be performed on the collection/transmission system. Currently, lift stations 3, 10, and 12 feed the force main along County Road 775. This force main eventually feeds a gravity system in the Fiddlers Green Community, which limits the amount of raw wastewater that can be transported. As development occurs in the southern portion of the service area, this section of the collection/transmission system will become undersized. No matter what option is selected, the Utility will have to modify this portion of the collection/transmission system. If the Utility can obtain lift station 12, they may want to investigate the means of constructing a force main adjacent to the park to deliver raw wastewater to the WWTP. If the Utility can transform this lift station into a master lift station, it may be the best method to convey raw wastewater to the WWTP. Since the majority of the growth is planned for the southern portion of the service area, it warrants a collection/transmission system analysis to determine the most feasible method to transport raw wastewater.

FIGURES



cph Engineers, Planners, Landscape Architects, Surveyors, Construction Management www.cphengineers.com Certificate of Authorization No. 3215	Scale: 1"= 24000' Date: 3-08-2004 Job No.: U0748.0	LOCATION MAP SANDALHAVEN UTILITIES	FIGURE 1



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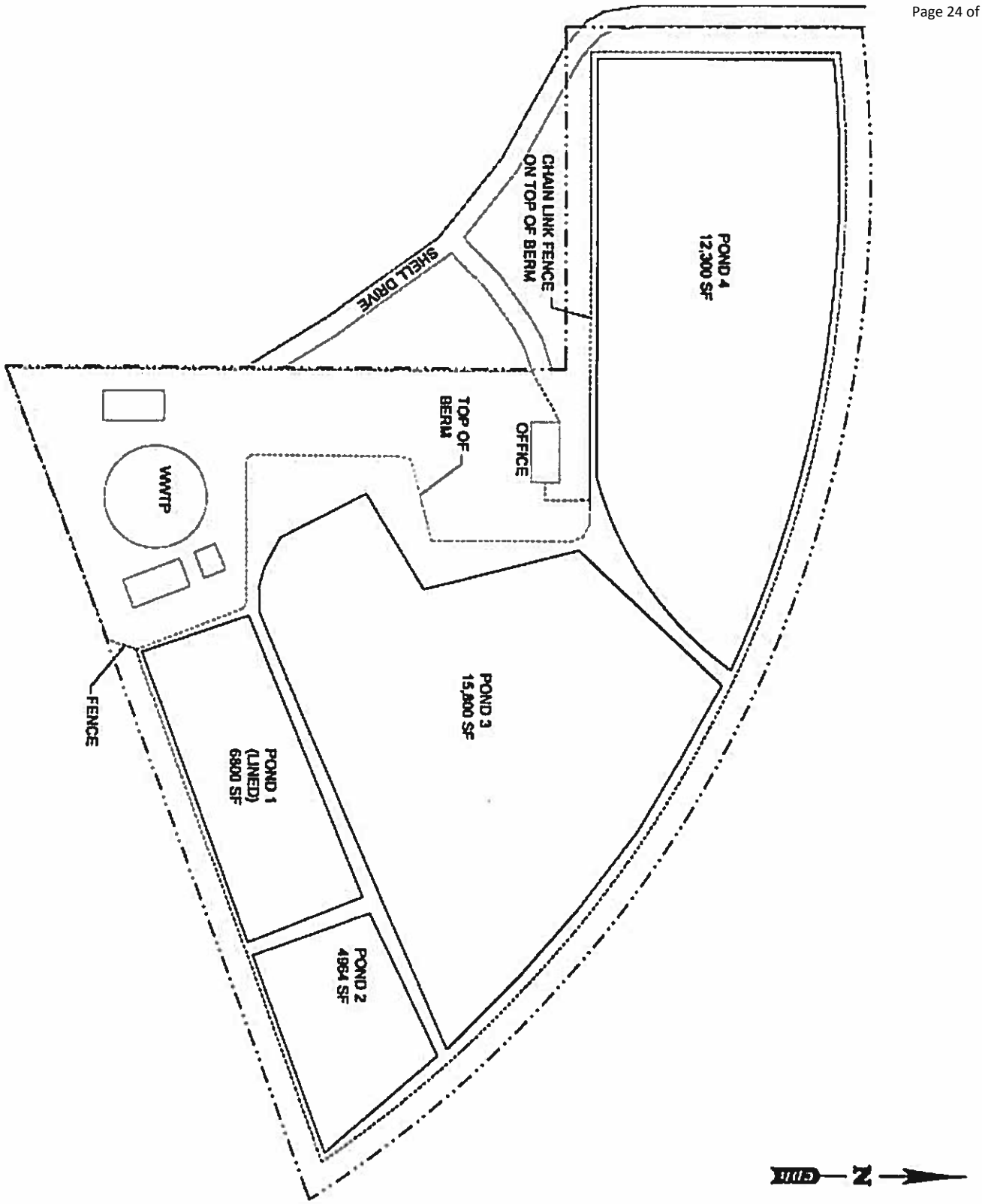
SERVICE AREA ZONING MAP

UTILITIES INC. OF SANDALHAVEN

FIGURE 2-1



cph Engineers, Planners, Landscape Architects, Surveyors, Construction Management www.cphengineers.com 301 North Woodland Blvd., Suite 190, DeLand, FL 32720 Phone: 386.736.4112 Fax: 386.736.9412	Scale: NTS Date: 3-31-2004 Job No.: U0746.0 Certificate of Authorization No. 3215	SITE PLAN UTILITIES INC. OF SANDALHAVEN	©2004 FIGURE 2-2

Kimley»Horn

October 9, 2015

Patrick Flynn
Vice President
Utilities Inc. of Sandalhaven
200 Weathersfield Ave
Altamonte Springs, FL 32714

Re: Sandalhaven Master Lift Station and force main clarification

Patrick:

As requested, this letter is to provide a clarification of the June 26, 2007 Sandalhaven Master Lift Station and Force Main Project Summary letter. In the second paragraph of the letter the following was asserted:

> *"The 12-inch pipeline was selected because it reduces the head condition down to approximately 125 feet at 950 gpm, and 105 feet at 750 gpm. This equates to a power requirement of 86 Horsepower for each pump. Had a smaller pipe size been selected to maximize velocity through the pipeline in order to minimize solids deposition, the pump horsepower would have been significantly higher – an estimated 300 Horsepower."*

The pump design points are associated with the specific pump curve for each pump. To achieve the peak design point of 1850 gpm, the design point with a 12-inch pipeline called for a triplex pump station with each pump's design point being at 950 gpm at 125 feet TDH. This yields three 86-Hp pumps, with two operating and one as a standby. This is a total of 176-Hp with two pumps operating. The reduction of the pipeline to a 10-inch increases the pump design point to 950 gpm at approximately 275 feet TDH. This yields a horsepower per pump of approximately 150-Hp for a total 300-Hp with two pumps operating.

The comparison made in the June 26, 2007 letter was based on two pumps operating with a rated horsepower of 176 as compared to 300, a 70% increase in required motor size.

I hope this clarification provides you with the information you needed. If you need any additional information please contact me any time.

Very truly yours,
KIMLEY-HORN AND ASSOCIATES, INC.

By: Stephen N. Romano, PE
Sr. Project Manager

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AUG 07 2012

June 26, 2007

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Mr. Patrick Flynn
Regional Director
Utilities, Inc. of Sandalhaven
200 Weathersfield Avenue
Altamonte Springs, FL 32714

RE: Sandalhaven Master Lift Station and Force Main Project Summary

Dear Mr. Flynn:

Pursuant to your request, this letter is intended to summarize the lift station and force main project recently completed in the Utilities, Inc. of Sandalhaven's (Sandalhaven) service area. The lift station and force main were constructed to divert a portion of the Sandalhaven service area's flows to the Englewood Water District's (EWD) Wastewater Treatment Facility. Sandalhaven's current wastewater treatment facility is rated at 0.150 million gallons per day (MGD), and flows during peak season exceed 0.135 MGD. Instead of expanding the wastewater treatment facility to meet future growth requirements, Sandalhaven opted to install approximately three miles of 12-inch force main and construct a master lift station to divert flow to EWD.

As detailed in the Master Plan developed in 2004, the service area's flow at buildout is projected to be approximately 900,000 gallons per day (gpd). The new force main and master lift station were designed to deliver all of the flow from the southern portion of the service area. This ultimately equates to approximately 665,000 gpd (or 462 gallons per minute), about 70% of the total service area flow. To handle this expected flow, the lift station design must allow for a peaking factor of 4.0, yielding a flow rate of 2.660 MGD or 1,850 gpm. The lift station is set up as a triplex (three pump) station to ultimately pump the peak rate to the EWD wastewater facility. The pipeline was modeled to determine the most efficient pipeline size based on the need to produce velocity sufficient to carry solids through the pipe as well as well as meet the total head condition (pressure) on the pump. The 12-inch pipeline was selected because it reduces the head condition down to approximately 125 feet at 950 gpm, and 105 feet at 750 gpm. This equates to a power requirement of 88 Horsepower for each pump. Had a smaller pipe size been selected to maximize velocity through the pipeline in order to minimize solids deposition, the pump horsepower would have been significantly higher – an estimated 300 Horsepower. This would have drastically increased the operating cost of the station. This would also have required installation of a larger wet well and a larger emergency generator for backup power. Therefore, the smaller 10-inch pipeline was not considered feasible based on the increased pumping and power requirements compared to the relatively small gain in capital cost.

While the pump station was designed and sized for ultimate capacity, the project was constructed to meet the Utility's more immediate needs. Two 45 Horsepower pumps

were installed initially to provide an interim pumping capacity of 760 gpm or 1.0 MGD peak flow. This equates to an average daily flow rate of 0.275 MGD. The current flow generated by the existing customers in the southern portion of the Sandalhaven service area is estimated to be approximately 0.050 MGD. While this initial flow rate will require periodic maintenance of the pipeline due to possible solids deposition caused by low velocities, the low head condition made this interim size feasible and more cost effective.

If you have any further questions or need any additional clarifications, please let me know. Thank you.

Sincerely,
CPH ENGINEERING, INC.

STEPHEN N. ROMANO
LICENSE
No. 57579
STATE OF FLORIDA
PROFESSIONAL ENGINEER

Stephen N. Romano, P.E.
Vice President

Flynn Exhibit Number	System	Project	Cost per Flynn's Testimony	Recommended Costs	Reason
PCF-1	Cypress Lakes	Hydro Tank Replacement	$ 30,000	$ 25,732	Remainder unsupported
PCF-3	Eagle Ridge	WWTP EQ tank and headworks	$ 350,000	$ 106,388	Unsigned agreement with contractor
PCF-5	LUSI	Sludge Dewatering Equipment	$ 245,000	$ 240,000	Remainder unsupported
PCF-7	LUSI	SCADA	$ 470,000	$ 458,902	Remainder unsupported
PCF-18	Mid-County	Methonal Pumps and Nutrient Analyzer	$ 102,000	$ 92,576	Remainder unsupported
PCF-19	Mid-County	US Hwy 19 Relocation; 525 ft 6" FM and 190 ft 8" GM	$ 230,000	$ 172,879	Remainder unsupported
PCF-21	Sandalhaven	Placida Rd. Utility Relocatio	$ 250,000	$ 217,034	Remainder unsupported
PCF-25	Sanlando	Myrtle Lake Hills WM	$ 695,450	$ 684,271	Remainder unsupported
PCF-30	Sanlando	Wekive WWTP Rehabilitation	$ 1,803,000	$ 1,729,034	Adjusted for taxes on equipment only
PCF-36	UIF - Seminole	Electrical Imp. At Little Wekiva and Jansen WTPs	$ 323,000	$ 268,830	Remainder unsupported
PCF-37	UIF - Seminole & Orange	WM Replacements	$ 57,000	$ -	Included elsewhere
PCF-47		GIS Mapping Services	$ 350,000	$ 244,321	Remainder unsupported
		Totals	$ 4,905,450	$ 4,239,967	

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Date:	10/26/2016
PO #	Signed Proposal 160124-A1
Customer ID:	1010924
Evoqua #	2033/000739
Tax Rate	6.00%
	1% on first $5,000

Bill To: UTILITIES INC OF FLORIDA - SANLANDO
ATTN: ACCOUNTS PAYABLE
200 WEATHERSFIELD AVE
ALTAMONTE SPRINGS, FL 32714

SHIP TO: WEKIVA WWTP
144 LEDBURY DRIVE
LONGWOOD, FL 32779

INVOICE

Agreed Invoicing Milestones	Tax Y/N	Scheduled Value	Previous	Tax	This Period	Tax	Balance To Finish
Equipment							
10 With Signed Agreement	Y	$56,083.50	$56,083.50	$3,415.01		-	$0.00
Plant #1	Y	$182,912.40		$0.00		-	$182,912.40
Plant #2	Y	$150,811.20		$0.00		-	$150,811.20
Plant #3	Y	$171,027.90		$0.00	$171,027.90	10,261.67	$0.00
Installation							
10 With Signed Agreement	N	$51,046.40	$51,046.00	$0.00		-	$0.40
Plant #1	N	$165,355.20		$0.00		-	$165,355.20
Plant #2	N	$137,178.90		$0.00		-	$137,178.90
Plant #3	N	$156,883.50		$0.00		-	$156,883.50
Field Paint							
10 With Signed Agreement	N	$45,470.10	$45,470.10	$0.00		-	$0.00
Plant #1	N	$137,953.80		$0.00		-	$137,953.80
Plant #2	N	$119,823.30		$0.00		-	$119,823.30
Plant #3	N	$137,953.80		$0.00		-	$137,953.80
Startup							
Plant #1	N	$4,500.00		$0.00		-	$4,500.00
Plant #2	N	$4,500.00		$0.00		-	$4,500.00
Plant #3	N	$4,500.00		$0.00		-	$4,500.00
TOTALS		$1,526,000.00	$152,599.60	$3,415.01	$171,027.90	$10,261.67	$1,202,372.50

Total	$181,289.57

Terms: Balance due in 30 days.

NEW REMITTANCE - CHECK		New REMITTANCE - ACH/WIRE
EVOQUA WATER TECHNOLOGIES		J.P. Morgan Chase Bank, N.A.
28563 Network Place		Account: Evoquqa Water Technologies
Chicago, IL 60673-1285		New York, NY 10004
		Acct# 603148011
Amount Due:	$181,289.57	ABA# 044000037
		Swift Code: CHASUS33

Bid Form

RFP #2016085

Utilities Inc. of Florida – Mid County

Mid County Electrical Service & 500 Kw Generator Improvements

Item	Quanty	Item	Total Price
01	Lump Sum	Mobilization and Permitting	$60,000.00
02	Lump Sum	Electrical Service Upgrade	$60,000.00
03	Lump Sum	Electrical Controls and Program Upgrade	$600,000.00
04	Lump Sum	Engineered Slab and Construction	$30,000.00
05	Lump Sum	Generator Package	$250,000.00
06	Lump Sum	Mechanical Contractor	$50,000.00
07	Lump Sum	Demolition and Removal	$30,000.00
08	Lump Sum	Testing and Training	$10,000.00
09	Lump Sum	As Built and Close-out Documentation	$20,000.00
		Total Proposed Price	$1,110,000.00

FROM: EMS of Central Florida Inc.

7906 Clark Moody Blvd

Port Richey, Fl 34668

Office 727-847-3722, Allen Cell 727-243-0878, Frank Cell 727-234-5265

Email: ems34668@gmail.com

EXHIBIT B
BID FORM
RFP # 2016085
Utilities Inc. of Florida – Mid County
Mid County Electrical Service & 500 Kw Generator Improvements

The following bid, for the Mid County Electrical Service and 500 Kw Generator Improvements, is hereby made to Utilities Inc. of Florida, hereafter called the Owner. This Bid is submitted by APG ELECTRIC, INC -- 4825 140th Avenue North -- Clearwater, FL 33762 (727-530-0077)

The undersigned declares that they have familiarized themselves with the nature and extent of this work by examining carefully the Project Manual, Specifications and Drawings, Bid Documents Issue date of September 15, 2016 included in this Request for Proposal (RFP), and project site survey as deemed necessary.

The bidder agrees to furnish all shop drawings, products, materials, equipment, and preform all labor necessary to complete the scope of work. The bidder further attest that the bid proposal amount herein-proposed represents and includes the entirety of the work, fees, taxes, profit, overhead, general requirements, and general conditions of the project as per the bid documents. The bid also includes the following addenda:

Addenda Number: N/A Dated: _____
Addenda Number: _____ Dated: _____
Addenda Number: _____ Dated: _____

The bidder may withdraw their proposal at any time prior to the date of the RFP opening. All Bid Proposals shall be irrevocable for a period of ninety (90) days from the date of the RFP opening.

The undersigned further certifies that the pricing reflected on this bid form is valid through January 31, 2017.

ITEM #	QUANITY	ITEM	TOTAL PRICE
01	Lump Sum	Mobilization and Permitting	$ 42,000.00
02	Lump Sum	Electrical Service Upgrade / Generator Installation	$ 487,000.00
03	Lump Sum	Electrical Controls and Programming Upgrade	$ 149,000.00
04	Lump Sum	Engineered Slab and Construction	$ 19,000.00
05	Lump Sum	Generator Package	$ 246,000.00
06	Lump Sum	Mechanical Contractor	$ 15,000.00
07	Lump Sum	Demolition and Removal	$ 33,000.00
08	Lump Sum	Testing and Training	$ 12,000.00
09	Lump Sum	As-Built and Close-out Documentation	$ 14,000.00
		TOTAL PROPOSAL PRICE	**$ 1,017,000.00**

NOTE: See APG proposal letter for clarifications.

EXHIBIT B
Continued
BID FORM
RFP # 2016085
Utilities Inc. of Florida – Mid County
Mid County Electrical Service & 500 Kw Generator Improvements

The bidder has verified and included the following items in the sealed bid:

[●] Exhibit B Bid Form for RFP # 2016085
[●] Exhibit C Subcontractor Vendor List
[●] Exhibit D Trench Safety Statement
[●] Inserted all above into the sealed envelope address to:
Utilities Inc. of Florida
200 Weathersfield Avenue
Altamonte Springs, FL 32714
Mid County Electrical Service and 500 Kw Generator Improvements
RFP # 2016085 Bid Proposal
Bid Security Form is not required for this RFP.

APG Electric, Inc.
Company Name

Signature 11/29/2016
Date

Terry Ryan -- Preconstruction Special Projects
Printed Name and Title

4825 140th Avenue North
Company Address

Clearwater FL 33762
City State Zip Code

727-530-0077 727-530-0045
Telephone No. Facsimile No.

estimating@apg.company
E-mail Address

Notary Public

Alicia N. Flounoy
NOTARY PUBLIC
STATE OF FLORIDA
Comm# FF168780
Expires 10/15/2018

Signature of Notary

STATE OF FLORIDA
COUNTY OF Pinellas

The foregoing instrument was acknowledge before me this 29th day of November, 2016, by Terry Ryan

● Personally Known Produced Identification
Type of ID: _____

EXHIBIT C
SUBCONTRACTOR VENDOR LIST
RFP # 2016085
Utilities Inc. of Florida – Mid County
Mid County Electrical Service & 500 Kw Generator Improvements

Bidder's Name: APG Electric, Inc.
Address: 4825 140th Avenue North
City, State, Zip Code: Clearwater, FL 33762
e-mail: estimating@apg.company

Date: November 29, 2016
Phone #: 727-530-0077
FEIN # 34-1412413

Subcontractor/Vendor	Work Subject	Subcontract Amount	FEIN #	Status
CONTROL SOLUTIONS	Control cabinets	INCLUDED		
RUARK CONSTRUCTION	Demo building, new slab	INCLUDED		
ALL SOUTH LIGHTNING PROT.	Lightning protection	INCLUDED		
UL TESTING AGENCY	UL inspections	INCLUDED		
t/b/d	Rigger	INCLUDED		

Subcontractor/Vendor
Provide Business Name

Work Description
Contractor-Type
Vendor-Supplying

Status
Submitted – Submitted w/ Bid
Added – Submitted after bid
Removed – No longer using
Canceled – No Contract/PO issued

EXHIBIT D
TRENCH SAFETY STATEMENT
RFP # 2016085
Utilities Inc. of Florida – Mid County
Mid County Electrical Service & 500 Kw Generator Improvements

Bidder acknowledges that included in the various items of the proposal contained on the Bid Form are costs for complying with the Florida Trench Safety Act (FS 553.60-553.64). The Bidder further identifies the cost of compliance with the applicable trench safety standards for the project as follows (Bidder to attach additional sheets as necessary to identify all costs):

	Trench Safety Measure (Description)	Units of Measure (LF, SF, SY)	Unit Quantity	Unit Cost	Extended Cost
A	t/b/d			INCLUDED	
B					
C					
D					
E					
F					
TOTAL					$

NOTE: All excavating and backfill is included in Electrical Service Upgrade cost.

The total cost shown herein is already included in the various items on the Bid Form and is not additional to the pricing shown on the Bid Form.

Bidder, by signature below, assures that the contractor performing trench excavating will comply with the applicable Trench Safety Standards.

Submitted, signed and sealed this 29th day of November, 2016.

APG Electric, Inc.
Company Name

Signature 11/29/2016
Date

Terry Ryan -- Preconstruction Special Projects
Printed Name and Title

ATTEST:
Signature 11/29/2016
Date

Notary Public

Alicia N. Flounoy
NOTARY PUBLIC
STATE OF FLORIDA
Comm# FF168780
Expires 10/15/2018

(SEAL)

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APG ELECTRIC

ELECTRIC
ENGINEERING
TECHNOLOGY
AUTOMATION
LIFE SAFETY

November 29, 2016

Utilities, Inc. of Florida
200 Weathersfield Ave.
Altamonte Springs, FL 32714-4027

Attn: Michael Wilson (via email: mawilson@uiwater.com)

RE: Mid-County Electrical Service and 500 kW Generator Improvements
Dunedin, FL

Dear Michael,

The following is our cost proposal for electrical work as shown on Electrical Drawings E0 through E5 dated September 16, 2016 – in full accordance with project specifications, local codes and ordinances.

BID AMOUNT .....$ SEE BID FORM

SCOPE OF WORK

MOBILIZATION AND PERMITTING

ELECTRICAL SERVICE UPGRADE

- Method of procedures / master plan
- Two (2) 4-inch PVC conduits for Duke primary
- Pad for Duke transformer
- Furnish and install new panels and transformers
- Furnish and install surge protection devices
- Stainless steel racks for service locations
- Hand dig excavation for new feeders
- Compaction and shell replacement
- Copper feeders utilizing PVC or aluminum conduit
- Feeder tie-ins to existing panels / equipment
- Grounding with test wells and reports
- Megger testing of all feeders

ELECTRICAL CONTROLS AND PROGRAMMING UPGRADE

• Blower Control Cabinet #1 (Sheet E2-A, Notes 6-12)	New Panel	UL 508
• Blower Control Cabinet #2 (Sheet E2-A, Notes 13-19)	Field Modified	UL Evaluation
• Surge Tank Blower Control Cabinet (Sheet E2-A, Notes 20-22)	Field Modified	UL Evaluation

• Surge Pumps Control Cabinet (Sheet E2-A, Notes 23-32)	Field Modified	UL Evaluation
• Master Lift Station Control Cabinet (Sheet E2-A, Notes 33-37)	New Panel	UL 508
• Odor Control Cabinet (Sheet E2-A, Notes 38-43)	Field Modified	UL Evaluation
• Blowers Timer Control Cabinet (Sheet E2-B, Notes 9-11)	New Panel	UL 508
• Backwash Blower #1 Control Cabinet (Sheet E2-C, Notes 5-10)	Field Modified	UL Evaluation
• Backwash Blower #2 Control Cabinet (Sheet E2-C, Notes 5-10)	Field Modified	UL Evaluation
• Backwash Pump #1 Control Cabinet (Sheet E2-C, Notes 13-17)	Field Modified	No UL Evaluation
• Backwash Pump #2 Control Cabinet (Sheet E2-C, Notes 13-17)	Field Modified	No UL Evaluation
• Plant Water Pump Control Cabinet (Sheet E2-C, Notes 18-24)	Field Modified	UL Evaluation
• Instrument Air Compressor Control Cab. (Sheet E2-C, Notes 30-33)	Field Modified	UL Evaluation
• SOMAT Control Cabinet (Sheet E2-D, Notes 5-10)	Field Modified	UL Evaluation
• Filter Feed Control Cabinet #1 (Sheet E2-D, Notes 11-20)	Field Modified	UL Evaluation

Notes:

- Each panel provided with CAD drawings listing manufacturer catalog numbers and wiring diagram.
- All new panels are NEMA 4X type 304 stainless steel.
- All panels are programmed and tested.
- Required field wiring.

ENGINEERED SLAB AND CONSTRUCTION

- 20’ x 20’ x 2’ deep concrete slab with double mat of reinforcing steel
- Engineered (stamped) drawings

GENERATOR PACKAGE

- 480 volt, 3-phase, 500 kW, tier-4, diesel generator
- Weather proof, sound attenuated aluminum enclosure
- Enclosure PE certified at 200 mph wind load
- 2000 gallon sub-base tank
- 100 amp load center
- Four (4) light fixtures
- Service receptacles
- Annunciator panel
- Two (2) remote emergency shunt trip reset buttons
- 1000 amp, 480 volt, 3-phase, service entrance rated automatic transfer switch
- Start-up load bank testing

GENERATOR INSTALLATION (cost of this work is with Electrical Service Upgrades)

- Rigging / setting generator on pad
- Installation of gen set, tank, enclosure
- Wire terminations of feeders, start circuits, miscellaneous power & control circuits, annunciator wiring
- Lightning protection on generator
- Installation of automatic transfer switch
- Installation of remote shunt trip devices
- Diesel fuel fill-up of tank after testing

MECHANICAL CONTRACTOR (APG)

- Re-wiring of motor leads to 480 volt (in lieu of 240 volt hi-leg) if multi-leads exist
- Testing of motor rotation
- New seal tight electrical connections
- Report and coordination for re-wiring or replacement of motors (if required)
- Owner to provide allowance (cover cost) of any motor re-wiring or replacement

Note:

- APG will track all activity on Motor Matrix spreadsheet (see attachment).

DEMOLITION AND REMOVAL

- Disconnect and rigging out of existing generator. Generator to be placed on site for owner removal (sell?)
- Disconnect and remove all existing panels, transformers, and control equipment as called for on documents
- Remove all existing wiring as required
- Demolish and remove existing building which houses existing generator (this work is permitted)

Note:

- Trash materials will be placed in dumpster on site (dumpster is to be provided by others).
- Removal of demolished generator building from site is included.

TESTING AND TRAINING

- Megger test on all feeders (recorded)
- Ground resistant testing (recorded)
- All control panels tested and UL Certified
- Motor rotation
- Owner commissioning

AS-BUILT AND CLOSE-OUT DOCUMENTS

- As-Built drawings on CAD

ALTERNATES

1) Provide alternate enclosures for the gear (panels, transformers) in lieu of standard NEMA 3R enclosures as specified.

   A) Power coating

ADD .....$ 3,800.00

B) NEMA 4X stainless steel

ADD .....$ 43,000.00

Note: Item 1A or 1B may be taken, not both.

2) Provide NEMA 4X stainless steel enclosure for 1000 amp transfer switch in lieu of standard NEMA 3R type as specified.

ADD .....$ 9,800.00

3) Provide (qty. 3) site lighting (LED) fixtures mounted on owner-furnished poles.

ADD .....$ 5,400.00

Note: To be controlled via photo cell.

4) Provide extended warranty and maintenance agreements for the generator as follows:

A) Warranty for 5 years

ADD .....$ 2,300.00

B) Warranty for 10 years

ADD .....$ 8,400.00

Note: Item 4A or 4B may be taken, not both.

C) Maintenance for 5 years

ADD .....$ 3,700.00 / per year

D) Maintenance for 10 years

ADD .....$ 4,600.00 / per year

Note: Item 4C or 4D may be taken, not both.

5) Provide extended warranty on automatic transfer switch as follows:

A) Warranty for 5 years

ADD .....$ 2,500.00

B) Warranty for 10 years

ADD .....$ 9,800.00

Note: Item 5A or 5B may be taken, not both.

CLARIFICATIONS

The following costs are **EXCLUDED** from our bid proposal:

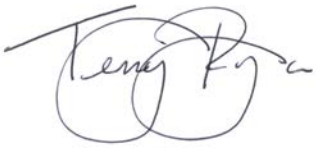
1) Payment and Performance Bond.
2) Utility company service charges for permanent and/or temporary electrical service.
3) Utility company energy consumption charges.
4) Off-site parking and lay down areas for material storage.
5) Electrical Engineering.
   Note: This contract is direct with APG Engineering and Utilities, Inc. of Florida.
6) Re-building or replacement of existing motors.
   Note: As discussed, these motors will be addressed on a one-by-one evaluation and paid for by owner.
7) Methanol control cabinet (by owner, see Note #25 on Drawing E2-C).
   Note: Installation is included.

The following costs are **INCLUDED** in our bid proposal in addition to what is shown on bid documents:

1) Permit cost (an allowance of $15,000).
   Note: Cost has not been verified yet.
2) Removal of trash from site.
3) State and County sales tax on all materials.

We want to thank you for the opportunity to present our proposal, and look forward to working with you on this project.

Sincerely,
APG Electric, Inc.



Terry Ryan
Preconstruction Special Projects

TR/anf

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MID-COUNTY MOTOR MATRIX

	MOTOR	HORSEPOWER RATING	NEW VOLTAGE	ACCEPTS NEW VOLTAGE	REQUIRES FIELD MODIFICATIONS	REQUIRES REPLACEMENT	DATE
1	Methanol Pumps	0.5	480				
2	Backwash Blower #1	40	480				
3	Backwash Blower #2	40	480				
4	Air Compressor	3	480				
5	Air Compressor	3	480				
6	Backwash Water Pump #1	7.5	480				
7	Backwash Water Pump #2	7.5	480				
8	Plant Water Pump	7.5	480				
9	Blower #1	40	480				
10	Blower #2	40	480				
11	Blower #3	40	480				
12	Blower #4	40	480				
13	Clarifier Drive	0.75	208				
14	Clarifier Drive	0.75	208				
15	Master Lift Station	20	480				
16	Master Lift Station	20	480				
17	Odor Control Scrubber	5	480				
18	Screw Conveyor	0.75	208				
19	Surge Pump	15.5	480				
20	Surge Pump	10	480				
21	Filter Blower #1	75	480				
22	Filter Blower #2	75	480				
23	Surge Tank Blower	15	480				
24	Filter Feed Pumps	7.5	480				
25	Sludge Transfer Pumps	3	480				
26	SOMAT Presses	5	480				
27	Flocculator Mixer	0.5	480				
28	Sludge Pump West	1	480				