WAKULLA COUNTY FEASIBILITY ANALYSIS

Final Report

December 15, 2021

Dewberry

PREPARED FOR
Wakulla County
3093 Crawfordville Highway
Crawfordville, FL 32327
Phone: 850.926.0919

PREPARED BY
Dewberry
20684 Central Avenue East
Blountstown, FL 32424
Phone: 850.674.3300
Contact: Justin Ford, P.E.

TABLE OF CONTENTS

SECTION 1 – EXECUTIVE SUMMARY

This Wastewater Feasibility Analysis was funded by the Florida Department of Environmental Protection (FDEP) to provide specific data for Wakulla County regarding wastewater within the Upper Wakulla River and Wakulla Springs Basin Management Action Plan (BMAP) area. Multiple deliverables were required as part of this effort in a variety of formats which included geographic information system (GIS) data and training, reports and analyses, maps, sewer system standards, public meetings, community surveys, and educational materials. This report details the deliverables, the methodology involved in their creation, and ultimately the findings they led to regarding the feasibility of efforts to reduce the amount of nitrogen entering the BMAP within Wakulla County via wastewater systems.

SECTION 2 – GIS MAPPING

In order to analyze the existing and proposed conditions within the County, multiple GIS assets were created. These included the following:

- Existing Septic and Sewer Areas
- Location, Age, and Type of Wastewater System
- Smoke Testing Results
- Anticipated Growth Patterns
- Proposed System Improvements
- Onsite Sewer Treatment and Disposal Systems (OSTDS) within the BMAP
- Service Areas and Census Tracts

Each of these maps and the methodology used for their creation are further explained in the following subsections. Copies of the maps are included as **Appendix A** and the digital files are listed in **Section 11**.

Section 2.1 – Existing Septic and Sewer Areas

The Existing Septic and Sewer Areas map utilized base data provided by the State of Florida. This information had many gaps and it was determined that field verification of a representative sample of parcels as well as comparison to County sewer billing data would be required to provide a more reliable map. Both verification methods revealed several properties to be mislabeled in the original data which were corrected in the final map. Categories include the following: Known Sewer, Assumed Sewer, Known Septic, and Assumed Septic. The "Assumed" categories represent properties that were either unable to be verified or those that fall in areas where a clear determination was not able to be made.

Section 2.2 – Location, Age, and Type of Wastewater System

This map was generated with data provided by the County as well as information provided by FDEP. The raw data used to create these files included hand drawn and digitized construction and as-built drawings, AutoCAD files, reports, and FDEP databases. The collection system information (gravity sewer, forcemain, and lift stations) was provided solely for the system owned and operated by Wakulla County which is the primary wastewater collection system within the BMAP in the County. Three other systems exist within the Wakulla County in the BMAP: River Plantation Estates WWTP, Winco Utilities, Inc. WWTP, and Wakulla Middle School WWTP. These facilities are discussed in more detail in other sections of this report. Where available, the

age of the infrastructure was collected and added to the attribute information within GIS. Insufficient records for some of these system components resulted in gaps within the data set. It is anticipated that these items can be updated within GIS by County staff as they are replaced or rehabilitated as the framework logging this information has been provided with this map. This will assist the County with creating a more robust data tracking system.

Section 2.3 – Smoke Testing Results

Gravity sewer smoke testing was provided to determine infrastructure conditions within areas of the County's collection system deemed critical by operations staff. The smoke testing process involves blowing a non-toxic smoke into the gravity collection system and locating areas where smoke is escaping the system. The results can reveal damage or insufficiencies in the existing system that could allow raw sewage to spill from the system or allow stormwater into the system, causing increased flows to lift stations and the WWTP during wet weather. Smoke testing also assisted with identification and location of collection system assets that were not properly marked on maps which provided quality data for the map created in **Section 2.2**.

Section 2.4 – Anticipated Growth Patterns

In recent years, Wakulla County has experienced tremendous growth. That growth is, in part, the reason for this sewer study. The County recognizes the need to understand the anticipated growth patterns to ensure that adequate infrastructure is installed ahead of the high-density residential developments. This will ensure that these subdivisions are connected to the County's sewer system, and not placed on septic systems, to the extent feasible. This GIS asset was created based on information provided by the County Planning Department and originated through discussions with local developers. The map indicates whether the areas of anticipated growth currently have sewer infrastructure available, are anticipated to have sewer availability, or are not anticipated to have sewer availability.

Section 2.5 – Proposed System Improvements

As a result of this study, several areas of system expansion, re-routes, and general upgrades have been determined. This will serve as a master plan for future capital improvement projects. A map identifying the location and type of improvement has been developed. It is anticipated that this map will be used by the County to not only pursue funding for the identified projects, but also to steer growth into areas with available sewer by sharing with developers.

Section 2.6 – OSTDS Within the BMAP

The map depicting the Onsite Sewage Treatment and Disposal Systems (OSTDS) within the Basin Management Action Plan (BMAP) area contains similar data to that provided in the Existing Septic and Sewer Area map, with the difference being that the data is limited to the systems within the BMAP area. The associated shapefile can be used and updated to track the number of OSTDS's within the BMAP area and the reduction of those over time as a result of the ongoing septic-to-sewer initiative. Based on the current data, there are a total of 4,004 known or assumed septic systems within this area.

Section 2.7 – Service Areas and Census Tracts

There are two primary data sets within this map. First, the service areas depicted in the map indicate the current sewer service areas within the County. These areas are also known as basins. Each basin is a generalized collection of gravity sewer and pressurized sewer within a regional zone. The basins are defined by the contributing area of a singular discharge point of collected sewage. The areas shown in the map below not only indicate the extents of the current sewer system, but also the areas that the existing basins are expected to serve as each basin continues to build out.

The second data set identified in the map are the census tracts as defined by the United States Census Bureau. These areas are small, relatively permanent statistical subdivisions that are updated by local participants prior to each decennial census as part of the Census Bureau's Participant Statistical Areas Program. A census tract usually covers a contiguous area; however, the spatial size of census tracts varies widely depending on the density of settlement. Census tract boundaries are delineated with the intention of being maintained over a long time so that statistical comparisons can be made from census to census. Census tracts are occasionally split due to population growth or merged as a result of substantial population decline.

SECTION 3 – HYDRAULIC MODELING

To assess future improvements, the County's sewer transmission system was modeled using Bentley SewerGEMS. This program allows the systems hydraulics to be analyzed to determine proper pipe sizes or pump capacities and can be calibrated to the real-world conditions. The calibration process involves conducting draw-down tests at the pump stations. This provides the actual pump rates and pressures observed to ensure the model is reproducing those values. Dewberry performed these field tests, and a copy of the results is included as **Appendix B**. Some portions of the system were determined not to be critical with regard to the proposed system growth. These areas were set up with the proper line size and location in the model but were rendered inactive to reduce calculation time. Pump and lift station data for these areas can easily be added in the future if required for analysis. The primary focus of the "active" modeled area was for the main growth areas of the system which included the following:

- Lift stations along US 319 north of Crawfordville which discharge to Hickory Park Lift Station
- Lift Stations around the Crawfordville area which discharge to Hickory Park Lift Station
- Lift Stations between Hickory Park Lift Station and the WWTP (primarily along US 319)
- Lift Stations between Lift Station 76 and the WWTP (primarily along Coastal Highway)
- Proposed Alexander Lift Station with lift stations proposed to be rerouted to this point

A copy of the model has been submitted to the County as part of this project.

SECTION 4 – SEWER STANDARDS

The County requested sewer standards be created to ensure uniformity within the system for the anticipated growth. Although not initially part of the original deliverables to the County, this task was substituted at the County's request for the asset management plan as it was discovered during the research phase of the project that the County already had much of this asset management data recently updated in a different format. The sewer standards cover various items of construction

for both vacant and previously improved areas of the County. This will ultimately assist the County in the project review process to guarantee proper materials and methods are specified when work is performed on or for the County's system. Furthermore, it will assist with system maintenance by ensuring products utilized are similar or interchangeable. A copy of this Sewer Standards book is provided in **Appendix C**.

SECTION 5 – SUMMARY OF COMMUNITY SURVEYS

To gauge community acceptance of sewering projects, surveys were posted on the County's website and Facebook page (links included in **Section 10 – References**). WFSU published an article titled "Florida Officials Want Wakulla County Residents' Input on Septic to Sewer Projects" on their website and radio station to further generate public interest and involvement in the data collection. A total of four surveys were posted that covered general knowledge of sewer and the Basin Management Action Plan (BMAP), general environmental concerns, personal experience with septic upgrade projects, and personal acceptance of sewering projects.

These surveys have provided great insight into the community's concerns and desires for environmental protection. It shows a desire for septic and sewer enhancements to continue and that past experience with those programs was mostly positive. The need for further community outreach and education regarding these issues is important. The County has utilized traditional media such as newspapers and community meetings as well as social media to provide information to citizens; however, most respondents stated they do not regularly check these sources or attend the meetings. It is unknown what vehicles might be employed to ensure information is provided to citizens as the most typically utilized methods are reportedly not regularly checked.

The respondents have various environmental concerns. Some relate to sewer collection, treatment, and disposal which are the focus of this report. Others relate to nutrient loading from other sources. Community involvement in environmental issues seemed to be important to the respondents with around 10% being involved in community groups or volunteering with community organizations. The full survey responses are included with the *Summary of Community Surveys* report (**Appendix D**).

SECTION 6 – PUBLIC MEETINGS

In order to keep the public informed, multiple public meetings have been held to discuss this report and other sewer-related issues. Meeting minutes and agenda from these events are included in **Appendix E**. The final workshop to discuss the Feasibility Analysis was held on December 13, 2021. A copy of the presentation is also included in **Appendix E**. Potential funding options were discussed at this meeting and the list of potential grants are included in the presentation.

SECTION 7 – FLOW AND CAPACITY

An individual report was written for this analysis and is attached as **Appendix F**. In summary, multiple wastewater treatment plants (WWTP) are located within the County; however, the report focuses on those located within the section of the County intersected by the Upper Wakulla River and Wakulla Spring Basin Management Action Plan (BMAP). These include River Plantation

Estates WWTP, Winco Utilities, Inc. WWTP, Wakulla Middle School WWTP, and the Otter Creek WWTP (also known as Wakulla County WWTP).

The primary sewer system growth is at Otter Creek Facility, owned by Wakulla County and operated by contract with ESG, Inc. Wakulla County is amenable, under the right conditions, to the acquisition of the other facilities mentioned in this report to either operate or decommission and redirect the sewage to the Otter Creek WWTP, which is capable of meeting advanced wastewater treatment (AWT) and public access reuse (PAR) standards. In so doing, the County can oversee improvements that have the potential to provide improvements for public health and welfare of existing and future residents and visitors to the area.

SECTION 8 – COST COMPARISON OF ALTERNATIVE STRATEGIES

Appendix G includes an in-depth report documenting the comparison of alternative strategies to achieve remediation objectives within the BMAP based on allowable technologies and the County's plan to expand their existing sewer infrastructure. It includes the documentation of a cost comparison of alternative strategies in conformance to BMAP Appendix D that would achieve remediation objectives using a present-worth analysis. These strategies address those septic systems to be eliminated in favor of central wastewater service, those onsite systems to be remediated with enhanced nitrogen-reducing features, and those that are not expected to be eliminated or upgraded. Only existing improved properties of Wakulla County within the BMAP, which are currently served by a septic system, were evaluated for remediation efforts. It is assumed for the sake of this evaluation that future property development, whether commercial or residential, would follow the BMAP requirements during construction and would not require further remediation.

The Florida Department of Health (FDOH) allows three types of nitrogen-reducing septic systems: In-Ground Nitrogen-Reducing Biofilters (INRBs), Nitrogen-Reducing (NSF-245 Certified) Aerobic Treatment Units (Aerated), and Nitrogen-Reducing Performance Based Treatment Systems (PBTS). The BMAP requires lots less than 1 acre within the PFA's to include nitrogen-reducing approved technology. The County's comprehensive plan requires PBTS on lots less than 0.229 acres Countywide and lots less than 5 acres within the Wakulla Springs Special Planning Area (WSSPA) and does not provide an allowance for the other two FDOH approved technologies. The enhanced systems evaluated within this report will be the PBTS where required by the County's more stringent Comprehensive Plan rules and INRBs where otherwise allowable due to the current interest shown in this technology via installations completed through the existing septic upgrade grant program.

The cost comparison of alternative strategies was based on a planning period of 20 years which allowed for a more accurate cost analysis with advantages and disadvantages. The process used the evaluation of capital costs and Operation and Maintenance (O&M) costs for the duration of the planning period. Anticipated benefits provided by the projects were also discussed. The two alternatives evaluated are *Septic Upgrades Only* and *Sewer Expansion with Septic Upgrades*. The *Septic Upgrades Only* included the evaluation of existing improved properties within the BMAP that meet the County or BMAP requirements for remediation of a conventional septic system by being replaced with an approved nitrogen-reducing septic system per applicable FDOH and County regulations. It also included expansion of sewer for projects currently funded by

FDEP and the Northwest Florida Water Management District (NWFWMD). The *Sewer Expansion with Septic Upgrades* option evaluated the same area utilizing options for additional expansion of the County's existing sewer collection system not currently funded.

Both alternatives are reasonable and provide improvements to assist with meeting the remediation needs of the BMAP; however, the more cost-effective course of action appears to be implementation of the second option, *Sewer Expansion with Septic Upgrades*. This option is anticipated to provide a greater reduction in nitrogen to the groundwater, additional benefits, and increase the likelihood that a greater amount of the wastewater generated in the County is regularly monitored due to the requirements placed on the County-owned facility.

SECTION 9 – SUMMARY OF PROPOSED UPGRADES

A separate report was written for this comparison and is attached as **Appendix H**. In summary, upgrades and improvements to meet BMAP standards include the following:

- Upgrades to Wakulla County's wastewater collection and transmission system
- Expansion of the Otter Creek WWTP
- Upgrades to Wildwood Country Club for effluent discharge
- Acquisition of wastewater treatment facilities located within the BMAP
- Replacement of qualifying existing conventional septic systems with approved nitrogen-reducing systems

It should be understood that due to current market volatility, the cost opinions are provided for planning purposes only and should be updated regularly prior to any action on the projects. The proposed improvements outlined in the *Summary of Proposed Upgrades* report should allow the County to continue their ongoing efforts for the remainder of the 20-year planning period to connect homes served by septic tanks to the County operated sewer treatment facility where the wastewater can be treated to immensely higher standards prior to discharge as well as continue to make service connections available for new construction in the service area.

SECTION 10 – REFERENCES

The references listed below are a summary of those utilized for this report and the individual reports included in the appendices.

1. Bureau of Economic and Business Research. (2020, January). BEBR Projections of Florida Population by County (Volume 53, Bulletin 186, January 2020). Bureau of Economic and Business Research.
2. Bureau of Economic and Business Research. (n.d.). *Florida Population Studies*. Retrieved from Households and Average Household Size in Florida: April 1, 2020 (Volume 54, Bulletin 188, December 2020): https://www.bebr.ufl.edu/sites/default/files/Research%20Reports/households_2020.pdf
3. Florida Department of Environmental Protection. (2010, December 29). Wakulla County Middle School WWTP Domestic Wastewater Facility Permit. Florida Department of Environmental Protection.

4. Florida Department of Environmental Protection. (2012, July 10). Winco Utilities, Inc. WWTP Domestic Wastewater Facility Permit. Florida Department of Environmental Protection.

5. Florida Department of Environmental Protection. (2014, June 13). River Plantation Estates WWTP Domestic Wastewater Facility Permit. Florida Department of Environmental Protection.

6. Florida Department of Environmental Protection. (2016). *Wakulla County WWTF Domestic Wastewater Facility Permit*. Florida Department of Environmental Protection.

7. Florida Department of Environmental Protection. (2018). *Upper Wakulla River and Wakulla Spring Basin Management Action Plan*. Florida Department of Environmental Protection.

8. Florida Department of Environmental Protection. (2021, December 1). *Springs Grant Program Fiscal Year 2021-22*. Retrieved from Protecting Florida Together: https://protectingfloridatogether.gov/sites/default/files/documents/FY2021-22_SpringsGrantsSelected_2.pdf

9. Florida Department of Environmental Protection. (2021, December 1). *Wastewater Grant Program Fiscal Year 2021-22*. Retrieved from Protecting Florida Together: https://protectingfloridatogether.gov/sites/default/files/documents/FY2021-22_WastewaterGrantsSelected_0.pdf

10. Florida Department of Health. (2008, October 1). *Report on Range of Costs to Implement a Mandatory Statewide 5-Year Septic Tank Inspection Program*. Retrieved from Florida Department of Health: http://www.floridahealth.gov/environmental-health/onsite-sewage/_documents/costs-implement-mandatory-statewide-inspection.pdf

11. Florida Department of Health. (n.d.). *Nitrogen-Reducing Systems for Areas Affected by the Florida Springs and Aquifer Protection Act (updated May 2021)*. Retrieved from http://www.floridahealth.gov/environmental-health/onsite-sewage/products/_documents/bmap-n-reducing-tech-18-10-29.pdf

12. Florida Department of State. (2018, July 31). *Rule: 64E-6.009*. Retrieved from Florida Administrative Code & Florida Administrative Register: https://www.flrules.org/gateway/RuleNo.asp?ID=64E-6.009

13. Gaffney, R. (2021, July 13). *Florida Officials Want Wakulla County Residents' Input On Septic To Sewer Projects*. Retrieved from WFSU Public Media: https://news.wfsu.org/wfsu-local-news/2021-07-13/florida-officials-want-wakulla-county-residents-input-on-septic-to-sewer-projects

14. Great Lakes -- Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers. (n.d.). *Recommended Standards for Wastewater Facilities, 2004 Edition*. Albany: Health Research, Innc., Health Education Services Division.

15. Jim Stidham and Associates. (2021, December 1). *Comprehensive Wastewater Treatment Facilities Plan Task 2: Cost-Effectiveness of Alternative Technologies*.

Retrieved from Wakulla Springs Alliance: http://wakullaspringsalliance.org/wp-content/uploads/2016/11/Leon-County-CWTFP-Task-2-Report.pdf

16. McDonald Group International, Inc. (2021). *Preliminary Engineering Report for Treatment Process Modifications: Winco Utilities Water Reclamation Plant*.
17. Roeder, E., & Ursin, E. (n.d.). *Managing the "Other" Advanced Sewage Treatment Systems: An Assessment of Florida's Aerobic Treatment Units and Similar Onsite Sewage Treatment Systems*. Retrieved from Florida Department of Health: https://www.alachuacounty.us/Depts/epd/EPAC/Archive/Septic%20Report/130530_Assessment%20of%20FL%20aerobic%20treatment%20units%20and%20similiar%20onsite%20sewage%20treatment%20systems_Roeder.pdf
18. *Wakulla County*. (n.d.). Retrieved from mywakulla.com
19. Wakulla County. (2021, May 20). Retrieved from Wakulla County Comprehensive Plan: Goals, Objectives, and Policies: https://files4.1.revize.com/wakullacountyfl/Comprehensive%20Plan_20210520.Remediated.pdf
20. *Wakulla County Board of County Commissioners Administration*. (n.d.). Retrieved from Facebook: https://www.facebook.com/pages/category/Government-Organization/Wakulla-County-Board-of-County-Commissioners-Administration-257737631323746/

SECTION 11 – DIGITAL DELIVERABLES

Below is a list of the deliverables provided in digital form via a USB drive to support this analysis.

- SewerCAD Model (Bentley SewerCAD)
- Sewer Standards (AutoCAD Civil 3D)
- GIS Files (ArcMap/ArcGIS)

Supporting files can be made available upon request.

Appendix A

GIS Maps

LEGEND

- KNOWN SEWER
- ASSUMED SEWER
- AVAILABLE SEWER
- ASSUMED SEPTIC
- KNOWN SEPTIC

Dewberry

N

EXISTING SEWER / SEPTIC MAP

WAKULLA COUNTY SEWER FEASIBILITY ANALYSIS

0 2 4 Miles

WAKULLA COUNTY

LEGEND

GRAVITY SEWER LINE

MANHOLE

Dewberry

N

GRAVITY SEWER / MANHOLE MAP

WAKULLA COUNTY SEWER FEASIBILITY ANALYSIS

0 2 4 Miles

WAKULLA COUNTY

LEGEND

- OLDER THAN 2000
- 2000 - 2005
- 2006 - 2010
- 2011 - 2015
- 2016 - 2020

Dewberry

N

LIFT STATION AGE

WAKULLA COUNTY SEWER FEASIBILITY ANALYSIS

0 2 4 Miles

WAKULLA COUNTY

Dewberry

N

SMOKE TESTING DEFECT MAP

WAKULLA COUNTY SEWER FEASIBILITY ANALYSIS

0 2 4 Miles

WAKULLA COUNTY

LEGEND

- AVAILABLE
- NOT ANTICIPATED
- PLANNED

Dewberry

N

ANTICIPATED GROWTH

WAKULLA COUNTY SEWER FEASIBILITY ANALYSIS

0 2 4 Miles

WAKULLA COUNTY

LEGEND

- 12 — 12" EFFLUENT LINE
- 4 — 4" FORCEMAIN
- 12 — 12" FORCEMAIN
- 16 — 16" FORCEMAIN
- 20 — 20" FORCEMAIN
- EFFLUENT DISCHARGE SITE
- PROPOSED LIFT STATION

Dewberry

N

PROPOSED IMPROVEMENTS

WAKULLA COUNTY SEWER FEASIBILITY ANALYSIS

0 1 2 Miles

WAKULLA COUNTY

BMAP BOUNDARY

LEGEND

- KNOWN SEWER
- ASSUMED SEWER
- AVAILABLE SEWER
- ASSUMED SEPTIC
- KNOWN SEPTIC

Dewberry

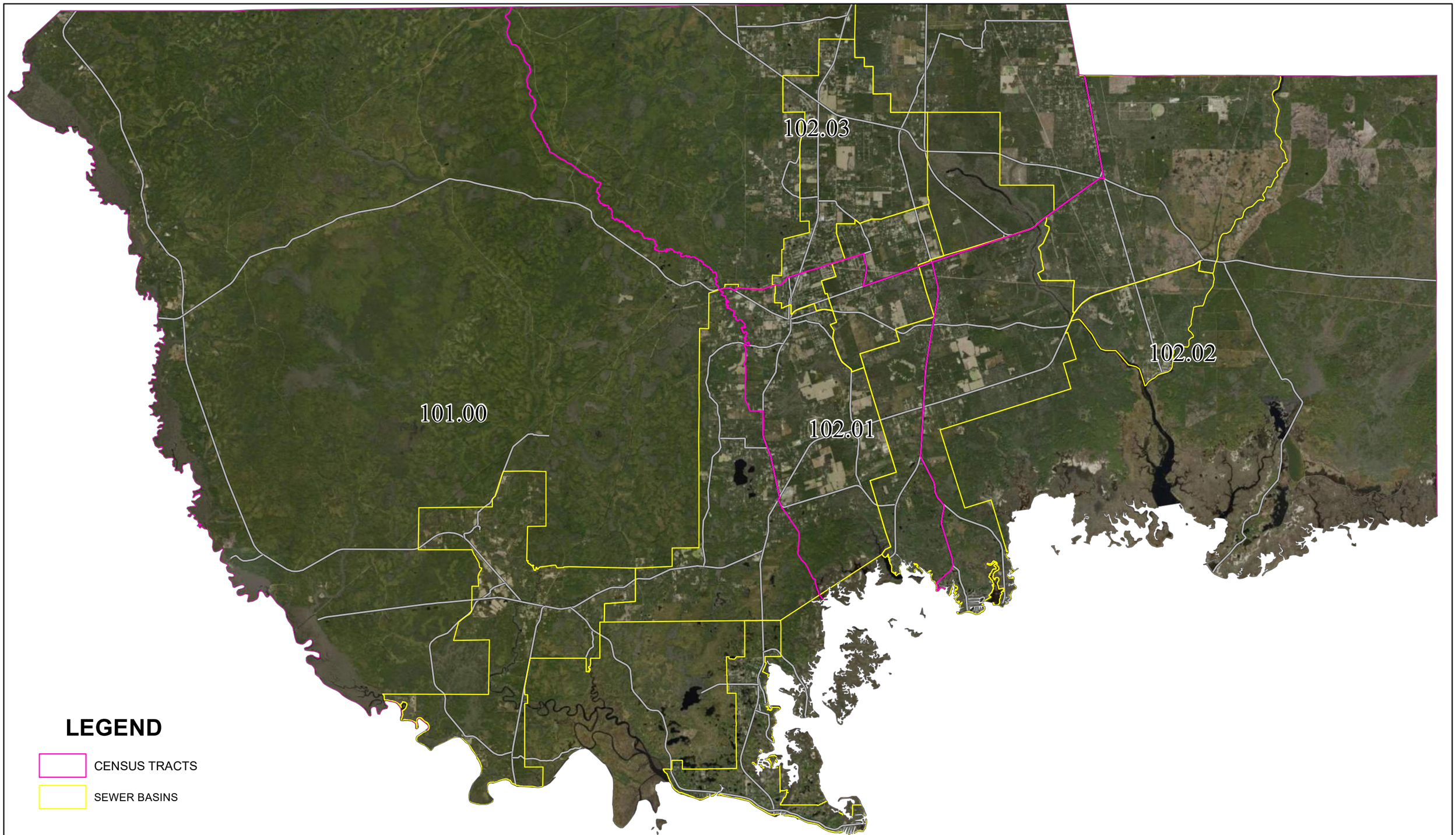
N

OSTDS WITHIN THE BMAP

WAKULLA COUNTY SEWER FEASIBILITY ANALYSIS

0 2 4 Miles

WAKULLA COUNTY



LEGEND

- CENSUS TRACTS
- SEWER BASINS

Dewberry

N

CENSUS TRACTS / SEWER BASINS MAP

WAKULLA COUNTY SEWER FEASIBILITY ANALYSIS

0 2 4 Miles

WAKULLA COUNTY

Appendix B

Hydraulic Modeling Data

Lift Station Drawdown Tests for Field Calibration of Data

							Inflow					Pump 1						Pump 2					
LS #	LS Name	Date	Time of Day	Diameter (ft)	Approx. Total Depth (ft)	Lowest Invert Depth (ft.)	Time (min)	Start Depth (in)	End Depth (in)	Flow (gpm)	Static Pressure (psi)	Time (min)	Start Depth (in)	End Depth (in)	Flow (gpm)	Gauge (psi)	Motor Clock	Time (min)	Start Depth (in)	End Depth (in)	Flow (gpm)	Gauge (psi)	Motor Clock
1	162 River Dr-Surf Rd	01/09/20		5	18	14'-4"	2	183	182.5	3.06	N/A	2	182.5	192	61.20	N/A	N/A						
2	2278 Surf Rd	01/09/20		5	20	15'-6"	2	196	193	18.36	N/A	2	195	198	36.72	N/A	10170	2	197	198.5	27.54	N/A	5328
3	2484 Surf Rd	01/09/20		4.5	20	16'-1"	2	178	185	34.70	N/A	2	186	192	64.44	N/A	1881	2	190	195	59.48	N/A	4836
4	2792 Surf Rd	01/09/20		6	20	13'-4"	2	193	189	35.25	N/A							2	188	202	158.62	N/A	1315
5	197 Mashes Sands	01/09/20		5	20	13'-10"	2	181	171	61.20	N/A	2	169	185	159.11	N/A	569	2	186	203	165.23	N/A	297
6	548 Mashes Sands	01/09/20		5	12'-11"	11'-4"	2	181	171	61.20	N/A							2	155	155	61.20	N/A	2818
7	1 Blue Heron Way-Mashes Sands	01/09/20		5	13'-11"	9'-7"	2	116	127	67.32	N/A							2	111	127	165.23	N/A	351
8	18 Walker St- Panacea	01/14/20		6	20	13	2	188	182.5	48.47	N/A	2	154	172	207.09	N/A	2169	2	172	188	189.46	N/A	2309
9	3 Tully Ave- Panacea																						
10	40 Levy Bay Rd- Panacea	01/09/20		5	20	15'-3"	2	194.5	193.5	6.12	N/A							2	193.5	206	82.61	N/A	301
11	40 Mississippi Ave- Panacea	01/14/20		5	20	1	2	144	142	12.24	N/A							2	121	132	79.56	N/A	N/A
12	3870 Coastal Hwy- Wildwood	01/29/20		4	10	2'-6"	1	41	40.5	3.92	N/A	1	40	44	35.25	N/A	N/A	1	44	48	35.25	N/A	N/A
13	801 Mashes Sands	01/09/20																					
14	905 Mashes Sands																						
15	19 Jer-Be-Lou- Panacea	01/14/20		4		11'-8"	1	149	144	39.17	N/A	1	140	149	109.67	N/A	691						
16	230 Levy Bay Rd- Panacea																						
17	21 Paradise Ln- Panacea																						
18	163 Tide Creek Dr- Mashes Sands																						
19	20 Knotty Pine St- Surf Rd	01/14/20		6	10	7												1	79	80.5	26.44		N/A
20	21 Churchill Dr- The Farm	02/03/20		6		11	1	154	154.5	8.81	N/A	1	144	154	185.05	N/A	4495	1	154.5	163	158.62	N/A	9049
21	88 Carriage Dr- The Farm	02/03/20		4		13'-2"	1	167.5	164.5	23.50	N/A	1	160	163.5	50.92	N/A	4689	1	163.5	167.5	54.83	N/A	9521
22	533 Emmett Whaley Rd- Library	01/14/20		6	15	8'-2"						1	126.5	131	79.31	25	N/A	1	131	136	88.12	20	
23	15 Oak St- WCSD Jail	01/30/20		6		7'-6"	1	124	123	17.62	N/A	1	121	123	52.87	N/A	N/A	1	123	126	70.49	N/A	N/A
24	2629 Crawfordville Hwy (Winn Dixie)	01/29/20		4	12	8	1	98	97.5	3.92	N/A	1	97.5	102	39.17	N/A	N/A	1	102	98	35.25	N/A	N/A
25	28 Love St- Crawfordville	02/05/20		6		9'-10"	1	193	193	0.00	N/A							1	193	198.5	96.93	N/A	4060
26	57 Sopchoppy Hwy-Medart Elem																						
27	73 Country Way-Commodore Commons	01/17/20		6	12	7	1	97	95	35.25	N/A	1	95	103	176.24	N/A	824	1	103	110	158.62	N/A	348
28	216 Otter Lake Rd- Panacea	01/14/20		5	17	16	2	192	189	18.36	N/A	1	189	201	165.23	N/A	15965	1	174	199	324.34	N/A	67256
29	4707 Crawfordville Hwy-(Eden Spgs)	01/14/20		6	15	10'-6"	2	130	128	17.62	N/A	2	128	146	176.24	N/A	282						
30	84 Taylor St-Panacea	01/14/20		5	11	10'-6"	1	136	134	24.48	N/A							1	130	135	85.68	17	N/A
31	1153 Wakulla Arran Rd- Fox Run	02/03/20		6		14'-9"	1	194	193	17.62	N/A							1	193	197	88.12	N/A	2316
32	28 Bunting Dr- Songbird	01/30/20		8		6'-5"	1	158	156	62.66	N/A	1	174	183	344.65	N/A	3073						
33	46 Warrior Way- Shadeville Elem	01/30/20		6	20	4'-6"	1	136	134	35.25	N/A	1	134	139	123.37	N/A	13295	1	139	145	141.00	N/A	6150
34	78 Jer-Be-Lou Blvd- Panacea	01/14/20		6		10'-6"	1	142	141	17.62	N/A	1	141	152	211.49	N/A	104	1	152	163	211.49	N/A	137
35	26 Hickory Ave- Crawfordville	01/17/20		9		10	2	111	107	79.31	N/A	1	106	113	356.89	N/A		1	106	118	555.17	N/A	
36	33 Snails Pace Ln (Tide Creek)																						
37	152 Turtle Creek Ln (TideCreek)	01/14/20		6	12	8'-2"						2	98	102	35.25	N/A	225	2	102	106	35.25	N/A	265
38	30 Jasper Thomas Rd- Crawfordville																						
39	2065 Crawfordville Hwy- Walmart	02/05/20		6		10'-4"	1	167	166	17.62	N/A	1	159	167	158.61	N/A	N/A	1	167	178.5	220.30	N/A	N/A
40	410 Wakulla Arran Rd-Savannah Forest	01/30/20		6		5'-5"	1	30	20.5	167.43	N/A	1	94.5	99	246.74	N/A	1137	1	23	103	1577.38	N/A	1277
41	32 Silky Court (Mallard Pond)	02/05/20		8		6	1	84	83.5	15.67	N/A	1	83.5	90	219.33	N/A	N/A	1	90	94.5	156.66	N/A	N/A
42	114 Juniper Dr. Cville The Hammock"s	01/30/20		6		4'-6"	1	151	150	17.62	N/A							1	119	125	123.37	N/A	4870
43	70 Homestrech Ln. Bridlewood Apts	02/03/20		6		7'-7"	1	100.5	100	8.81	N/A	1	92	98	114.56	N/A	7999	1	98	100.5	52.87	N/A	6646
44	63 Preston Cir. Century Park	02/03/20		6		7'-9"	1	151	149.5	26.44	N/A	1	146	151	114.56	N/A	2064	1	140	146	132.19	N/A	4428
45	490 Hidden Cove. (Airport)																						
46	46 Tillis Ln (Hidden Meadows)	02/05/20		8		11'-11"	2	157	156	15.67	N/A	1	156	162	203.66	N/A	1946	1	162	167	172.33	N/A	3271
47	101 Linzy Mill Store Rd	02/03/20		6		12'-3"	1	201	200	17.62	N/A	1	182	193	211.49	N/A	967	1	193	201	158.61	N/A	1118
48	13 Tuscany Trace. Cville	02/03/20		6		6	1	108	112	70.50	N/A	1	112	112	70.50	N/A	143	1	118	123	158.62	N/A	509
49	36 Silver Glen																						
50	58 Ruby Lane (Ruby Hills)	02/03/20		6		14'-5"	1	198	198.5	8.81	N/A	1	185	198	237.93	N/A	13814	1	157	168	202.68	N/A	9049
51	DOT took over and LS no longer there																						
52	The Hammocks Phase II																						
53	1060 Buckhorn Plaza-Florida Dr	01/14/20		6		15	1	199	187	211.49	N/A	1	180	201	581.60	N/A	36						

Lift Station Drawdown Tests for Field Calibration of Data

54	86 Carousel Cir. Gardens of Saralan	01/30/20		6		4'-6"	1	210	206	70.50	N/A	1	212	226	317.24	N/A	1661	1	205	218	299.62	N/A	1702
55	1 Heron Point Ln. Surf Rd																						
56	60 Conifer-Magnolia Park	01/29/20			15	12	2	227	225	0.00	N/A	1	165	158	0.00	N/A	3302						
57	Nandina Way (Flowers)	02/05/20		8		8	1	205	204	31.33	N/A						1511	1	204	217	438.65	N/A	353
58	48 Oak St (Health Dept)	02/03/20		4		6'-5"	1	77.5	77	3.92	N/A							1	72	77.5	47.00	N/A	N/A
59	11 Top Sail Way(Trade Winds)																						
60	VFD Medart	01/14/20		4	15	11	1	143	145	15.67	N/A	1	145	151	62.67	N/A	14						
61	BOCC Board Office																						
62	Building Dept																						
63	Hudson Park																						
64	Azaela Park																						
65	Womens Club Crawfordville																						
66	Womens Club Panacea																						
67	Welcome Center Panacea																						
68	1901 Sopchoppy Hwy (Sopchoppy)	01/17/20		8	17	14	1	175	173	62.66	N/A	1	141	160	657.97	N/A	974	1	138	155	595.31	N/A	847
69	90 Municipal (Sopchoppy)	01/17/20		6	15	17							208.5			N/A	12581	1	208	215	123.37	N/A	6635
70	111 Sheldon (Sopchoppy)	01/14/20		6		15	1	184	183	17.62	N/A	1	183	189	123.37	N/A	4217	1	189	192	70.49	17	3920
71	Rec Park Medart																						
72	Community Center																						
73	57 McKenzie St. (Sopchoppy)	01/14/20		6		15	1	207	207.5	8.81	N/A	1	87.5	209	2150.17	N/A	691	10	210	212	12.33	17	388
74	1448 Shell Point Rd (Shell Point VFD)																						
75	2146 Lawhon Mill Rd (WWTP)																						
76	4550 Coastal Hwy(Jerry Moore Memorial)	01/29/20		10		4'-6"	1	126	123	146.87	N/A	1	60	66	440.61	N/A	7944	1	67	76	587.48	N/A	8709
77	33 Michael Dr	01/29/20		4	10	7'-4"	1	79	77	15.67	N/A	1	76	79	39.17	N/A	N/A						
78	10 Medallion Way	01/14/20																					
79	170 Preservation Way	01/14/20		4	16'-7"	8'-2"																	
80	62 Tafflinger Rd (Magnolia Gardens Master)	02/05/20		8	12	10	2	136	122.5	211.49	N/A	1	114.5	123	477.81	N/A	714	1	127	132	368.15	N/A	747
81	King Bee Drive	02/03/20		4		15	1	202	201.5	3.92	N/A	1	201.5	212	86.17	5	135	1	201	210.5	78.33	N/A	135
82	Drew Lane	02/03/20		8		14'	1	212	211	31.33	N/A	1	211	216	187.99	N/A	139	1	216	222	219.32	N/A	126
83	92 Mohave Rd (Wakulla Gardens Master)	02/03/20		12		16	1	194	193	70.50	N/A	1	193	206	986.97	N/A	121	1	206	216	775.47	N/A	122
84	19 Cochise St (Wakulla Gardens)	02/03/20		8		16'-1"	1	206	205.5	15.67	N/A	1	205.5	209	125.33	14	213	1	209	216	235.00	14	1024
85	Catawba Trail	02/03/20		8		15'-3"	1	199	196	94.00	N/A	1	198	202	219.33	N/A	330	1	202	205	188.00	N/A	256
86	High School	01/14/20		6		8	1	114	112	35.25	N/A	1	96	114	352.49	N/A	14						
87	Trice Ln. R&B Building																						

Appendix C

Sewer Standards

WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS

PREPARED FOR

Wakulla County

WAKULLA COUNTY

COUNTY COMMISSION MEMBERS

Ralph Thomas, District 1, Chairman
Randy Merritt, District 2
Mike Kemp, District 3
Quincee Messersmith, District 4, Vice Chairman
Chuck Hess, District 5
David Edwards, County Administrator

DECEMBER 2021

Dewberry

20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

EB 0008794

TABLE OF CONTENTS

TABLE OF CONTENTS

UTILITY STANDARDS FOR WAKULLA COUNTY

December 10, 2021 (12:54:55 EST)
N:\TEMP\STANDARDS.DWG

EB# 0008794

Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

TABLE OF CONTENTS

WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS
WAKULLA COUNTY COMMISSIONERS
WAKULLA COUNTY, FLORIDA
FLORIDA

DATE: 12/2021	PROJECT NO. 50108934
SCALE: AS NOTED	
DRAWN: C.SMITH	SHEET 1
CHECKED: J. FORD	

INTRODUCTION

SUBSTANTIAL EFFORT HAS BEEN MADE TO ENSURE THE INFORMATION IN THESE STANDARDS IS ACCURATE, HOWEVER, THE COUNTY OR DEWBERRY CANNOT ACCEPT RESPONSIBILITY FOR ANY ERRORS OR OVERSIGHT IN THE USE OF THE MATERIAL OR IN THE PREPARATION OF THE ENGINEERING PLANS. THIS PUBLICATION IS INTENDED FOR USE BY PROFESSIONAL PERSONNEL COMPETENT TO EVALUATE THE SIGNIFICANCE AND LIMITATIONS OF ITS CONTENTS AND ABLE TO ACCEPT RESPONSIBILITY FOR THE APPLICATION OF THE MATERIAL IT CONTAINS.

THE DESIGNER MUST RECOGNIZE THAT NO HANDBOOK OR CODE CAN BE A SUBSTITUTE FOR EXPERIENCED ENGINEERING JUDGMENT.

USERS OF THESE STANDARDS ARE ENCOURAGED TO OFFER COMMENTS TO DEWBERRY ON THE CONTENTS OF THIS PUBLICATION AND SUGGESTIONS FOR CHANGES IN THE FUTURE EDITIONS.

PRODUCTS TO BE CONSIDERED "APPROVED EQUAL" SHALL BE SUBMITTED TO COUNTY'S ENGINEER FOR APPROVAL.

THESE STANDARDS ARE UNDER CONSTANT REVIEW AND ARE SUBJECT TO CHANGES APPROVED BY COUNTY AND DEWBERRY.

WAKULLA COUNTY CONTACTS

COUNTY ADMINISTRATOR	ROAD AND BRIDGES	WASTEWATER	COUNTY ENGINEER
DAVID EDWARDS 3093 CRAWFORDVILLE HWY CRAFORDVILLE, FL 32327 PHONE: 850.926.0919	MIKE KING, DIRECTOR 340 TRICE LANE CRAWFORDVILLE, FL 32327 PHONE: 850.926.7616	ESG, INC. NED NOBLES, PROJECT MANAGER 2146 LAWHON MILL ROAD CRAWFORDVILLE, FL 32327 PHONE: 850.962.3026 EMERGENCY: 850.528.3170	DEWBERRY 20684 CENTRAL AVENUE EAST BLOUNTSTOWN, FL 32424 PHONE: 850.674.3300

GENERAL NOTES

GENERAL NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF EXISTING UTILITIES, AND TO DETERMINE IF OTHER UTILITIES WILL BE ENCOUNTERED DURING THE COURSE OF THE WORK, AND TAKE WHATEVER STEP NECESSARY TO PROVIDE FOR THEIR PROTECTION.

2. THE CONTRACTOR SHALL NOTIFY ALL UTILITY OWNERS 48 HOURS PRIOR TO COMMENCING CONSTRUCTION.

3. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR DUE TO THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

4. THE CONTRACTOR SHALL MAINTAIN A REASONABLE ACCESS TO ALL RESIDENCES AND BUSINESSES DURING CONSTRUCTION.

5. ALL VALVES AND MATERIALS SHALL COMPLY WITH AWWA (AMERICAN WATER WORKS ASSOCIATION) STANDARDS, LATEST EDITION.

6. ALL MAIN LINE FORCE MAIN VALVES SHALL BE RESILIENT SEATED GATE VALVES.

7. THE CONTRACTOR WILL BE REQUIRED TO REMOVE AND REPLACE ITEMS ENCOUNTERED IN THE FIELD, i.e. SIGNS, FENCING, POST, ETC.

8. FOR THE REPLACEMENT OF PRIVATE OWNED CONCRETE CROSSINGS, THE CONTRACTOR SHALL SAW CUT BACK TO THE CLOSEST JOINT WITHIN THE RIGHT-OF-WAY AND REPLACE AS SHOWN IN DETAILS, HEREIN. FOR THE REPLACEMENT OF PRIVATE OWNED ASPHALT PAVEMENT DRIVES, THE CONTRACTOR SHALL REMOVE THE EXISTING ASPHALT AND REPLACE AS SHOWN IN DETAILS HEREIN.

9. ALL FORCE MAINS SHALL HAVE A MINIMUM OF 36" COVER.

10. ANY INDIVIDUAL CREW OR INDIVIDUAL PERSON WORKING ON THE INSTALLATION OF ANY PART OF A COUNTY PROJECT SHALL HAVE A SET OF PLANS AND SPECIFICATIONS WITH THEM AT ALL TIMES.

11. CONTRACTOR SHALL COORDINATE WITH COUNTY'S ENGINEER 15 CALENDAR DAYS PRIOR TO PRESSURE TESTING AND BACTERIOLOGICAL TESTING SO A TESTING PLAN CAN BE ESTABLISHED.

12. PRESSURE TESTING SHALL BE IN ACCORDANCE WITH ASTM AND AWWA STANDARDS. CONTRACTOR SHALL NOTIFY THE ENGINEER WITHIN 48 HOURS OF PRESSURE TESTING. NO EXCEPTIONS. THE ENGINEER SHALL BE PRESENT DURING THE PRESSURE TESTING.

13. BASE AND BACKFILL MATERIALS SHALL BE EITHER OF THE SAME TYPE AND COMPOSITION AS THE MATERIALS REMOVED, OR OF EQUAL OR GREATER STRUCTURAL ADEQUACY. MATERIALS CONTAMINATED WITH DELETERIOUS SUBSTANCES DURING EXCAVATION SHALL NOT BE USED FOR FILL.

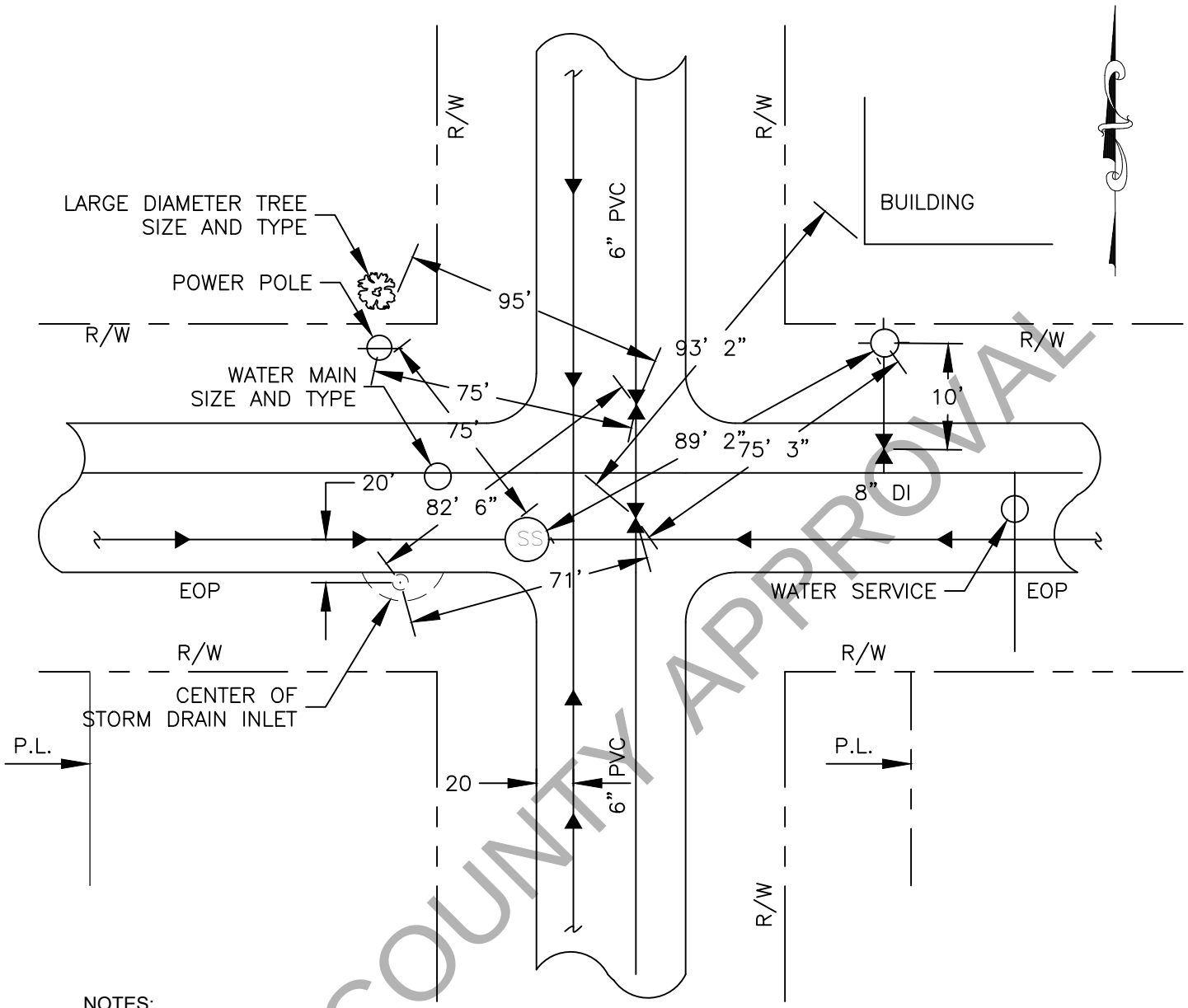
14. ALL VALVE BOXES SHALL BE SET FLUSH AND TO FINISH GRADE UNLESS SPECIFICALLY NOTED.

15. ALL DISTURBED DRIVES SHALL BE CONNECTED TO THE EXISTING PAVEMENT IN A CONDITION EQUAL TO OR BETTER THAN ITS PREVIOUS CONDITION USING THE SAME MATERIALS THAT WERE REMOVED.

16. ALL GRAVITY SEWER LINES SHALL BE VIDEOED WITH A CAMERA UPON COMPLETION OF THE INSTALLATION AND PROVIDED TO COUNTY ENGINEER FOR REVIEW.

17. ALL MANHOLES SHALL BE WATER TIGHT AND SHALL BE SEALED WITH ONE OF THE FOLLOWING TYPES OF LINER SYSTEMS:
    a. SPRAYWALL
    b. HDPE
    c. POLY-TRIPLEX

18. AS-BUILTS SHALL BE PROVIDED BY A PROFESSIONAL LAND SURVEYOR IN ORDER TO ASSURE MINIMUM REQUIRED SLOPE AND THAT THE SYSTEM WAS CONSTRUCTED PROPERLY.



NOTES:

1.) AS-BUILT DRAWINGS WILL BE PREPARED INDICATING LOCATIONS OF ALL SERVICES, LOCATIONS AND TYPES OF ALL FITTINGS, WITH RESPECT TO LOT CORNERS, LOCATIONS OF ALL VALVE AND DEAD END RUNS WITH THREE (3) TIES TO PHYSICAL FEATURES (BUILDING CORNERS, MANHOLES, EXISTING STRUCTURES, POWER POLES, STORM DRAIN INLETS, CENTER OF FIRE HYDRANTS, FACE OF LARGE DIAMETER TREES >18").

2.) AS-BUILT DRAWINGS MUST BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL BEFORE A LETTER OF ACCEPTANCE WILL BE ISSUED OR THE FDEP CLEARANCE FORM IS EXECUTED.

3.) ALL UTILITIES SHALL BE LOCATED BY A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF FLORIDA. FILES SHALL BE SUBMITTED TO THE COUNTY IN DIGITAL FORMAT (DWG, IN STATE PLANE COORDINATES). A PDF SHALL ALSO BE SUBMITTED FOR REFERENCE.

D E T A I L - AS-BUILT REQUIREMENTS

SCALE: N.T.S.

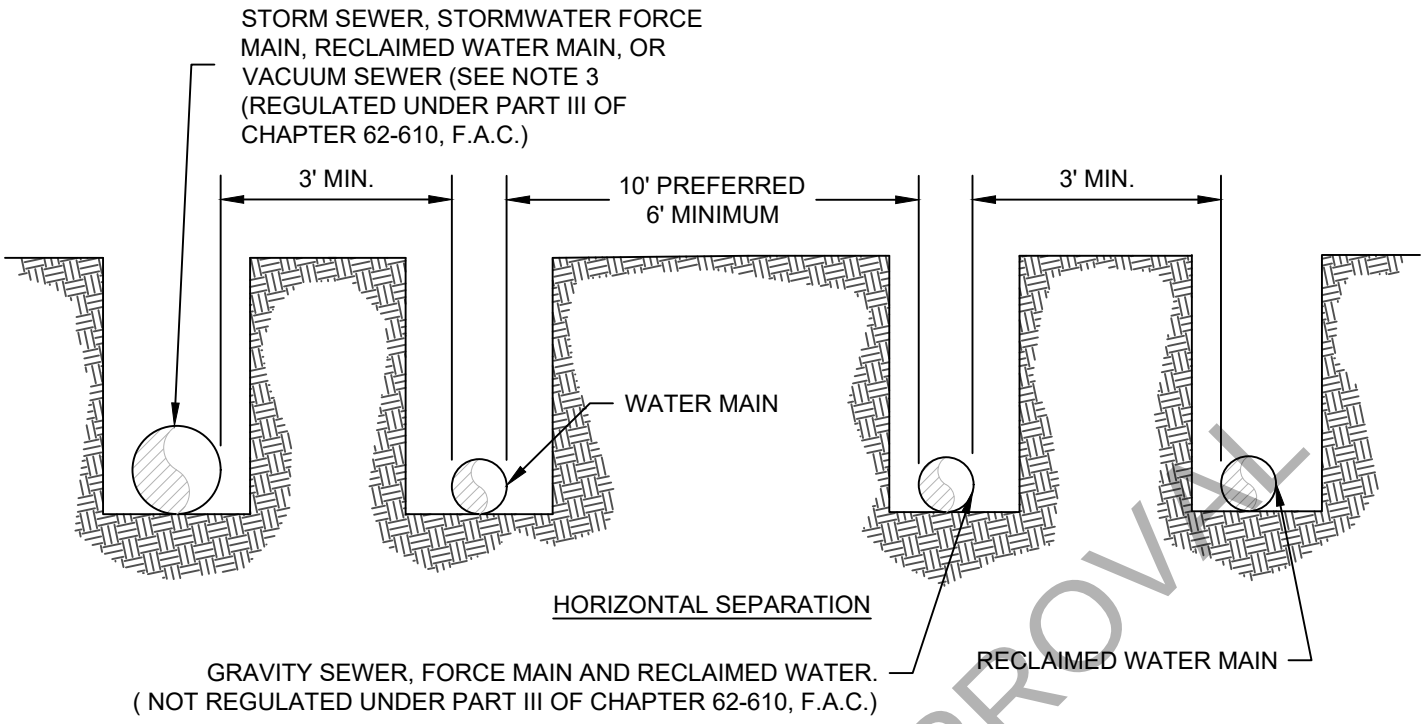
December 10, 2021 (12:54:55 EST)
N:\TEMP\ STANDARDS.DWG

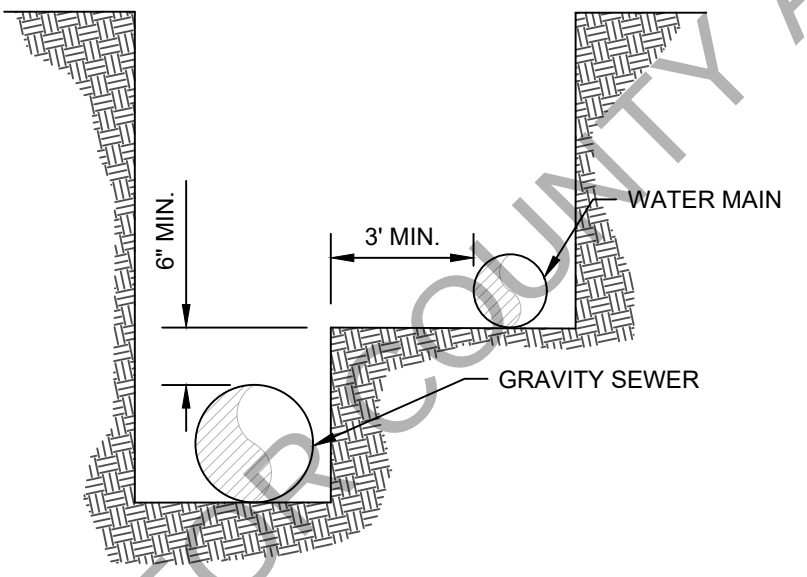
EB# 0008794

Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

AS-BUILT REQUIREMENTS	DATE: 12/2021	PROJECT NO.
WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS WAKULLA COUNTY COMMISSIONERS WAKULLA COUNTY, FLORIDA FLORIDA	SCALE: AS NOTED	50108934
	DRAWN: C.SMITH	SHEET
	CHECKED: J. FORD	4

UTILITY MAINS





ALTERNATIVE HORIZONTAL SEPARATION FOR GRAVITY SEWER

N O T E S :

1.) CONTRACTOR SHALL MAINTAIN "PREFERRED" SEPARATION WHERE CONSTRUCTIBLE.

2.) CONTRACTOR SHALL CONTACT ENGINEER AND OWNER IF CONDITIONS PREVENT MINIMUM HORIZONTAL SEPARATION FROM BEING ACHIEVED PRIOR TO PROCEEDING WITH CONSTRUCTION.

3.) WATER MAIN SEPARATION FROM VACUUM SEWER LINE SHALL BE A MINIMUM OF 3' BUT 10' IS PREFERRED.

D E T A I L - WATER/SEWER HORIZONTAL SEPARATION

SCALE: N.T.S.

December 10, 2021 (12:54:55 EST)
N:\TEMP\STANDARDS.DWG

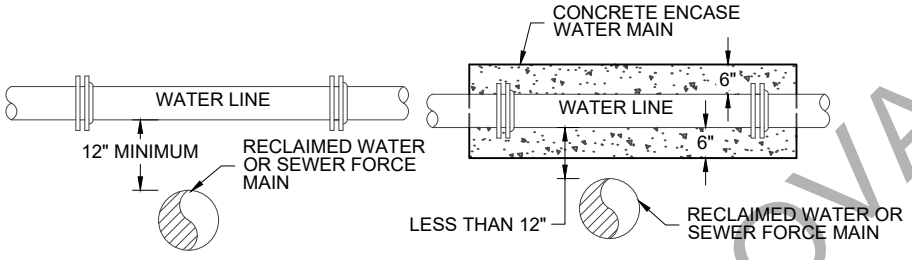
EB# 0008794

Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

WATER & SEWER SEPARATION

WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS
WAKULLA COUNTY COMMISSIONERS
WAKULLA COUNTY, FLORIDA
FLORIDA

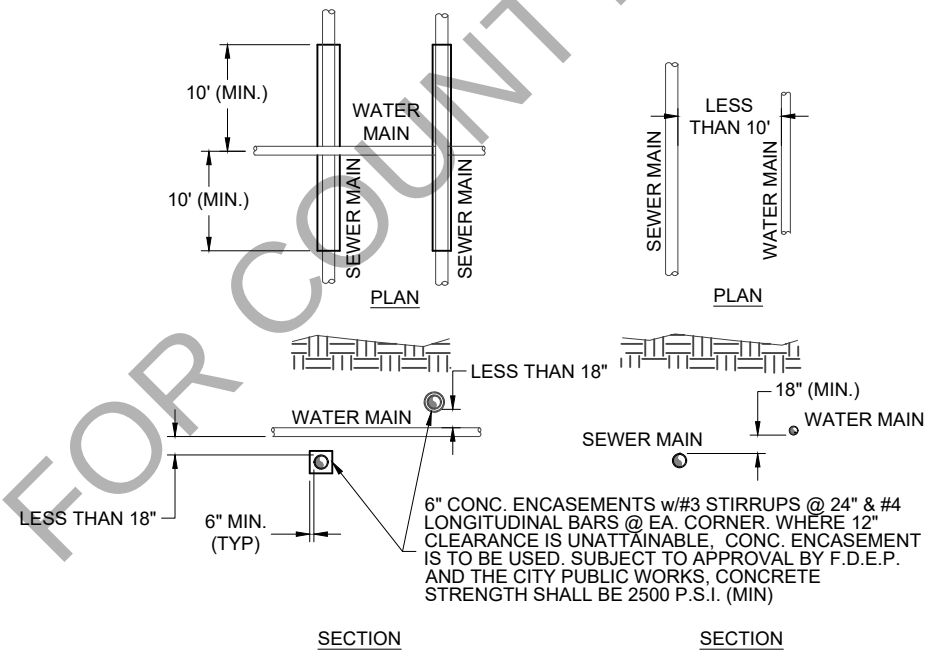
DATE: 12/2021	PROJECT NO. 50108934
SCALE: AS NOTED	
DRAWN: C.SMITH	SHEET 5
CHECKED: J. FORD	



CONCRETE ENCASEMENT

N.T.S.

NOTE: COUNTY SHALL BE NOTIFIED FOR APPROVAL OF CONCRETE ENCASEMENT PRIOR TO CONSTRUCTION.



WATER & SEWER MAIN CROSSING / SEPARATION

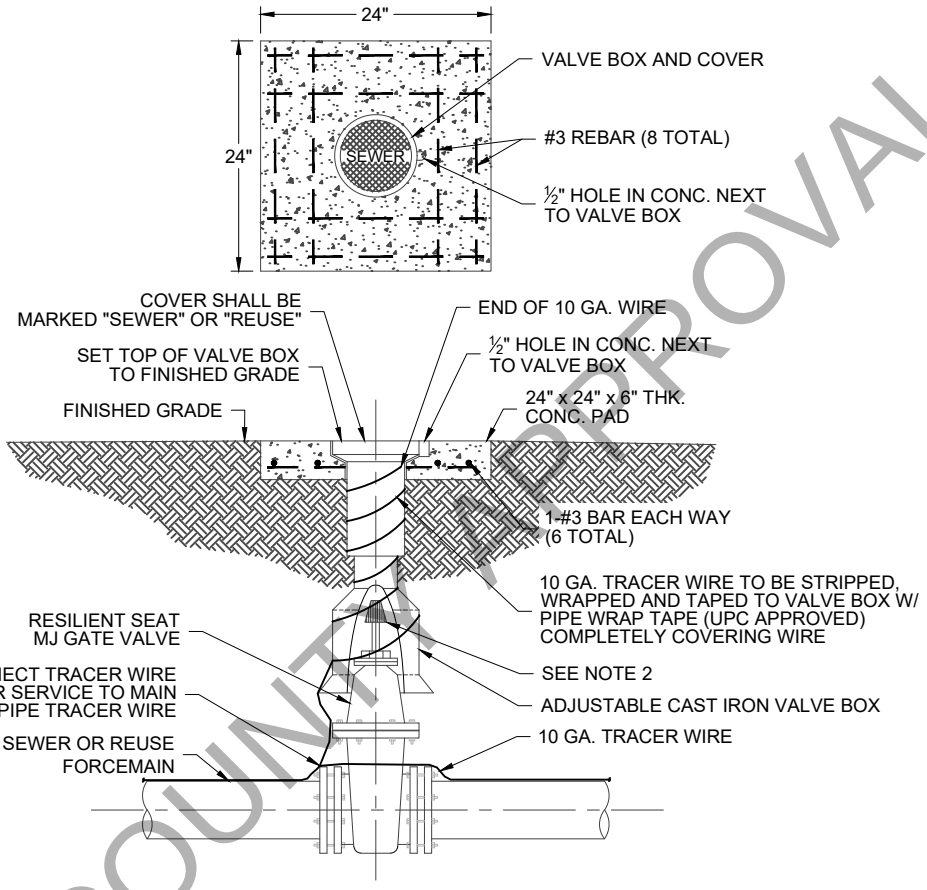
N.T.S.

December 10, 2021 (12:54:55 EST)
N:\TEMP\STANDARDS.DWG

EB# 0008794

Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

WATER & SEWER CROSSING	DATE: 12/2021	PROJECT NO. 50108934
WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS WAKULLA COUNTY COMMISSIONERS WAKULLA COUNTY, FLORIDA FLORIDA	SCALE: AS NOTED DRAWN: C.SMITH CHECKED: J. FORD	SHEET 6



NOTES:
1. PVC EXTENSIONS SHALL NOT BE USED ON VALVE BOX INSTALLATION.
2. THE ACTUATING NUT FOR DEEPER VALVES SHALL BE EXTENDED TO COME UP TO 4 FOOT DEPTH BELOW FINISHED GRADE.

TYPICAL SEWER/REUSE GATE VALVE & VALVE BOX (3" TO 12")

N.T.S.

December 10, 2021 (12:54:55 EST)
N:\TEMP\STANDARDS.DWG

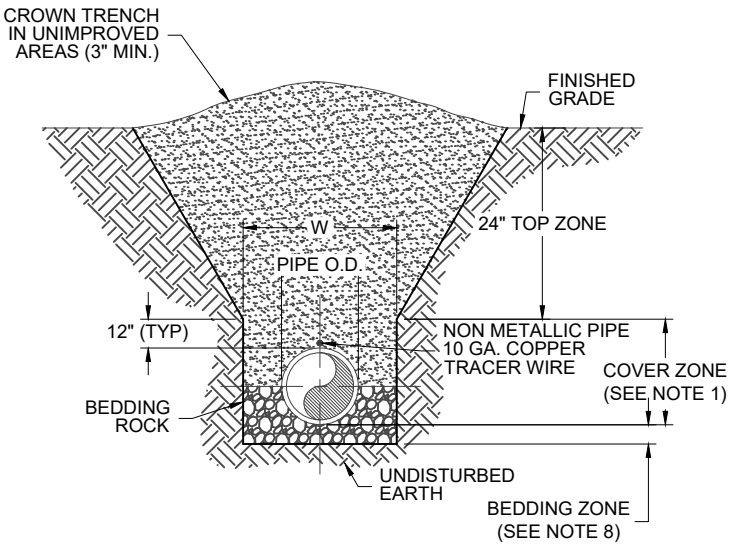
EB# 0008794

Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

TYPICAL SEWER GATE VALVE AND VALVE BOX

WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS
WAKULLA COUNTY COMMISSIONERS
WAKULLA COUNTY, FLORIDA
FLORIDA

DATE: 12/2021	PROJECT NO. 50108934
SCALE: AS NOTED	
DRAWN: C.SMITH	SHEET 7
CHECKED: J. FORD	

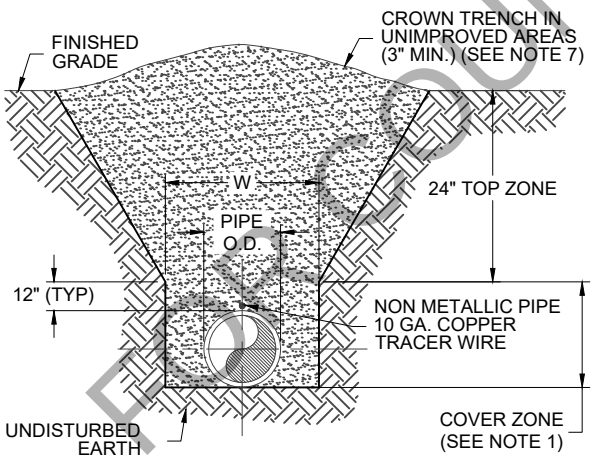


NOTES:

1. W (MAXIMUM TRENCH WIDTH) = PIPE O.D. + 30" FOR LESS THAN 24"Ø
   W (MAXIMUM TRENCH WIDTH) = PIPE O.D. + 48" FOR 24"Ø OR GREATER. DEEP TRENCHES MAY REQUIRE SLOPING SIDES OR TRENCH BOXES FOR STABILITY.
2. LOWEST ZONE - REMOVE SOIL UNSUITABLE FOR BACKFILL TO A DEPTH OF 4" MINIMUM (12" MINIMUM IN ROCK) BELOW BOTTOM OF PIPE. REMOVE MUCK OR OTHER MATERIAL TO A DEPTH NECESSARY TO ESTABLISH A FIRM FOUNDATION. BACKFILL UNDER BEDDING ZONE WITH COARSE SAND OR OTHER SUITABLE GRANULAR MATERIAL. COMPACT TO MATCH DENSITY OF SOIL IN WHICH THE TRENCH WAS CUT.
3. BEDDING ZONE - USE A-1, A-2 OR A-3 MATERIAL (A-4 MAY BE USED w/ RCP). COMPACT TO 100% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99, METHOD C, IN LIFTS NOT TO EXCEED 6 INCHES. WHEN PLACING PIPE, LOOSEN SOIL OR BEDDING MATERIAL IMMEDIATELY BELOW THE MIDDLE THIRD OF THE O.D. OF PIPE, THEN HAND TAMP MATERIAL BELOW HAUNCH THAT CANNOT BE REACHED BY MECHANICAL TAMPING.
4. COVER ZONE - USE A-1, A-2 OR A-3 MATERIAL (A-4 MAY BE USED w/ RCP). COMPACT TO 100% OF MAXIMUM DENSITY FOR R.C.P. OR 95% OF MAXIMUM DENSITY FOR METAL OR PLASTIC PIPE AS DETERMINED BY AASHTO T-99, METHOD C, IN LIFTS NOT TO EXCEED 6 INCHES.
5. TOP ZONE - USE MATERIALS PER F.D.O.T. INDEX 505. COMPACT TO 100% DETERMINED BY AASHTO T-99, METHOD C, IN LIFTS NOT TO EXCEED 12 INCHES OR GREATER.
6. USE TYPE A BEDDING TO BE DETERMINED IN THE FIELD AS DIRECTED BY THE ENGINEER.
7. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW.
8. DEPTH FOR REMOVAL OF UNSUITABLE MATERIAL SHALL GOVERN DEPTH OF SAND, GRAVEL OR CRUSHED STONE BELOW THE PIPE (4" MINIMUM). THE ENGINEER SHALL DETERMINE IN THE FIELD REQUIRED REMOVAL OF UNSUITABLE MATERIAL TO REACH SUITABLE FOUNDATION.

TRENCH BEDDING - UNIMPROVED AREA WITH UNSUITABLE MATERIAL

N.T.S.



NOTES:

1. W (MAXIMUM TRENCH WIDTH) = PIPE O.D. + 30" FOR LESS THAN 24"Ø
   W (MAXIMUM TRENCH WIDTH) = PIPE O.D. + 48" FOR 24"Ø OR GREATER. DEEP TRENCHES MAY REQUIRE SLOPING SIDES OR TRENCH BOXES FOR STABILITY.
2. LOWEST ZONE - REMOVE SOIL UNSUITABLE FOR BACKFILL TO A DEPTH OF 4" MINIMUM (12" MINIMUM IN ROCK) BELOW BOTTOM OF PIPE. REMOVE MUCK OR OTHER MATERIAL TO A DEPTH NECESSARY TO ESTABLISH A FIRM FOUNDATION. BACKFILL UNDER BEDDING ZONE WITH COARSE SAND OR OTHER SUITABLE GRANULAR MATERIAL. COMPACT TO MATCH DENSITY OF SOIL IN WHICH THE TRENCH WAS CUT.
3. BEDDING ZONE - USE A-1, A-2 OR A-3 MATERIAL (A-4 MAY BE USED w/ RCP). COMPACT TO 100% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99, METHOD C, IN LIFTS NOT TO EXCEED 6 INCHES. WHEN PLACING PIPE, LOOSEN SOIL OR BEDDING MATERIAL IMMEDIATELY BELOW THE MIDDLE THIRD OF THE O.D. OF PIPE, THEN HAND TAMP MATERIAL BELOW HAUNCH THAT CANNOT BE REACHED BY MECHANICAL TAMPING.
4. COVER ZONE - USE A-1, A-2 OR A-3 MATERIAL (A-4 MAY BE USED w/ RCP). COMPACT TO 100% OF MAXIMUM DENSITY FOR R.C.P. OR 95% OF MAXIMUM DENSITY FOR METAL OR PLASTIC PIPE AS DETERMINED BY AASHTO T-99, METHOD C, IN LIFTS NOT TO EXCEED 6 INCHES.
5. TOP ZONE - USE MATERIALS PER F.D.O.T. INDEX 505. COMPACT TO 100% DETERMINED BY AASHTO T-99, METHOD C, IN LIFTS NOT TO EXCEED 12 INCHES OR GREATER.
6. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW.
7. FINAL RESTORATION IN IMPROVED AREAS SHALL BE IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS OF GOVERNING AGENCIES. SURFACE RESTORATION WITHIN FDOT, COUNTY RIGHT-OF-WAY SHALL COMPLY WITH REQUIREMENTS OF RIGHT-OF-WAY UTILIZATION REGULATIONS AND ROAD CONSTRUCTION SPECIFICATIONS.

TRENCH BEDDING - UNIMPROVED AREA

N.T.S.

December 10, 2021 (12:54:55 EST)
N:\TEMP\STANDARDS.DWG

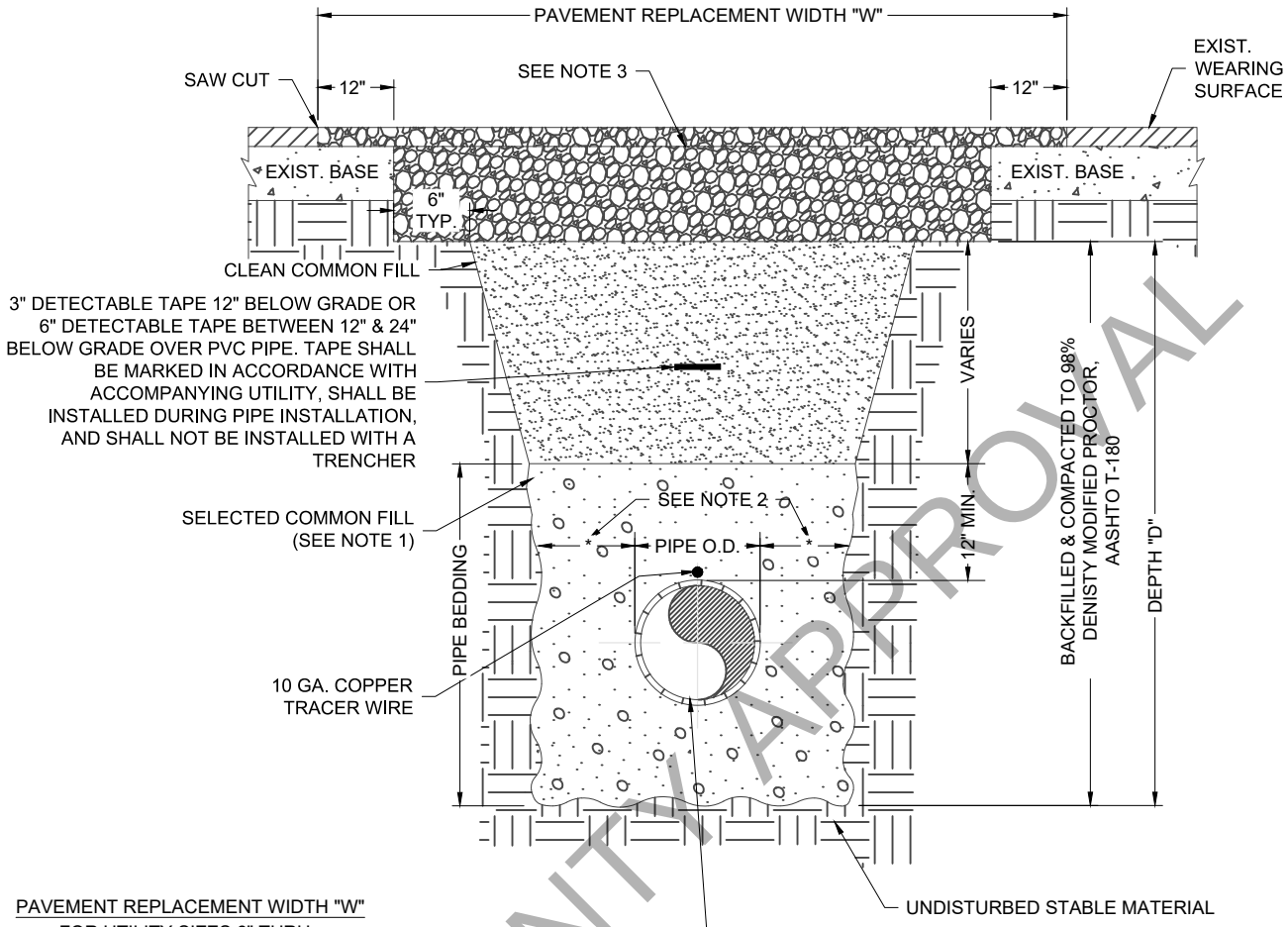
EB# 0008794

Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

TRENCH BEDDING

WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS
WAKULLA COUNTY COMMISSIONERS
WAKULLA COUNTY, FLORIDA
FLORIDA

DATE: 12/2021	PROJECT NO. 50108934
SCALE: AS NOTED	
DRAWN: C.SMITH	SHEET 8
CHECKED: J. FORD	



PIPE SHOWN FOR CLARITY. DETAIL APPLICABLE TO ALL UTILITY AND INFRASTRUCTURE CONSTRUCTION IN ROADWAY.

PAVEMENT REPLACEMENT WIDTH "W"

FOR UTILITY SIZES 6" THRU 22" "W" = 4'-8"+PIPE O.D.+ D

FOR UTILITY SIZES 24" THRU 40" "W" = 5'-0"+PIPE O.D.+ D

THESE WIDTHS ARE FOR PAYMENT PURPOSES ONLY. SAFETY REQUIREMENTS MAY DICTATE INCREASED WIDTHS. WIDTH "W" SHALL NOT BE LESS THAN 10'.

NOTES:

1. USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
2. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
3. BASE SHALL BE 8" MINIMUM THICKNESS LIMEROCK OR EQUIVALENT CRUSHED CONCRETE (LBR 100).
4. TEMPORARY PATCHES WILL BE INSTALLED TO PROVIDE A SMOOTH ALL WEATHER SURFACE AT ALL TIMES. PERMANENT REPLACEMENT SHALL CONFORM TO WAKULLA COUNTY PERMITS AND DETAIL FOR "REMOVAL AND REPLACEMENT OF ASPHALT PAVING".
5. NOTES 3 & 4 ARE MINIMUM REQUIREMENTS. REFER TO F.D.O.T. ROADWAY AND TRAFFIC DESIGN STANDARDS FOR ADDITIONAL REQUIREMENTS.
6. PIPE SHALL HAVE MIN. 36" COVER AS MEASURE FROM CROWN OF PIPE TO FINISHED GRADE OF PAVEMENT.
7. COMPACTION SHALL BE IN LIFTS NO GREATER THAN 6" DEEP. PRECAUTIONS SHALL BE TAKEN TO PREVENT PIPE OR UTILITY FROM LIFTING DURING COMPACTION EFFORTS.

TEMPORARY CUT AND PATCH

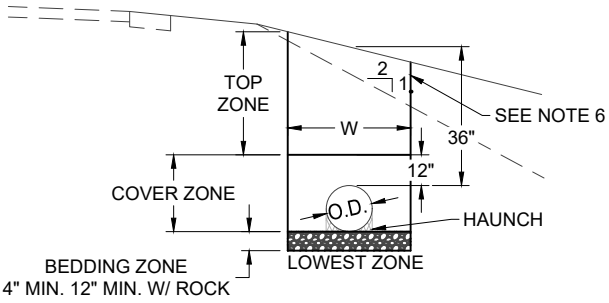
N.T.S.

December 10, 2021 (12:54:55 EST)
N:\TEMP\STANDARDS.DWG

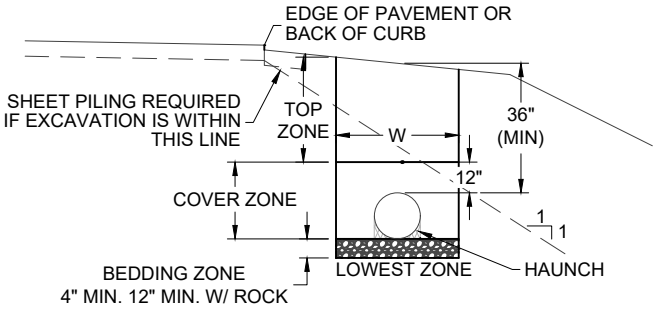
EB# 0008794

Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

TEMPORARY CUT AND PATCH	DATE: 12/2021	PROJECT NO. 50108934
WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS WAKULLA COUNTY COMMISSIONERS WAKULLA COUNTY, FLORIDA FLORIDA	SCALE: AS NOTED	
	DRAWN: C.SMITH	SHEET 9
	CHECKED: J. FORD	



OUTSIDE ROADWAY SHOULDER AREA, UNIMPROVED AREAS, OR AREAS OF NO VEHICULAR TRAFFIC



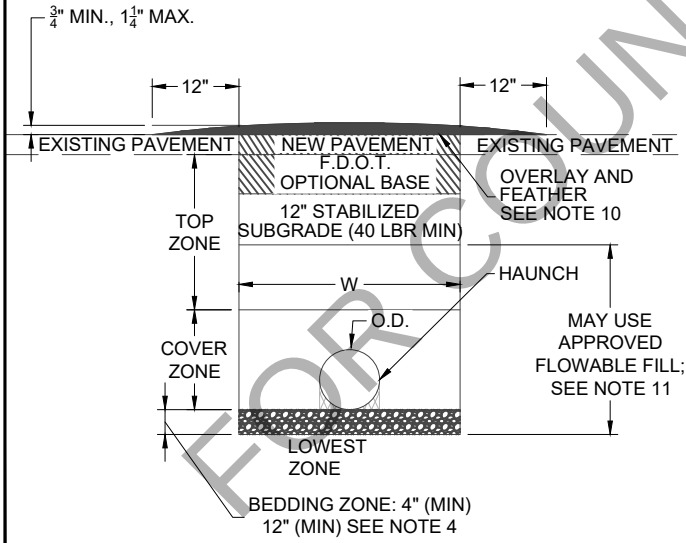
INSIDE ROADWAY SHOULDER AREA

NOTES:

1. W (MAXIMUM TRENCH WIDTH) = PIPE O.D. + 30" FOR LESS THAN 24"Ø
   W (MAXIMUM TRENCH WIDTH) = PIPE O.D. + 48" FOR 24"Ø OR GREATER.
   DEEP TRENCHES MAY REQUIRE SLOPING SIDES OR TRENCH BOXES FOR STABILITY.
2. LOWEST ZONE - REMOVE SOIL UNSUITABLE FOR BACKFILL TO A DEPTH OF 4" MINIMUM (12" MINIMUM IN ROCK) BELOW BOTTOM OF PIPE. REMOVE MUCK OR OTHER MATERIAL TO A DEPTH NECESSARY TO ESTABLISH A FIRM FOUNDATION. BACKFILL UNDER BEDDING ZONE WITH COARSE SAND OR OTHER SUITABLE GRANULAR MATERIAL. COMPACT TO MATCH DENSITY OF SOIL IN WHICH THE TRENCH WAS CUT.
3. BEDDING ZONE - USE A-1, A-2 OR A-3 MATERIAL (A-4 MAY BE USED WITH R.C.P.). COMPACT TO 100% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99, METHOD C, IN LIFTS NOT TO EXCEED 6 INCHES. WHEN PLACING PIPE, LOOSEN SOIL OR BEDDING MATERIAL IMMEDIATELY BELOW THE MIDDLE THIRD OF THE O.D. OF PIPE, THEN HAND TAMP MATERIAL BELOW HAUNCH THAT CANNOT BE REACHED BY MECHANICAL TAMPING.
4. COVER ZONE - USE A-1, A-2 OR A-3 MATERIAL (A-4 MAY BE USED WITH R.C.P.). COMPACT TO 100% OF MAXIMUM DENSITY FOR R.C.P. OR 95% OF MAXIMUM DENSITY FOR METAL OR PLASTIC PIPE AS DETERMINED BY AASHTO T-99, METHOD C, IN LIFTS NOT TO EXCEED 6 INCHES.
5. TOP ZONE - USE MATERIALS PER F.D.O.T. INDEX 505. COMPACT TO 100% DETERMINED BY AASHTO T-99, METHOD C, IN LIFTS NOT TO EXCEED 12 INCHES OR GREATER.
6. IN AREAS OUTSIDE THE PLANE DESCRIBED BY A 1 IN 2 SLOPE DOWNWARD FROM THE EDGE OF SHOULDER OR BACK OF CURB, COMPACT TO FIRMNESS APPROXIMATELY EQUAL TO THAT OF SOIL NEXT TO PIPE TRENCH.
7. COMPACTION REQUIREMENTS FROM F.DO.T. SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SECTION 125.

TRENCHING ALONG ROADWAY REQUIREMENTS

N.T.S.



NOTES:

1. W (MAXIMUM TRENCH WIDTH) = PIPE O.D. + 30" FOR LESS THAN 24"Ø
   W (MAXIMUM TRENCH WIDTH) = PIPE O.D. + 48" FOR 24"Ø OR GREATER.
2. TRENCH BOXES REQUIRED FOR ALL PIPE AND STRUCTURE INSTALLATIONS FOR STABILITY (IN ACCORDANCE TO OSHA).
3. LOWEST ZONE - REMOVE SOIL UNSUITABLE FOR BACKFILL TO A DEPTH OF 4" MINIMUM (12" MINIMUM IN ROCK) BELOW BOTTOM OF PIPE. REMOVE MUCK OR OTHER MATERIAL TO A DEPTH NECESSARY TO ESTABLISH A FIRM FOUNDATION. BACKFILL UNDER BEDDING ZONE WITH COARSE SAND OR OTHER SUITABLE GRANULAR MATERIAL. COMPACT TO MATCH DENSITY OF SOIL IN WHICH THE TRENCH WAS CUT.
4. BEDDING ZONE - USE A-1, A-2 OR A-3 MATERIAL (A-4 MAY BE USED WITH RCP). COMPACT TO 100% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99, METHOD C, IN LIFTS NOT TO EXCEED 6 INCHES. WHEN PLACING PIPE, LOOSEN SOIL OR BEDDING MATERIAL IMMEDIATELY BELOW THE MIDDLE THIRD OF THE O.D. OF PIPE, THEN HAND TAMP MATERIAL BELOW HAUNCH THAT CANNOT BE REACHED BY MECHANICAL TAMPING.
5. COVER ZONE - USE A-1, A-2 OR A-3 MATERIAL (A-4 MAY BE USED WITH RCP). COMPACT TO 100% OF MAXIMUM DENSITY FOR R.C.P. OR 95% OF MAXIMUM DENSITY FOR METAL OR PLASTIC PIPE AS DETERMINED BY AASHTO T-99, METHOD C, IN LIFTS NOT TO EXCEED 6 INCHES.
6. TOP ZONE - USE A-1, A-2, A-3 AND A-4 MATERIAL PER FDOT INDEX 505. COMPACT TO 100% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99, METHOD C, IN LIFTS NOT TO EXCEED 12 INCHES OR GREATER.
7. ONLY UNPRESSURIZED AND SOIL TIGHT PIPE OR WATERTIGHT SANITARY SEWER PIPE ALLOWED UNDER PAVEMENT.
8. COMPACTION REQUIREMENTS FROM FDOT SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SECTION 125.
9. PATCH OVERLAY TO BE FEATHERED TO ORIGINAL PAVEMENT AT A SLOPE OF 1 INCH VERTICAL: 25 FEET HORIZONTAL UNLESS OTHERWISE APPROVED BY ENGINEER.
10. OVERLAY TO COVER ALL TRAVEL LANES UNLESS SEPARATED BY A MEDIAN OR CURB.
11. FLOWABLE FILL MIX DESIGN TO BE IN ACCORDANCE WITH FDOT SPECIFICATION SECTION 121 FOR EXCAVATABLE FILL. MIX DESIGN MUST BE APPROVED BY THE ENGINEER.
12. PIPE SHALL HAVE MIN. 36" COVER AS MEASURED FROM CROWN OF PIPE TO FINISH GRADE OF PAVEMENT

TRENCHING UNDER ROADWAY PAVEMENT AREA

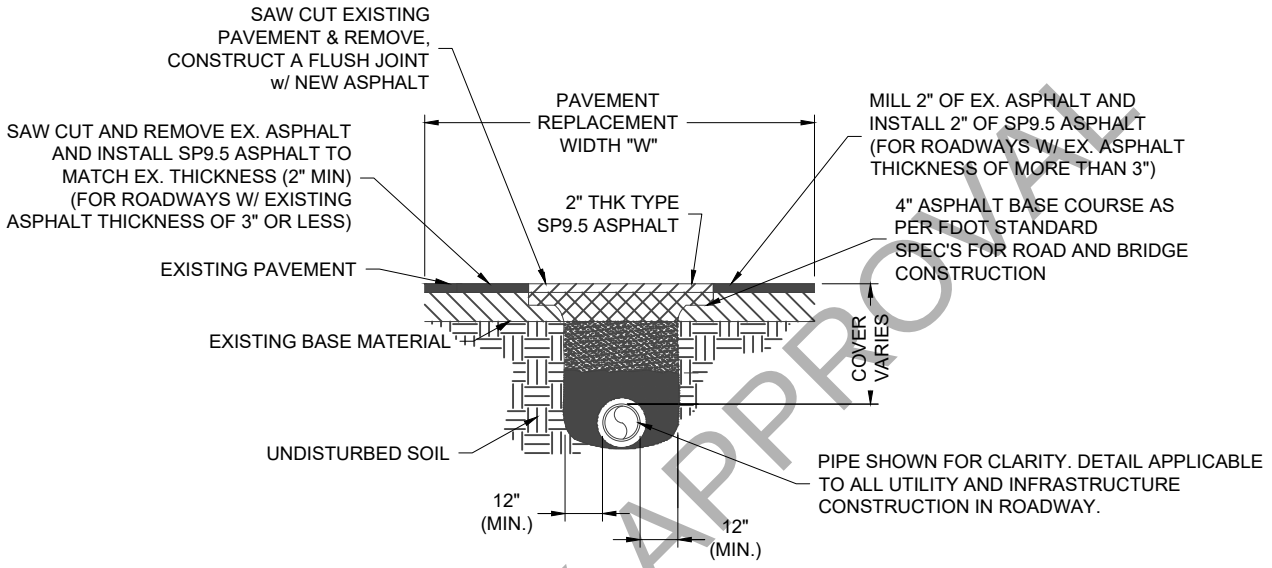
N.T.S.

December 10, 2021 (12:54:55 EST)
N:\TEMP\STANDARDS.DWG

EB# 0008794

Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

TRENCHING DETAILS		
WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS WAKULLA COUNTY COMMISSIONERS WAKULLA COUNTY, FLORIDA FLORIDA	DATE: 12/2021	PROJECT NO. 50108934
	SCALE: AS NOTED	
	DRAWN: C.SMITH	SHEET 10
	CHECKED: J. FORD	



PAVEMENT REPLACEMENT WIDTH "W"

W=2' BEYOND WIDTH OF TRENCH

THESE WIDTHS ARE FOR PAYMENT PURPOSES ONLY. SAFETY REQUIREMENTS MAY DICTATE INCREASED WIDTHS.

NOTES:

1. TRENCH BOXES REQUIRED FOR ALL PIPE AND STRUCTURE INSTALLATIONS FOR STABILITY (IN ACCORDANCE TO OSHA).
2. COMPACTION REQUIREMENTS FROM FDOT SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION SECTION 125.
3. PATCH OVERLAY TO BE FEATHERED TO ORIGINAL PAVEMENT AT A SLOPE OF 1 INCH VERTICAL: 25 FEET HORIZONTAL UNLESS OTHERWISE APPROVED BY COUNTY ENGINEERS.
4. CONTRACTOR SHALL MILL 1" BUTT JOINT FOR 25 FEET AT THE END OF ASPHALT OVERLAY LIMITS AS SHOWN IN THE PLANS.
5. IF CUT FOR UTILITY INTRUDES INTO ANY PORTION OF LANE, PATCH MUST ENCOMPASS ENTIRE LANE WIDTH. NO PATCHES ARE ALLOWED FOR THE PARTIAL WIDTH OF THE LANE.
6. TEMPORARY PATCH SHALL CONFORM TO WAKULLA COUNTY PERMIT REQUIREMENTS AND DETAIL FOR "TEMPORARY CUT AND PATCH".

REMOVAL AND REPLACEMENT OF ASPHALT PAVING

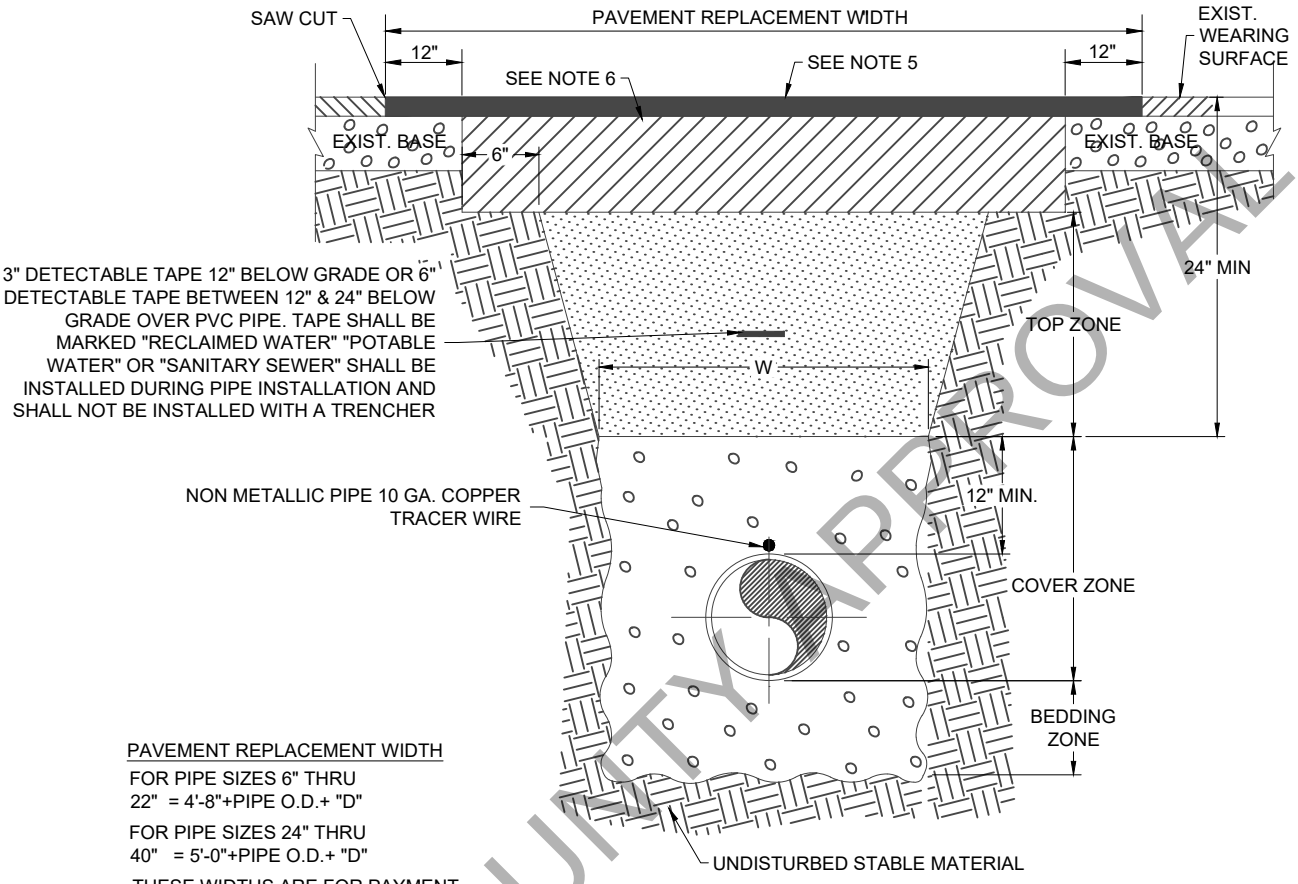
N.T.S.

December 10, 2021 (12:54:55 EST)
N:\TEMP\STANDARDS.DWG

EB# 0008794

Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

REMOVE & REPLACEMENT OF ASPHALT PAVING	DATE: 12/2021	PROJECT NO. 50108934
WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS WAKULLA COUNTY COMMISSIONERS WAKULLA COUNTY, FLORIDA FLORIDA	SCALE: AS NOTED	
	DRAWN: C.SMITH	SHEET 11
	CHECKED: J. FORD	



PAVEMENT REPLACEMENT WIDTH

FOR PIPE SIZES 6" THRU 22" = 4'-8"+PIPE O.D.+ "D"

FOR PIPE SIZES 24" THRU 40" = 5'-0"+PIPE O.D.+ "D"

THESE WIDTHS ARE FOR PAYMENT PURPOSES ONLY. SAFETY REQUIREMENTS MAY DICTATE INCREASED WIDTHS.

NOTES:

1. USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
2. 10" MAX. FOR PIPE DIAMETERS LESS THAN 24"; 12" MAX. FOR PIPE DIAMETER 24" AND LESS THAN 42"; 24" MAX. FOR PIPE DIAMETER 42" AND OVER.
3. 4" MAX. FOR PIPE 16" DIAMETER & LESS; 6" MAX. FOR PIPE 18" TO 36" DIAMETER; AND 9" MAX. FOR PIPE 42" DIAMETER AND LARGER.
4. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
5. WEARING SURFACE TO BE SAME TYPE & THICKNESS (1 1/2" MIN.) AS EXISTING PAVEMENT.
6. BASE SHALL BE 6" MINIMUM THICKNESS LIMEROCK OR EQUIVALENT CRUSHED CONCRETE (LBR 100).
7. BACKFILL AASHTO M-145 SHALL BE PLACED IN LAYERS NOT TO EXCEED 6 INCHES. EACH LAYER SHALL BE THOROUGHLY TAMPED AND/OR ROLLED TO 98% AASHTO T-180 DENSITY.
8. TEMPORARY PATCHES WILL BE INSTALLED TO PROVIDE A SMOOTH ALL WEATHER SURFACE AT ALL TIMES. PERMANENT REPLACEMENT TO BE MADE AS SOON AS POSSIBLE.
9. NOTES 5.) THRU 7.) ARE MINIMUM REQUIREMENTS. REFER TO F.D.O.T. ROADWAY AND TRAFFIC DESIGN STANDARDS FOR ADDITIONAL REQUIREMENTS.

REMOVAL AND REPLACEMENT OF ASPHALT DRIVEWAYS

N.T.S.

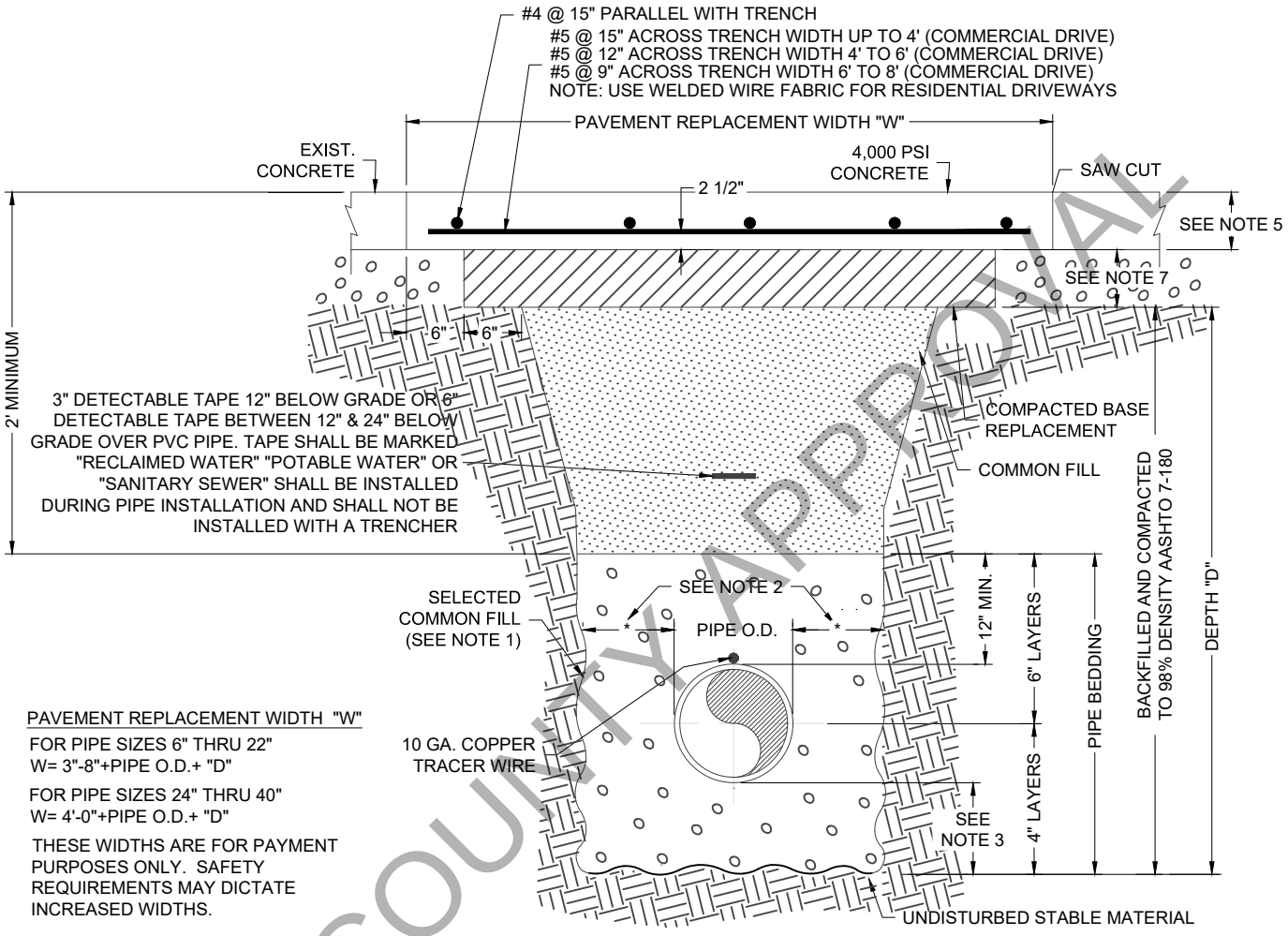
EB# 0008794

Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

REMOVAL AND REPLACEMENT OF ASPHALT DRIVEWAYS

WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS
WAKULLA COUNTY COMMISSIONERS
WAKULLA COUNTY, FLORIDA
FLORIDA

DATE: 12/2021	PROJECT NO. 50108934
SCALE: AS NOTED	
DRAWN: C.SMITH	SHEET 12
CHECKED: J. FORD	



PAVEMENT REPLACEMENT WIDTH "W"

FOR PIPE SIZES 6" THRU 22"
W= 3"-8"+PIPE O.D.+ "D"

FOR PIPE SIZES 24" THRU 40"
W= 4'-0"+PIPE O.D.+ "D"

THESE WIDTHS ARE FOR PAYMENT PURPOSES ONLY. SAFETY REQUIREMENTS MAY DICTATE INCREASED WIDTHS.

NOTES:

1. USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
2. 10" MAX. FOR PIPE DIAMETERS LESS THAN 24"; 12" MAX. FOR PIPE DIAMETER 24" AND LESS THAN 42"; 24" MAX. FOR PIPE DIAMETER 42" AND OVER.
3. 4" MAX. FOR PIPE 16" DIAMETER & LESS; 6" MAX. FOR PIPE 18" TO 36" DIAMETER; AND 9" MAX. FOR PIPE 42" DIAMETER AND LARGER.
4. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
5. THICKNESS TO MATCH EXISTING OR BE 6" MINIMUM, WHICHEVER IS GREATER.
6. EXISTING CONCRETE SHALL BE SAW CUT, REMOVED AND REPLACED TO THE RIGHT OF WAY LINE.
7. BASE SHALL BE 6" MINIMUM THICKNESS LIMEROCK OR CRUSHED CONCRETE BASE WITH PRIME COAT, OR APPROVED EQUAL FOR COMMERCIAL DRIVEWAYS. LIMEROCK OR CRUSHED CONCRETE BASE IS NOT REQUIRED FOR RESIDENTIAL DRIVEWAYS, HOWEVER THE COMPACTION REQUIREMENT MUST BE MET.

REMOVAL AND REPLACEMENT OF CONCRETE

N.T.S.

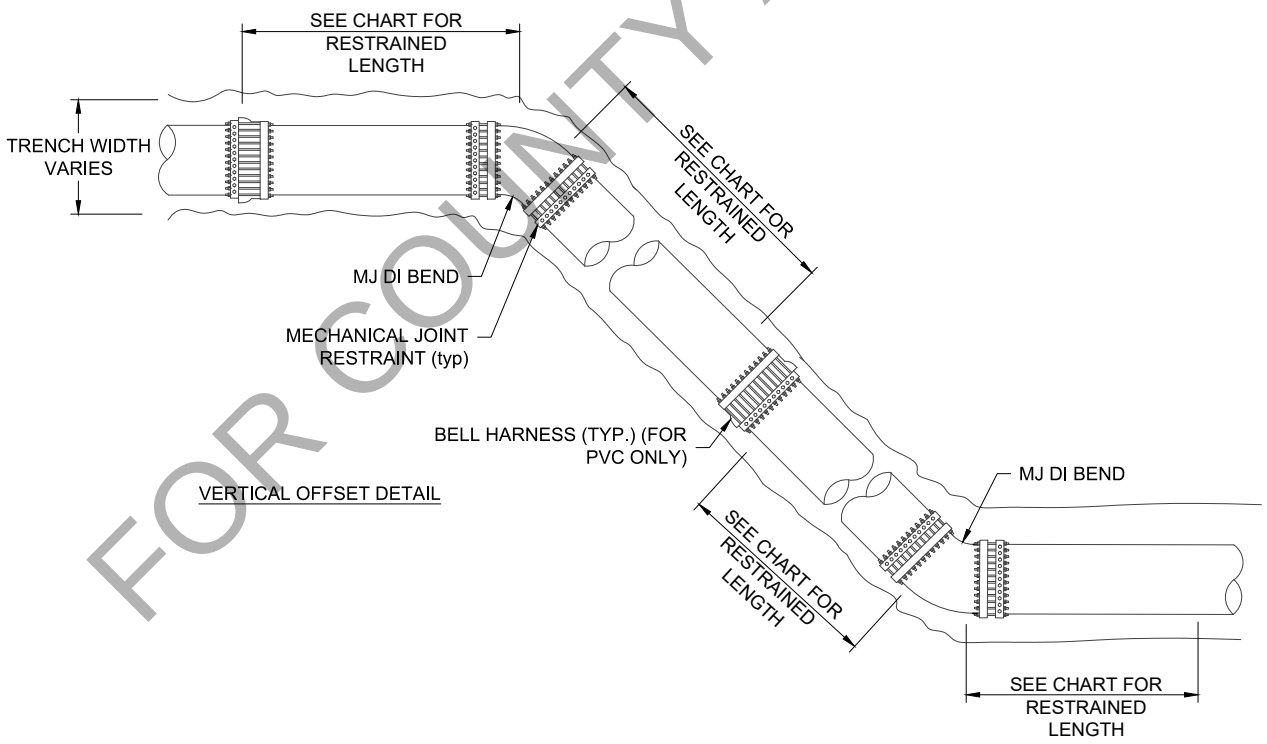
December 10, 2021 (12:54:55 EST)
N:\TEMP\STANDARDS.DWG

EB# 0008794

Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

REMOVAL AND REPLACEMENT OF CONCRETE	DATE: 12/2021	PROJECT NO. 50108934
WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS WAKULLA COUNTY COMMISSIONERS WAKULLA COUNTY, FLORIDA FLORIDA	SCALE: AS NOTED	
	DRAWN: C.SMITH	SHEET 13
	CHECKED: J. FORD	

MAIN PIPE SIZE	HORIZ. BENDS			TEES					REDUCERS			PLUGS
	90°	45°	22.5°	SIZE / LENGTH					SIZE / LENGTH			
48	128	53	26	X48 / 219	X42 / 162	X36 / 106	X30 / 48	X24 / 1	X42 / 75	X36 / 139	X30 / 194	321
42	117	49	24	X42 / 191	X36 / 134	X30 / 74	X24 / 13	X20 / 1	X36 / 75	X30 / 140	X24 / 192	289
36	106	44	21	X36 / 163	X30 / 102	X24 / 39	X20 / 1	X16 / 1	X30 / 78	X24 / 141	X20 / 175	257
30	93	39	19	X30 / 132	X24 / 68	X20 / 22	X16 / 1	X12 / 1	X24 / 78	X20 / 121	X16 / 156	222
24	79	33	16	X24 / 99	X20 / 53	X16 / 3	X12 / 1	X10 / 1	X20 / 56	X16 / 101	X12 / 137	185
20	68	29	14	X20 / 75	X16 / 26	X12 / 1	X10 / 1	X8 / 1	X16 / 56	X12 / 100	X10 / 117	159
16	57	24	12	X16 / 51	X12 / 1	X10 / 1	X8 / 1		X12 / 56	X10 / 78	X8 / 96	131
12	45	19	9	X12 / 35	X10 / 1	X8 / 1	X6 / 1		X10 / 30	X8 / 54	X6 / 74	102
10	39	16	8	X10 / 11	X8 / 1	X6 / 1			X8 / 29	X6 / 53	X4 / 71	87
8	33	14	7	X8 / 1	X6 / 1	X4 / 1			X6 / 31	X4 / 52		72
6	25	11	5	X6 / 1	X4 / 1				X4 / 29			55
4	18	8	4	X4 / 1								39



VERTICAL OFFSET DETAIL

THRUST RESTRAINTS

N.T.S.

December 10, 2021 (12:54:55 EST)
N:\TEMP\STANDARDS.DWG

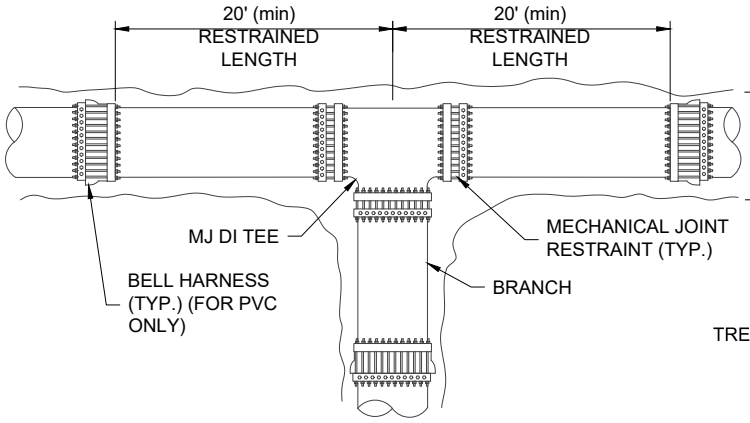
EB# 0008794

Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

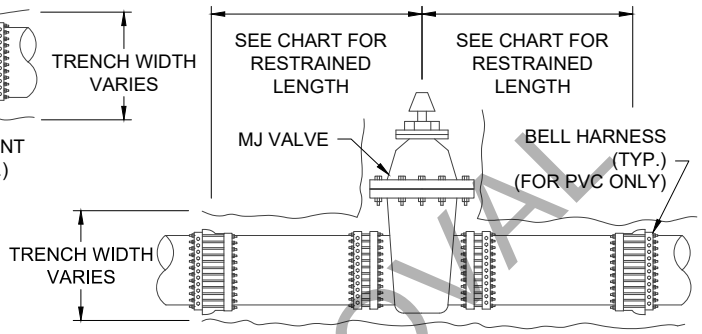
THRUST RESTRAINTS

WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS
WAKULLA COUNTY COMMISSIONERS
WAKULLA COUNTY, FLORIDA
FLORIDA

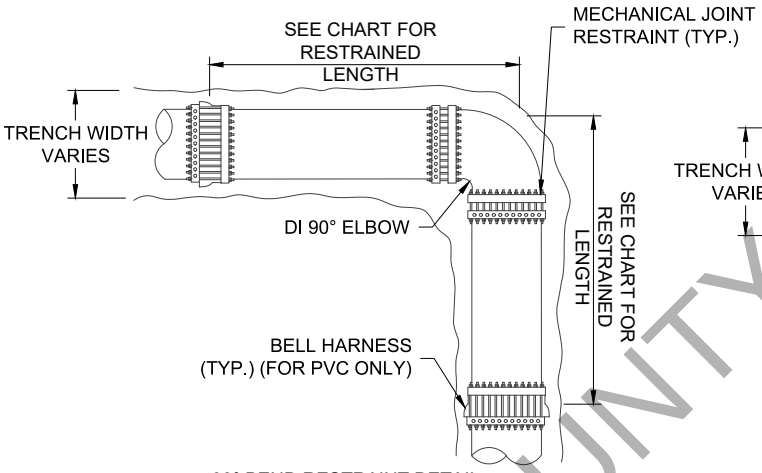
DATE: 12/2021
PROJECT NO. 50108934
SCALE: AS NOTED
DRAWN: C.SMITH
CHECKED: J. FORD
SHEET 14



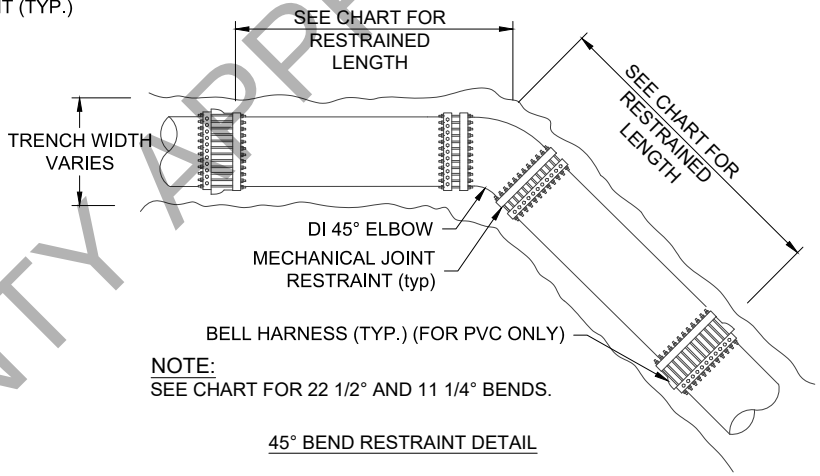
TEE RESTRAINT DETAIL



VALVE RESTRAINT DETAIL



90° BEND RESTRAINT DETAIL



NOTE:
SEE CHART FOR 22 1/2° AND 11 1/4° BENDS.

45° BEND RESTRAINT DETAIL

NOTES:

1. CHART LOCATED ON SHEET 14.
2. RESTRAIN TO NEXT FULL JOINT BEYOND GIVEN LENGTH.
3. RESTRAIN 11.25° BENDS 50% OF LENGTH FOR 22.5° BENDS.
4. ALL VALVES AND FITTINGS SHALL BE RESTRAINED TO THE CONNECTING SECTIONS OF PIPE.
5. ALL VALVES MUST BE PROPERLY ANCHORED OR RESTRAINED TO RESIST A 150 PSI TEST PRESSURE IN EITHER DIRECTION.
6. PIPE SIZES ARE GIVEN IN INCHES.
7. PIPE LENGTHS ARE GIVEN IN FEET.
8. LENGTHS SHOWN ARE FOR A TEST PRESSURE OF 150 PSI.
9. RESTRAIN LENGTHS ARE TO BE USED FOR SEWER.
10. THE RESTRAINED LENGTHS SHOWN IN THESE TABLES ARE BASED ON THE USE OF LIGHTLY COMPACTED CLEAN SAND WITH AT LEAST A 95% COARSE PARTICLE CONTENT. ACTUAL SOIL CONDITIONS MUST BE DETERMINED BY THE ENGINEER OF RECORD AND THE RESTRAINED LENGTHS MODIFIED ACCORDINGLY. SAFETY FACTOR OF 1.5:1 TO BE CALCULATED WITH A "SM" SOIL TYPE AND TRENCH TYPE "3".
11. CONCRETE THRUST BLOCKS SHALL NOT BE USED, NO EXCEPTIONS.
12. ALL FITTINGS AND RESTRAINED JOINTS MUST BE VISUALLY INSPECTED AND APPROVED BY THE ENGINEER BEFORE COVERED.
13. ALL DIRECTIONAL BORES SHALL BE RESTRAINED A MINIMUM OF 40'.
14. ALL 45° AND 22 $\frac{1}{2}$° COMBINATION BENDS AND 22 $\frac{1}{2}$° AND 11 $\frac{1}{4}$° COMBINATION BENDS SHALL BE TREATED AS 90° BENDS AND 45% BENDS, RESPECTIVELY, FOR RESTRAINED LENGTHS.

THRUST RESTRAINTS

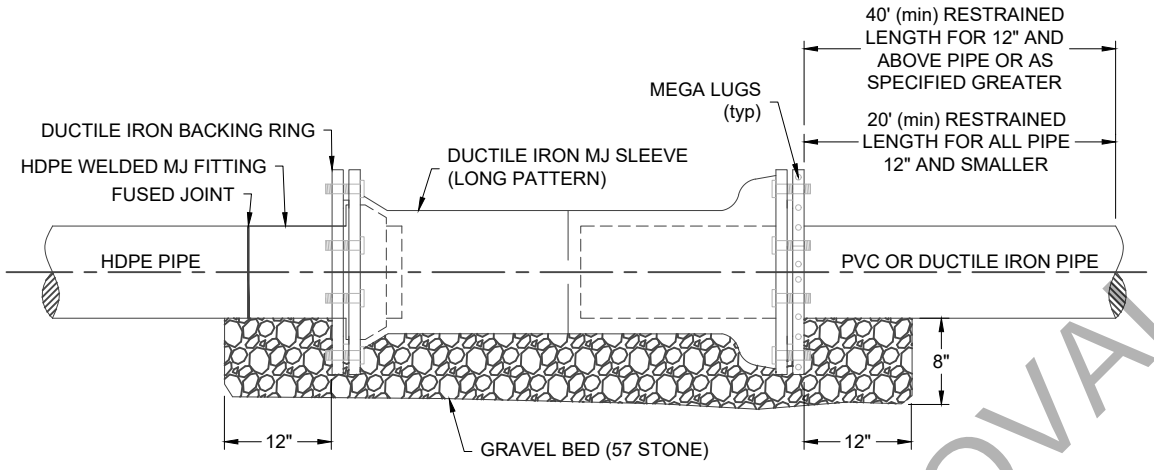
N.T.S.

December 10, 2021 (12:54:55 EST)
N:\TEMP\STANDARDS.DWG

EB# 0008794

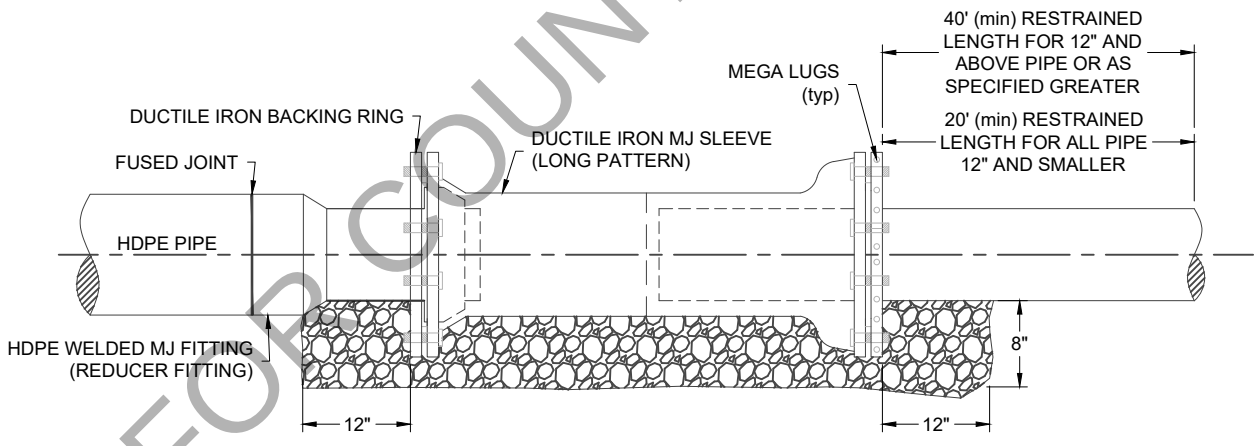
Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

THRUST RESTRAINTS	DATE: 12/2021	PROJECT NO. 50108934
WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS WAKULLA COUNTY COMMISSIONERS WAKULLA COUNTY, FLORIDA FLORIDA	SCALE: AS NOTED	
	DRAWN: C.SMITH	SHEET 15
	CHECKED: J. FORD	



HDPE TRANSITION CONNECTION

N.T.S.



HDPE REDUCING TRANSITION CONNECTION

N.T.S.

December 10, 2021 (12:54:55 EST)
N:\TEMP\STANDARDS.DWG

EB# 0008794

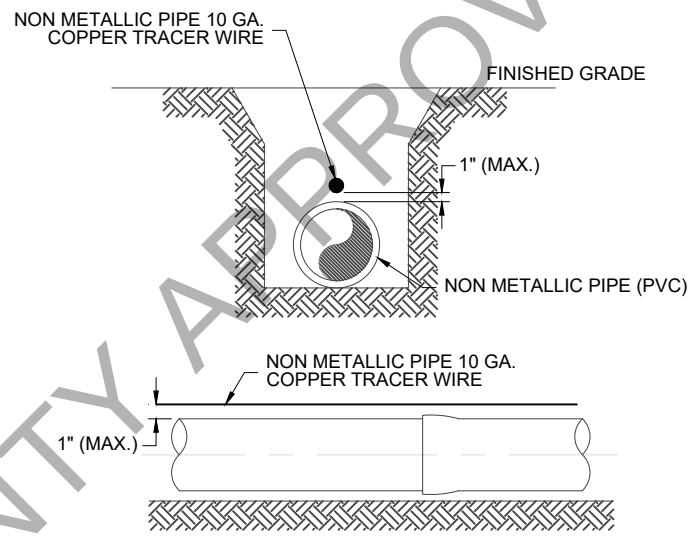
Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

HDPE CONNECTIONS

WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS
WAKULLA COUNTY COMMISSIONERS
WAKULLA COUNTY, FLORIDA
FLORIDA

DATE: 12/2021	PROJECT NO. 50108934
SCALE: AS NOTED	
DRAWN: C.SMITH	SHEET 16
CHECKED: J. FORD	

NOTES:
1. PVC PIPE SHALL REQUIRE INSULATED METALLIC LOCATING WIRE (10 GAUGE COPPER) CAPABLE OF DETECTION BY A CABLE LOCATOR AND SHALL BE BURIED DIRECTLY ABOVE THE CENTERLINE OF THE PIPE.
2. LOCATING WIRE SHALL TERMINATE AT THE TOP OF EACH VALVE BOX PER DETAIL AND BE CAPABLE OF EXTENDING 12" ABOVE TOP OF BOX IN SUCH A MANNER SO AS NOT TO INTERFERE WITH VALVE OPERATION.
3. USE DUCT TAPE AS NECESSARY TO HOLD WIRE ON THE TOP OF THE PIPE.
4. ALL SPLICES SHALL BE MADE USING A WATER-TIGHT SEALING METHOD APPROVED BY THE ENGINEER.
5. PIPE SHALL NOT BE WRAPPED WITH WIRE.



PVC PIPE LOCATING WIRE DETAIL

N.T.S.

December 10, 2021 (12:54:55 EST)
N:\TEMP\STANDARDS.DWG

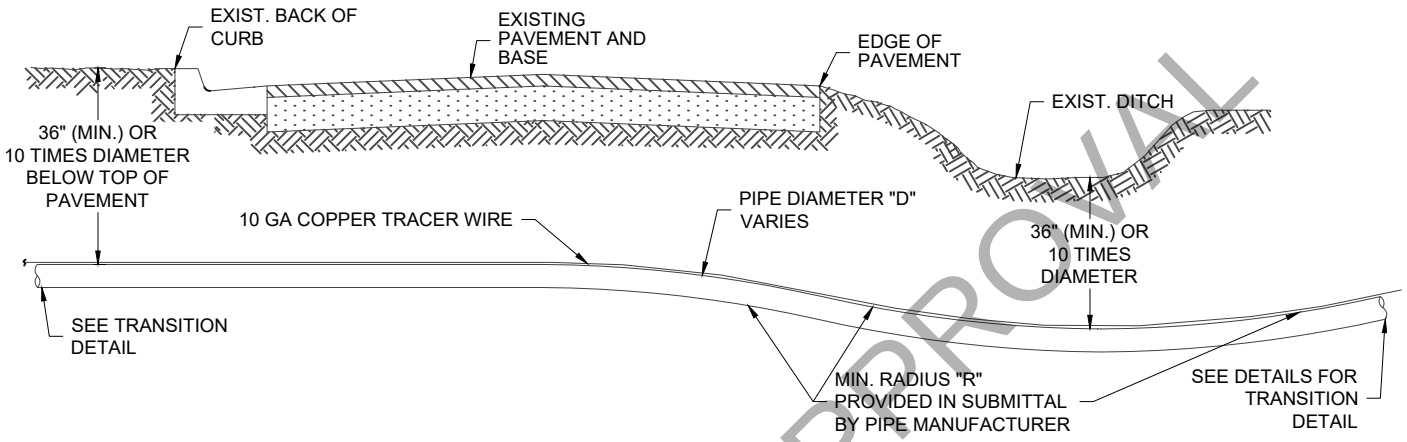
EB# 0008794

Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

PVC LOCATING WIRE DETAIL

WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS
WAKULLA COUNTY COMMISSIONERS
WAKULLA COUNTY, FLORIDA
FLORIDA

DATE: 12/2021	PROJECT NO. 50108934
SCALE: AS NOTED	
DRAWN: C.SMITH	SHEET 17
CHECKED: J. FORD	



NOTES:

1. ALL POLYETHYLENE PIPING SHALL MEET COUNTY STANDARDS AND SPECIFICATIONS.
2. HDPE SHALL BE A MINIMUM OF SDR 11, CLASS 160
3. THE COLOR CODING SHALL MEETING REQUIREMENTS IN ACCORDANCE WITH SUBPARAGRAPH 62-555.320 (21)(B) 3 F.A.C. AND SHALL BE CO-EXTRUDED DURING PIPE MANUFACTURING.
4. ALL HDPE PIPE MUST BE IPS, NO CTS IS ALLOWED.
5. ALL DIRECTIONAL BORES SHALL BE A MINIMUM OF 36 INCHES OR 10-TIMES THE REAMER DIAMETER UNDER ALL ROADWAYS AND START AND TERMINATE A MINIMUM OF 6 FEET OFF THE EDGE OF PAVEMENT.
6. CONTRACTOR SHALL PROVIDE A DETAILED "AS-BUILT" PROFILE OF ALL DIRECTIONAL BORE AND JACK AND BORE LOCATION OF ACTUAL PIPE ELEVATIONS AT 10 FOOT INTERVALS ON AS-BUILT PLAN SHEETS.

DIRECTIONAL BORE ROADWAY CROSSING

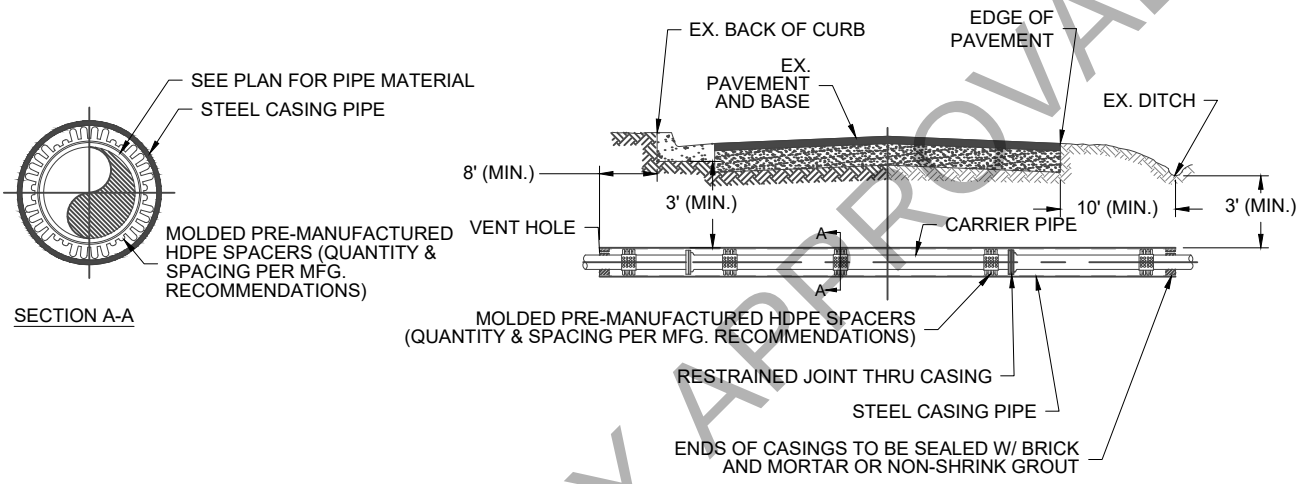
N.T.S.

December 10, 2021 (12:54:55 EST)
N:\TEMP\STANDARDS.DWG

EB# 0008794

Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

DIRECTIONAL BORE ROADWAY CROSSING		
WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS WAKULLA COUNTY COMMISSIONERS WAKULLA COUNTY, FLORIDA FLORIDA	DATE: 12/2021 SCALE: AS NOTED DRAWN: C.SMITH CHECKED: J. FORD	PROJECT NO. 50108934 SHEET 18



NOTES:

1. WHEN CONSTRUCTION IS WITHIN FDOT JURISDICTION, ADDITIONAL REQUIREMENTS OF THE UTILITY ACCOMMODATION GUIDE BE MET.
2. WHERE PRACTICAL, CASING SHALL EXTEND 10' BEYOND EDGE OF PAVEMENT AND SHALL NOT BE LESS THAN 6' BEYOND EDGE OF PAVEMENT IN ANY CASE. THE COUNTY MAY REQUIRE LONGER CASING FOR DEEPER BORES.
3. CASING PIPE JOINTS SHALL BE MADE BY USING A FULL CIRCUMFERENCE COMPLETE PENETRATION GROOVE WELD.
4. CASING SHALL HAVE 36" OF COVER BELOW ALL DITCH BOTTOMS.

CARRIER & CASING SIZE										
CARRIER	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"
CASING	12"	14"	16"	18"	20"	24"	30"	30"	30"	36"
CASING / WALL THICKNESS (MIN.)	0.250"	0.250"	0.250"	0.250"	0.250"	0.250"	0.312"	0.312"	0.312"	0.375"

JACK & BORE UNDER PAVED ROADS

N.T.S.

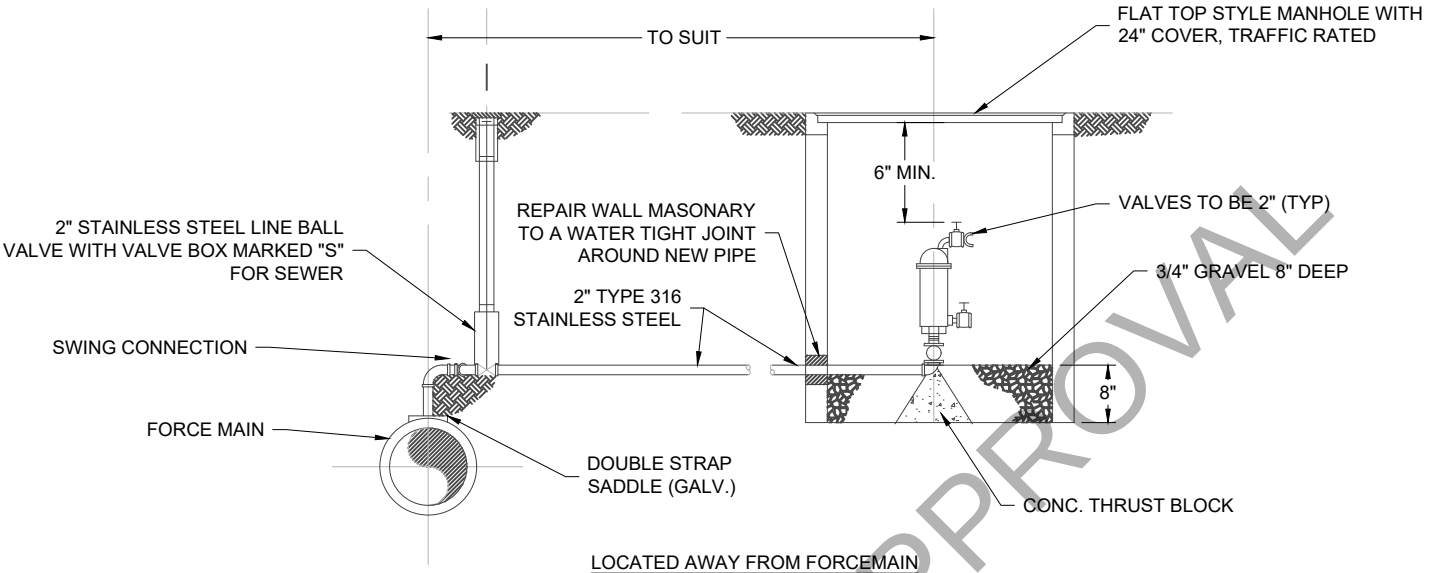
EB# 0008794

Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

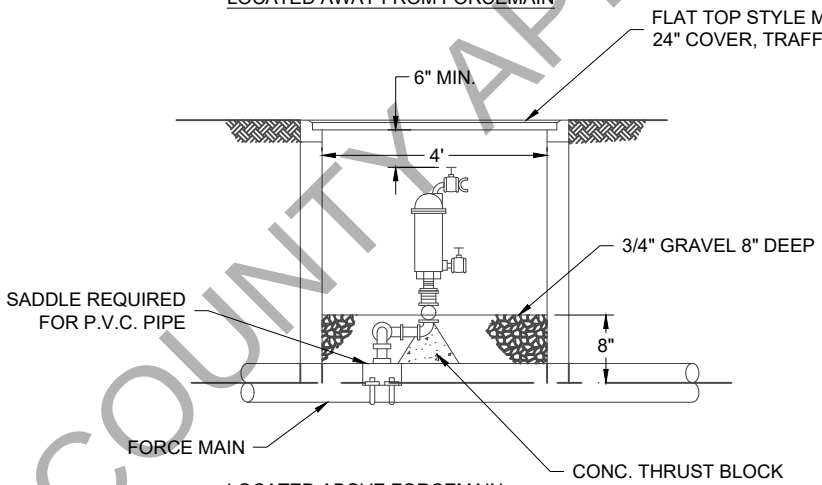
JACK & BORE UNDER PAVED ROADS

WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS
WAKULLA COUNTY COMMISSIONERS
WAKULLA COUNTY, FLORIDA
FLORIDA

DATE: 12/2021	PROJECT NO. 50108934
SCALE: AS NOTED	
DRAWN: C.SMITH	SHEET 19
CHECKED: J. FORD	



LOCATED AWAY FROM FORCEMAIN



LOCATED ABOVE FORCEMAIN

NOTES:

1. AIR/VACUUM MANHOLE SHALL CONFORM TO SAME STANDARDS AS GRAVITY SEWER MANHOLE.
2. MANHOLE TO BE LOCATED OUT OF PAVED AREAS. SET TOP FLUSH IF OCCURS IN SIDEWALK OR 1 1/2" ABOVE GROUND IF IN DIRT OR GRASS AREAS IN AREAS NOT SUBJECT TO VEHICULAR TRAFFIC.
3. COMBINATION AIR & VACUUM VALVE ASSEMBLY SHALL BE BERMAD C50 OR APPROVED EQUAL WITH STAINLESS STEEL TAP AND ISOLATION BALL VALVE.
4. AIR/VACUUM VALVE SHALL BE CENTERED IN MANHOLE.

AIR VACUUM VALVES

N.T.S.

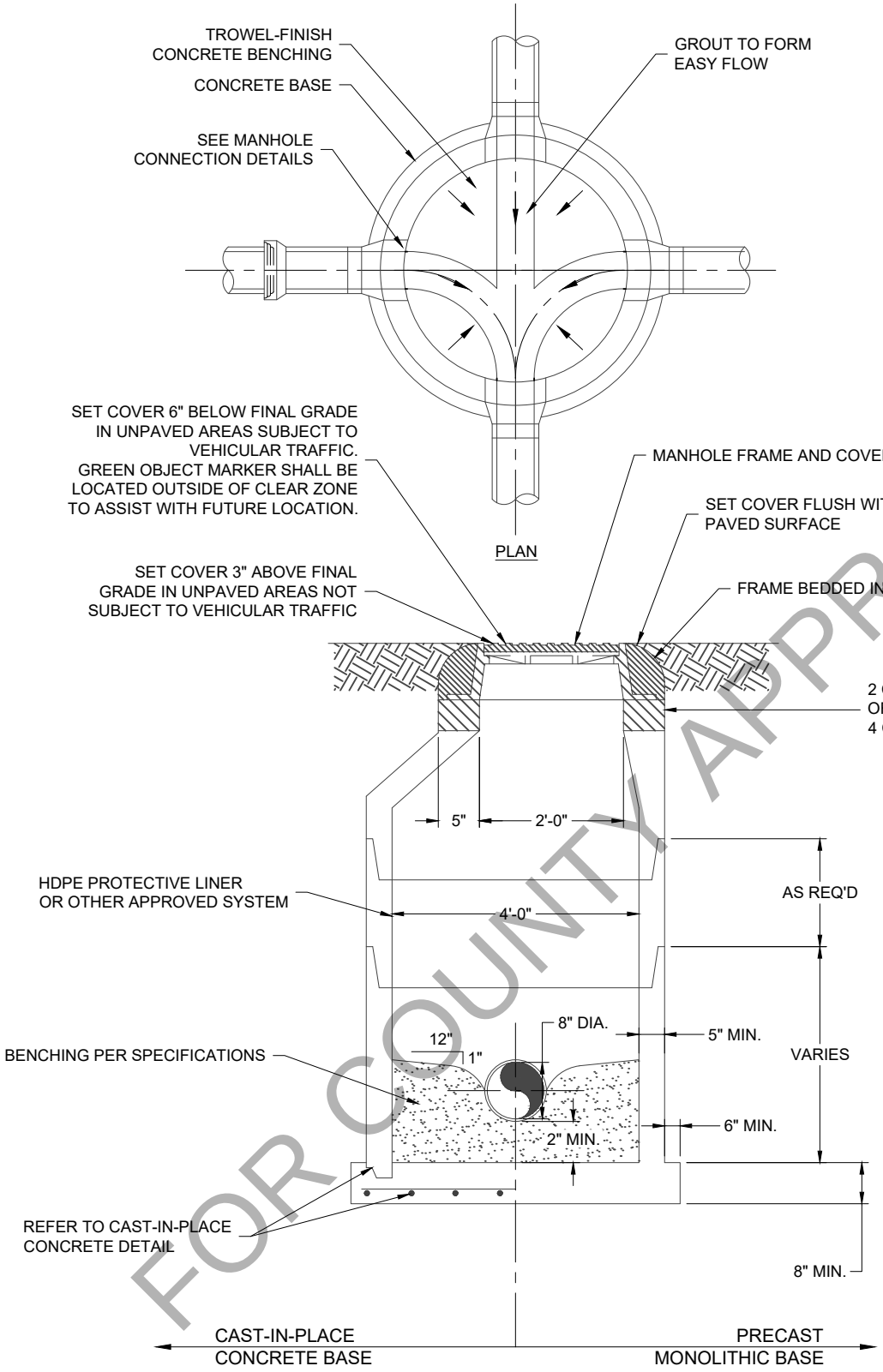
December 10, 2021 (12:54:55 EST)
N:\TEMP\STANDARDS.DWG

EB# 0008794

Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

AIR VACUUM VALVES		
WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS WAKULLA COUNTY COMMISSIONERS WAKULLA COUNTY, FLORIDA FLORIDA	DATE: 12/2021 SCALE: AS NOTED DRAWN: C.SMITH CHECKED: J. FORD	PROJECT NO. 50108934 SHEET 20

GRAVITY SEWER



NOTES:

1. MANHOLE SHOWN IS FOR SEWER SIZE 8" THRU 18", MANHOLE DIAMETER FOR SEWERS GREATER THAN 18" SHALL BE AS APPROVED BY COUNTY'S ENGINEERS.
2. DROP CONNECTIONS ARE REQUIRED WHENEVER INVERT OF INFLUENT SEWER IS 24" OR MORE ABOVE THE INVERT OF THE MANHOLE. SEE TYPICAL MANHOLE DROP PIPE CONNECTION.
3. APPROVED CONCENTRIC CONE DESIGN MAY BE USED AS AN ALTERNATIVE.
4. THE INTERIOR OF ALL MANHOLES SHALL BE HDPE LINED OR OTHER APPROVED SYSTEM.
5. THE EXTERIOR OF ALL MANHOLES SHALL BE COATED WITH COAL TAR. (2 COATS, 9 MILS EACH)
6. PIPE SHALL NOT BE INSTALLED IN CONSTRUCTION JOINT OF A MANHOLE.
7. MANHOLES SHALL BE LOCATED AND CONSTRUCTED IN A MANNER THAT PROTECTS THEM FROM INFLOW AND INFILTRATION.

STANDARD SANITARY SEWER MANHOLE

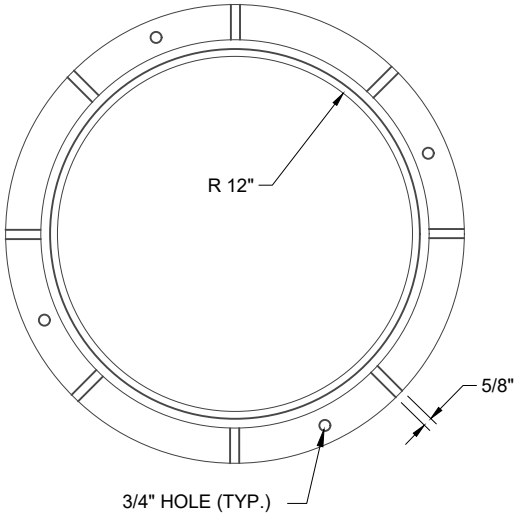
N.T.S.

December 10, 2021 (12:54:55 EST)
N:\TEMP\STANDARDS.DWG

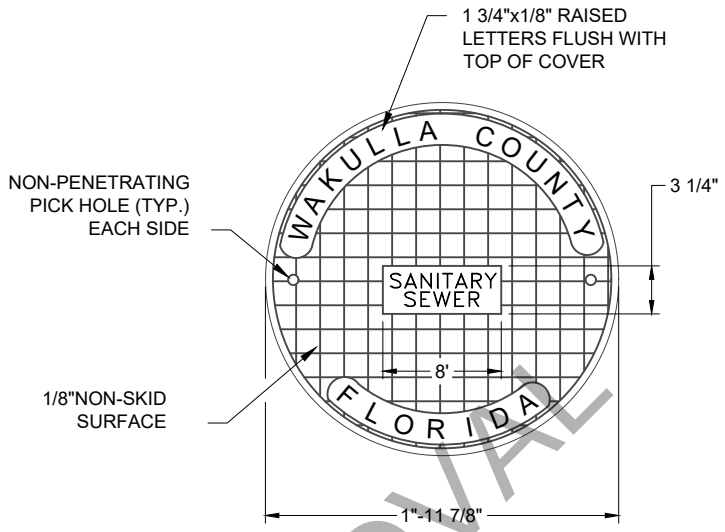
EB# 0008794

Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

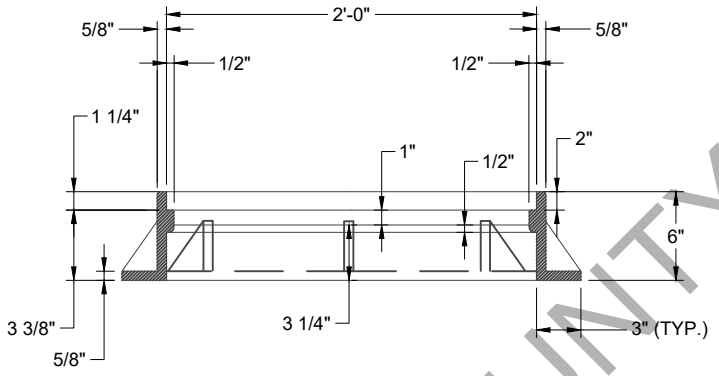
STANDARD SANITARY SEWER MANHOLE		
WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS WAKULLA COUNTY COMMISSIONERS WAKULLA COUNTY, FLORIDA FLORIDA	DATE: 12/2021	PROJECT NO. 50108934
	SCALE: AS NOTED	
	DRAWN: C.SMITH	SHEET 21
	CHECKED: J. FORD	



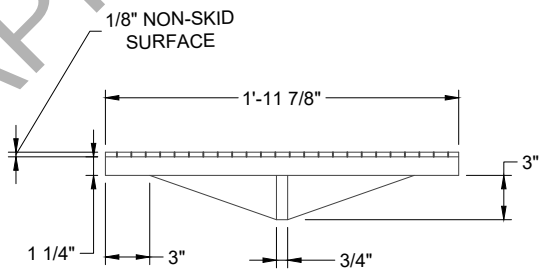
PLAN



PLAN



SECTION



SECTION

NOTE: MANHOLE FRAME AND COVER SHALL BE US FOUNDRY E-170 OR EQUIVALENT

NOTES:

1. PRECAST MANHOLE SECTIONS AND GRADE RINGS SHALL BE MANUFACTURED IN ACCORDANCE WITH THE LATEST EDITION OF ASTM SPECIFICATIONS C-478 AND C-76 WITH 4000 P.S.I. CONCRETE, TYPE II CEMENT. STANDARD WALL THICKNESS SHALL BE 5" WITH A SINGLE LAYER OF 6 X 6, 4/4 WELDED WIRE FABRIC (0.192" WIRE DIA.) FOR ALL MANHOLES.
2. CONCRETE TOP SLABS, WHERE REQUIRED, SHALL BE CAPABLE OF SUPPORTING THE OVERBURDEN PLUS A LIVE LOAD EQUIVALENT TO AASHTO H-20 LOADING.
3. PRE-MOULDED POLYURETHANE COMPRESSION JOINTS ON ALL INFLUENT AND EFFLUENT ADAPTERS MEET OR EXCEED ASTM. SPECIFICATIONS C-425.
4. ALIGN TOP OPENING WITH CENTER LINE OF EFFLUENT LINE FROM MANHOLE.
5. ALIGN STEPS VERTICALLY OVER CENTER LINE OF EFFLUENT LINE FROM MANHOLE.
6. MANHOLE STEPS SHALL BE DRIVEN INTO PRECAST 3 5/8" DEEP, TAPERED HOLE, 16" ON CENTER VERTICALLY.
7. MANHOLE COVER LIFT HOLES SHALL BE A MAXIMUM OF 3 1/2 DEEP.
8. MANHOLE FRAME AND COVER SHALL BE U.S. FOUNDRY E-170 OR TYPE E "O" RING GASKET OR EQUIVALENT

STANDARD MANHOLE FRAME & COVER

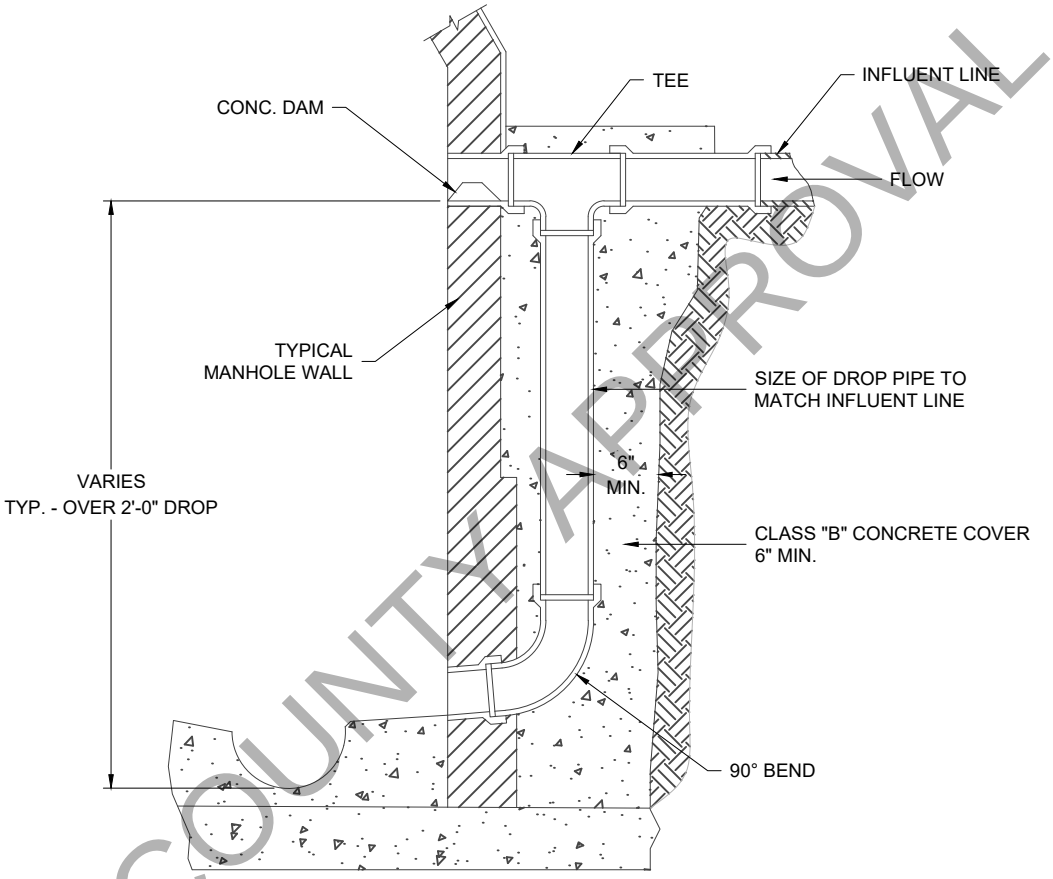
N.T.S.

December 10, 2021 (12:54:55 EST)
N:\TEMP\STANDARDS.DWG

EB# 0008794

Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

STANDARD MANHOLE FRAME AND COVER	DATE: 12/2021	PROJECT NO. 50108934
WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS WAKULLA COUNTY COMMISSIONERS WAKULLA COUNTY, FLORIDA FLORIDA	SCALE: AS NOTED	
	DRAWN: C.SMITH	SHEET 22
	CHECKED: J. FORD	



TYPICAL MANHOLE DROP PIPE CONNECTION (DROP MANHOLE)

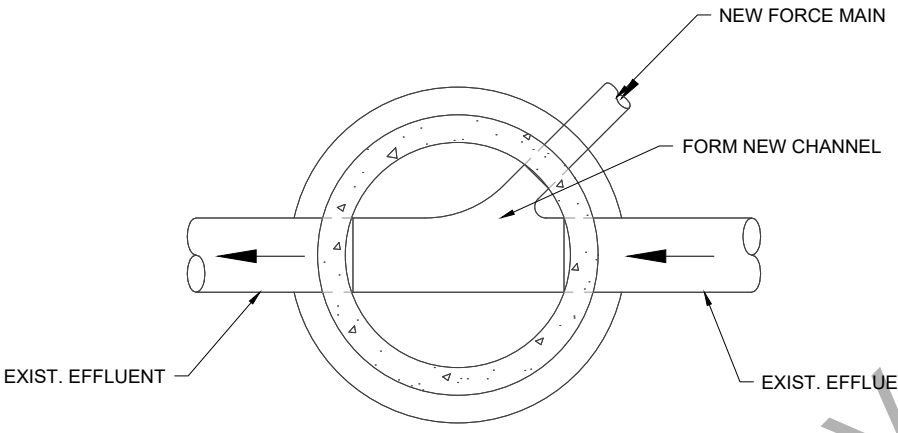
N.T.S.

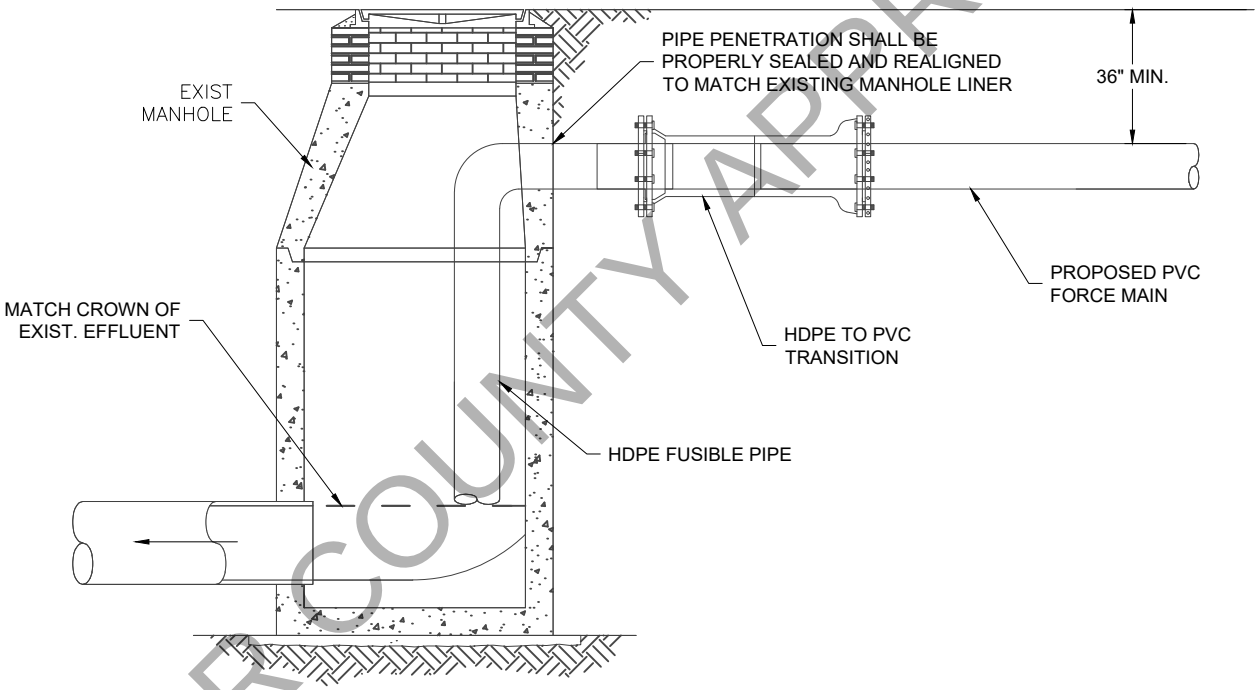
December 10, 2021 (12:54:55 EST)
N:\TEMP\STANDARDS.DWG

EB# 0008794

Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

TYPICAL MANHOLE DROP PIPE CONNECTION (DROP MANHOLE)	DATE: 12/2021	PROJECT NO. 50108934
WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS WAKULLA COUNTY COMMISSIONERS WAKULLA COUNTY, FLORIDA FLORIDA	SCALE: AS NOTED DRAWN: C.SMITH CHECKED: J. FORD	SHEET 23





NOTES:
1. HDPE FUSIBLE PIPE SHALL BE SECURED TO SIDE OF MANHOLE USING 316 SS FITTINGS AND HARDWARE.
2. DISCHARGE OF FORCEMAIN SHALL INCLUDE 45° BEND TURNED TOWARDS MANHOLE EFFLUENT TO PREVENT EROSION FROM DIRECT DOWNWARD DISCHARGE.
3. FORCEMAIN SHALL NOT INTERFERE WITH MANHOLE STEPS OR INHIBIT ACCESS OF THE STRUCTURE.

FORCEMAIN CONNECTION TO MANHOLE

N.T.S.

December 10, 2021 (12:54:55 EST)
N:\TEMP\STANDARDS.DWG

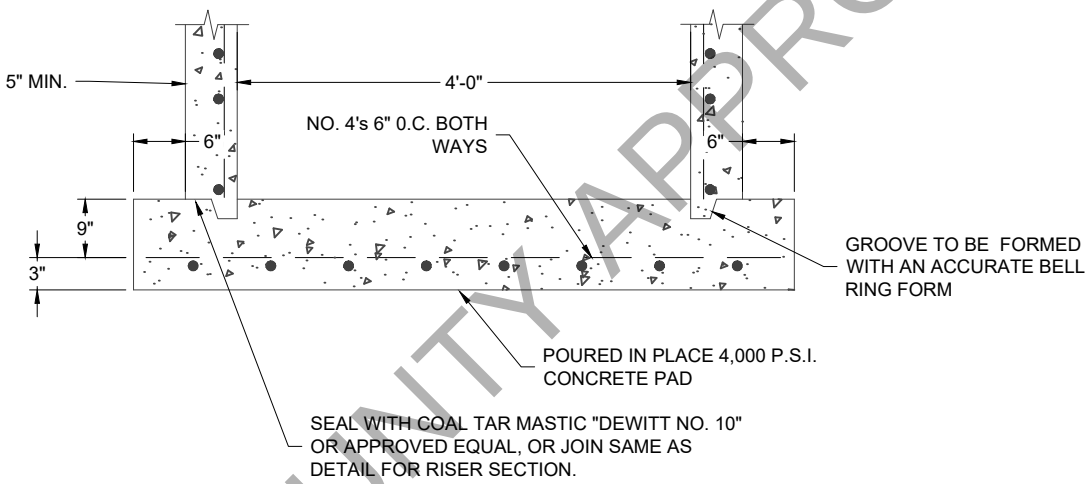
EB# 0008794

Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

FORCEMAIN CONNECTION TO MANHOLE

WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS
WAKULLA COUNTY COMMISSIONERS
WAKULLA COUNTY, FLORIDA
FLORIDA

DATE: 12/2021	PROJECT NO. 50108934
SCALE: AS NOTED	
DRAWN: C.SMITH	SHEET 24
CHECKED: J. FORD	



CAST-IN-PLACE CONCRETE BASE

N.T.S.

December 10, 2021 (12:54:55 EST)
N:\TEMP\STANDARDS.DWG

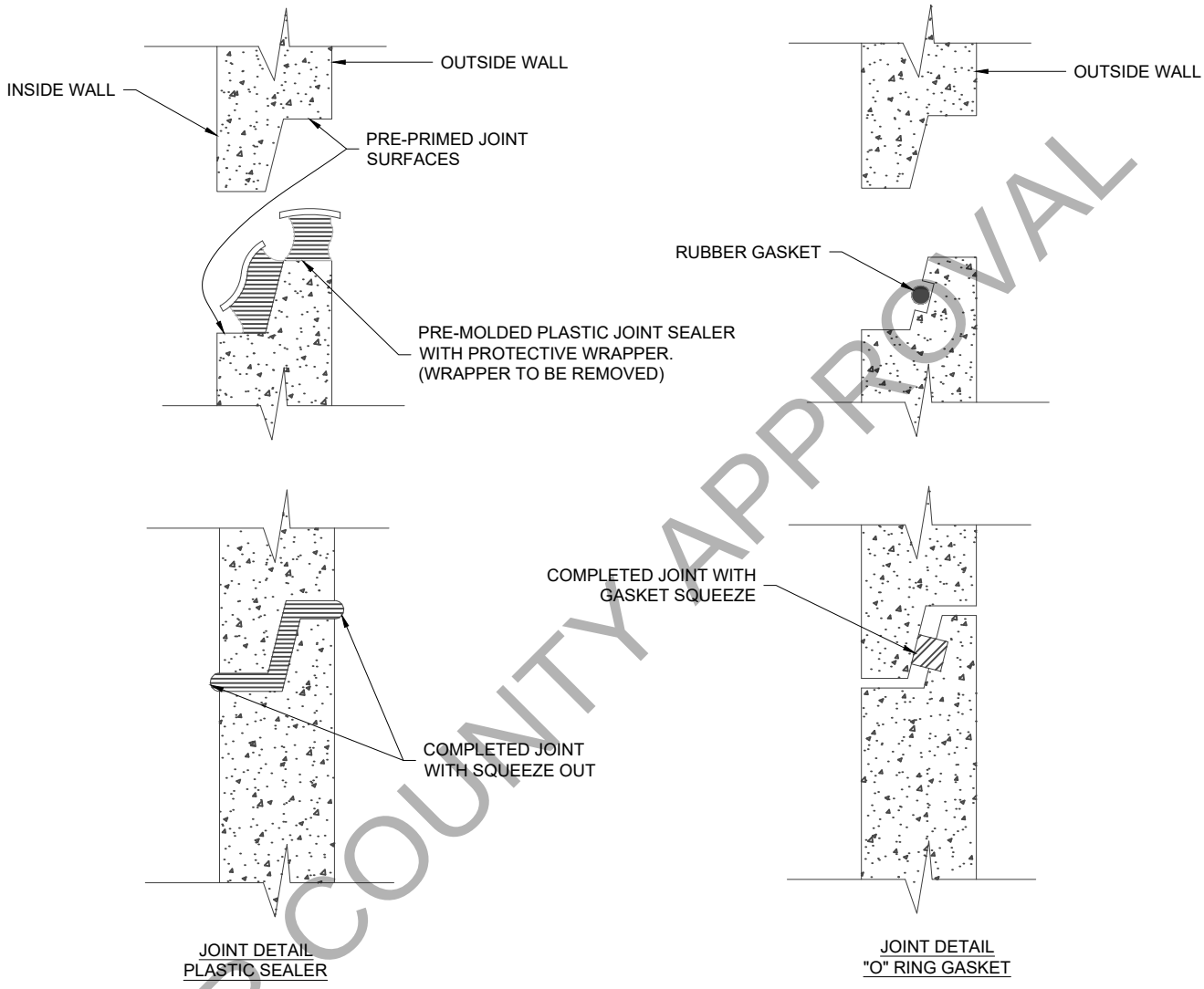
EB# 0008794

Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

CAST-IN-PLACE CONCRETE BASE

WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS
WAKULLA COUNTY COMMISSIONERS
WAKULLA COUNTY, FLORIDA
FLORIDA

DATE: 12/2021	PROJECT NO. 50108934
SCALE: AS NOTED	
DRAWN: C.SMITH	SHEET 25
CHECKED: J. FORD	



TYPICAL MANHOLE JOINT

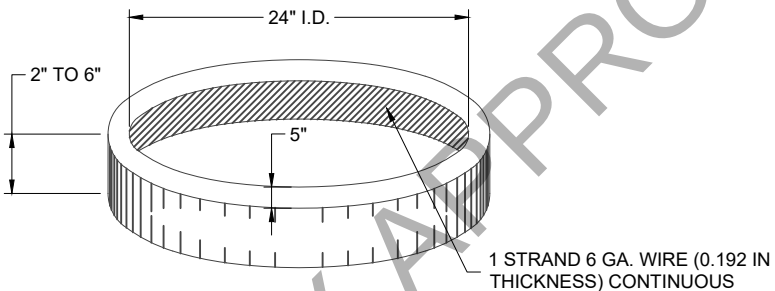
N.T.S.

December 10, 2021 (12:54:55 EST)
N:\TEMP\STANDARDS.DWG

EB# 0008794

Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

TYPICAL MANHOLE JOINT	DATE: 12/2021	PROJECT NO. 50108934
WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS WAKULLA COUNTY COMMISSIONERS WAKULLA COUNTY, FLORIDA FLORIDA	SCALE: AS NOTED	
	DRAWN: C.SMITH	SHEET 26
	CHECKED: J. FORD	



NOTE:
MAXIMUM NUMBER IS THREE (TOTAL=18")

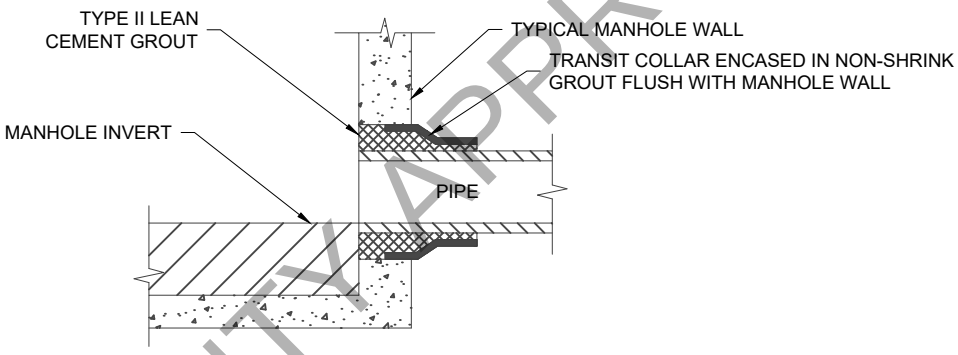
ADJUSTMENT RING
N.T.S.

December 10, 2021 (12:54:55 EST)
N:\TEMP\STANDARDS.DWG

EB# 0008794

Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

ADJUSTMENT RING	DATE: 12/2021	PROJECT NO. 50108934
WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS WAKULLA COUNTY COMMISSIONERS WAKULLA COUNTY, FLORIDA FLORIDA	SCALE: AS NOTED DRAWN: C.SMITH CHECKED: J. FORD	SHEET 27



PRECAST MANHOLE PIPE CONNECTION

N.T.S.

December 10, 2021 (12:54:55 EST)
N:\TEMP\STANDARDS.DWG

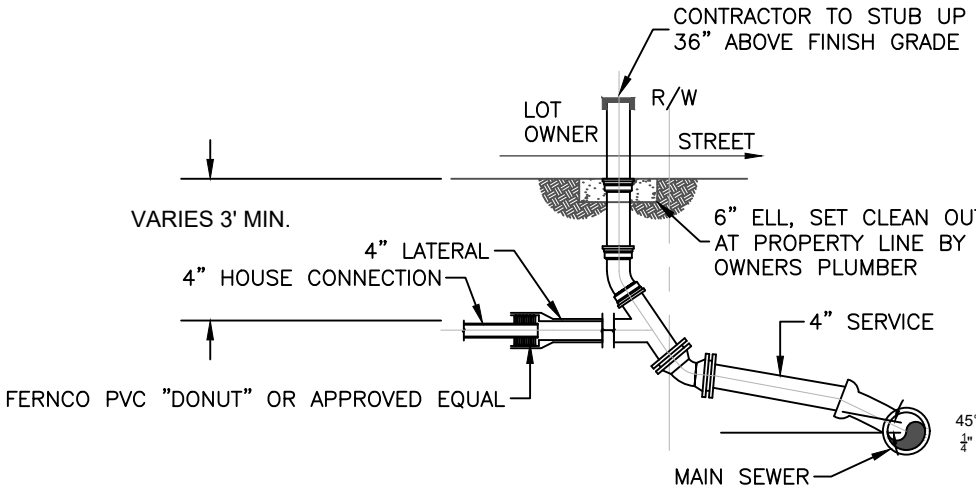
EB# 0008794

Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

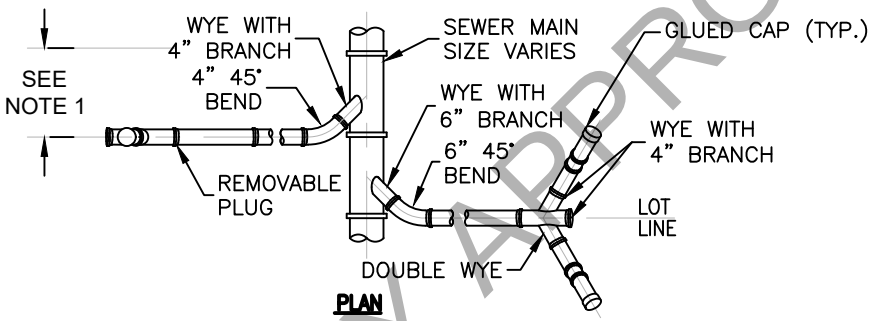
PRECAST MANHOLE PIPE CONNECTION

WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS
WAKULLA COUNTY COMMISSIONERS
WAKULLA COUNTY, FLORIDA
FLORIDA

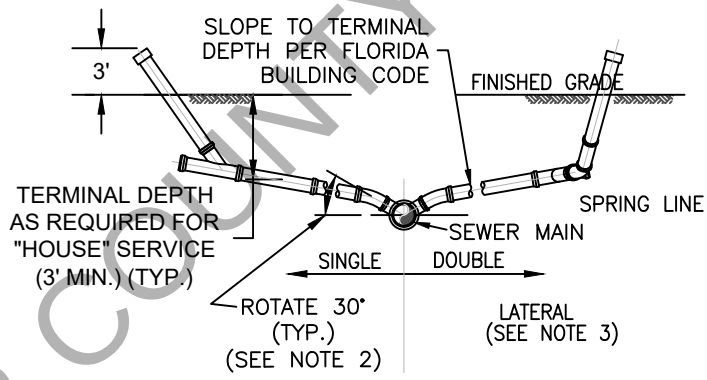
DATE: 12/2021	PROJECT NO. 50108934
SCALE: AS NOTED	
DRAWN: C.SMITH	SHEET 28
CHECKED: J. FORD	



DETAIL TYPICAL SERVICE CONNECTION WITH CLEANOUT
SCALE: N.T.S.



PLAN



PROFILE

DETAIL TYPICAL SINGLE AND DOUBLE SERVICE CONNECTION WITH STUB-OUT
SCALE: N.T.S.

NOTES:

1. LOCATE SINGLE LATERAL AS NEAR TO CENTER OF LOT AS POSSIBLE OR AS DETERMINED BY AN ENGINEER.

2. INVERT OF SERVICE LATERAL SHALL NOT ENTER SEWER MAIN BELOW SPRING LINE.

3. DOUBLE SERVICE LATERALS SHALL ONLY BE PERMITTED ON TAPS TO EXISTING GRAVITY MAINS WHERE EXISTING ROAD PAVEMENT MUST BE CUT AND MUST BE PRE-APPROVED BY COUNTY PRIOR TO CONSTRUCTION.

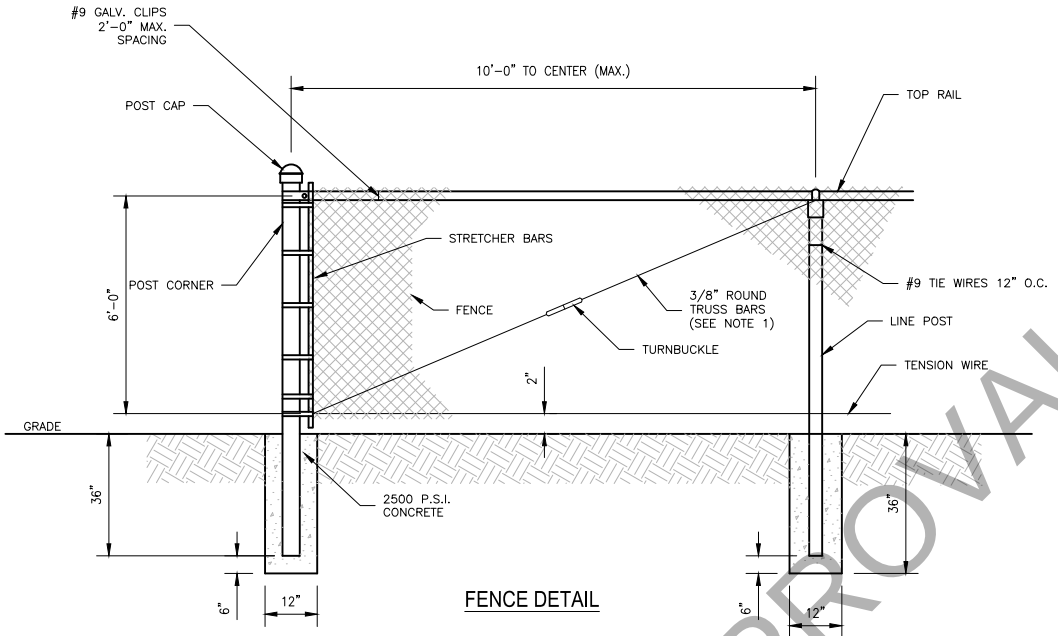
December 10, 2021 (12:54:55 EST)
N:\TEMP\STANDARDS.DWG

EB# 0008794

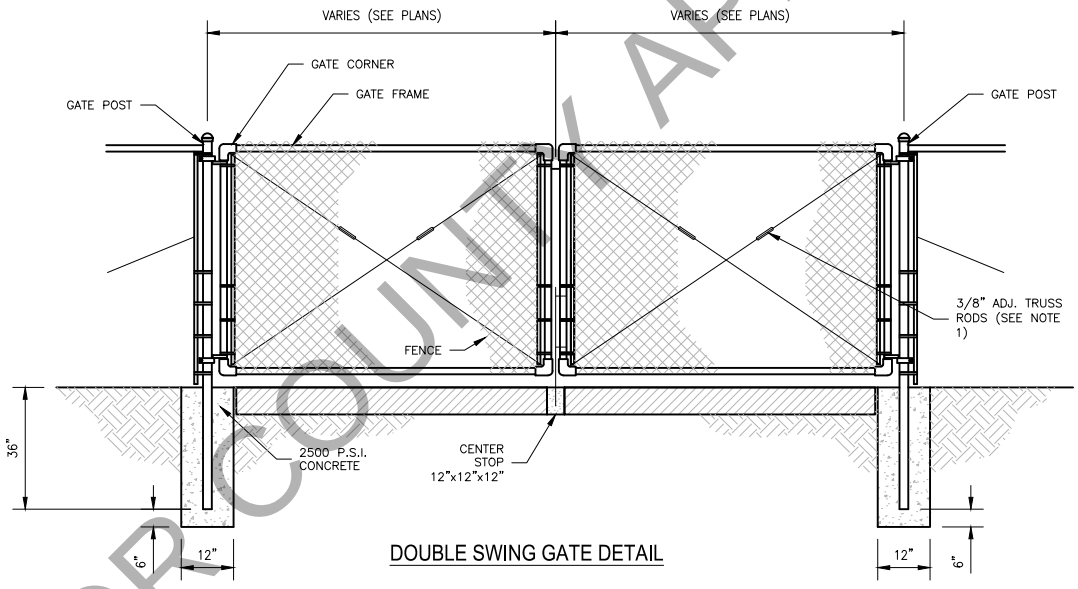
Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

TYPICAL SERVICE CONNECTION	DATE: 12/2021	PROJECT NO. 50108934
WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS WAKULLA COUNTY COMMISSIONERS WAKULLA COUNTY, FLORIDA FLORIDA	SCALE: AS NOTED	
	DRAWN: C.SMITH	SHEET 29
	CHECKED: J. FORD	

LIFT STATION



FENCE DETAIL



DOUBLE SWING GATE DETAIL

FENCE/GATE NOTES:

1.) TRUSS BARS ARE REQUIRED FOR EACH GATE SECTION AND THE FIRST SPAN ON EACH SIDE OF A CORNER POST ONLY.

2.) CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO INSTALLATION.

3.) FENCING SHALL BE BLACK VINYL COATED.

4.) TYPICAL GATE IS 20'. VERIFY WITH COUNTY PRIOR TO CONSTRUCTION.

D E T A I L - CHAIN LINK FENCE

SCALE: N.T.S.

December 10, 2021 (12:54:55 EST)
N:\TEMP\STANDARDS.DWG

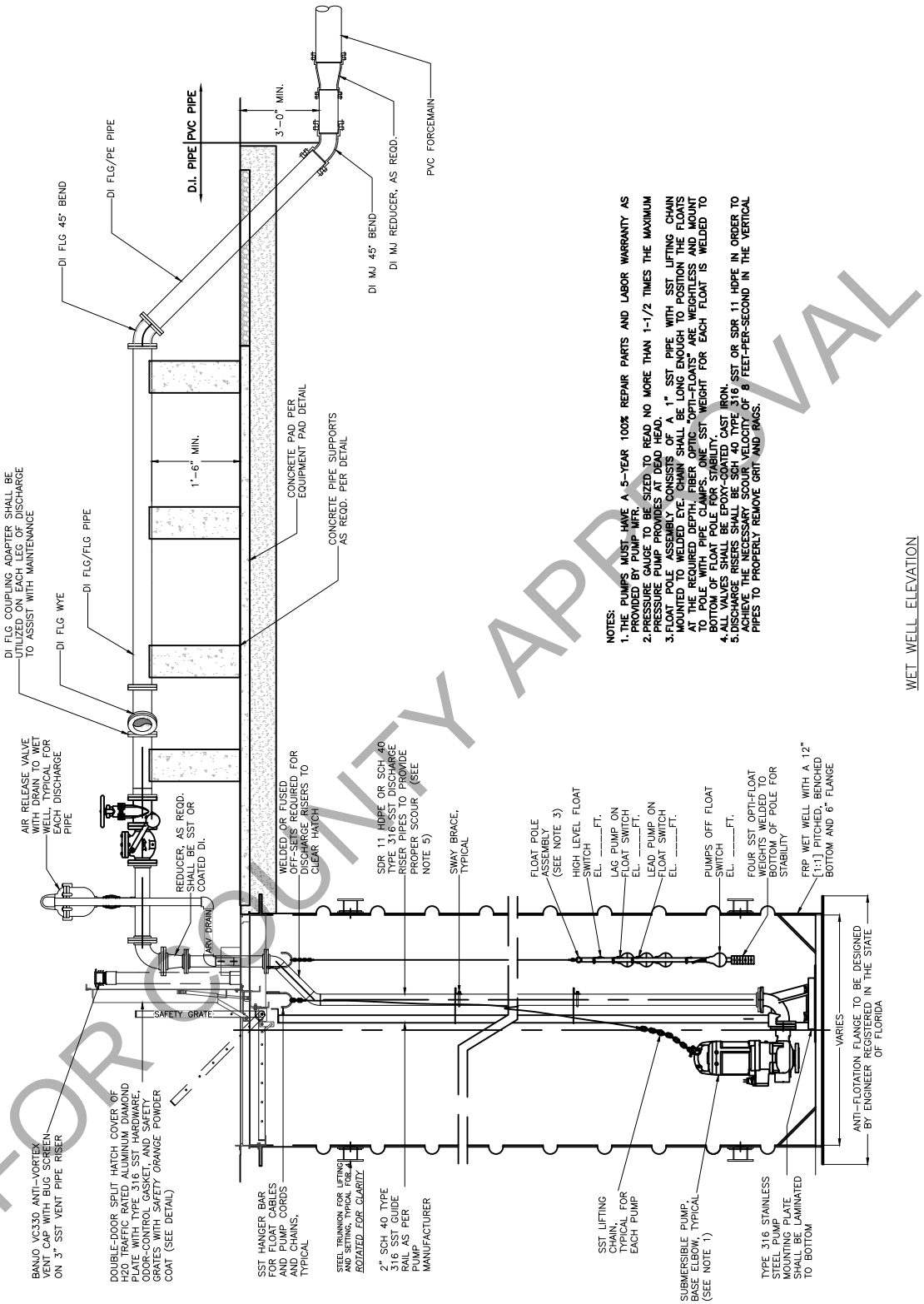
EB# 0008794

Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

FENCING

WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS
WAKULLA COUNTY COMMISSIONERS
WAKULLA COUNTY, FLORIDA
FLORIDA

DATE: 12/2021	PROJECT NO. 50108934
SCALE: AS NOTED	
DRAWN: C.SMITH	SHEET 30
CHECKED: J. FORD	



WET WELL ELEVATION

NOTES:

1. THE PUMPS MUST HAVE A 5-YEAR 100% REPAIR PARTS AND LABOR WARRANTY AS PROVIDED BY PUMP MFR.
2. PRESSURE GAUGE TO BE SIZED TO READ NO MORE THAN 1-1/2 TIMES THE MAXIMUM PRESSURE PUMP PROVIDES AT DEAD HEAD.
3. FLOAT POLE ASSEMBLY CONSISTS OF A 1" SST PIPE WITH SST LIFTING CHAIN MOUNTED TO WELDED EYE. CHAIN SHALL BE LONG ENOUGH TO POSITION THE FLOATS AT THE REQUIRED DEPTH. FIBER OPTIC "OPTI-FLOATS" ARE WEIGHTLESS AND MOUNT TO POLE WITH PIPE CLAMPS. ONE SST WEIGHT FOR EACH FLOAT IS WELDED TO BOTTOM OF FLOAT POLE FOR STABILITY.
4. ALL VALVES SHALL BE FLANGED CAST IRON.
5. DISCHARGE RISERS SHALL BE SCH 40 TYPE 316 SST OR SDR 11 HDPE IN ORDER TO ACHIEVE THE NECESSARY SCOUR VELOCITY OF 8 FEET-PER-SECOND IN THE VERTICAL PIPES TO PROPERLY REMOVE GRIT AND RAGS.

December 10, 2021 (12:54:55 EST)
N:\TEMP\STANDARDS.DWG

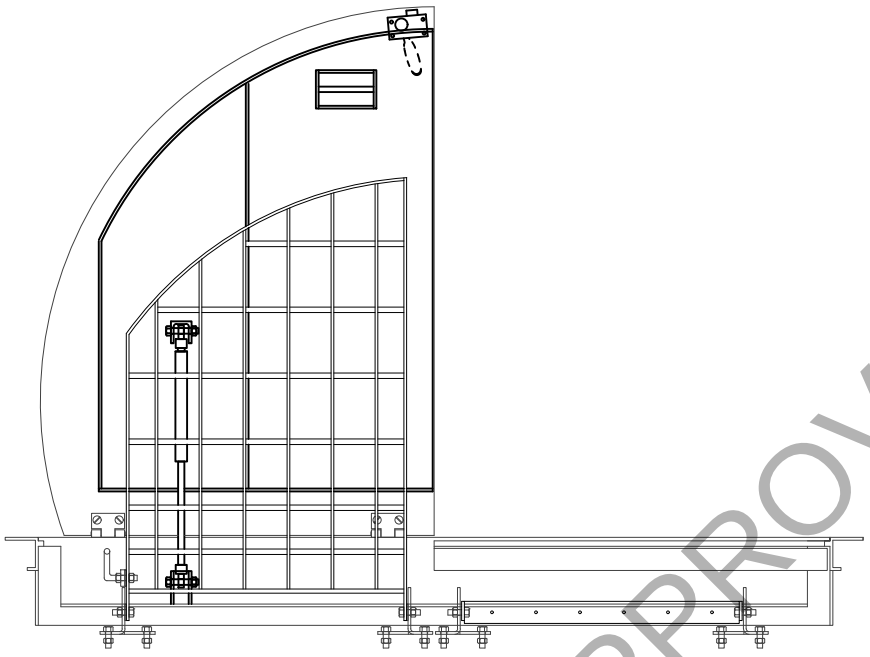
EB# 0008794

Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

FIBERGLASS WET WELL

WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS
WAKULLA COUNTY COMMISSIONERS
WAKULLA COUNTY, FLORIDA
FLORIDA

DATE: 12/2021	PROJECT NO. 50108934
SCALE: AS NOTED	
DRAWN: C.SMITH	SHEET 31
CHECKED: J. FORD	



WET WELL HATCH DETAIL

SHOWN ROTATED WITH LEFT SIDE COVER AND SAFETY GRATE OPEN
SAFETY GRATING TO BE PAINTED WITH SAFETY ORANGE POWER COAT

NOTES:

1. THE PUMPS MUST HAVE A 5–YEAR 100% REPAIR PARTS AND LABOR WARRANTY AS PROVIDED BY PUMP MFR.
2. PRESSURE GAUGE TO BE SIZED TO READ NO MORE THAN 1–1/2 TIMES THE MAXIMUM PRESSURE PUMP PROVIDES AT DEAD HEAD.
3. FLOAT POLE ASSEMBLY CONSISTS OF A 1" SST PIPE WITH SST LIFTING CHAIN MOUNTED TO WELDED EYE. CHAIN SHALL BE LONG ENOUGH TO POSITION THE FLOATS AT THE REQUIRED DEPTH. FIBER OPTIC "OPTI–FLOATS" ARE WEIGHTLESS AND MOUNT TO POLE WITH PIPE CLAMPS. ONE SST WEIGHT FOR EACH FLOAT IS WELDED TO BOTTOM OF FLOAT POLE FOR STABILITY.
4. ALL VALVES SHALL BE 4" EPOXY–COATED CAST IRON.
5. DISCHARGE RISERS SHALL BE 3" SCH 40 TYPE 316 SST IN ORDER TO ACHIEVE THE NECESSARY SCOUR VELOCITY OF 8 FEET–PER–SECOND IN THE VERTICAL PIPES TO PROPERLY REMOVE GRIT AND RAGS.

December 10, 2021 (12:54:55 EST)
N:\TEMP\STANDARDS.DWG

EB# 0008794

Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

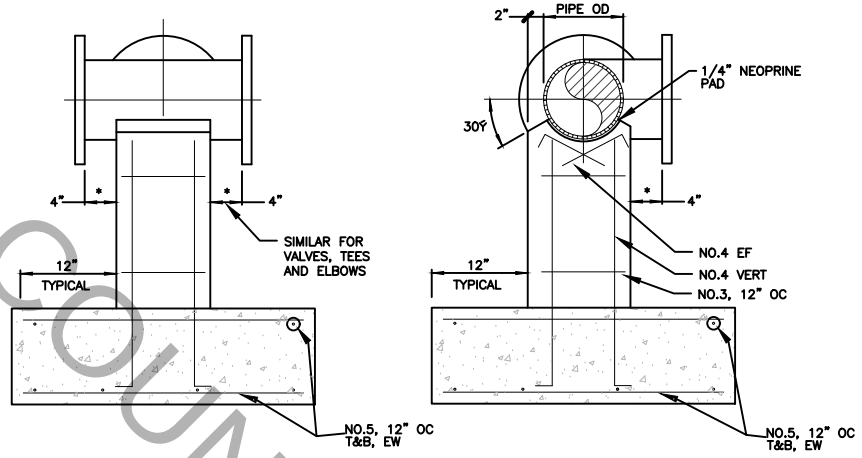
HATCH AND COVER

WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS
WAKULLA COUNTY COMMISSIONERS
WAKULLA COUNTY, FLORIDA
FLORIDA

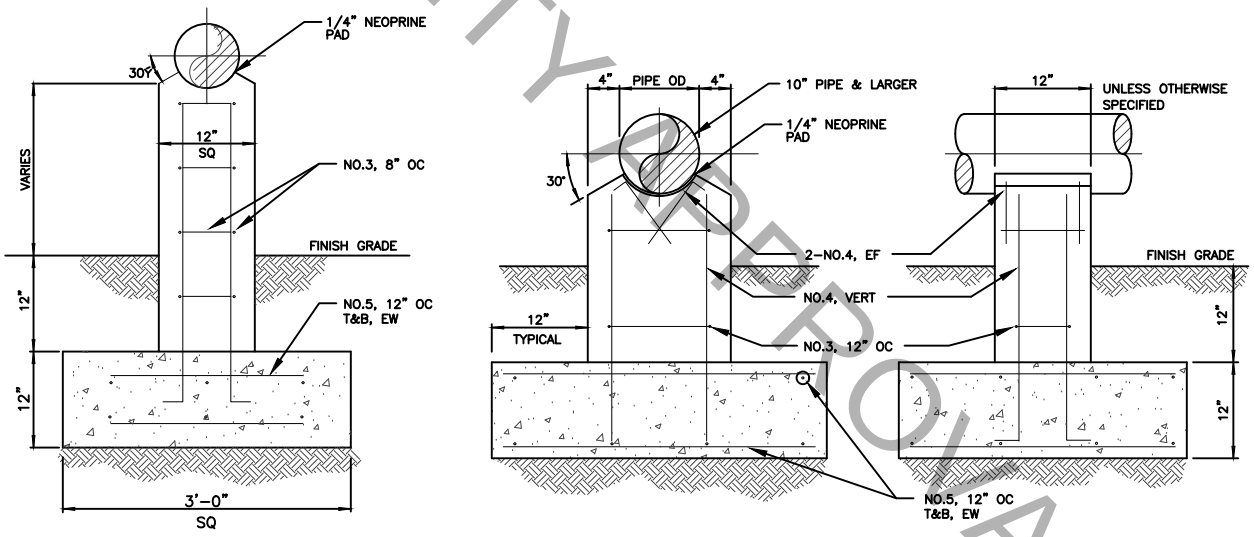
DATE: 12/2021	PROJECT NO. 50108934
SCALE: AS NOTED	
DRAWN: C.SMITH	SHEET 32
CHECKED: J. FORD	

Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

* INCREASE 4" CLEARANCE AS REQUIRED IF BOLT HAS TO BE INSERTED FROM THE SUPPORT SIDE OF THE CONNECTION.



CONCRETE SUPPORT UNDER TEE



8" PIPE OR SMALLER

10" PIPE AND LARGER

DETAIL - CONCRETE PIPE SUPPORT

SCALE: N.T.S.

WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS
WAKULLA COUNTY COMMISSIONERS
WAKULLA COUNTY, FLORIDA
FLORIDA

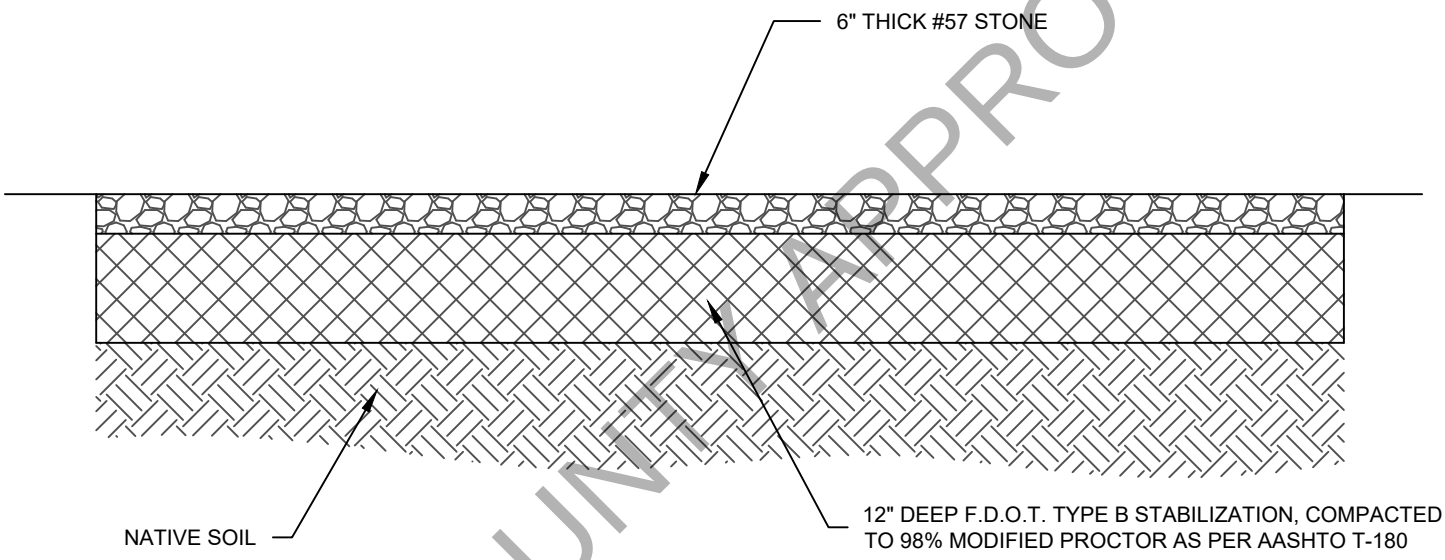
PIPE STANDS

DATE:	SCALE:	DRAWN:	CHECKED:
12/2021	AS NOTED	C.SMITH	J. FORD

PROJECT NO. 50108934

EB# 0008794

SHEET 33



DETAIL - TYPICAL LIFT STATION SITE CROSS SECTION

SCALE: N.T.S.

December 10, 2021 (12:54:55 EST)
N:\TEMP\STANDARDS.DWG

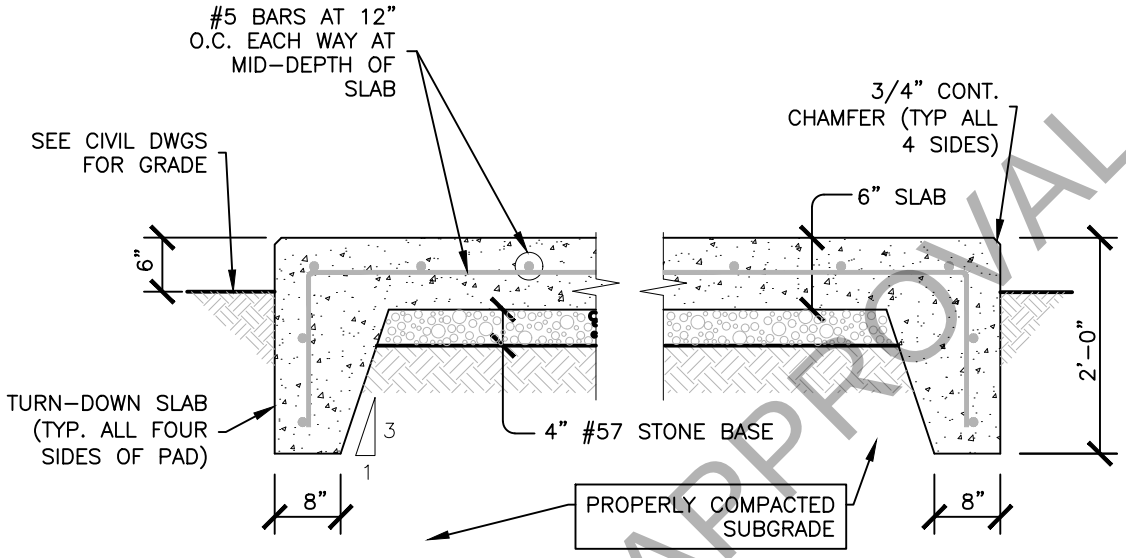
EB# 0008794

Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

LIFT STATION CROSS SECTION

WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS
WAKULLA COUNTY COMMISSIONERS
WAKULLA COUNTY, FLORIDA
FLORIDA

DATE: 12/2021	PROJECT NO. 50108934
SCALE: AS NOTED	
DRAWN: C.SMITH	SHEET 34
CHECKED: J. FORD	



EQUIPMENT PAD NOTES:

1. COORDINATE EQUIPMENT PAD DIMENSIONS AND LOCATIONS WITH EQUIPMENT MANUFACTURER AND OTHER CONTRACT DOCUMENTS. CONTRACTOR SHALL GAIN ENGINEER APPROVAL PRIOR TO POURING EQUIPMENT PAD.
2. SEE CIVIL, ELECTRICAL, AND MECHANICAL DRAWINGS AND OTHER CONTRACT DOCUMENTS FOR EQUIPMENT PAD ELEVATION AND FINAL GRADING ELEVATIONS.
3. EQUIPMENT PAD SHALL EXTEND A MINIMUM OF 6" BEYOND ALL EQUIPMENT

D E T A I L - EQUIPMENT PAD DETAIL

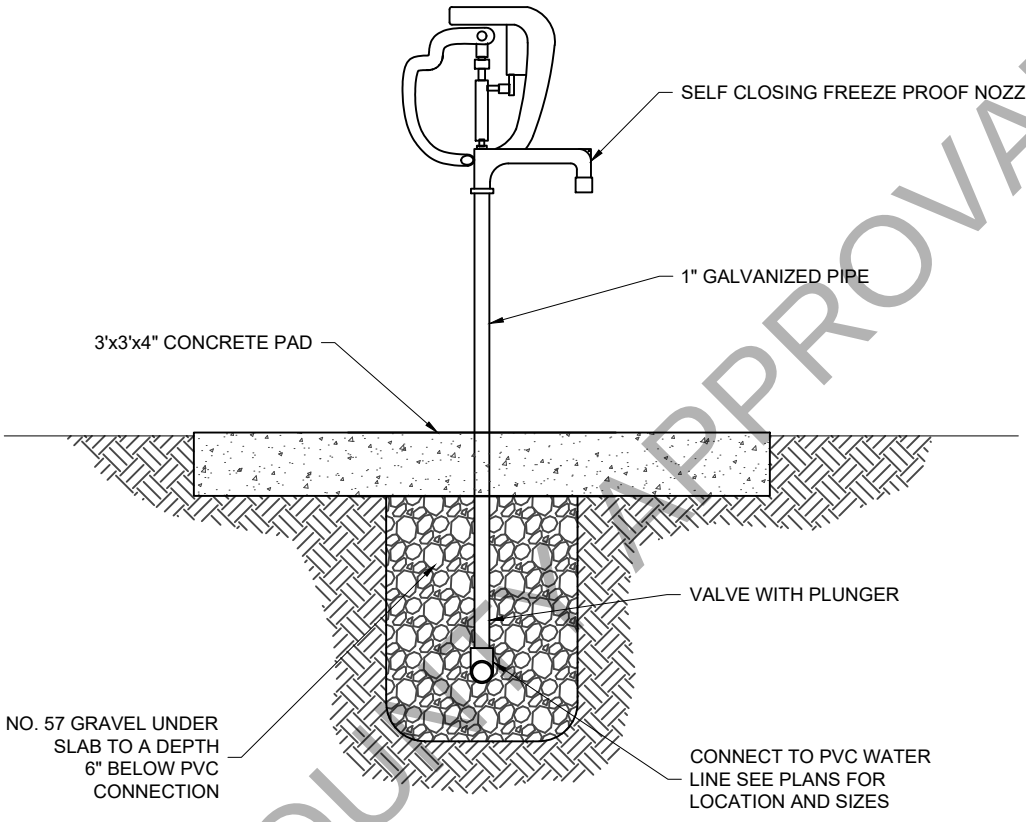
SCALE: N.T.S.

December 10, 2021 (12:54:55 EST)
N:\TEMP\STANDARDS.DWG

EB# 0008794

Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

EQUIPMENT PAD	DATE: 12/2021	PROJECT NO. 50108934
WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS WAKULLA COUNTY COMMISSIONERS WAKULLA COUNTY, FLORIDA FLORIDA	SCALE: AS NOTED DRAWN: C.SMITH CHECKED: J. FORD	SHEET 35



COMPRESSION TYPE NON-FREEZING HOSE BIB

N.T.S.

December 10, 2021 (12:54:55 EST)
N:\TEMP\STANDARDS.DWG

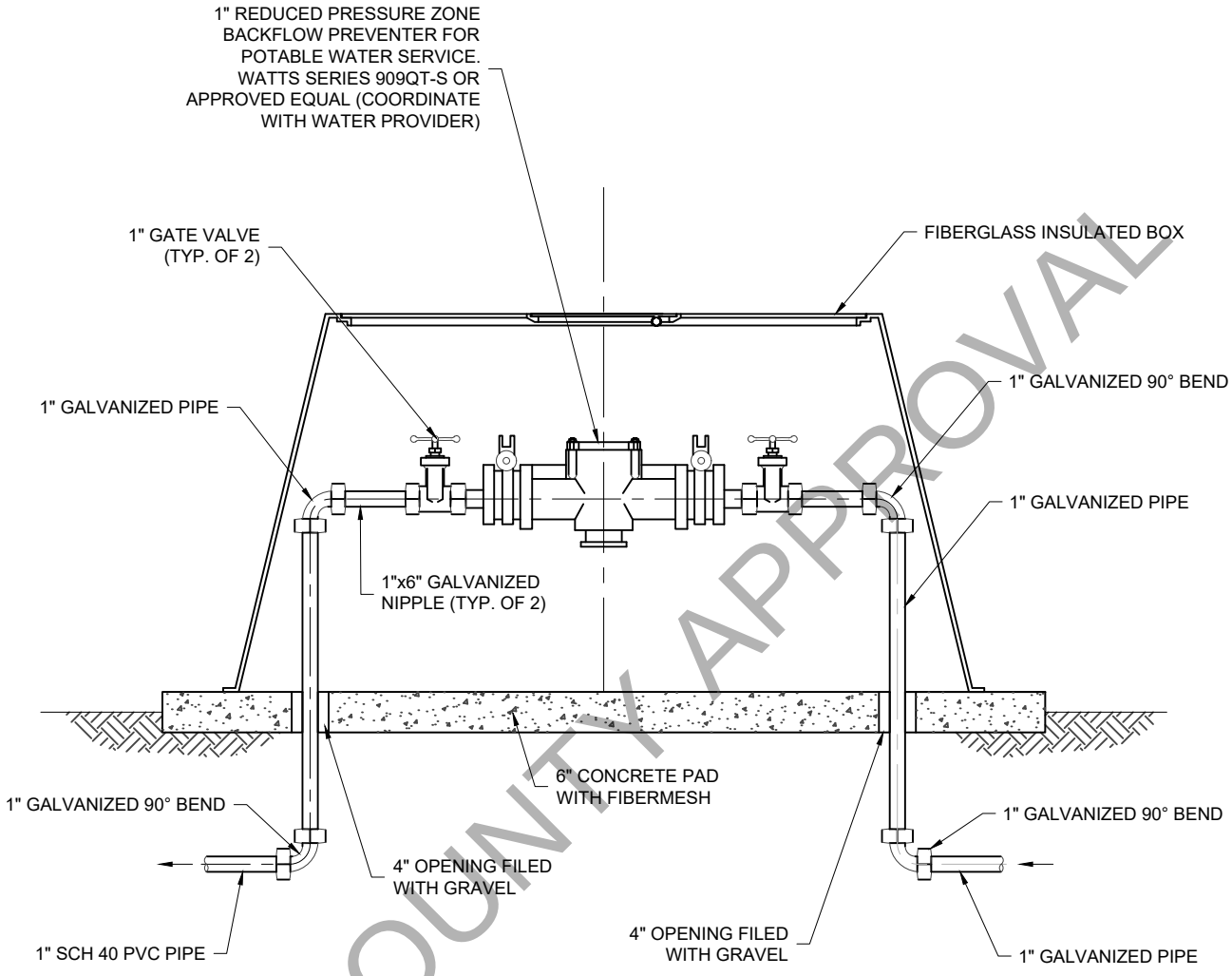
EB# 0008794

Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

COMPRESSION TYPE NON-FREEZING HOSE BIB

WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS
WAKULLA COUNTY COMMISSIONERS
WAKULLA COUNTY, FLORIDA
FLORIDA

DATE: 12/2021	PROJECT NO. 50108934
SCALE: AS NOTED	
DRAWN: C.SMITH	SHEET 36
CHECKED: J. FORD	



NOTE: CONCRETE PAD SHALL BE 6" LARGER THAN FOOTPRINT OF INSULATED BOX.

1" REDUCED PRESSURE ZONE BACKFLOW PREVENTER

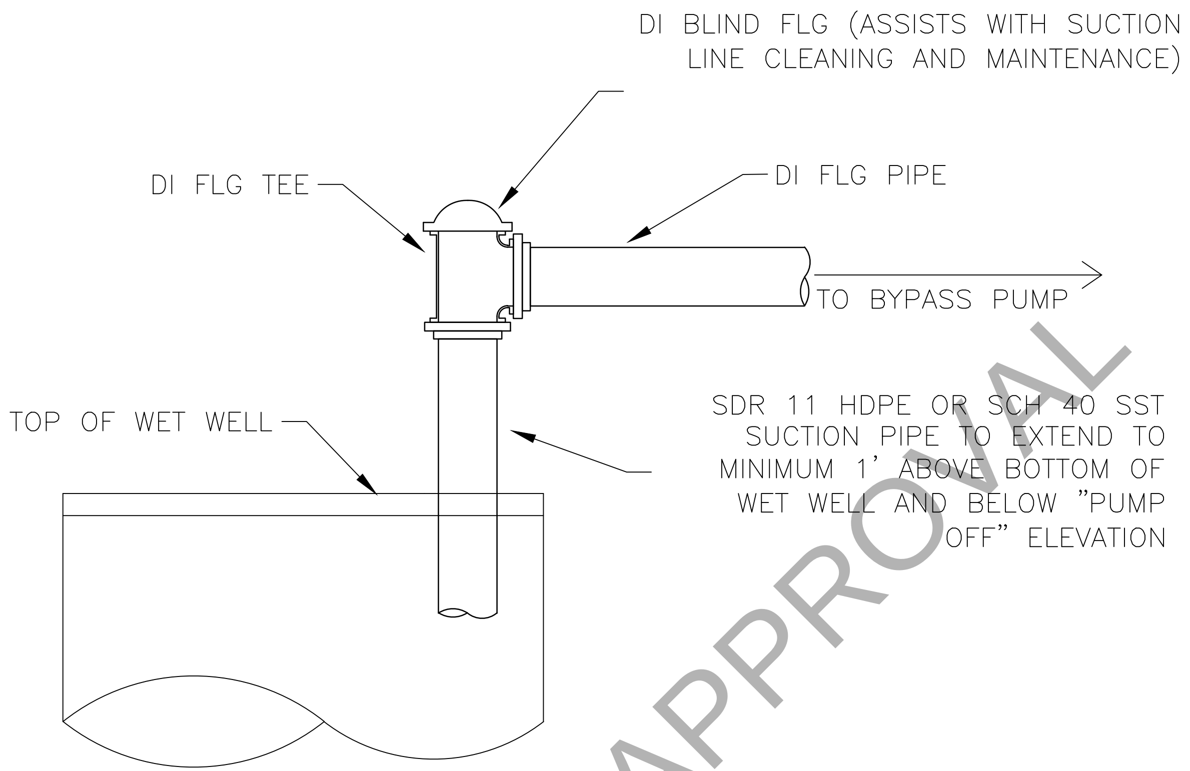
N.T.S.

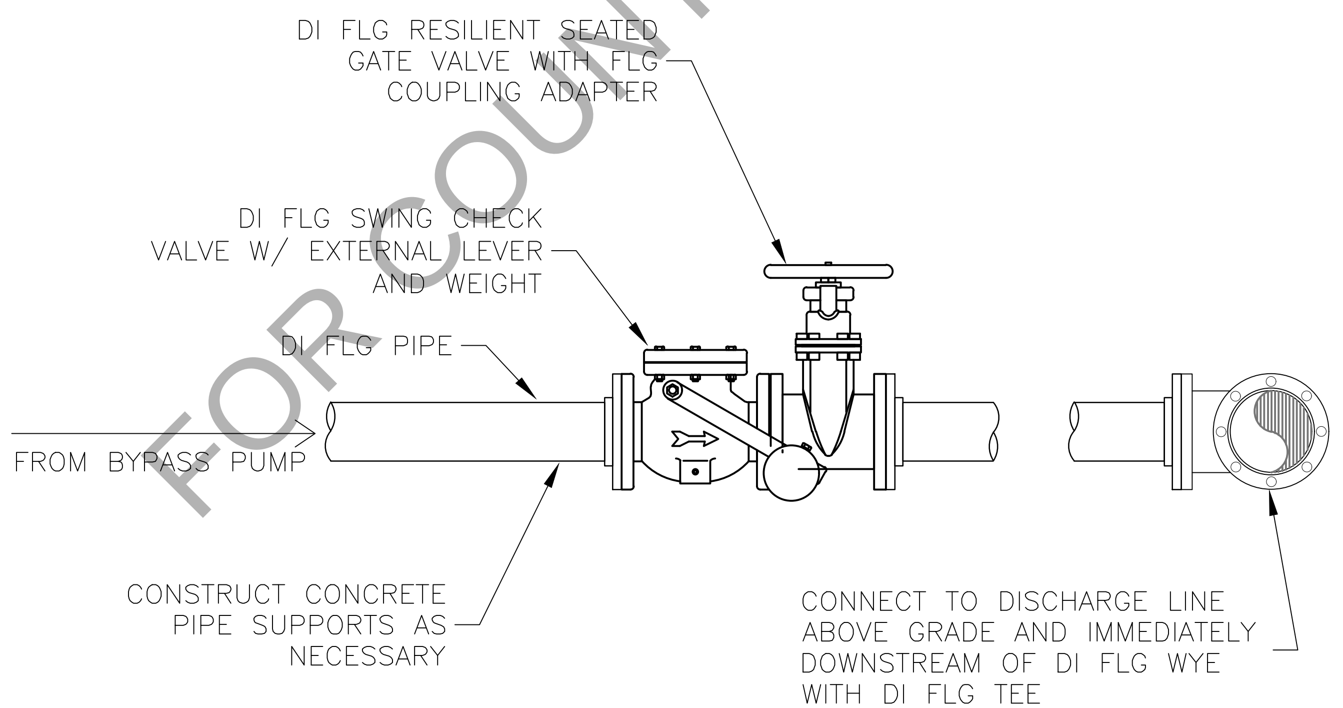
December 10, 2021 (12:54:55 EST)
N:\TEMP\STANDARDS.DWG

EB# 0008794

Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

1 INCH REDUCED PRESSURE ZONE BACKFLOW PREVENTER	DATE: 12/2021	PROJECT NO. 50108934
WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS WAKULLA COUNTY COMMISSIONERS WAKULLA COUNTY, FLORIDA FLORIDA	SCALE: AS NOTED	
	DRAWN: C.SMITH	SHEET 37
	CHECKED: J. FORD	



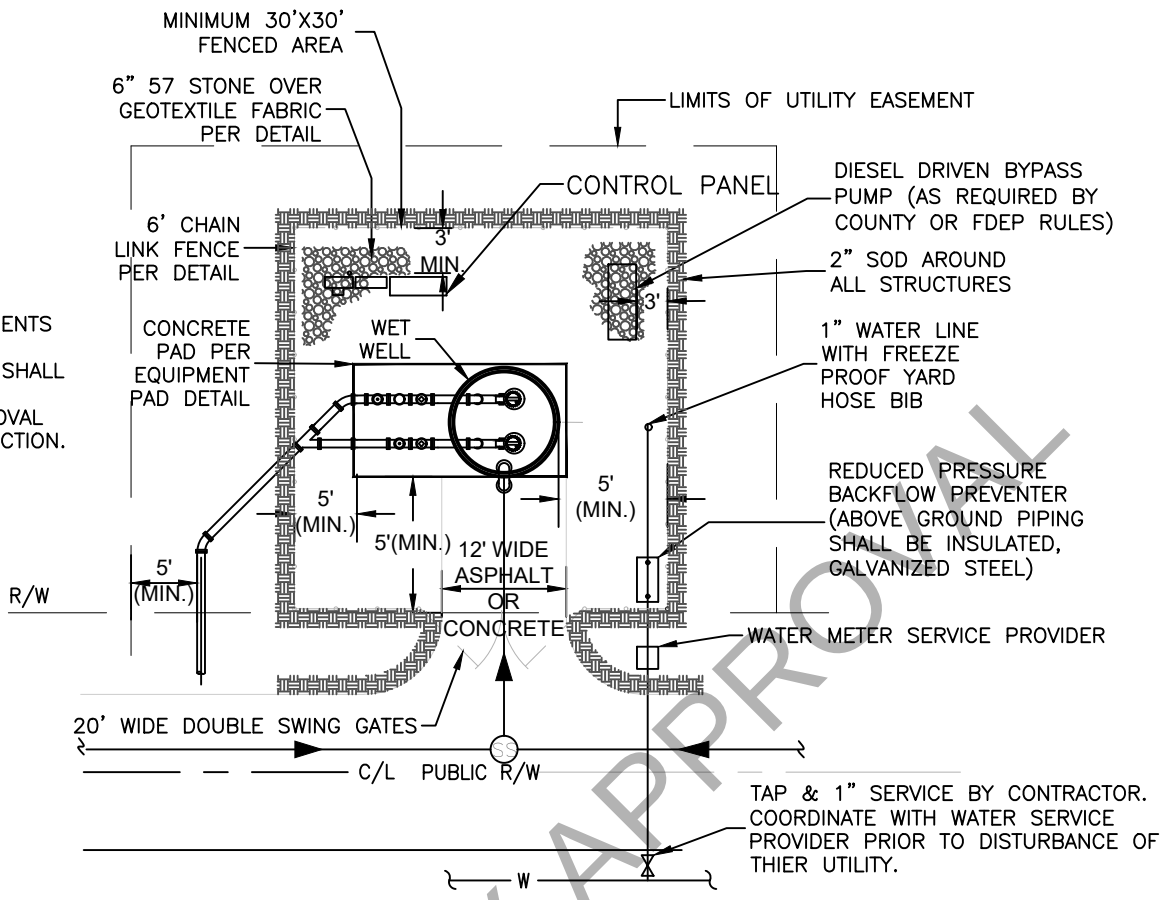


EB# 0008794

Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

PERMANENTLY MOUNTED BYPASS PUMP PIPING	DATE: 12/2021	PROJECT NO.
WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS WAKULLA COUNTY COMMISSIONERS WAKULLA COUNTY, FLORIDA FLORIDA	SCALE: AS NOTED	50108934
	DRAWN: C.SMITH	SHEET
	CHECKED: J. FORD	38

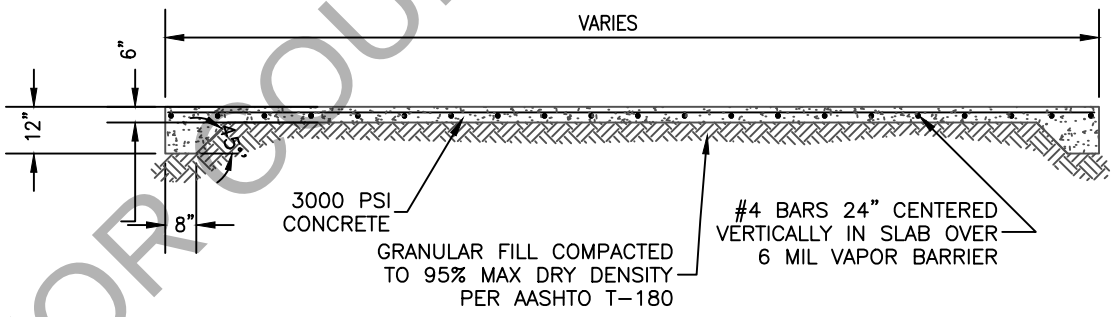
PUMPS AND CONTROLS



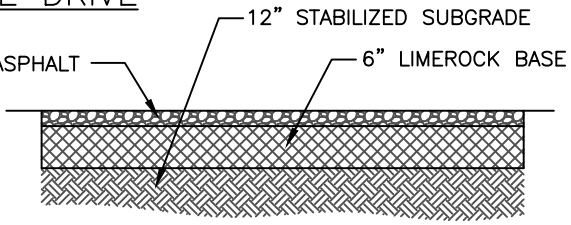
ENGINEER SHALL PROVIDE A SCALED (1" = 10' MIN.) SITE SPECIFIC DETAIL

IF LIFT STATION SITE IS NOT CONTIGUOUS TO PUBLIC R/W, A 20' MINIMUM WIDTH INGRESS, EGRESS, AND UTILITY EASEMENT APPROVED BY COUNTY MUST BE PROVIDED TO PUBLIC R/W.

PLAN LIFT STATION SITE PLAN



SECTION CONCRETE DRIVE



NOTE: SLOPE AS REQUIRED ON GRADING PLAN "CONTRACTOR SHALL SUBMIT JOINTING AND CRACK CONTROL SUBMITTAL IN ACCORDANCE WITH LATEST AMERICAN CONCRETE INSTITUTE FOR APPROVAL BY ENGINEER"

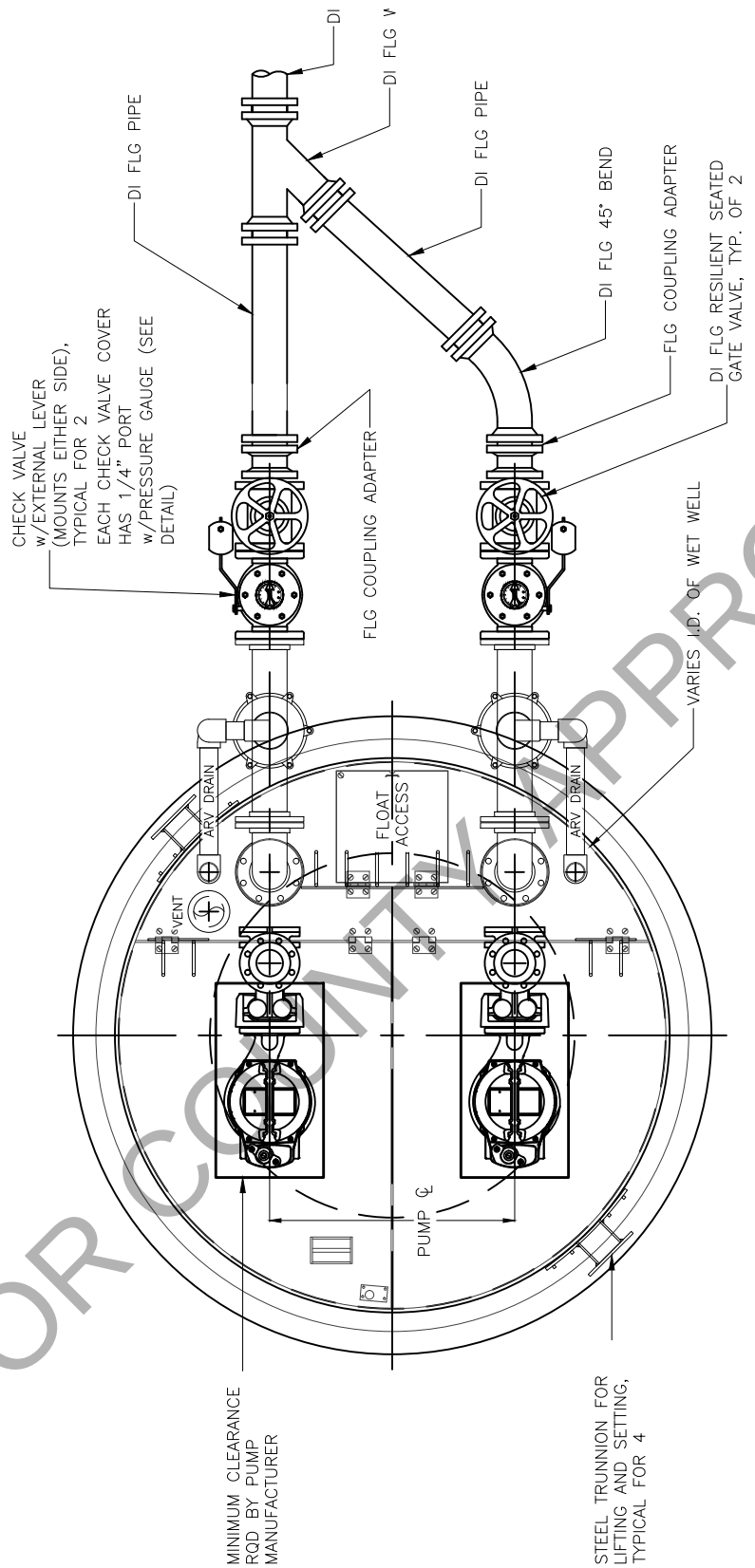
SECTION ASPHALT DRIVE

December 10, 2021 (12:54:55 EST)
N:\TEMP\STANDARDS.DWG

EB# 0008794

Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

LIFT STATION SITE PLAN	DATE: 12/2021	PROJECT NO. 50108934
WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS WAKULLA COUNTY COMMISSIONERS WAKULLA COUNTY, FLORIDA FLORIDA	SCALE: AS NOTED	
	DRAWN: C.SMITH	SHEET 39
	CHECKED: J. FORD	



TOP VIEW

December 10, 2021 (12:54:55 EST)
N:\TEMP\STANDARDS.DWG

EB# 0008794

Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

LIFT STATION PLAN VIEW

WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS
WAKULLA COUNTY COMMISSIONERS
WAKULLA COUNTY, FLORIDA
FLORIDA

DATE: 12/2021	PROJECT NO. 50108934
SCALE: AS NOTED	
DRAWN: C.SMITH	SHEET 40
CHECKED: J. FORD	

GENERAL NOTES:

1. ALL DUCTILE IRON PIPE SHALL BE PAINTED WITH 2 COATS OF EXTERIOR ENAMEL PAINT.

2. WETWELL SHALL BE FIBERGLASS WITH SELF-SUPPORTING BOTTOM OR HAVE A HDPE LINER PROTECTIVE SYSTEM. ALL INTERIOR PIPING SHALL BE COATED WITH A PROTECTIVE COATING SYSTEM TO PREVENT CORROSION. EXTERIOR SURFACES SHALL BE PAINTED WITH COAL TAR EPOXY. (2 COATS, 2 MILS EACH)

3. THERE SHALL BE NO VALVES OR ELECTRICAL JUNCTION BOXES IN WETWELL.

4. WETWELL COVER SHALL BE ALUMINUM WITH 316 S.S. HARDWARE AND LOCK BRACKET. SIZE AS REQUIRED BY PUMP MANUFACTURER AND APPROVED BY COUNTY'S ENGINEERS.

5. FLEXIBLE COUPLING SHALL BE SLEEVE TYPE.

6. PUMPS SHALL BE AS FOLLOWS OR COUNTY APPROVED EQUAL:
   INLAND LIFT STATIONS:
   MANUFACTURER: KSB; MODEL: _____; IMP. DIA: _____MM;
   SPEED: _____ RPM; DISCHARGE SIZE: __ IN.; VOLTAGE: ____;
   HZ.: __; PHASE: _; H.P.: _ MIN.; SOLID SIZE: _ IN.; CURVE: _____

   OR

   COASTAL LIFT STATIONS (<XX hp):
   MANUFACTURER: SHINMAYWA; MODEL: _____; IMP. DIA: __IN.;
   SPEED: _____RPM; DISCHARGE SIZE: ____IN.; VOLTAGE: ____;
   HZ.: ____; PHASE: __; H.P.: ____ MIN.; SOLID SIZE: ____ IN.; CURVE: _____

7. OPERATING CONDITIONS SHALL BE _____ GPM AT _____ FEET TDH.

8. ALL NUTS, BOLTS, WASHERS, ETC. IN WETWELL AND VALVE BOX TO BE 316 STAINLESS STEEL.

9. HDPE PIPE IN WET WELL SHALL BE ANCHORED TO WET WELL WALL AS REQUIRED BY PUMP AND TANK MANUFACTURER TO ELIMINATE ANY SAGGING.

10. ALL PIPING INSIDE THE WET WELL AND LIFT STATION SITE SHALL BE FULLY RESTRAINED.

11. OBTAIN APPROVAL OF COUNTY AND COUNTY'S ENGINEER PRIOR TO ORDERING ABOVE-GRADE PIPING MATERIAL.

12. FIBERGLASS WET WELL SUPPLIER SHALL PROVIDE ANTI-FLOTATION DESIGN AND CALCULATIONS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF FLORIDA.

13. CONTRACTOR SHALL FOLLOW GEOTECHNICAL ENGINEERING AND TANK VENDOR REQUIREMENTS AND RECOMMENDATIONS. GEOTECHNICAL REPORT SHALL BE PROVIDED TO CONTRACTOR PRIOR TO CONSTRUCTION.

14. CONTRACTOR IS RESPONSIBLE FOR OFFSET FITTINGS FOR PROPER PIPE ALIGNMENT THROUGH LID OF WET WELL, IF NECESSARY.

15. ABOVE GRADE PIPING SHALL BE PAINTED WITH SHERWIN WILLIAMS RAIN FOREST (SW4071) USING 2 COATS OF MACROPOXY 646 AND 1 TOP COAT OF ACROLON 218 HS POLYURETHANE.

16. ALL DUCTILE IRON IN CONTACT WITH WASTEWATER SHALL HAVE INTERIOR COATING OF PROTECTO 401 EPOXY, PERMOX CTF, OR APPROVED EQUAL.

17. CONTRACTOR SHALL PROVIDE DRAIN LINE FROM THE AIR RELEASE VALVES THROUGH THE TOP OF THE WET WELL.

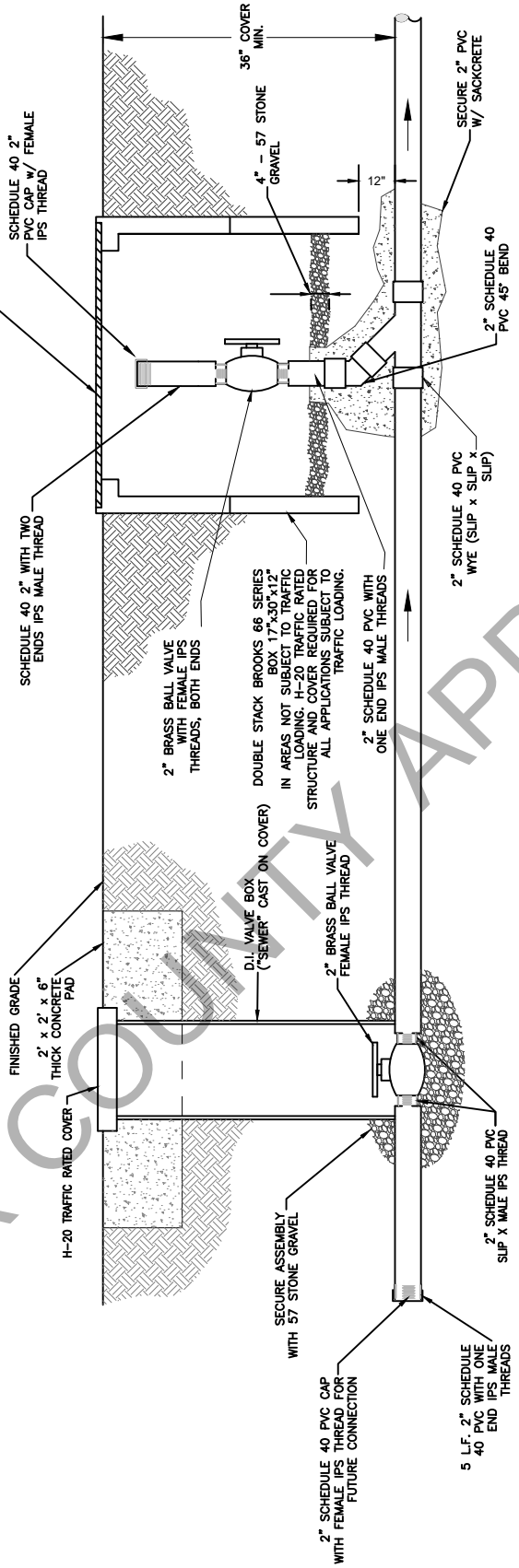
EB# 0008794

Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

LIFT STATION NOTES AND TABLE

WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS
WAKULLA COUNTY COMMISSIONERS
WAKULLA COUNTY, FLORIDA
FLORIDA

DATE: 12/2021	PROJECT NO. 50108934
SCALE: AS NOTED	
DRAWN: C.SMITH	SHEET 41
CHECKED: J. FORD	



DETAIL TYPICAL INLINE CLEANOUT

SCALE: N.T.S.

December 10, 2021 (12:54:55 EST)
N:\TEMP\STANDARDS.DWG

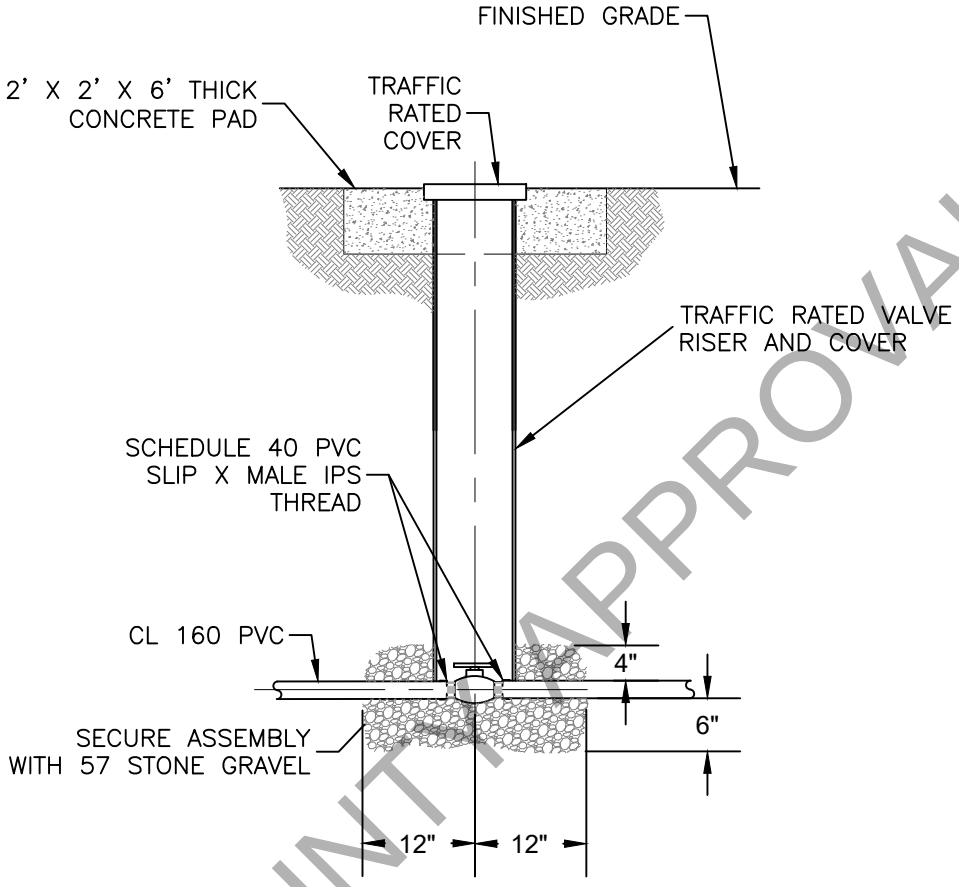
EB# 0008794

Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

TYPICAL INLINE CLEANOUT

WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS
WAKULLA COUNTY COMMISSIONERS
WAKULLA COUNTY, FLORIDA
FLORIDA

DATE: 12/2021	PROJECT NO. 50108934
SCALE: AS NOTED	
DRAWN: C.SMITH	SHEET 42
CHECKED: J. FORD	



DETAIL TYPICAL SERVICE LINE CONNECTION TO MAIN

SCALE: N.T.S.

December 10, 2021 (12:54:55 EST)
N:\TEMP\STANDARDS.DWG

EB# 0008794

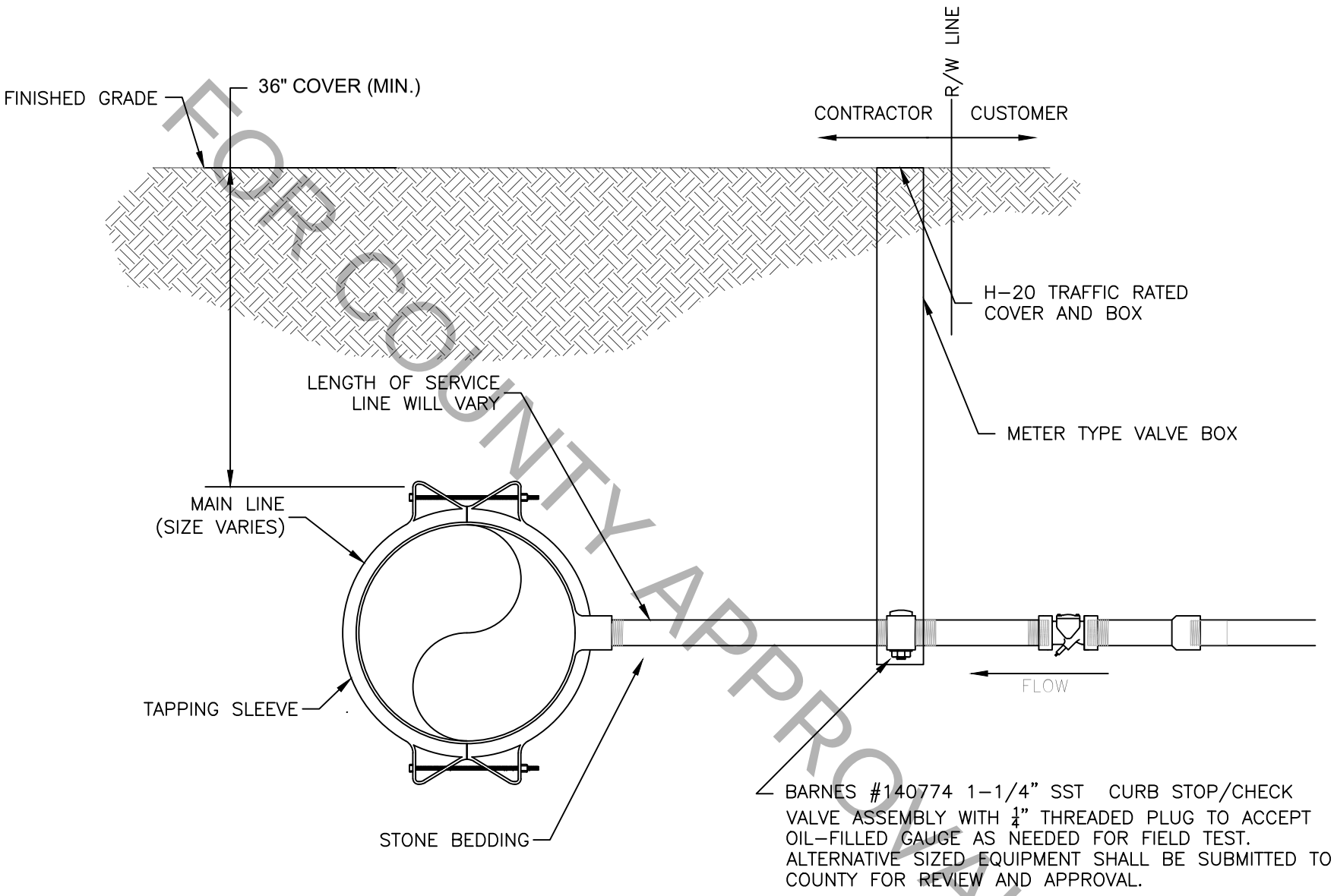
Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

TYPICAL SERVICE LINE CONNECTION TO MAIN

WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS
WAKULLA COUNTY COMMISSIONERS
WAKULLA COUNTY, FLORIDA
FLORIDA

DATE: 12/2021	PROJECT NO. 50108934
SCALE: AS NOTED	
DRAWN: C.SMITH	SHEET 43
CHECKED: J. FORD	

Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300



DETAIL LOW PRESSURE SERVICE

SCALE: N.T.S.

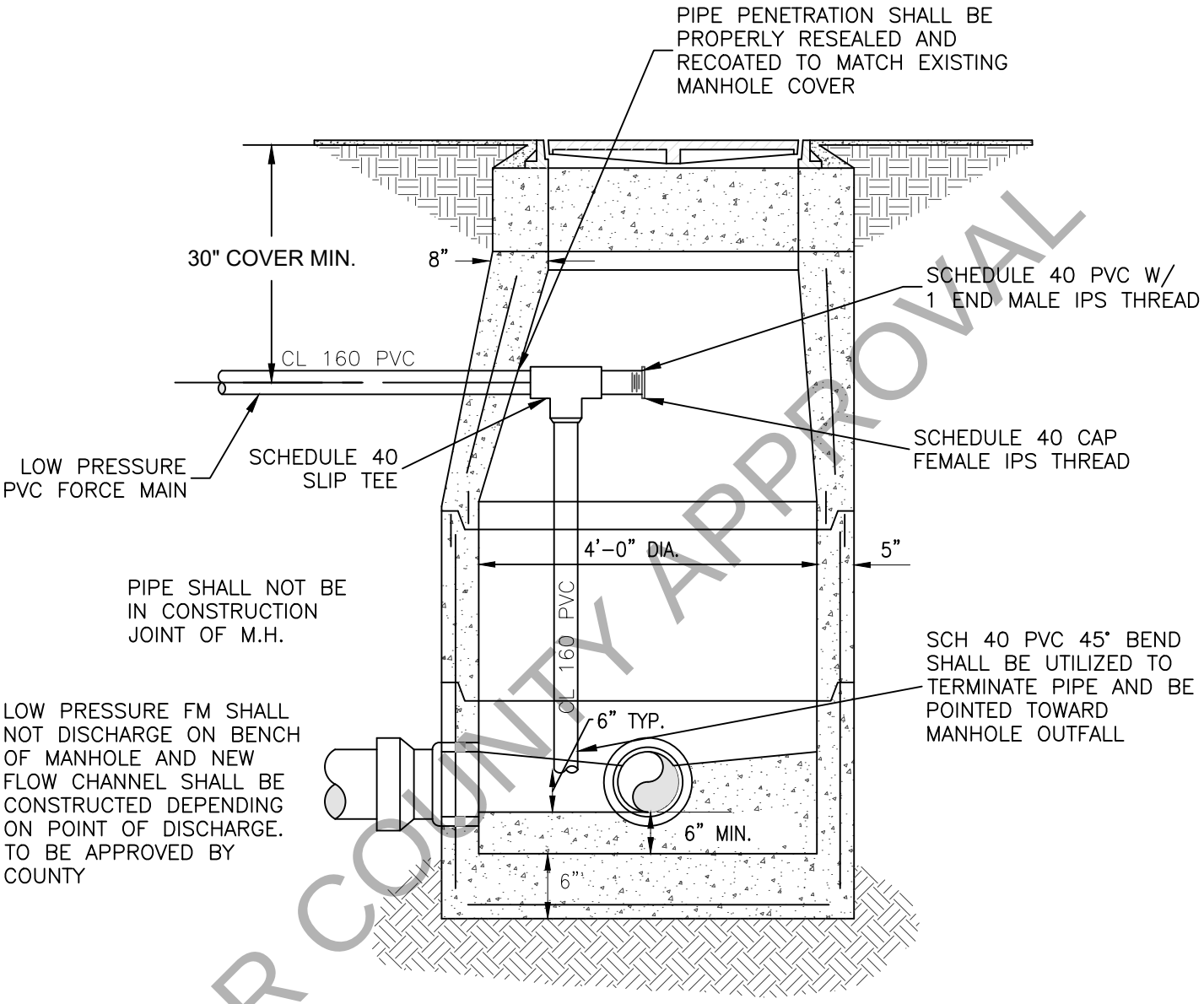
LOW PRESSURE SERVICE

WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS
WAKULLA COUNTY COMMISSIONERS
WAKULLA COUNTY, FLORIDA
FLORIDA

DATE:	SCALE:	DRAWN:	CHECKED:
12/2021	AS NOTED	C.SMITH	J. FORD

PROJECT NO.	SHEET
50108934	44

EB# 0008794



DETAIL SANITARY SEWER STANDARD MANHOLE LOW PRESSURE FORCE MAIN TIE-IN

SCALE: N.T.S.

NOTE: PIPE SHALL BE SECURED TO WALL OF MANHOLE AND SHALL NOT INTERFERE WITH STEPS.

December 10, 2021 (12:54:55 EST)
N:\TEMP\STANDARDS.DWG

EB# 0008794

Dewberry
20684 Central Avenue East
Blountstown, FL 32424
850.674.3300

MANHOLE LOW PRESSURE FM TIE-IN	DATE: 12/2021	PROJECT NO. 50108934
WASTEWATER COLLECTION AND TRANSMISSION SYSTEM STANDARDS WAKULLA COUNTY COMMISSIONERS WAKULLA COUNTY, FLORIDA FLORIDA	SCALE: AS NOTED DRAWN: C.SMITH CHECKED: J. FORD	SHEET 45

Appendix D

Summary of Community Surveys

SUMMARY OF COMMUNITY SURVEYS

Wakulla County Wastewater Feasibility Analysis

December 15, 2021

Dewberry

PREPARED FOR
Wakulla County
3093 Crawfordville Highway
Crawfordville, FL 32327
Phone: 850.926.0919

PREPARED BY
Dewberry
20684 Central Avenue East
Blountstown, FL 32424
Phone: 850.674.3300
Contact: Justin Ford, P.E.

TABLE OF CONTENTS

INTRODUCTION

In order to gauge community acceptance of sewering projects, surveys were posted on the County's website[2] and Facebook page[3]. WFSU published an article[1] on their website and radio station to further generate public interest and involvement in the data collection. A total of four surveys were posted that covered general knowledge of sewer and the Basin Management Action Plan (BMAP), general environmental concerns, personal experience with septic upgrade projects, and personal acceptance of sewering projects. The following sections provide summaries from each of the surveys. The full survey responses are provided as attachments to this report.

SURVEY 1 – GENERAL KNOWLEDGE

The purpose of this survey was to evaluate the public's general understanding of the BMAP and septic upgrade projects. It also focused on where the public was obtaining information on these items so future communication can be more effective. A total of 357 responses were collected. Below are the questions and response tallies with percentages and number of respondents for this survey:

1. Are you a resident of Wakulla County?
    - Yes – 94.12% (336)
    - No – 5.88% (21)
2. Do you regularly attend or watch Wakulla County commission meetings or workshops?
    - Yes – 25.28% (90)
    - No – 74.72% (266)
3. Do you subscribe to a local newspaper?
    - Yes – 35.88% (127)
        i. Wakulla News –83.06% (103)
        ii. Tallassee Democrat – 25.81% (32)
    - No – 64.12% (227)
4. Do you regularly check the Wakulla County BOCC Administration Facebook page?
    - Yes – 34.57% (121)
    - No – 65.43% (229)
5. Have you attended recent community information meetings regarding sewer projects in Wakulla County?
    - Yes – 21.69% (77)
    - No – 78.31% (278)
6. Are you aware of ongoing septic-to-sewer projects?
    - Yes – 63.28% (224)
        i. Word of Mouth – 12.14% (21)
        ii. Social Media/Internet – 36.99% (64)
        iii. News Outlets (newspaper, TV, etc.) – 33.53% (58)
        iv. Meetings or Commissioners – 15.03% (26)
        v. Work – 5.20% (9)
        vi. Neighborhood/Resident – 13.29% (23)
    - No – 36.72% (130)
7. Are you aware of the Basin Management Action Plan (BMAP)?
    - Yes – 44.23% (157)

- No – 55.77% (198)

8. Do you know what priority focus areas (PFA) are?
    - Yes – 35.96% (128)
    - No – 64.04% (228)
9. Are you aware of grant opportunities for sewer connection and septic enhancement?
    - Yes – 42.70% (152)
    - No – 57.30% (204)
10. Would you like the County to hold in-person community information meetings for septic/sewer projects?
    - Yes – 85.99% (307)
    - No – 14.01% (50)

This survey shows that most of the respondents were residents of Wakulla County who utilize varying sources for information regarding the septic projects. Most of the respondents were not engaging in community meetings, local newspapers, or social media on a regular basis which is how information has been traditionally relayed to citizens. Over half of the respondents were unaware of the BMAP with nearly two-thirds unaware of the PFA's. Over half of the respondents were unaware of grant opportunities. The majority desired in-person meetings in the future to obtain additional information.

SURVEY 2 – GENERAL ENVIRONMENTAL CONCERNS

The purpose of this survey was to determine the public's general concerns regarding the environment. It also provided data regarding the public's involvement in environmentally related community organizations and which of these organizations represented the most community involvement. Furthermore, it gauged the public's opinion on which entity is responsible for corrective actions. A total of 310 responses were collected. Below are the questions and response tallies with percentages and number of respondents for this survey:

1. Are you a resident of Wakulla County?
    - Yes – 96.13% (298)
    - No – 3.87% (12)
2. Do you have environmental concerns for Wakulla County?
    - Yes – 90.00% (279)
    - No – 10.00% (31)
3. Are you concerned with the health of Wakulla Springs?
    - Yes – 92.26% (286)
    - No – 7.74% (24)
4. Have you visited Wakulla Springs in the past 12 months?
    - Yes – 74.84% (232)
    - No – 25.16% (78)
5. Are you involved in or affiliated with an environmental organization?
    - Yes – 10.65% (33)
        i. Sierra Club – 46.67% (14)
        ii. Keep Wakulla County Beautiful – 10.00% (3)
        iii. Friends of Wakulla Springs – 6.67% (2)
        iv. Florida Department of Environmental Protection – 6.67% (2)

v. Nature Conservancy – 6.67% (2)
vi. Audubon Society – 13.33% (4)
vii. Florida Conservation Voters – 6.67% (2)
viii. Environment Florida – 3.33% (1)
ix. Environmental Defense Fund – 3.33% (1)
x. Clean Water Wakulla – 3.33% (1)
xi. Department of Health Environmental Health – 3.33% (1)
xii. Florida Rural Water Association – 3.33% (1)
xiii. Wakulla Springs Alliance – 3.33% (1)
xiv. Native Plant Society – 3.33% (1)
xv. ESG, Inc. – 3.33% (1)
xvi. Earth Justice – 3.33% (1)
xvii. Save the Gulf – 3.33% (1)
xviii. Florida Wildlife – 3.33% (1)
xix. Aqseptence Group (Airvac) – 3.33% (1)
xx. Friends of the Sopchoppy River – 3.33% (1)
xxi. Adopt-A-Road – 3.33% (1)
xxii. Local Charity – 3.33% (1)

- No – 89.35% (277)

6. Have you volunteered with any environmental organizations in the past 12 months?
    - Yes – 11.65% (36)
        i. Keep Wakulla County Beautiful – 43.75% (14)
        ii. Friends of Wakulla Springs – 9.38% (3)
        iii. Clean Water Wakulla – 6.25% (2)
        iv. Wakulla Springs Alliance – 6.25% (2)
        v. Native Plant Society – 6.25% (2)
        vi. Environmental Protection Agency – 3.13% (1)
        vii. Florida Wild Mammal Rescue – 3.13% (1)
        viii. Water Keepers – 3.13% (1)
        ix. Florida Park Service – 3.13% (1)
        x. Sierra Club – 3.13% (1)
        xi. Adopt-A-Road – 3.13% (1)
        xii. Miscellaneous Responses – 12.50% (4)
    - No – 88.35% (273)
7. Are you concerned with the groundwater quality in Wakulla?
    - Yes – 89.64% (277)
    - No – 10.36% (32)
8. What are your primary causes for concern (i.e., contributing factors, specific contaminants, etc.)?
    - Runoff & Stormwater – 12.31% (33)
    - General Contaminants (nitrogen, iron, bacteria, chemicals, metals, carbon, minerals) – 18.66% (50)
    - Septic Tanks – 20.90% (56)
    - Farm & Lawn Management (fertilizer, pesticides, herbicides) – 10.07% (27)

- Drinking Water Quality – 10.82% (29)
- Growth/Development – 19.78% (53)
- Groundwater/Wakulla Springs – 7.46% (20)
- Water Quality – 4.48% (12)
- Petroleum Products – 2.24% (6)
- General Concerns – 13.81% (37)
- Sewer & Effluent Disposal – 10.07% (27)
- Nature (plants, animals, etc.) – 3.73% (10)

9. Who do you feel is primarily responsible for corrective action?
    - Federal – 2.10% (7)
    - State – 25.23% (84)
    - County – 53.75% (179)
    - Individuals – 13.21% (44)
    - All/Everyone – 4.80% (16)
    - Water Companies – 0.30% (1)
    - Other – 0.60% (2)

This survey showed that most respondents were residents of Wakulla County who had concerns about Wakulla Springs and the groundwater. Nearly three-fourths of the respondents had visited Wakulla Springs in the past 12 months. Around 10% of respondents were involved in an organization and volunteered within the past 12 months. The causes for environmental concern were varied with the three most common factors being septic systems, the County's growth and development, and general contaminant concerns. Over half of respondents feel it is the County's responsibility to provide corrective action.

SURVEY 3 – PERSONAL EXPERIENCE WITH SEPTIC UPGRADE PROJECTS

The purpose of this survey was to evaluate the public's response to previous septic upgrade and understand what their experiences were like. This will assist the County as they continue to implement future projects. This survey only provided certain questions based upon the respondents' previous answers to ensure the survey was relevant to the respondent. A total of 123 responses were collected. Below are the questions and response tallies with percentages and number of respondents for this survey:

1. Are you a resident of Wakulla County?
    - Yes – 98.36% (120)
    - No – 1.64% (2)
2. What type of sewer service do you currently have?
    - I am connected to the County's sewer system – 27.27% (33)
    - I have a traditional septic system – 57.85% (70)
    - I have an enhanced or performance based septic system – 12.40% (15)
    - I'm not sure what kind of sewer system I have – 2.48% (3)
    - I have an alternate type of sewer system – 0.00% (0)
3. Have you been directly impacted by a septic to sewer project in Wakulla County?
    - Yes – 15.70% (19)
    - No – 84.30% (102)

4. Has your property been connected to sewer as part of a septic-to-sewer project?
    - Yes – 10.74% (13) *(If yes, go to question 5)*
    - No – 89.26% (108) *(If no, go to question 10)*
5. Did you take advantage of the free connection incentive provided by County and State funding?
    - Yes – 76.92% (10)
    - No – 23.08% (3)
6. Was your experience positive?
    - Yes – 76.92% (10)
    - No – 23.08% (3)
    - Three comments were recorded:
        i. I have a grinder pump and it has been replaced 2x's at my expense at $1600.00 per pump plus the cost of installation
        ii. Left holes in my yard that kept reappearing after filling them in.. I fell in a hole while mowing my grass!
        iii. Overall it was positive but, the yard was (and still is messed up). We called and spoke with someone several times but it was never resolved. Otherwise, we were well informed and very happy with end result. Thank you.
7. Would you recommend similar projects to neighbors?
    - Yes – 84.62% (11)
    - No – 15.38% (2)
8. At what point were you made aware of the project?
    - 6 to 12 months before construction – 30.77% (4)
    - 3 to 6 months before construction – 23.08% (3)
    - 1 to 3 months before construction – 7.69% (1)
    - When construction began in my neighborhood – 23.08% (3)
    - When construction began adjacent to my property – 15.38% (2)
9. Did you attend any of the pre-project community meetings?
    - Yes – 30.77% (4) *(if yes, go to question 13)*
    - No – 69.23% (9) *(if no, go to question 15)*
10. Do you live in a neighborhood adjacent to the previous projects?
    - Yes – 25.74% (26)
    - No – 74.26% (75)
11. Are you in favor of participating in a septic-to-sewer project for your property?
    - Yes – 57.43% (58)
    - No – 42.57% (43)
12. Do you have any concerns about receiving sewer service?
    - Yes – 33.33% (34)
    - No – 66.67% (68)
    - Concerns included:
        i. Cost – 65.38% (17)
        ii. Treatment and Collection Quality – 23.08% (6)
        iii. Growth – 3.85% (1)

iv. Location – 15.38% (4)
v. Damage to Home – 3.85% (1)

13. Did you find the pre-project community meetings beneficial?
    - Yes – 100.00% (3)
    - No – 0.00% (0)
    - Note: only 3 respondents were recorded for this question
14. What changes could be made to increase the success of future projects?
    - At times the project was inconvenient and irritating, but the workers were always polite, informative, and helpful. There is no way to put a sewer system in a road ful of cars and people without problems arrising. I think they did a great job.
    - Some people received notices on their doors about what was happening next during each stage. We never received those. That would have been nice. The more information prior to the action the better. People were going by word of mouth and Facebook and it was not helpful or reliable at all.
15. Are you aware of performance based or enhanced septic systems?
    - Yes – 64.29% (72)
    - No – 35.71% (40)
16. Have you installed one of these performance based or enhanced septic systems in your home?
    - Yes – 13.39% (15)
    - No – 86.61% (97)
17. Are you aware of financial assistance for septic upgrade projects?
    - Yes – 40.54% (45)
    - No – 59.46% (66)
18. Have you taken part in one of the financial assistance programs for septic upgrades?
    - Yes – 7.14% (8) *(If yes, go to question 19)*
    - No – 92.86% (104) *(If no, end survey)*
19. Was your experience positive?
    - Yes – 75.00% (6)
    - No – 25.00% (2)
    - Five comments were recorded. Three provided positive feedback. One questioned the need to upgrade. One provided negative feedback regarding the amount of the grant coverage.
20. Would you recommend similar projects to neighbors?
    - Yes – 100.00% (8)
    - No – 0.00% (0)

Nearly 17% of respondents had participated in either septic-to-sewer or septic upgrade projects funded by the County and State. The majority of participants had a positive experience and would recommend a neighbor to participate. Just over half of respondents that had not taken part in a previous septic-to-sewer project were willing to participate in one if available.

SURVEY 4 – PERSONAL ACCEPTANCE OF SEWERING PROJECTS

The purpose of this survey was to specifically focus on the public's willingness to participate in septic upgrade projects and programs and to determine which projects were preferred in the community. A total of 143 responses were collected. Below are the questions and response tallies with percentages and number of respondents for this survey:

1. Are you a resident of Wakulla County?
    - Yes – 99.30% (142)
    - No – 0.70% (1)
2. Are you in favor of continued septic and sewer enhancements in Wakulla County?
    - Yes – 90.85% (129)
    - No – 9.15% (13)
3. Are you aware of septic or sewer incentive programs?
    - Yes – 46.10% (65)
    - No – 53.90% (76)
4. Have you been a recipient of any County or State funded sewer enhancement projects (septic-to-sewer or septic upgrades)?
    - Yes, I participated in the connection to the County's sewer system – 7.04% (10)
    - Yes, I participated in the septic upgrade program – 3.52% (5)
    - No – 89.44% (127)
5. Which of these, if either, would you prefer?
    - I'd like to upgrade to an enhanced septic system – 10.79% (15)
    - I'd prefer to be connected to the County's sewer system – 48.92% (68)
    - I've already completed a septic upgrade or am connected to the County's system – 17.27% (31)
    - I'm not interested in either program because: 23.02% (25)
        i. Cost – 36% (9)
        ii. Current system is fine – 32% (8)
        iii. General Concerns – 20% (5)
        iv. Environmental or Health Concerns – 8% (2)
        v. Location of Home – 8% (2)
6. What additional steps by State or County government do you feel would be beneficial to the environmental protection of Wakulla County?
    - No Comment – 35.66% (51)
    - Comment – 64.34% (92)
        i. Stop Growth – 31.52% (29)
        ii. Studies/Education/Communication – 5.43% (5)
        iii. Properly locate effluent discharge – 8.70% (8)
        iv. Septic upgrade or replacement and sewer expansion – 23.91% (22)
        v. Developments required to have County sewer – 3.26% (3)
        vi. Drinking water improvements – 2.17% (2)
        vii. Treatment capacity – 5.43% (5)
        viii. Developer fees – 3.26% (3)
        ix. Road and stormwater improvement – 3.26% (3)
        x. General: Springs and river improvement – 9.78% (9)
        xi. General Comments – 19.57% (18)

This questionnaire shows that the overwhelming majority of respondents desire continued septic and sewer enhancements in the County but only around half are aware of the incentive programs with only about 10% having participated in the incentive programs. The preferred method for sewer enhancement projects was connection to the County's system. Concerns regarding environmental protection were varied but the two most common responses referred to concerns regarding growth and development within the County and the septic upgrade, replacement, or sewer expansion.

CONCLUSION

These surveys have provided great insight into the community's concerns and desires for environmental protection. The surveys indicate a desire for septic and sewer enhancements to continue and that past experiences with those programs were mostly positive. The need for further community outreach and education regarding these issues is important. The County has utilized traditional media such as newspapers and community meetings as well as social media to provide information to citizens; however, most respondents stated they do not regularly check these sources or attend the meetings. It is unknown what vehicles might be employed to ensure information is provided to citizens as the most typically utilized methods are reportedly not regularly checked.

The respondents have various environmental concerns. Some relate to sewer collection, treatment, and disposal which are the focus of this report. Others relate to nutrient loading from other sources. Community involvement in environmental issues seemed to be important to the respondents with around 10% being involved in community groups or volunteering with community organizations. The full survey responses are included in the attachments of this report for further evaluation and reference.

REFERENCES

1. Gaffney, R. (2021, July 13). *Florida Officials Want Wakulla County Residents' Input On Septic To Sewer Projects*. Retrieved from WFSU Public Media: https://news.wfsu.org/wfsu-local-news/2021-07-13/florida-officials-want-wakulla-county-residents-input-on-septic-to-sewer-projects

2. *Wakulla County*. (n.d.). Retrieved from mywakulla.com

3. *Wakulla County Board of County Commissioners Administration*. (n.d.). Retrieved from Facebook: https://www.facebook.com/pages/category/Government-Organization/Wakulla-County-Board-of-County-Commissioners-Administration-257737631323746/

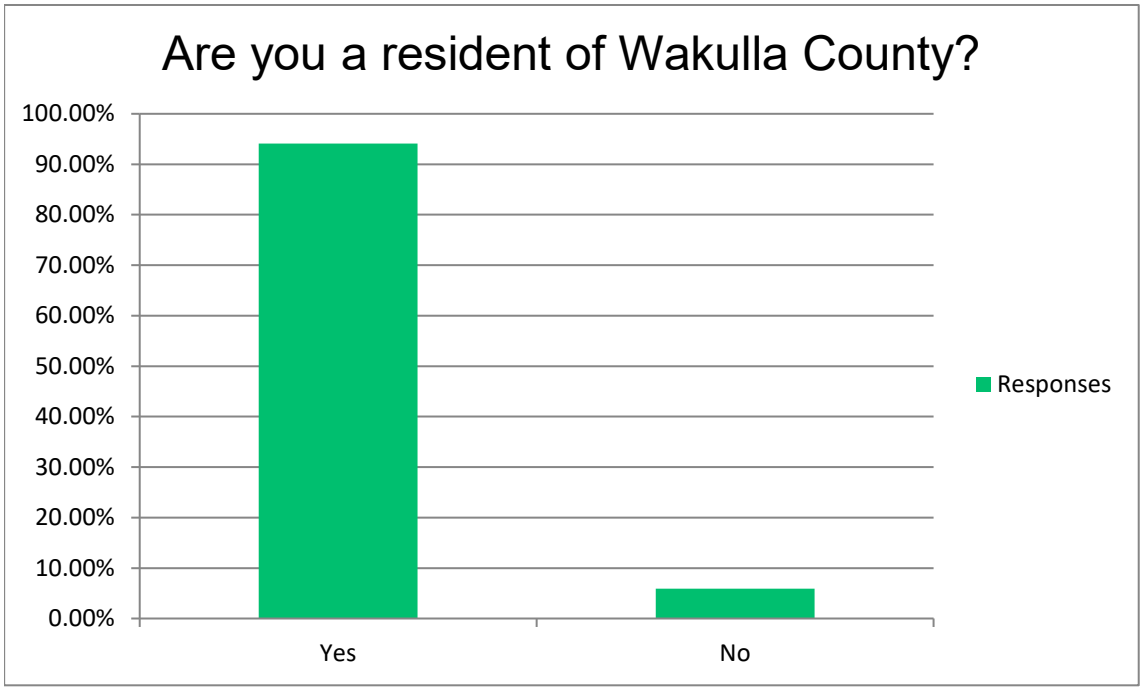
Attachment A

Survey 1: General Knowledge

General Knowledge

Are you a resident of Wakulla County?

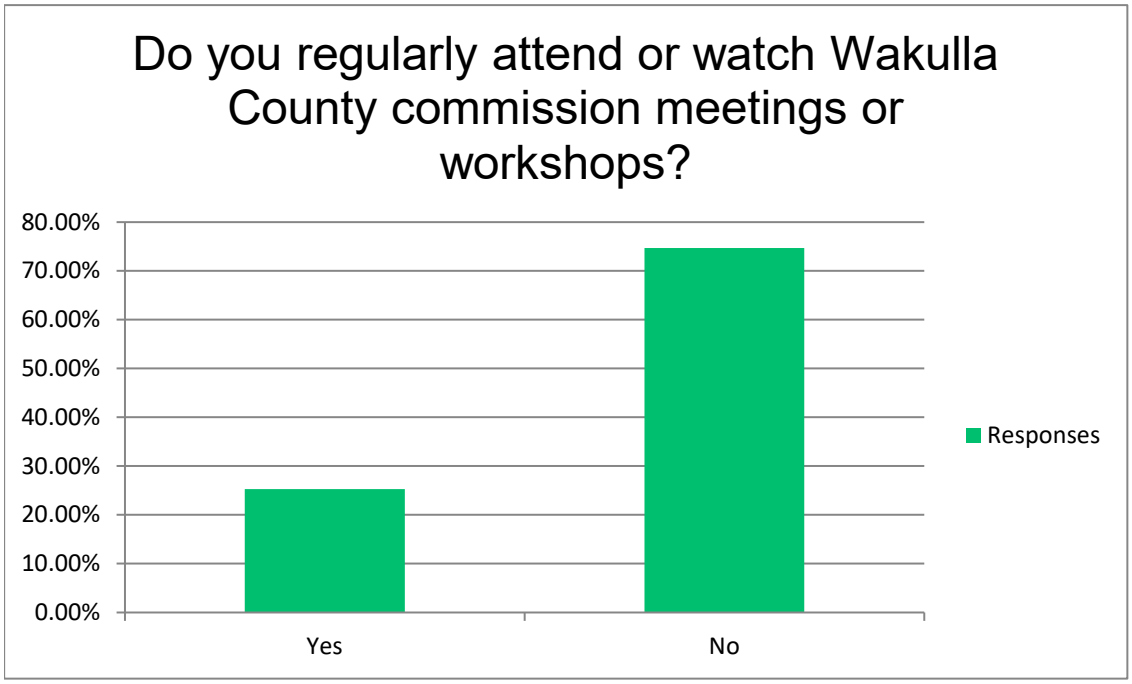
Answer Choices	Responses	
Yes	94.12%	336
No	5.88%	21
	Answered:	**357**
	Skipped:	**0**



General Knowledge

Do you regularly attend or watch Wakulla County commission meetings or workshops?

Answer Choices	Responses	
Yes	25.28%	90
No	74.72%	266
	Answered:	**356**
	Skipped:	**1**



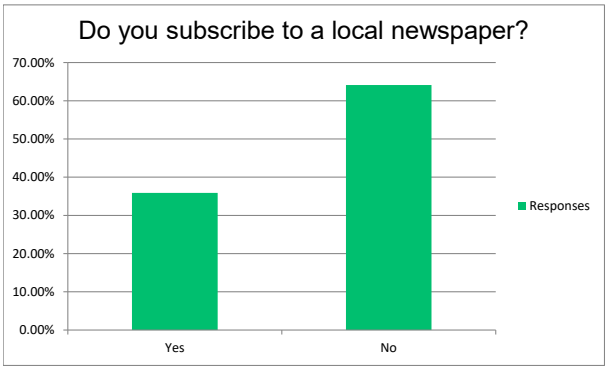
General Knowledge

Do you subscribe to a local newspaper?

Answer Choices	Responses	
Yes	35.88%	127
No	64.12%	227
If yes, which paper or publication?		124
	Answered:	**354**
	Skipped:	**3**

Comment Summary

If yes, which paper or publication?	Results	
Wakulla News	83.06%	103
Tallahassee Democrat	25.81%	32



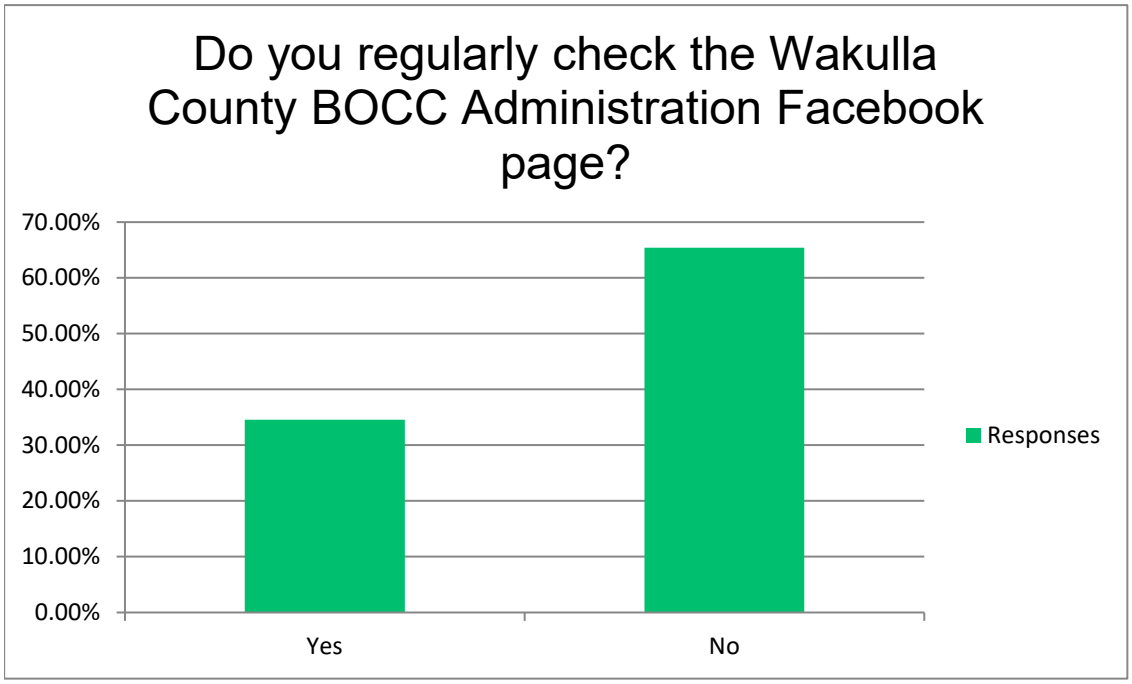
Respondents	Response Date	If yes, which paper or publication?
1	Jul 20 2021 10:21 PM	Wakulla and tlh Democrat
2	Jul 20 2021 08:42 AM	Read Wakulla news weekly but don't subscribe
3	Jul 19 2021 02:30 PM	Wakulla News
4	Jul 18 2021 01:39 PM	Wakulla news
5	Jul 18 2021 01:20 PM	Wakulla News
6	Jul 17 2021 12:10 PM	Wakulla News
7	Jul 16 2021 08:23 PM	Wakulla News
8	Jul 16 2021 07:49 PM	Wakulla News
9	Jul 16 2021 10:29 AM	Tallahassee democratic
10	Jul 16 2021 10:24 AM	Wakulla News - it's free, not subscribed.
11	Jul 16 2021 07:49 AM	Wakulla news
12	Jul 16 2021 07:46 AM	Wakulla
13	Jul 15 2021 09:47 PM	Wakulla News
14	Jul 15 2021 02:13 PM	Wakulla News
15	Jul 14 2021 10:40 PM	Wakulla News
16	Jul 14 2021 06:55 PM	wakulla news
17	Jul 14 2021 06:51 PM	Tallahassee Democrat online
18	Jul 14 2021 04:17 PM	Tallahassee Democrat
19	Jul 14 2021 03:42 PM	Wakulla newspaper
20	Jul 14 2021 02:15 PM	Wakulla News
21	Jul 14 2021 01:55 PM	Wakulla News and Tallahassee Democrat
22	Jul 14 2021 01:49 PM	Wakulla News
23	Jul 14 2021 11:55 AM	Wasilla news
24	Jul 14 2021 09:50 AM	Wakulla News
25	Jul 14 2021 09:18 AM	Wakulla News
26	Jul 14 2021 09:06 AM	The Wakulla News
27	Jul 14 2021 08:58 AM	Wakula news
28	Jul 14 2021 08:50 AM	Tally democrat. Wakulla news
29	Jul 14 2021 07:17 AM	Wakulla News
30	Jul 13 2021 10:59 PM	Wakulla News
31	Jul 13 2021 10:38 PM	Wakulla News
32	Jul 13 2021 10:23 PM	Wakulla news, Tally democrat
33	Jul 13 2021 08:56 PM	Wakulla Times
34	Jul 13 2021 08:02 PM	Tallahassee Democrat
35	Jul 13 2021 07:25 PM	The Wakulla News
36	Jul 13 2021 07:25 PM	Tallahassee Democrat
37	Jul 13 2021 07:22 PM	Wakulla Times
38	Jul 13 2021 06:32 PM	Wakulla News
39	Jul 13 2021 05:55 PM	Democrat
40	Jul 13 2021 03:08 PM	Wakulla News
41	Jul 13 2021 02:19 PM	Democrat
42	Jul 13 2021 12:47 PM	Wakulla News
43	Jul 13 2021 12:25 PM	Wakulla News
44	Jul 13 2021 12:06 PM	Wakulla News
45	Jul 13 2021 11:56 AM	Wakulla News
46	Jul 13 2021 11:20 AM	Wakulla News
47	Jul 13 2021 11:14 AM	Wakulla news
48	Jul 13 2021 10:43 AM	Tallahassee Democrat
49	Jul 13 2021 10:21 AM	Wakulla
50	Jul 13 2021 08:52 AM	Wakulla News
51	Jul 13 2021 07:53 AM	wAKULA NEWS
52	Jul 13 2021 07:38 AM	Wakulla news
53	Jul 13 2021 07:38 AM	Wakulla Weekly
54	Jul 12 2021 10:08 PM	Tallahassee Democrat online
55	Jul 12 2021 08:52 PM	Wakulla News

56	Jul 12 2021 07:38 PM	Democrat
57	Jul 12 2021 05:03 PM	tlh democrat
58	Jul 12 2021 03:37 PM	The Wakulla News
59	Jul 12 2021 03:34 PM	Wakullla News
60	Jul 12 2021 02:36 PM	Wakulla co news
61	Jul 12 2021 01:39 PM	Walulla News
62	Jul 12 2021 12:58 PM	Wakulla News
63	Jul 12 2021 12:40 PM	Tallahassee Democrat
64	Jul 12 2021 12:35 PM	Tallahassee Democrat
65	Jul 12 2021 12:19 PM	The Wakulla News
66	Jul 12 2021 12:18 PM	Tallahassee Democrat
67	Jul 12 2021 11:08 AM	Wakulla News
68	Jul 12 2021 10:45 AM	Wakulla News & Epoch Times
69	Jul 12 2021 10:32 AM	Tallahassee Democrat
70	Jul 12 2021 10:31 AM	dad gives me his copy of the paper
71	Jul 11 2021 10:37 AM	Wakulla News
72	Jul 06 2021 08:27 AM	The Wakulla News
73	Jul 05 2021 03:57 PM	Wakulla news
74	Jul 03 2021 11:12 AM	Wakulla News
75	Jul 02 2021 12:15 PM	Wakulla news
76	Jul 02 2021 08:59 AM	Wakulla
77	Jul 02 2021 06:51 AM	Wakulla News
78	Jul 02 2021 05:21 AM	Wakulla News
79	Jul 02 2021 05:00 AM	Wakulla News
80	Jul 01 2021 11:04 PM	Tallahassee Democrat
81	Jul 01 2021 09:37 PM	Wakulla news. Tallahassee Democrat
82	Jul 01 2021 05:11 PM	wakulla News & Neighbors
83	Jul 01 2021 04:24 PM	Tallahassee Democrat
84	Jul 01 2021 03:38 PM	wakulla news
85	Jul 01 2021 03:36 PM	Wakulla News
86	Jul 01 2021 11:36 AM	Wakulla Times
87	Jul 01 2021 11:33 AM	The Wakulla News, Tallahassee Democrat
88	Jun 30 2021 09:29 PM	The Wakulla News
89	Jun 30 2021 03:59 PM	Wakulla News
90	Jun 30 2021 02:20 PM	Wakulla News
91	Jun 30 2021 02:10 PM	Tallahassee Democrat, Wakulla News
92	Jun 30 2021 07:50 AM	Wakulla News
93	Jun 29 2021 10:32 PM	Wakulla News and Tallahassee Democrat
94	Jun 29 2021 09:42 PM	The Wakulla News
95	Jun 29 2021 07:50 PM	Tallahassee Democrat
96	Jun 29 2021 07:37 PM	Wakulla News
97	Jun 29 2021 07:06 PM	Wakulla News
98	Jun 29 2021 04:10 PM	Wakulla News, Tallahassee Democrat
99	Jun 29 2021 03:38 PM	The Wakulla News and Tallahassee Democrat
100	Jun 29 2021 03:26 PM	Wakulla news
101	Jun 29 2021 03:14 PM	Tallahassee Democrat
102	Jun 29 2021 03:12 PM	The Wakulla News
103	Jun 29 2021 02:26 PM	The Wakulla News and Tallahassee Democrat
104	Jun 29 2021 02:08 PM	Wakulla news
105	Jun 29 2021 01:48 PM	Wakulla News
106	Jun 29 2021 01:48 PM	The Wakulla News
107	Jun 29 2021 01:16 PM	The Wakulla News
108	Jun 29 2021 01:15 PM	Wakulla News
109	Jun 29 2021 12:30 PM	Wakulla News
110	Jun 29 2021 12:24 PM	Tallahassee Democrat
111	Jun 29 2021 11:59 AM	Wakulla Times
112	Jun 29 2021 11:55 AM	Wakulla News
113	Jun 29 2021 11:34 AM	Wakulla News
114	Jun 29 2021 11:20 AM	The Wakulla News
115	Jun 29 2021 11:11 AM	The Wakulla News
116	Jun 29 2021 11:00 AM	Wakulla News
117	Jun 29 2021 10:53 AM	Wakulla News & Tallahassee Democrat
118	Jun 29 2021 10:51 AM	Wakulla News
119	Jun 29 2021 10:51 AM	The Wakulla News
120	Jun 29 2021 10:42 AM	Wakulla News
121	Jun 29 2021 10:32 AM	Wakulla News
122	Jun 29 2021 10:29 AM	Wakulla News
123	Jun 29 2021 10:28 AM	Wakulla News
124	Jun 29 2021 10:27 AM	Wakulla News

General Knowledge

Do you regularly check the Wakulla County BOCC Administration Facebook page?

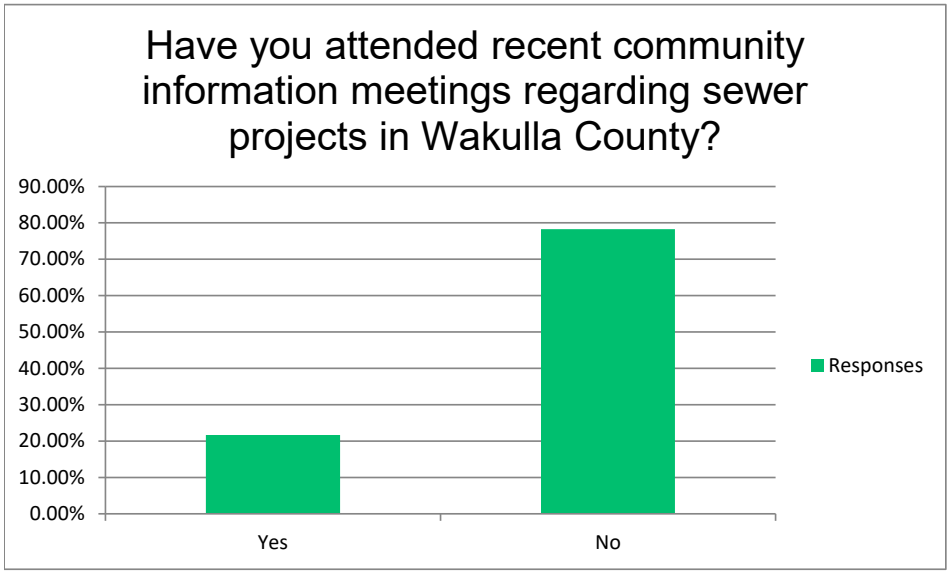
Answer Choices	Responses	
Yes	34.57%	121
No	65.43%	229
	Answered:	**350**
	Skipped:	**7**



General Knowledge

Have you attended recent community information meetings regarding sewer projects in Wakulla County?

Answer Choices	Responses	
Yes	21.69%	77
No	78.31%	278
	Answered:	**355**
	Skipped:	**2**



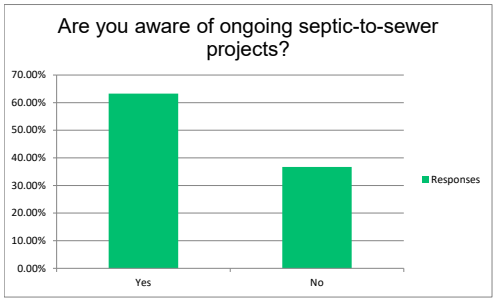
General Knowledge

Are you aware of ongoing septic-to-sewer projects?

Answer Choices	Responses	
Yes	63.28%	224
No	36.72%	130
If so, how?		173
	Answered:	**354**
	Skipped:	**3**

Comment Summary

If so, how?	Responses	
Word of mouth	12.14%	21
Social media/internet	36.99%	64
News outlets (newspaper, TV, etc.)	33.53%	58
Meetings/Commissioners	15.03%	26
Work	5.20%	9
Neighborhood/resident	13.29%	23



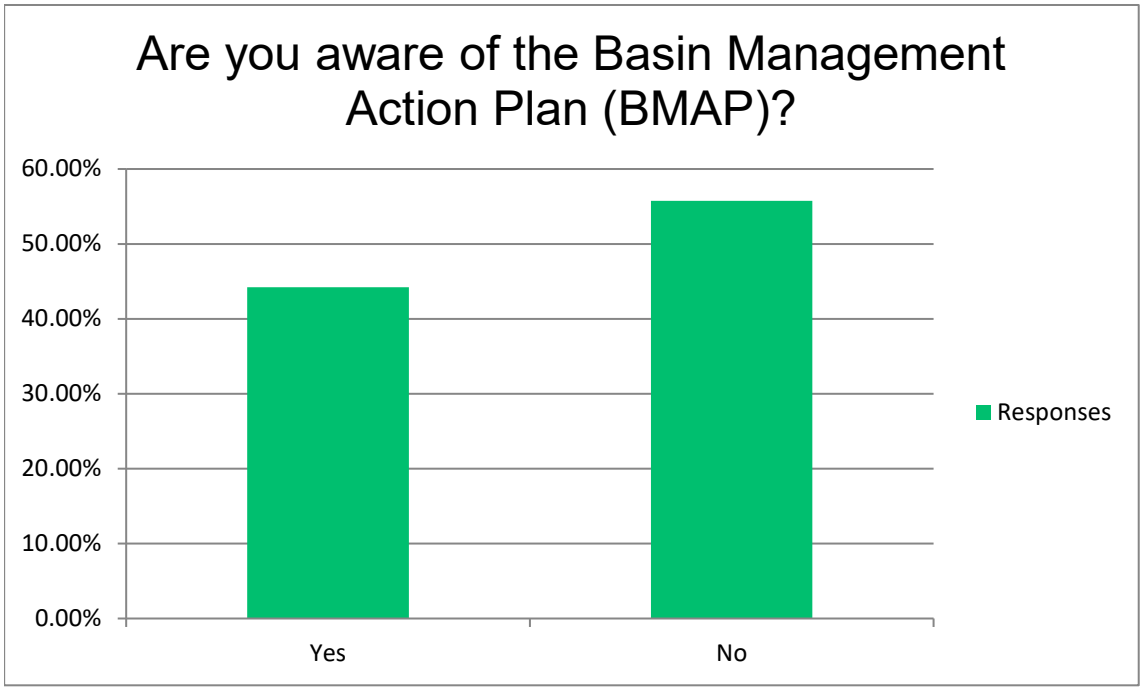
Respondents	Response Date	If so, how?
1	Jul 23 2021 11:17 AM	I am with Airvac and we provide cost savings on septic to sewer solutions with Vacuum Technology Systems.
2	Jul 20 2021 10:21 PM	Word of mouth
3	Jul 20 2021 08:42 AM	Vaguely aware since it's been going on for years
4	Jul 18 2021 01:39 PM	I paid attentive
5	Jul 17 2021 08:03 PM	Facebook and gossip in county
6	Jul 17 2021 09:31 AM	TV coverage
7	Jul 16 2021 08:23 PM	News, Wakulla Facebook
8	Jul 16 2021 05:44 PM	Internet
9	Jul 16 2021 02:03 PM	By talking one on one with Commissioners and Facebook Community Pages
10	Jul 16 2021 01:25 PM	friends, coworkers, then web search
11	Jul 16 2021 12:15 PM	Wakulla Garden's Facebook page
12	Jul 16 2021 07:46 AM	Harbor Branch Oceanographic Dr. Brian LaPointe
13	Jul 16 2021 07:17 AM	I can see
14	Jul 15 2021 11:27 PM	FACEBOOK PAGE
15	Jul 15 2021 09:47 PM	Newspaper, tv and internet. Also Wakulla Citizens page on FB.
16	Jul 15 2021 02:13 PM	The Wakulla News
17	Jul 15 2021 08:36 AM	Hearings
18	Jul 15 2021 06:58 AM	Friends of Wakulla Springs Facebook page
19	Jul 14 2021 11:23 PM	People in the community
20	Jul 14 2021 10:40 PM	My neighborhood is included in the sewer expansion project
21	Jul 14 2021 06:55 PM	newspaper
22	Jul 14 2021 06:51 PM	Other FB news, community talk
23	Jul 14 2021 04:22 PM	Neighborhood app
24	Jul 14 2021 04:17 PM	Tallahassee Democrat
25	Jul 14 2021 02:38 PM	Neighbor
26	Jul 14 2021 02:15 PM	Facebook and news articles
27	Jul 14 2021 02:01 PM	Neighborhood ap
28	Jul 14 2021 01:55 PM	Occasional Wakulla News articles
29	Jul 14 2021 01:49 PM	word of mouth
30	Jul 14 2021 12:53 PM	Most streets in our neighborhood were converted(not ours)
31	Jul 14 2021 12:17 PM	Public information
32	Jul 14 2021 12:01 PM	News
33	Jul 14 2021 09:50 AM	Facebook, Newspaper
34	Jul 14 2021 09:26 AM	Facebook info
35	Jul 14 2021 09:18 AM	Newspaper
36	Jul 14 2021 09:11 AM	Neighborhood Digest
37	Jul 14 2021 09:06 AM	News outlets
38	Jul 14 2021 08:58 AM	Through sopchoppy utilities
39	Jul 14 2021 08:50 AM	Local news
40	Jul 14 2021 08:21 AM	A little over two month
41	Jul 14 2021 08:10 AM	news articles
42	Jul 14 2021 07:48 AM	Mouth to Mouth
43	Jul 14 2021 07:40 AM	TV.
44	Jul 14 2021 07:22 AM	We took advantage of the upgrade for our septic drain field, the septic to sewer is not available in our area.
45	Jul 14 2021 07:17 AM	Media
46	Jul 14 2021 07:00 AM	Research
47	Jul 14 2021 05:10 AM	I've been a resident of Crawfordville for nearly 50 years and am well aware of the water, sewer, and proposed spray field.
48	Jul 14 2021 03:42 AM	One was installed in a near by neighborhood
49	Jul 14 2021 12:37 AM	I live in an area where septic to sewer is being done
50	Jul 13 2021 10:39 PM	Internet reading
51	Jul 13 2021 10:38 PM	Awareness
52	Jul 13 2021 10:30 PM	My neighborhood is supposed to be moving to sewer but we are not seeing anymore progress toward that anymore
53	Jul 13 2021 08:56 PM	Mailers, newspaper, word of mouth, internet
54	Jul 13 2021 08:33 PM	From mail correspondence and the news. Participated in first phase
55	Jul 13 2021 08:02 PM	Been waiting for wakulla gardens phase 3 for years it seams, still haven't started yet
56	Jul 13 2021 07:25 PM	Though town hall meeting and word of mouth
57	Jul 13 2021 07:12 PM	Social media
58	Jul 13 2021 06:03 PM	Facebook
59	Jul 13 2021 05:55 PM	Regularly
60	Jul 13 2021 05:09 PM	6 mo
61	Jul 13 2021 05:03 PM	don't remember
62	Jul 13 2021 03:08 PM	Newspaper and driving by
63	Jul 13 2021 02:12 PM	I live in Magnolia Gardens and got the hook up.
64	Jul 13 2021 01:41 PM	Through talk around town
65	Jul 13 2021 12:28 PM	I live in Woodville, it's been addressed in our area.
66	Jul 13 2021 12:25 PM	New lift stations , new sewer lines
67	Jul 13 2021 12:04 PM	Next door and Wakulla Neighbor
68	Jul 13 2021 11:53 AM	From facebook posts and e-mails from other groups.
69	Jul 13 2021 11:26 AM	online news
70	Jul 13 2021 11:20 AM	Newspaper
71	Jul 13 2021 11:14 AM	Property owner
72	Jul 13 2021 11:13 AM	Through Facebook groups.
73	Jul 13 2021 10:31 AM	Vaguely, called incentive program but no one can tell me when my phase of wakulla gardens will begin converting - WCTV is the only resource I have heard about

74	Jul 13 2021 08:52 AM	Based on news coverage and Nextdoor comments
75	Jul 13 2021 07:53 AM	FDE[
76	Jul 12 2021 09:22 PM	It was announced in the Wakulla weekly newspaper a couple of months ago.
77	Jul 12 2021 04:52 PM	I have lived in Wakulla Gardens for 18 years and have been promised sewer and as usual it has not come to pass liars
78	Jul 12 2021 03:37 PM	The Wakulla News
79	Jul 12 2021 02:36 PM	News paper
80	Jul 12 2021 01:39 PM	3 years
81	Jul 12 2021 01:24 PM	Friend
82	Jul 12 2021 12:40 PM	word of mouth, newspaper, local environmental clubs
83	Jul 12 2021 12:35 PM	Leon County Sci Advisory Comm / Water Resources Comm / BMAP process
84	Jul 12 2021 12:19 PM	Read about it in local newspaper and news from the regional Sierra Club
85	Jul 12 2021 11:40 AM	County commissioners meeting
86	Jul 12 2021 11:35 AM	Residents of specific subdivisions
87	Jul 12 2021 11:02 AM	Wakulla County Citizens facebook
88	Jul 12 2021 10:32 AM	Facebook and word of mouth
89	Jul 12 2021 10:31 AM	state and local gov
90	Jul 11 2021 10:37 AM	news
91	Jul 08 2021 09:42 PM	People receive grants to switch from septic to sewer
92	Jul 05 2021 03:57 PM	Paper and facebook
93	Jul 05 2021 03:41 PM	Ralph Thomas and ryan
94	Jul 05 2021 01:57 PM	Local news coverage
95	Jul 05 2021 01:27 PM	Wakulla news and social media
96	Jul 05 2021 01:04 PM	From the BoCC
97	Jul 03 2021 11:45 AM	Mentions of it in Wakulla area facebooks pages
98	Jul 03 2021 11:12 AM	topic of interest to a retired public health person
99	Jul 02 2021 02:47 PM	Work
100	Jul 02 2021 12:15 PM	read about it in the paper
101	Jul 02 2021 10:01 AM	Facebook
102	Jul 02 2021 08:59 AM	Newspaper, Facebook, public comment
103	Jul 02 2021 06:51 AM	Facebook and Wakulla News
104	Jul 02 2021 06:39 AM	Discussions at work
105	Jul 02 2021 05:00 AM	County commission meetings
106	Jul 01 2021 11:04 PM	Direct mail
107	Jul 01 2021 09:37 PM	Realtor
108	Jul 01 2021 06:42 PM	DEP site
109	Jul 01 2021 04:24 PM	WSA emails
110	Jul 01 2021 04:12 PM	Facebook
111	Jul 01 2021 03:38 PM	Board meetings, news articles, facebook, neighbors
112	Jul 01 2021 03:36 PM	Facebook
113	Jul 01 2021 02:19 PM	Via the Wakulla Citizens page on Facebook
114	Jul 01 2021 01:47 PM	Seeing
115	Jul 01 2021 11:33 AM	media, social meeting, commission meeting minutes and agendas
116	Jul 01 2021 11:20 AM	Former publications
117	Jul 01 2021 10:42 AM	Word of mouth
118	Jul 01 2021 08:58 AM	Via direct mail and Wakulla County websites
119	Jul 01 2021 08:47 AM	Facebook, BOCC Emails, Local Talk
120	Jul 01 2021 06:05 AM	Wakulla Citizens facebook page
121	Jun 30 2021 09:29 PM	Newspaper article
122	Jun 30 2021 07:32 PM	Next door fb page, wakulla fb page, word of mouth, meetings
123	Jun 30 2021 05:00 PM	Social Media and BOCC meetings
124	Jun 30 2021 03:59 PM	News paper
125	Jun 30 2021 02:20 PM	Infrastructure open house
126	Jun 30 2021 02:10 PM	emails from BOCC and others
127	Jun 30 2021 10:05 AM	Facebook pages
128	Jun 30 2021 09:05 AM	County emails, blurbs on internet
129	Jun 30 2021 07:50 AM	Facebook and Newspaper
130	Jun 29 2021 10:32 PM	News and Facebook discussions
131	Jun 29 2021 10:12 PM	Facebook posts
132	Jun 29 2021 09:42 PM	Newspaper
133	Jun 29 2021 07:55 PM	Neighborhood meetings and media posts
134	Jun 29 2021 07:37 PM	Meeting Agendas and Workshops
135	Jun 29 2021 07:26 PM	Facebook
136	Jun 29 2021 07:06 PM	Commissioner
137	Jun 29 2021 06:13 PM	I've heard some things through Facebook and from emailing the commissioners.
138	Jun 29 2021 05:13 PM	Public knowledge
139	Jun 29 2021 04:10 PM	Newspapers and facebook
140	Jun 29 2021 03:38 PM	From asking about it and reading the Wakulla News
141	Jun 29 2021 03:26 PM	5 years
142	Jun 29 2021 03:14 PM	email
143	Jun 29 2021 03:12 PM	News, social media
144	Jun 29 2021 03:00 PM	Meetings
145	Jun 29 2021 02:46 PM	social media
146	Jun 29 2021 02:26 PM	Newspaper and Facebook
147	Jun 29 2021 02:08 PM	Thru the commissioners
148	Jun 29 2021 01:48 PM	newspaper and updates
149	Jun 29 2021 01:48 PM	I live in Wakulla Gardens. I am a member of several Facebook groups for Wakulla Citizens and The Voice of Wakulla Gardens
150	Jun 29 2021 01:28 PM	General news sources
151	Jun 29 2021 01:16 PM	Newspaper and Facebook and Mywakulla.com
152	Jun 29 2021 01:15 PM	I know there are efforts to change various neighborhoods from septic to sewer.
153	Jun 29 2021 12:21 PM	word of mouth and social media
154	Jun 29 2021 12:07 PM	Watch county meetings
155	Jun 29 2021 11:59 AM	Newspaper article
156	Jun 29 2021 11:55 AM	Public meetings
157	Jun 29 2021 11:34 AM	BOCC meeting agenda
158	Jun 29 2021 11:25 AM	Live in the Gardens, and used to work for FDEP when these projects began.
159	Jun 29 2021 11:20 AM	Virtual BOCC meeting
160	Jun 29 2021 11:11 AM	through news and BOCC announcements
161	Jun 29 2021 11:00 AM	Resident of county
162	Jun 29 2021 10:56 AM	Through professional conversations.
163	Jun 29 2021 10:55 AM	Fb
164	Jun 29 2021 10:52 AM	I'm a realtor
165	Jun 29 2021 10:51 AM	The the media, newspaper and friends
166	Jun 29 2021 10:46 AM	BOCC Meetings
167	Jun 29 2021 10:42 AM	BOCC meetings on fb live and newspaper
168	Jun 29 2021 10:37 AM	I'm an agent of the County
169	Jun 29 2021 10:36 AM	Wakulla Citizens Facebook
170	Jun 29 2021 10:36 AM	Participant
171	Jun 29 2021 10:28 AM	Hearing on social media
172	Jun 29 2021 10:27 AM	Awareness
173	Jun 28 2021 03:44 PM	I am heavily involved in the program

General Knowledge

Are you aware of the Basin Management Action Plan (BMAP)?

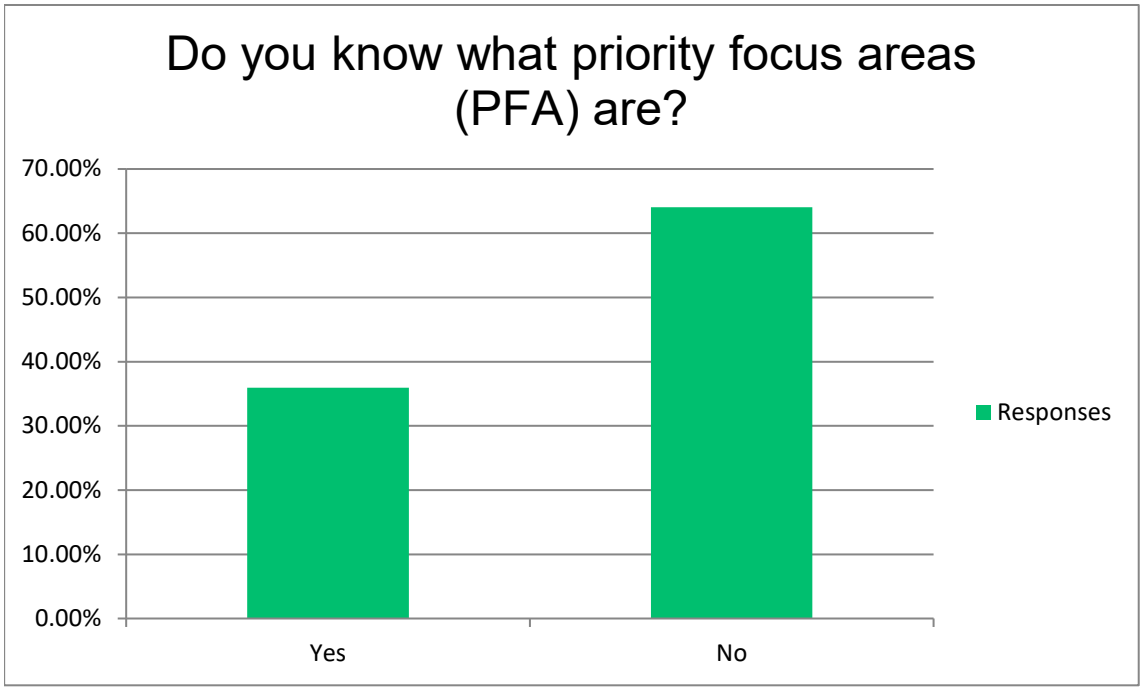
Answer Choices	Responses	
Yes	44.23%	157
No	55.77%	198
	Answered:	**355**
	Skipped:	**2**



General Knowledge

Do you know what priority focus areas (PFA) are?

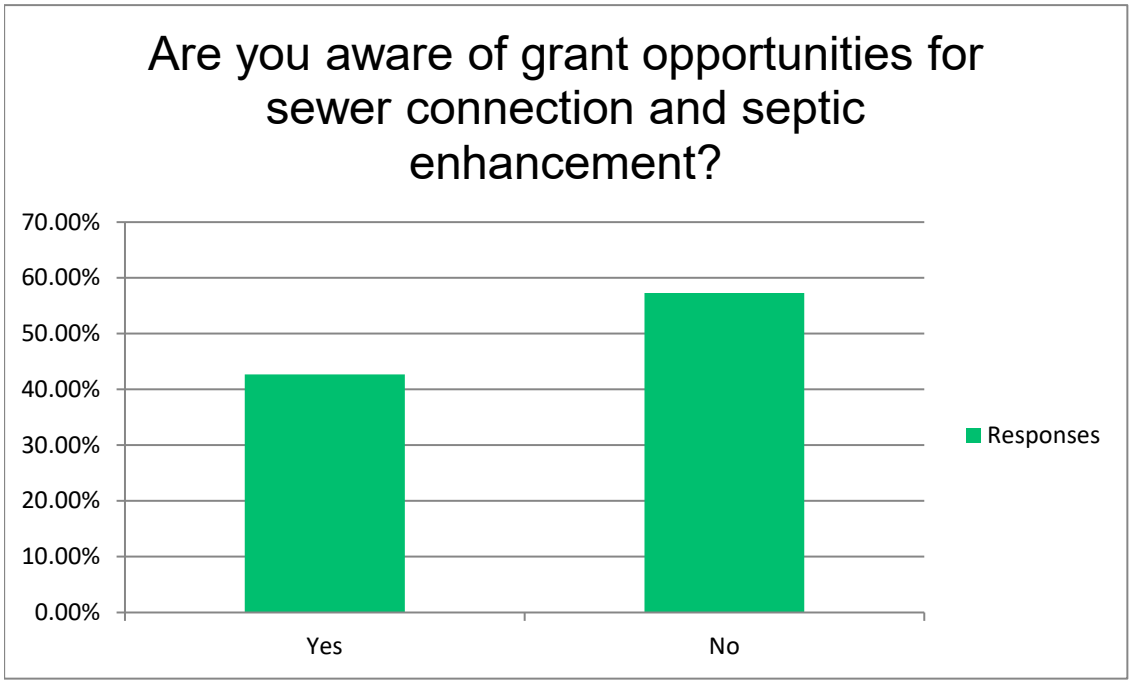
Answer Choices	Responses	
Yes	35.96%	128
No	64.04%	228
	Answered:	**356**
	Skipped:	**1**



General Knowledge

Are you aware of grant opportunities for sewer connection and septic enhancement?

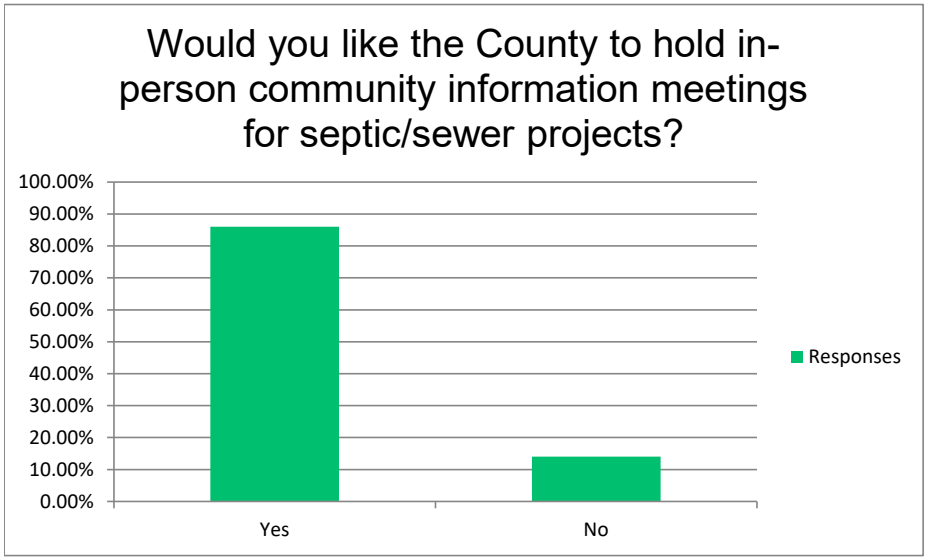
Answer Choices	Responses	
Yes	42.70%	152
No	57.30%	204
	Answered:	**356**
	Skipped:	**1**



General Knowledge

Would you like the County to hold in-person community information meetings for septic/sewer projects?

Answer Choices	Responses	
Yes	85.99%	307
No	14.01%	50
	Answered:	**357**
	Skipped:	**0**



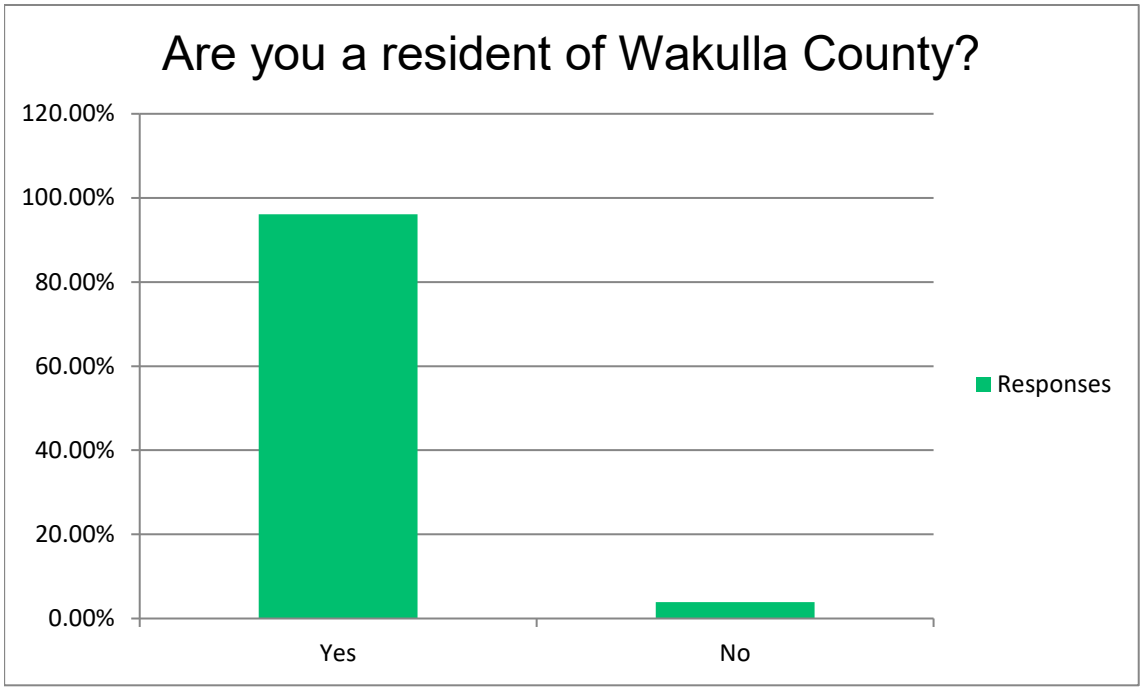
Attachment B

Survey 2: General Environmental Concerns

General Environmental Concerns

Are you a resident of Wakulla County?

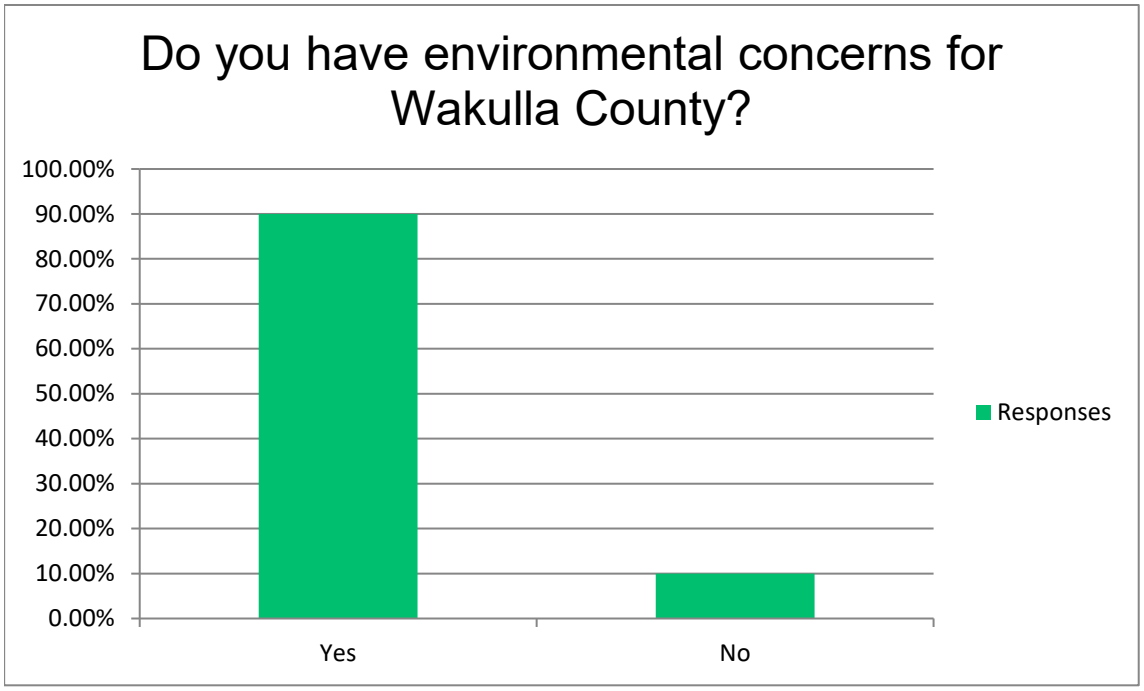
Answer Choices	Responses	
Yes	96.13%	298
No	3.87%	12
	Answered:	**310**
	Skipped:	**0**



General Environmental Concerns

Do you have environmental concerns for Wakulla County?

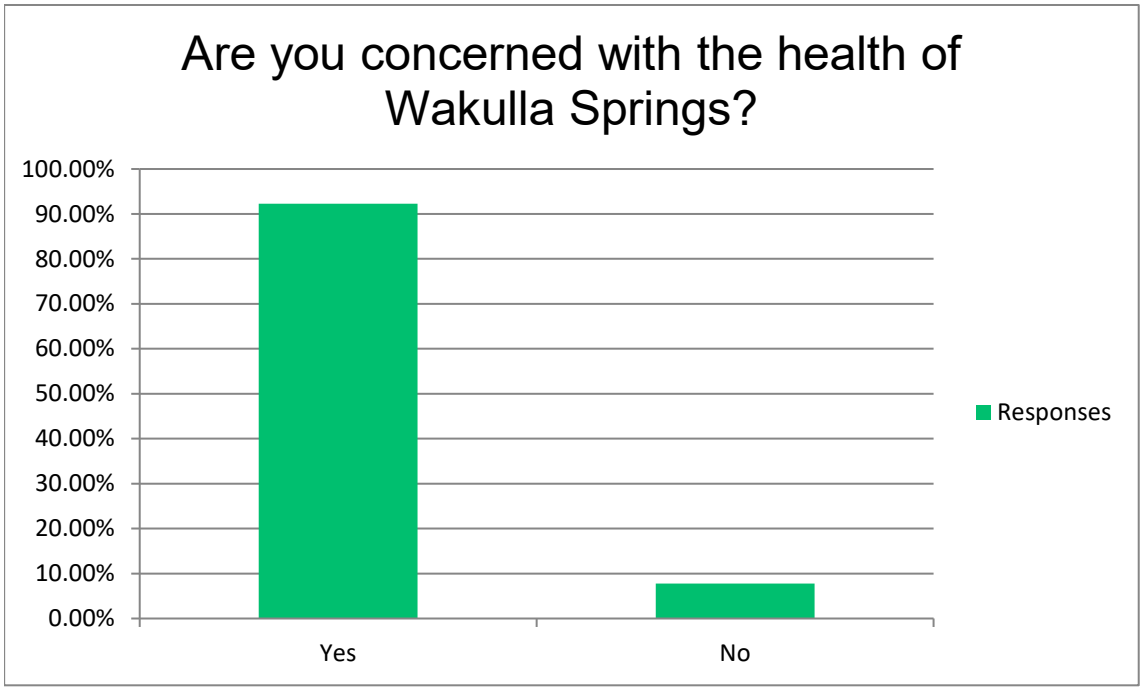
Answer Choices	Responses	
Yes	90.00%	279
No	10.00%	31
	Answered:	**310**
	Skipped:	**0**



General Environmental Concerns

Are you concerned with the health of Wakulla Springs?

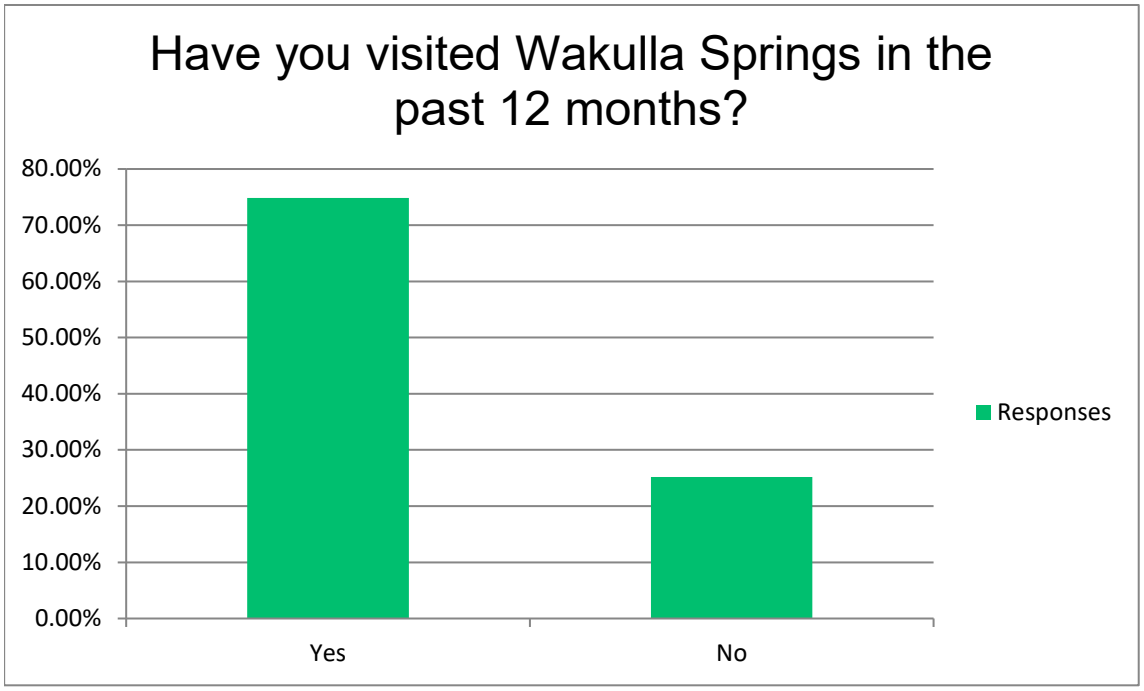
Answer Choices	Responses	
Yes	92.26%	286
No	7.74%	24
	Answered:	**310**
	Skipped:	**0**



General Environmental Concerns

Have you visited Wakulla Springs in the past 12 months?

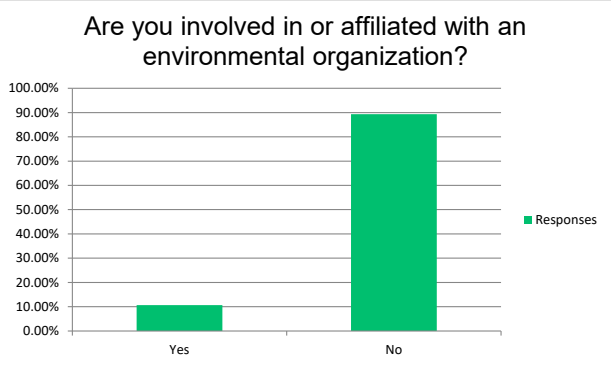
Answer Choices	Responses	
Yes	74.84%	232
No	25.16%	78
	Answered:	**310**
	Skipped:	**0**



General Environmental Concerns

Are you involved in or affiliated with an environmental organization?

Answer Choices	Responses	
Yes	10.65%	33
No	89.35%	277
If yes, which organization?		30
	Answered:	**310**
	Skipped:	**0**



Comment Summary

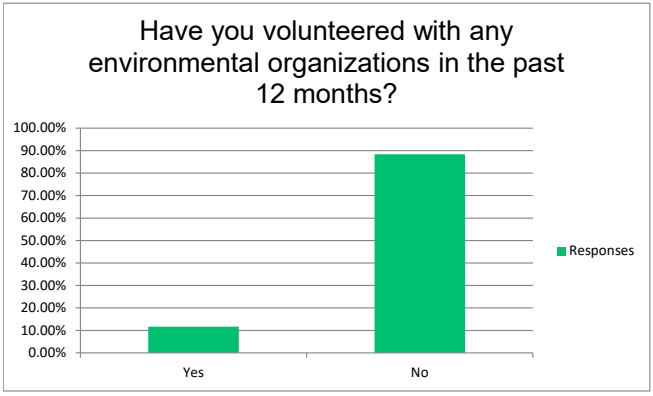
If yes, which organization?	Responses	
Sierra Club	46.67%	14
Keep Wakulla County Beautiful	10.00%	3
Friends of Wakulla Springs	6.67%	2
DEP	6.67%	2
Nature Conservancy	6.67%	2
Audubon Society	13.33%	4
Florida Conservation Voters	6.67%	2
Environment Florida	3.33%	1
Environmental Defense Fund	3.33%	1
Clean Water Wakulla	3.33%	1
DOH Environmental Health	3.33%	1
FRWA	3.33%	1
Wakulla Springs Alliance	3.33%	1
Native Plant Society	3.33%	1
ESG	3.33%	1
Earthjustice	3.33%	1
Save the Gulf	3.33%	1
Florida Wildlife	3.33%	1
Aqseptence Group (Airvac)	3.33%	1
Friends of the Sopchoppy River Inc.	3.33%	1
Adopt-A-Road	3.33%	1
Local Charity	3.33%	1

Respondents	Response Date	If yes, which organization?
1	Jul 23 2021 11:19 AM	Aqseptence Group (Airvac)
2	Jul 15 2021 09:04 AM	Friends of the Sopchoppy River Inc.
3	Jul 14 2021 12:19 PM	Clean water Wakulla
4	Jul 14 2021 09:22 AM	Sierra Club, Audubon, Environment Florida, Florida Conservation Voters
5	Jul 14 2021 07:04 AM	Local charity
6	Jul 13 2021 08:59 PM	Keep wakulla county beautiful
7	Jul 13 2021 05:04 PM	Many
8	Jul 13 2021 12:44 PM	DEP
9	Jul 13 2021 09:43 AM	Sierra Club, League of Conservation Voters, Earth Justice, Environmental Defense Fund, Nature Conservancy
10	Jul 13 2021 07:28 AM	Sierra Club
11	Jul 12 2021 11:08 PM	Audobon Society, Native Plant Society
12	Jul 12 2021 04:30 PM	Save The Gulf
13	Jul 12 2021 02:24 PM	Sierra, Audubon, Florida Wildlife
14	Jul 12 2021 12:50 PM	Sierra, Nature conservancy, Audubon
15	Jul 12 2021 12:03 PM	sierra club
16	Jul 12 2021 11:27 AM	Planet earth directly
17	Jul 12 2021 11:15 AM	Friends of Wakula Springs
18	Jul 12 2021 10:48 AM	KWCB; Adopt-A-Road
19	Jul 12 2021 10:46 AM	Several.
20	Jul 12 2021 10:35 AM	Florida DEP
21	Jul 12 2021 10:20 AM	Friends of Wakulla Springs
22	Jul 12 2021 10:17 AM	Nature Conservancy, Sierra Club, and others
23	Jul 12 2021 10:12 AM	DOH Environmental Health
24	Jul 12 2021 10:09 AM	sierra
25	Jul 12 2021 09:58 AM	ESG, FRWA
26	Jul 12 2021 09:56 AM	Keep Wakulla County Beautiful
27	Jul 12 2021 09:55 AM	Friends of Wakulla Springs
28	Jul 12 2021 09:52 AM	Wakulla Springs Alliance
29	Jul 12 2021 09:51 AM	Keep wakulla beautiful
30	Jul 12 2021 09:51 AM	Keel Wakulla County Beautiful

General Environmental Concerns

Have you volunteered with any environmental organizations in the past 12 months?

Answer Choices	Responses	
Yes	11.65%	36
No	88.35%	273
If yes, which organization?		32
	Answered:	**309**
	Skipped:	**1**



Comment Summary

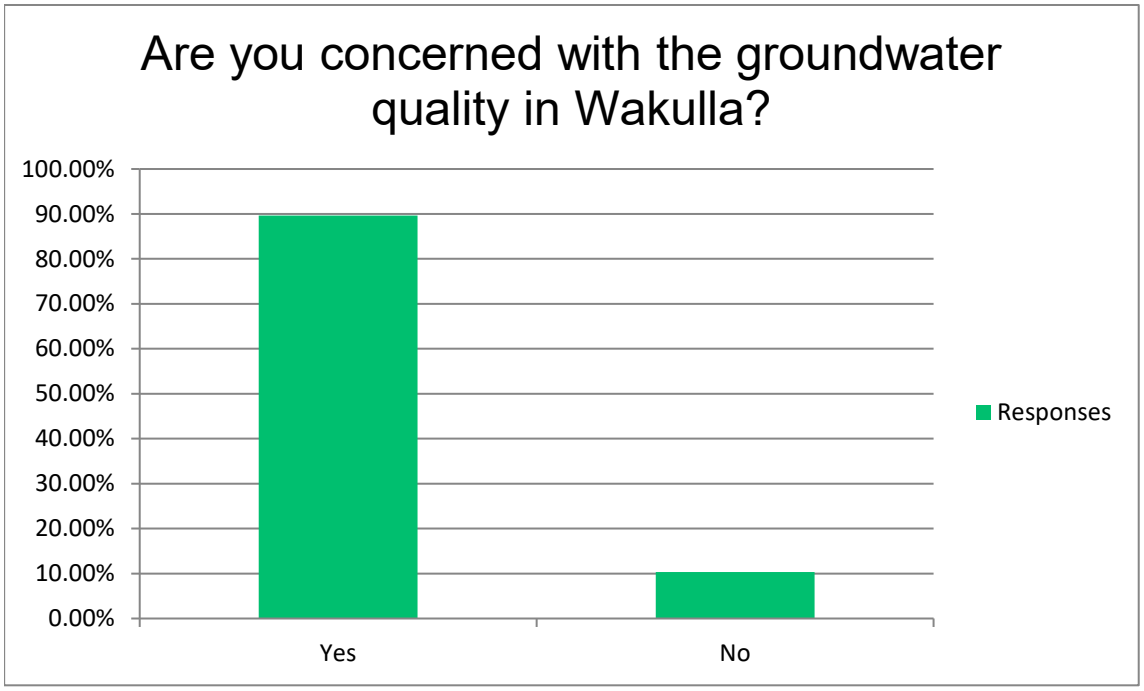
If yes, which organization?	Responses	
Keep Wakulla County Beautiful	43.75%	14
Friends of Wakulla Springs	9.38%	3
Clean Water Wakulla	6.25%	2
Wakulla Springs Alliance	6.25%	2
Native Plant Society	6.25%	2
EPA	3.13%	1
Florida Wild Mammal Rescue	3.13%	1
Water Keepers	3.13%	1
Florida Park Service	3.13%	1
Sierra Club	3.13%	1
Adopt-A-Road	3.13%	1
Miscellaneous	12.50%	4

Respondents	Response Date	If yes, which organization?
1	Jul 23 2021 11:19 AM	EPA
2	Jul 20 2021 08:46 AM	Keep Wakulla beautiful
3	Jul 16 2021 04:04 PM	Native plant society, Florida wild mammal rescue
4	Jul 16 2021 10:33 AM	Keep Wakulla Beatiful
5	Jul 15 2021 09:04 AM	Keep Wakulla Beautiful
6	Jul 14 2021 12:19 PM	Friends of Wakulla Springs
7	Jul 14 2021 07:04 AM	Keep wakulla beautiful
8	Jul 13 2021 08:59 PM	KWCB
9	Jul 13 2021 05:04 PM	Many
10	Jul 12 2021 11:08 PM	Native Plant Society
11	Jul 12 2021 08:33 PM	KWCB
12	Jul 12 2021 07:59 PM	Keep Wakulla County Beautiful
13	Jul 12 2021 04:41 PM	KWCB
14	Jul 12 2021 04:30 PM	Water Keepers
15	Jul 12 2021 02:24 PM	Florida Park Service
16	Jul 12 2021 01:01 PM	We've been living through a pandemic for more 12 months
17	Jul 12 2021 12:50 PM	Wakulla Springs Alliance
18	Jul 12 2021 12:03 PM	sierra club
19	Jul 12 2021 11:47 AM	Cleaning Shell point Beach and clean up of Shell Point Road.
20	Jul 12 2021 11:45 AM	Hazardous waste collections
21	Jul 12 2021 11:44 AM	Coastal clean up. Forest clean up.
22	Jul 12 2021 11:27 AM	I work my own org
23	Jul 12 2021 11:15 AM	Friends of Wakula Springs
24	Jul 12 2021 11:10 AM	CleanwaterWakulla
25	Jul 12 2021 10:48 AM	KWCB; Adopt-A-Road; TBR
26	Jul 12 2021 10:27 AM	Keep Wakulla County Beautiful
27	Jul 12 2021 10:26 AM	KWCB
28	Jul 12 2021 09:56 AM	Keep Wakulla County Beautiful
29	Jul 12 2021 09:55 AM	Friends of Wakulla Springs, Clean Water Wakulla
30	Jul 12 2021 09:52 AM	Wakulla Springs Alliance
31	Jul 12 2021 09:51 AM	Keep Florida Beautiful
32	Jul 12 2021 09:49 AM	Keep Wakulla County Beautiful

General Environmental Concerns

Are you concerned with the groundwater quality in Wakulla?

Answer Choices	Responses	
Yes	89.64%	277
No	10.36%	32
	Answered:	**309**
	Skipped:	**1**



General Environmental Concerns

What are your primary causes for concern (i.e., contributing factors, specific contaminants, etc.)?

Answered: 268
Skipped: 42

Runoff & Stormwater	12.31%	33
General Contaminants (nitrogen, iron, bacteria, chemicals, metals, carbon, minerals)	18.66%	50
Septic Tanks	20.90%	56
Farm & Lawn Management (fertilizer, pesticides, herbicides)	10.07%	27
Drinking Water Quality	10.82%	29
Growth/Development	19.78%	53
Groundwater/Wakulla Springs	7.46%	20
Water Quality	4.48%	12
Petroleum Products	2.24%	6
General Concerns	13.81%	37
Sewer & Effluent Disposal	10.07%	27
Nature (plants, animals, etc.)	3.73%	10

Respondents	Response Date	Responses
1	Jul 29 2021 02:13 PM	Run off from more homes being built in Wakulla
2	Jul 23 2021 11:19 AM	We are concerned of the aging infrastructure of leaking septic tanks.
3	Jul 21 2021 07:53 AM	High water table
4	Jul 20 2021 12:48 PM	Septic tank / drainfield failure in Wakulla Gardens that is contaminating my living environment. Replacement continues to fail and has been brought up to the commissioners and needs resolving asap.
5	Jul 20 2021 08:46 AM	Uncontrolled growth. No maintenance/inspection of older septic systems , poor planning of stormwater on Hwy 319 and damage to state lands along 319
6	Jul 17 2021 02:23 PM	Storm runoff
7	Jul 17 2021 12:12 PM	Contaminants from too much building and poor drainage
8	Jul 17 2021 11:19 AM	Sewage, pesticides and herbicides run offs.
9	Jul 17 2021 11:03 AM	Drinking water and the animals
10	Jul 17 2021 09:42 AM	Sewer runoff into clean water
11	Jul 17 2021 09:35 AM	lawn fertilizers and pesticides
12	Jul 17 2021 07:02 AM	OilNitrogen
13	Jul 17 2021 06:48 AM	Pollution of the Wakulla Springs cave systems by human waste disposal and chemicals such as, fertilizers. This is also impacted by Leon County water treatment policies.
14	Jul 17 2021 01:47 AM	Population growth and the amount of septic seepage into the spring and waterways
15	Jul 16 2021 08:58 PM	Runoff
16	Jul 16 2021 07:51 PM	Contributing factors, new housing developments, having enough water
17	Jul 16 2021 06:08 PM	bottled water companies taking over public water.
18	Jul 16 2021 05:55 PM	Too much high density housing developments
19	Jul 16 2021 04:04 PM	Old septic systems and zero enforcement or encouragement to replace
20	Jul 16 2021 02:25 PM	Septic tanks
21	Jul 16 2021 02:09 PM	Water quality
22	Jul 16 2021 02:09 PM	Talquin water is consistently brownish color. If I give water from my sink faucet to my cats, it makes them vomit constantly, so I have to buy bottled water for my family and pets to drink. I cannot buy white clothes to wear, if you do and wash them, they will be permanently stained with a orange/brown tint. I have several pairs of pants I can show you. Bleaching them or using Rid does not get it out. I have brought this to Talquin's and our Commissioner's attention numerous times. They cycle the water and it clears up for a week or so and happens again. The complaints just fall on deaf ears.
23	Jul 16 2021 12:17 PM	The Contamination of water leading to health issues.
24	Jul 16 2021 12:01 PM	We live in Shell Point and the water comes out brown often. Some say it's old pipes. The sewage at times has bubbled out into the street. Something has to change. We wouldn't give our tap water to plants much less our animals and ourselves.
25	Jul 16 2021 10:33 AM	Neighborhoods where city/county water sewer isn't available. We build water wells and septic systems to great expense... but would have preferred city/county services. Now they want us to join at great expense. If a grant paid, I know our neighbors would join a public system.
26	Jul 16 2021 10:30 AM	Walkulla spring
27	Jul 16 2021 10:17 AM	Construction projects, fertilizer
28	Jul 16 2021 09:53 AM	Iron
29	Jul 16 2021 09:04 AM	Overwhelming our systems (sewer, groundwater runoff, etc) with too much development and adding of population
30	Jul 16 2021 07:20 AM	Rivers and springs becoming polluted from septic tank seepage and general bad practices by wakulla county
31	Jul 16 2021 06:58 AM	Waste water runoff
32	Jul 15 2021 05:52 PM	Wild life, natural vegetation.
33	Jul 15 2021 05:30 PM	contaminants and what appears to be a lack of concern by Commissioners for damaging the aquifer□
34	Jul 15 2021 04:45 PM	Uncontrolled growth as commissioners continue to approve development with septic tanks yet apply for grants to remove septic tanks. They continue to approve development with too high a density. And they don't provide for infrastructure enhancement to aleviate the problems associated with the development
35	Jul 15 2021 09:04 AM	over abundance of septic tanks. Inadequate systems to control run off.

36	Jul 15 2021 07:39 AM	Runoff/contanimation from development and increased traffic, and dated septic systems.
37	Jul 15 2021 07:00 AM	Septic/sewer, fertilizer
38	Jul 14 2021 10:59 PM	Water quality
39	Jul 14 2021 10:42 PM	Contaminants
40	Jul 14 2021 09:00 PM	Environmental protection and wildlife conservation
41	Jul 14 2021 08:18 PM	I think pesticides, and typical household run off is our issues. I honestly think sewage would help elevate the damage to aquifer and cut down on the carbon . Numbers don't lie and the houses using septic are emitting more carbon than the houses that could be on sewage and cut out a septic
42	Jul 14 2021 07:48 PM	Waste
43	Jul 14 2021 06:54 PM	To many nitrates in the water from septic tanks
44	Jul 14 2021 04:29 PM	to many septic tanks and inadequate sewer lines. Spray fields are not a real concern as the proposed #'s for nitrates are less then what we are getting from everywhere else.
45	Jul 14 2021 04:18 PM	Trithamates
46	Jul 14 2021 01:57 PM	unsafe bacterial loads and metal and chemical contaminants
47	Jul 14 2021 01:01 PM	None specific other than septic runoff.
48	Jul 14 2021 12:50 PM	The out of control grow and whether the county will be able to properly keep up with the infrastructure issues. Our drinking water is my biggest concern □
49	Jul 14 2021 12:19 PM	Trihalogenes, Nitrates, pharmaceutical
50	Jul 14 2021 12:03 PM	Consumer protection
51	Jul 14 2021 11:57 AM	Wakulla springs
52	Jul 14 2021 11:19 AM	Pollution,health of the environment, impact of industry and people living here on health of environment
53	Jul 14 2021 10:14 AM	The county should continue to do yearly research to make sure septics and sewer systems are of the best quality to meet the needs to not contaminate Wakulla Springs and our wells for drinking water.
54	Jul 14 2021 10:10 AM	Fish farm in Woodville, high density land usage (<5acre lots in the PFA) and increasing population
55	Jul 14 2021 09:27 AM	Always a priority to keep groundwater clean as possible.
56	Jul 14 2021 09:26 AM	the new waste water spray field
57	Jul 14 2021 09:22 AM	General toxins entering the aquifer via seepage, outflow into rivers and streams, etc.
58	Jul 14 2021 09:20 AM	overpopulation
59	Jul 14 2021 09:16 AM	contributing factors, farm and highway runoff, over development
60	Jul 14 2021 09:08 AM	I do not want to change from septic to sewer because in my budget it's cheaper it working just fine changing over cause to much. The neighborhood next to me was forced to get it. An they are not satisfied. A big mess
61	Jul 14 2021 08:53 AM	Rainwater runoff
62	Jul 14 2021 08:35 AM	Scuba diving in sinkhole to "find" the link to wakulla springs. The water was always crystal clear while the spring was in private hands and diving wasn't allowed. Cave divers created this issue by "proving" (creating) a connection between tannic springs and a clear spring cave. Water coming into the spring from the north cave is clear, water from the west cave became tannic when cave diving became prevalent. Go ahead and replace every septic tank on the state, it won't clear the water in Wakulla Springs.
63	Jul 14 2021 08:11 AM	septic tanks
64	Jul 14 2021 07:52 AM	Keeping our waters safe for humans and animals
65	Jul 14 2021 07:26 AM	All the septic tanks contributing to the quality of water at the beaches.
66	Jul 14 2021 07:19 AM	Development, deforestation, septic tanks
67	Jul 14 2021 07:10 AM	Contaminants that could potentially seep from septic tanks
68	Jul 14 2021 07:04 AM	Too many houses and septic tanks being put in close to the water bodies around the area
69	Jul 14 2021 07:01 AM	Keeping it clean
70	Jul 14 2021 06:57 AM	TTHM
71	Jul 14 2021 06:21 AM	Amount of new homes
72	Jul 14 2021 06:12 AM	Too many septic tanks used in the county and more being add will create the springs being polluted.
73	Jul 14 2021 06:07 AM	Water quality
74	Jul 14 2021 05:31 AM	We have a well and we are concerned about water quality.
75	Jul 14 2021 04:31 AM	Septic tanks
76	Jul 14 2021 03:45 AM	Contaminants in general
77	Jul 14 2021 12:42 AM	Poor test results from Talquin . Reports of discolored water in Wakulla Gardens area. Constant flushing of water mains to removed contaminants.
78	Jul 13 2021 11:58 PM	Too much iron
79	Jul 13 2021 10:32 PM	Water runoff pollutants is a big concern because most people just don't seem to care.
80	Jul 13 2021 10:26 PM	Septic tanks, storm water runoff, leaking or spilled petroleum products.
81	Jul 13 2021 10:15 PM	.
82	Jul 13 2021 09:54 PM	None
83	Jul 13 2021 09:24 PM	No specific concern; just want a healthy ecosystem.
84	Jul 13 2021 08:59 PM	Fertilizers, industrial runoff/dumping□
85	Jul 13 2021 08:36 PM	The water seems to always be contaminated. I switched to the septic to sewer and the water quality seems worse.
86	Jul 13 2021 08:35 PM	Filtering sources
87	Jul 13 2021 08:14 PM	Contributing factors
88	Jul 13 2021 08:08 PM	None
89	Jul 13 2021 08:03 PM	Lack of action by county
90	Jul 13 2021 07:41 PM	Nitrogen
91	Jul 13 2021 07:12 PM	All
92	Jul 13 2021 06:13 PM	Safe drinking water
93	Jul 13 2021 06:02 PM	Weed killer by Duke Energy
94	Jul 13 2021 05:17 PM	There were talks of a new water treatment plant that would drain into parts of Wakulla Springs and that cannot be good.
95	Jul 13 2021 05:12 PM	Destroying manatee habitat
96	Jul 13 2021 05:07 PM	nothing specific, people ruin waterways all over the world. we need to do better. farm runoff, septic systems, street drainage, industrial all contribute

97	Jul 13 2021 05:04 PM	Septic/ sewer systems & stormwater runoff, nutrient (primarily Nitrogen) increases in ground and surface waters, higher density developments without providing adequate enforceable provisions to address nutrients, sediments, stormwater and organics.
98	Jul 13 2021 04:47 PM	Building a wastewater plant and spray field in a Flood Zone. These maps were drawn in Washington DC. They did not intend the County to put a wastewater plant/ spray field in Flood Zone “A” in the middle of a residential neighborhood. This area is less than 10 miles from the Gulf, seafood industry, Historical Wakulla Springs and our drinking water, not to mention it is next to at least 300 homes. There are sink holes on this property, you are trying to destroy what GOD has made. When the storms/hurricanes come with the downpour of rain it will cause the sinkholes to fill and develop. Then what will the commissioners say. Can’t say they weren’t warned, because they have been. God have mercy on your souls if y’all go through with putting a wastewater plant and spray field on this coastal property. The people of Wakulla will never forgive you for ruining our water, Gulf/seafood and Wakulla Springs. I am surprised and disappointed that our commissioners cannot understand this. I have lived and worked across from this land since 1988. I can truthfully swear with my hand on a bible that I have seen swamp water there because of the rain. Let’s face it Mr. Moore has had this land since 2012, he was not able to sale the land for the last 12 years or he would have. Would you want someone to build wastewater/Spray field in your backyard? What if there is Some kind of disease the people living there could get from smelling that stuff. There is just too many liabilities associated with this land. For some people the largest purchase they will ever make is their home, and you are destroying their peace and wrecking the value of it. BE AWARE you are opening up the largest can of worms this County will ever see.!!!!!!!!
99	Jul 13 2021 03:02 PM	contributing factors
100	Jul 13 2021 01:14 PM	Nitrate from septic systems.
101	Jul 13 2021 12:59 PM	Septic and road runoff
102	Jul 13 2021 12:53 PM	Contaminants coming from Leon County. Also contaminants going into the Gulf.
103	Jul 13 2021 12:44 PM	I heard a lot of folks had to re-drill their wells this spring, it seems that there is less water available higher in the aquifer than there used to be. There is less bird and fish diversity at places where the water surfaces than there used to be. The green tint as the springs and sinkholes is a telltale sign of our drinking waters declining health.
104	Jul 13 2021 12:42 PM	sewer systems contaminating aquifer
105	Jul 13 2021 12:19 PM	Treated wastewater entering spring creek
106	Jul 13 2021 11:43 AM	Spray fields in Leon
107	Jul 13 2021 10:55 AM	Mineral content, runoff from Leon county contaminants,
108	Jul 13 2021 09:57 AM	Overall lack of concern
109	Jul 13 2021 09:43 AM	Overpopulation, poor conservation record, lack of environmental planning, water pollution, destruction of the environment for personal gain, not responsive to citizen input
110	Jul 13 2021 09:29 AM	Not sure
111	Jul 13 2021 08:48 AM	Proper disinfecting of effluent
112	Jul 13 2021 08:45 AM	Destruction of trees, clear cutting everything for more houses. Contaminants from the construction equipment
113	Jul 13 2021 07:39 AM	Sewage from low lying septic tanks entering our bays and rivers like mysterious waters and coastal homes I watch both flood with tropical storms
114	Jul 13 2021 07:28 AM	TTHMs, phosphates, nitrogen’s, declining water quality, lack of infrastructure, overpopulation.
115	Jul 13 2021 06:53 AM	Water quality, contamination, and wildlife habitat.
116	Jul 13 2021 12:33 AM	Runoff contamination
117	Jul 13 2021 12:30 AM	All the new subdivisions y’all keep approving!
118	Jul 12 2021 11:08 PM	Nutrients, pesticides, herbicides and fuel contamination in runoff and from leaky septic systems.
119	Jul 12 2021 10:56 PM	Pollution of our water
120	Jul 12 2021 10:51 PM	The growing number of reported water quality issues
121	Jul 12 2021 10:46 PM	Growth and Sewage issues
122	Jul 12 2021 10:29 PM	The rate of growth in the county, poor planning for storm water management, altered hydrological patterns and maintenance of green spaces for water filtration.
123	Jul 12 2021 10:27 PM	Contaminants!!!
124	Jul 12 2021 10:24 PM	Septic tanks and over use fertilizer
125	Jul 12 2021 10:19 PM	Have received multiple notifications from Talquin stating contaminant levels are above normal. We don’t drink our tap water because of this.
126	Jul 12 2021 09:53 PM	Too many people too fast.
127	Jul 12 2021 09:45 PM	I want the ground water to remain free of contaminates
128	Jul 12 2021 09:43 PM	Too many people drilling wells and putting in septic tanks.
129	Jul 12 2021 09:20 PM	.
130	Jul 12 2021 09:17 PM	Septic tanks causing leaks and issues at our beaches
131	Jul 12 2021 09:01 PM	Water management
132	Jul 12 2021 08:55 PM	I am concerned for the water quality in Wakulla period. I have Talquin water and we have been unable to drink the water in months. We pay a water/sewer bill, and purchase water for drinking and cooking. I have been in the same house for ten years, never had these issues before the sewer project in my neighborhood.
133	Jul 12 2021 08:40 PM	To much new development of sub divisions. More and more people end up with more and more litter alongside roads, loss of trees being cut down.
134	Jul 12 2021 08:33 PM	Septic systems, fertilizers, runoff
135	Jul 12 2021 07:59 PM	Too many homes coming to county that sewer system can't handle, too much sewer in one location. Sewer issues during storms, etc.
136	Jul 12 2021 07:58 PM	Sewage and septic tanks in almost all the county
137	Jul 12 2021 07:58 PM	Sewage □
138	Jul 12 2021 07:43 PM	Wastewater and its effects on our water and on Wakulla Springs
139	Jul 12 2021 07:39 PM	Waste, oil, gasoline, animal carcasses, general waste
140	Jul 12 2021 07:33 PM	Fertilizers from sodding in the new build homes, much needed ecosystems being destroyed by construction, forcing wildlife into increasingly urban areas.
141	Jul 12 2021 07:32 PM	My water contains contaminates according to an independent lab.. Growth of the community is staggering. Roadways seem inappropriate for the growth.
142	Jul 12 2021 07:04 PM	Population density and new homes being built
143	Jul 12 2021 07:00 PM	N
144	Jul 12 2021 06:46 PM	@
145	Jul 12 2021 06:27 PM	contamination of oils, trash and over construction.
146	Jul 12 2021 06:22 PM	Septic tank run off ruining ground water, the springs and coastal waters
147	Jul 12 2021 06:10 PM	Quality of waterways due to septic and fertilizer runoff.
148	Jul 12 2021 05:45 PM	Sewage and lawn fertilizers
149	Jul 12 2021 05:41 PM	Contamination
150	Jul 12 2021 04:45 PM	That it will contaminate Wakulla Springs or surrounding areas
151	Jul 12 2021 04:41 PM	Septic Tanks close to the coast, rivers and overly dense subdivisions

152	Jul 12 2021 04:38 PM	None
153	Jul 12 2021 04:36 PM	Wastewater, herbicides, pesticides
154	Jul 12 2021 04:30 PM	Septic Tanks and Sewage, Corexit Dispersants and Chemicals in Fertilizers and and Agricultural Runoff. I am a Toxicology Nurse.
155	Jul 12 2021 04:21 PM	Sewage and littering for sure
156	Jul 12 2021 04:13 PM	Runoff, pesticides, increase in population and septic systems
157	Jul 12 2021 03:51 PM	The environmental lobby doesn't hold up a necessary project that the county needs for its residence.
158	Jul 12 2021 03:47 PM	I have talquin and I I've seen how nasty my drinking water is. I have two dogs both with cancer I'm sure the water caused.
159	Jul 12 2021 03:41 PM	Uneducated opinions is my greatest concern. Trust the science
160	Jul 12 2021 03:33 PM	Wastewater plant is already over capacity yet more development is approved by the commission
161	Jul 12 2021 03:18 PM	Waste water, bad pipes, water runoff.
162	Jul 12 2021 03:09 PM	over development without sewer, small lots with septic tanks. should be a minimum of 5 acres to use a septic tank
163	Jul 12 2021 02:49 PM	Over development that may lead to water shortages, contamination of the aquifer and more problems of treated sewage disposal.
164	Jul 12 2021 02:27 PM	Oils, petroleum products, fertilizers, pesticides. All increased by dense increased growth.
165	Jul 12 2021 02:26 PM	I'm concerned with the growth in this county. More houses equals more people equals more impact on the environment.
166	Jul 12 2021 02:24 PM	Nitrate levels in ground water and too much water being removed from the Florida Aquifer
167	Jul 12 2021 02:19 PM	Contaminants into aquifer and springs
168	Jul 12 2021 02:07 PM	Lack of consistency in State & County enforcement in nitrogen- reduction PBTS applications. 450 Wakulla County citizens carrying burden for entire County & State, while mandates are unfunded, which are unconstitutional.
169	Jul 12 2021 01:43 PM	Septic tanks adding nutrients to ground water.
170	Jul 12 2021 01:38 PM	septic
171	Jul 12 2021 01:24 PM	N/A
172	Jul 12 2021 01:22 PM	Old pipes and run off
173	Jul 12 2021 01:17 PM	Sulfur smell and hard water
174	Jul 12 2021 12:58 PM	Lack of public utilities, county need water and sewage
175	Jul 12 2021 12:55 PM	Nitrogen contamination and low water flows at spring creek
176	Jul 12 2021 12:54 PM	Septic tanks and drain fields. The cost of $15,000 dollars or more depending on how much land you own, for a septic system if your old system fails if you are in the Wakulla Springs basin. Need to start working on how to improve this situation.
177	Jul 12 2021 12:54 PM	All contaminants, depletion of the water, impact on the wildlife & water life
178	Jul 12 2021 12:50 PM	Ground water contamination from northern counties, excessive extraction..
179	Jul 12 2021 12:26 PM	Septic tanks
180	Jul 12 2021 12:26 PM	Discolored water out of home
181	Jul 12 2021 12:22 PM	Clean water, sewage and septic usage
182	Jul 12 2021 12:11 PM	Sewage
183	Jul 12 2021 12:06 PM	County waste water contamination
184	Jul 12 2021 12:04 PM	Sprayfield by the Tallahassee airport, outdated septic tanks
185	Jul 12 2021 12:03 PM	Excess nutrients including nitrogen and phosphorus, septic tank failures, less of pervious surfaces due to development, untreated stormwater
186	Jul 12 2021 11:57 AM	Contaminants. I am a paying for water each month and it's not cheap. I believe SS a paying customer for water that there should not be any reason or threat of contaminants in my drinking water. I also feel that fluoride should be added to the water to better everyone's oral health. Building responsibility and impact fees to builders should be charged to keep our water safe for the right equipment needed to filter the water properly and safely. It's unfair that current long time residents have to suffer due to the outages amount of homes being built at once.
187	Jul 12 2021 11:47 AM	Effects on wildlife, ocean water quality, springs water quality
188	Jul 12 2021 11:47 AM	Contaminants from a water treatment plant placed in the wrong area.
189	Jul 12 2021 11:45 AM	Dumping of car fluids, chemicals. Illegal dumping of trash.
190	Jul 12 2021 11:44 AM	Many septic tanks going in. So much development in the county.
191	Jul 12 2021 11:41 AM	dumping into our aquifer
192	Jul 12 2021 11:34 AM	Nitrogen load from chemical fertilizers
193	Jul 12 2021 11:30 AM	The rise in numbers of new homes vs the quality of our aquifer is frightening.
194	Jul 12 2021 11:27 AM	Mostly upslope to Leon and further north. Better water conservation methods are needed period
195	Jul 12 2021 11:26 AM	Wakulla springs no longer clear like was when I was a child
196	Jul 12 2021 11:26 AM	N/A
197	Jul 12 2021 11:25 AM	None
198	Jul 12 2021 11:23 AM	smell, mineral deposits
199	Jul 12 2021 11:18 AM	Pollution from Leon County flowing into Wakulla County via the aquifer
200	Jul 12 2021 11:17 AM	To many septic tanks in the Springs Basin area
201	Jul 12 2021 11:12 AM	sewage
202	Jul 12 2021 11:11 AM	Tallahassee was Watters in our rivers
203	Jul 12 2021 11:11 AM	I believe we need to expand sewer program
204	Jul 12 2021 11:10 AM	trihalogins from wastewater. Saltwater intrusion,nitrates.
205	Jul 12 2021 11:05 AM	Chemicals going into the gulf and negative affects on the underground springs, i.e. our drinking water.
206	Jul 12 2021 11:04 AM	xx
207	Jul 12 2021 11:02 AM	The increasing number of housing developments is going to impact water quality and the need for additional sewage treatment plants. I'm concerned that this new development is not paying for itself and creating problems that will need to be addressed and paid for in the future. Care should be given to ensuring that growth pays for the infrastructure necessary to ensure quality of life.
208	Jul 12 2021 11:02 AM	Any contamination of the ground water
209	Jul 12 2021 11:00 AM	Fertilizer runoff and nitrogen
210	Jul 12 2021 10:56 AM	Over building
211	Jul 12 2021 10:50 AM	Contaminates
212	Jul 12 2021 10:49 AM	n/a

213	Jul 12 2021 10:48 AM	People.
214	Jul 12 2021 10:47 AM	Increase in number of houses without supporting infrastructure
215	Jul 12 2021 10:46 AM	Talquin's TTHMs in my drinking water, have to buy bottled water to drink & worry about taking showers in it for cancer- Talquin's responsibility. Nitrates from septic tanks. County should float a BOND, like they did for my parents' house to NH, to pay for houses on septic tanks to be added to the sewer system.
216	Jul 12 2021 10:38 AM	None
217	Jul 12 2021 10:36 AM	Septic tanks and fertilizer run off.
218	Jul 12 2021 10:35 AM	fertilizer, septic tanks
219	Jul 12 2021 10:35 AM	Impacts from human waste and over-drawing.
220	Jul 12 2021 10:32 AM	Rate and density of growth in county and the counties ability to provide infrastructure. These dense subdivisions are adding too many people to fast in small areas. The development is out pacing the infrastructure. More water drawn from ground the more that has to be treated. We need to plan ahead not react to the budgets of developers. Development never pays for itself. The tax payers has to take over. If we want to county to grow so fast we have to get ahead of building. Develop spray fields, water all public facilities and parks with outflow from the treatment plants. We are using up all the future growth now without infrastructure in place. Stop approving comp plan changes and impose impact fees. I think you need to have these surveys about the rate and density of growth in Wakulla County, but do it in a more secure way by tax parcel Number.
221	Jul 12 2021 10:29 AM	Contributing factors such a littering, dumping in the National Forest and storm water runoff
222	Jul 12 2021 10:27 AM	Individual septic systems Uncontrolled growth in environmentally sensitive areas
223	Jul 12 2021 10:27 AM	Concerned with both groundwater contaminants (fertilizers, etc) and the quality of drinking water provided by Talquin
224	Jul 12 2021 10:26 AM	Septic tanks
225	Jul 12 2021 10:24 AM	Phosphorus, Nitrogen/Nitrate, Pharmaceuticals, Arsenic, Chlorine/TTMH, other chemical reactions/byproducts that will occur in Groundwater when treated wastewater is added.. Sinkhole formations occurring on surrounding properties. Chemically treated water/salinity issues with Springs.
226	Jul 12 2021 10:22 AM	Runoff water into springs
227	Jul 12 2021 10:22 AM	Nitrates
228	Jul 12 2021 10:20 AM	Nitrate runoff from over-fertilization and septic systems.
229	Jul 12 2021 10:19 AM	I don't want there to be issues with our drinking water. Tallahassee water is nasty and I don't want to lose the quality water we currently have
230	Jul 12 2021 10:19 AM	Handling ground water issue in a smart well thought out process.
231	Jul 12 2021 10:19 AM	A clean and safe environment.
232	Jul 12 2021 10:18 AM	Too many homes being built and topography of the land is being changed to fit this need. Too many people that will not respect the land and use contaminants that will filter down into the ground water.
233	Jul 12 2021 10:17 AM	Septic systems
234	Jul 12 2021 10:17 AM	Outgrowing infrastructure.
235	Jul 12 2021 10:16 AM	Too much building is destroying the natural flow of water. Removing so many trees will have devastating results for our ground water and for our beautiful springs.
236	Jul 12 2021 10:14 AM	Pollution
237	Jul 12 2021 10:14 AM	None
238	Jul 12 2021 10:13 AM	Sewers
239	Jul 12 2021 10:12 AM	Nitrogen, phosphorus,
240	Jul 12 2021 10:12 AM	Lack of infrastructure to support development. Too many septics in or near failure, even illegal.
241	Jul 12 2021 10:11 AM	Too much growth without sufficient infrastructure
242	Jul 12 2021 10:09 AM	pesticides and fertilizers getting into the groundwater and running into the springs. Septic waste is also a significant factor in the quality of the springs. This survey is seemingly aimed at calling out citizens who don’t have the ability to volunteer or maybe aren’t as knowledgeable as the professionals about the state of the springs. I don’t see how it has any value otherwise and it’s ridiculous.
243	Jul 12 2021 10:09 AM	Too much new construction
244	Jul 12 2021 10:09 AM	Safe to drink and not polluted
245	Jul 12 2021 10:09 AM	I want to have clean drinking water. My family uses a well.
246	Jul 12 2021 10:08 AM	Toxic
247	Jul 12 2021 10:08 AM	Contaminants
248	Jul 12 2021 10:06 AM	Most concerned about contaminates from Leon County as well as Wakulla. May be time to consider impact fees to offset the cost we are facing too.
249	Jul 12 2021 09:59 AM	Exponential growth in the county without requiring sewer hookups
250	Jul 12 2021 09:58 AM	The clarity / contamination of Wakulla Springs and the contamination of drinking water for those on wells.
251	Jul 12 2021 09:58 AM	I am concerned for development in Wakulla and the world overall. Making sure that we do the best we can to keep it a nice environment to live in as population increases, because we cannot stop the increase, we can only deal with it properly or improperly.
252	Jul 12 2021 09:57 AM	Drinking water.
253	Jul 12 2021 09:56 AM	the pace of growth
254	Jul 12 2021 09:55 AM	Too many septic tanks, too much development, constant rezoning. The county is not looking out for our water.
255	Jul 12 2021 09:55 AM	Septic tanks
256	Jul 12 2021 09:54 AM	Septic tanks should be a thing of the past
257	Jul 12 2021 09:54 AM	Septic tank drain field flowing into Wakulla Springs
258	Jul 12 2021 09:54 AM	Increased housing = increased waste and contaminants
259	Jul 12 2021 09:53 AM	Building a wastewater pit over the Florida aquifer, also unregulated growth.
260	Jul 12 2021 09:52 AM	Nitrate-nitrogen from wastewater; salinity from sea level rise
261	Jul 12 2021 09:51 AM	Number of septic tanks in our county. Would like to see more houses hooked up to sewer
262	Jul 12 2021 09:51 AM	Contaminants and pollution
263	Jul 12 2021 09:50 AM	Water contamination in general.
264	Jul 12 2021 09:50 AM	No specific concern, just want to make sure it's clean. We don't want or need a Flint situation here.
265	Jul 12 2021 09:49 AM	Lawns are often overfertilized and the runoff goes into the ground water.
266	Jul 12 2021 09:49 AM	Fertilizers contaminating water, water table being so low.
267	Jul 12 2021 09:34 AM	sewage and chemical contamination
268	Jul 12 2021 08:50 AM	Septic system and high levels of nitrates.

Legend:

A	Runoff & Stormwater
B	General Contaminants (nitrogen, iron, bacteria, chemicals, metals, carbon, minerals)
C	Septic Tanks
D	Farm & Lawn Management (fertilizer, pesticides, herbicides)
E	Drinking Water Quality
F	Growth/Development
G	Groundwater/Wakulla Springs
H	Water Quality
I	Petroleum Products
J	General Concerns
K	Sewer & Effluent Disposal
L	Nature (plants, animals, etc.)

Respondents	Categories	Response Date	Responses
1	A	Jul 29 2021 02:13 PM	Run off from more homes being built in Wakulla
2	C	Jul 23 2021 11:19 AM	We are concerned of the aging infrastructure of leaking septic tanks.
3	G	Jul 21 2021 07:53 AM	High water table
4	C	Jul 20 2021 12:48 PM	Septic tank / drainfield failure in Wakulla Gardens that is contaminating my living environment. Replacement continues to fail and has been brought up to the commissioners and needs resolving asap.
5	A, C, F, L	Jul 20 2021 08:46 AM	Uncontrolled growth. No maintenance/inspection of older septic systems , poor planning of stormwater on Hwy 319 and damage to state lands along 319
6	A	Jul 17 2021 02:23 PM	Storm runoff
7	B	Jul 17 2021 12:12 PM	Contaminants from too much building and poor drainage
8	D, K	Jul 17 2021 11:19 AM	Sewage, pesticides and herbicides run offs.
9	E	Jul 17 2021 11:03 AM	Drinking water and the animals
10	A	Jul 17 2021 09:42 AM	Sewer runoff into clean water
11	D	Jul 17 2021 09:35 AM	lawn fertilizers and pesticides
12	B, I	Jul 17 2021 07:02 AM	OilNitrogen
13	D, G, K	Jul 17 2021 06:48 AM	Pollution of the Wakulla Springs cave systems by human waste disposal and chemicals such as, fertilizers. This is also impacted by Leon County water treatment policies.
14	C, F	Jul 17 2021 01:47 AM	Population growth and the amount of septic seepage into the spring and waterways
15	A	Jul 16 2021 08:58 PM	Runoff
16	F	Jul 16 2021 07:51 PM	Contributing factors, new housing developments, having enough water
17	J	Jul 16 2021 06:08 PM	bottled water companies taking over public water.
18	F	Jul 16 2021 05:55 PM	Too much high density housing developments
19	C	Jul 16 2021 04:04 PM	Old septic systems and zero enforcement or encouragement to replace
20	C	Jul 16 2021 02:25 PM	Septic tanks
21	H	Jul 16 2021 02:09 PM	Water quality
22	E	Jul 16 2021 02:09 PM	Talquin water is consistently brownish color. If I give water from my sink faucet to my cats, it makes them vomit constantly, so I have to buy bottled water for my family and pets to drink. I cannot buy white clothes to wear, if you do and wash them, they will be permanently stained with a orange/brown tint. I have several pairs of pants I can show you. Bleaching them or using Rid does not get it out. I have brought this to Talquin's and our Commissioner's attention numerous times. They cycle the water and it clears up for a week or so and happens again. The complaints just fall on deaf ears.
23	B	Jul 16 2021 12:17 PM	The Contamination of water leading to health issues.
24	E	Jul 16 2021 12:01 PM	We live in Shell Point and the water comes out brown often. Some say it's old pipes. The sewage at times has bubbled out into the street. Something has to change. We wouldn't give our tap water to plants much less our animals and ourselves.
25	C	Jul 16 2021 10:33 AM	Neighborhoods where city/county water sewer isn't available. We build water wells and septic systems to great expense... but would have preferred city/county services. Now they want us to join at great expense. If a grant paid, I know our neighbors would join a public system.
26	G	Jul 16 2021 10:30 AM	Walkulla spring
27	D, J	Jul 16 2021 10:17 AM	Construction projects, fertilizer
28	B	Jul 16 2021 09:53 AM	Iron
29	F	Jul 16 2021 09:04 AM	Overwhelming our systems (sewer, groundwater runoff, etc) with too much development and adding of population
30	C, L	Jul 16 2021 07:20 AM	Rivers and springs becoming polluted from septic tank seepage and general bad practices by wakulla county
31	A	Jul 16 2021 06:58 AM	Waste water runoff
32	L	Jul 15 2021 05:52 PM	Wild life, natural vegetation.
33	B	Jul 15 2021 05:30 PM	contaminants and what appears to be a lack of concern by Commissioners for damaging the aquifer□
34	F	Jul 15 2021 04:45 PM	Uncontrolled growth as commissioners continue to approve development with septic tanks yet apply for grants to remove septic tanks. They continue to approve development with too high a density. And they don't provide for infrastructure enhancement to aleviate the problems associated with the development
35	A, C	Jul 15 2021 09:04 AM	over abundance of septic tanks. Inadequate systems to control run off.
36	A, C	Jul 15 2021 07:39 AM	Runoff/contanimation from development and increased traffic, and dated septic systems.
37	C, D	Jul 15 2021 07:00 AM	Septic/sewer, fertilizer
38	H	Jul 14 2021 10:59 PM	Water quality
39	B	Jul 14 2021 10:42 PM	Contaminants
40	J, L	Jul 14 2021 09:00 PM	Environmental protection and wildlife conservation
41	A, B, C, D	Jul 14 2021 08:18 PM	I think pesticides, and typical household run off is our issues. I honestly think sewage would help elevate the damage to aquifer and cut down on the carbon . Numbers don't lie and the houses using septic are emitting more carbon than the houses that could be on sewage and cut out a septic
42	J	Jul 14 2021 07:48 PM	Waste
43	C	Jul 14 2021 06:54 PM	To many nitrates in the water from septic tanks
44	C	Jul 14 2021 04:29 PM	to many septic tanks and inadequate sewer lines. Spray fields are not a real concern as the proposed #'s for nitrates are less then what we are getting from everywhere else.
45	E	Jul 14 2021 04:18 PM	Trithamates
46	B	Jul 14 2021 01:57 PM	unsafe bacterial loads and metal and chemical contaminants
47	A	Jul 14 2021 01:01 PM	None specific other than septic runoff.
48	E, F	Jul 14 2021 12:50 PM	The out of control grow and whether the county will be able to properly keep up with the infrastructure issues. Our drinking water is my biggest concern □

49	B, E	Jul 14 2021 12:19 PM	Trihalogenes, Nitrates, pharmaceutical
50	J	Jul 14 2021 12:03 PM	Consumer protection
51	G	Jul 14 2021 11:57 AM	Wakulla springs
52	J	Jul 14 2021 11:19 AM	Pollution,health of the environment, impact of industry and people living here on health of environment
53	B, E	Jul 14 2021 10:14 AM	The county should continue to do yearly research to make sure septics and sewer systems are of the best quality to meet the needs to not contaminate Wakulla Springs and our wells for drinking water.
54	F, J	Jul 14 2021 10:10 AM	Fish farm in Woodville, high density land usage (<5acre lots in the PFA) and increasing population
55	G	Jul 14 2021 09:27 AM	Always a priority to keep groundwater clean as possible.
56	K	Jul 14 2021 09:26 AM	the new waste water spray field
57	G	Jul 14 2021 09:22 AM	General toxins entering the aquifer via seepage, outflow into rivers and streams, etc.
58	F	Jul 14 2021 09:20 AM	overpopulation
59	A, F	Jul 14 2021 09:16 AM	contributing factors, farm and highway runoff, over development
60	J	Jul 14 2021 09:08 AM	I do not want to change from septic to sewer because in my budget it's cheaper it working just fine changing over cause to much. The neighborhood next to me was forced to get it. An they are not satisfied. A big mess
61	A	Jul 14 2021 08:53 AM	Rainwater runoff
62	G	Jul 14 2021 08:35 AM	Scuba diving in sinkhole to "find" the link to wakulla springs. The water was always crystal clear while the spring was in private hands and diving wasn't allowed. Cave divers created this issue by "proving" (creating) a connection between tannic springs and a clear spring cave. Water coming into the spring from the north cave is clear, water from the west cave became tannic when cave diving became prevalent. Go ahead and replace every septic tank on the state, it won't clear the water in Wakulla Springs.
63	C	Jul 14 2021 08:11 AM	septic tanks
64	E	Jul 14 2021 07:52 AM	Keeping our waters safe for humans and animals
65	C	Jul 14 2021 07:26 AM	All the septic tanks contributing to the quality of water at the beaches.
66	C, F, L	Jul 14 2021 07:19 AM	Development, deforestation, septic tanks
67	B	Jul 14 2021 07:10 AM	Contaminants that could potentially seep from septic tanks
68	C, F	Jul 14 2021 07:04 AM	Too many houses and septic tanks being put in close to the water bodies around the area
69	J	Jul 14 2021 07:01 AM	Keeping it clean
70	E	Jul 14 2021 06:57 AM	TTHM
71	F	Jul 14 2021 06:21 AM	Amount of new homes
72	C, F	Jul 14 2021 06:12 AM	Too many septic tanks used in the county and more being add will create the springs being polluted.
73	H	Jul 14 2021 06:07 AM	Water quality
74	G, H	Jul 14 2021 05:31 AM	We have a well and we are concerned about water quality.
75	C	Jul 14 2021 04:31 AM	Septic tanks
76	B	Jul 14 2021 03:45 AM	Contaminants in general
77	E	Jul 14 2021 12:42 AM	Poor test results from Talquin . Reports of discolored water in Wakulla Gardens area. Constant flushing of water mains to removed contaminants.
78	B	Jul 13 2021 11:58 PM	Too much iron
79	A	Jul 13 2021 10:32 PM	Water runoff pollutants is a big concern because most people just don't seem to care.
80	A, C, I	Jul 13 2021 10:26 PM	Septic tanks, storm water runoff, leaking or spilled petroleum products.
81		Jul 13 2021 10:15 PM	.
82		Jul 13 2021 09:54 PM	None
83	J	Jul 13 2021 09:24 PM	No specific concern; just want a healthy ecosystem.
84	A, D	Jul 13 2021 08:59 PM	Fertilizers, industrial runoff/dumping□
85	B, J	Jul 13 2021 08:36 PM	The water seems to always be contaminated. I switched to the septic to sewer and the water quality seems worse.
86	J	Jul 13 2021 08:35 PM	Filtering sources
87	J	Jul 13 2021 08:14 PM	Contributing factors
88		Jul 13 2021 08:08 PM	None
89	J	Jul 13 2021 08:03 PM	Lack of action by county
90	B	Jul 13 2021 07:41 PM	Nitrogen
91	J	Jul 13 2021 07:12 PM	All
92	E	Jul 13 2021 06:13 PM	Safe drinking water
93	D	Jul 13 2021 06:02 PM	Weed killer by Duke Energy
94	K	Jul 13 2021 05:17 PM	There were talks of a new water treatment plant that would drain into parts of Wakulla Springs and that cannot be good.
95	L	Jul 13 2021 05:12 PM	Destroying manatee habitat
96	A, C, D, J	Jul 13 2021 05:07 PM	nothing specific, people ruin waterways all over the world. we need to do better. farm runoff, septic systems, street drainage, industrial all contribute
97	A, C, F, G	Jul 13 2021 05:04 PM	Septic/ sewer systems & stormwater runoff, nutrient (primarily Nitrogen) increases in ground and surface waters, higher density developments without providing adequate enforceable provisions to address nutrients, sediments, stormwater and organics.
98	K	Jul 13 2021 04:47 PM	Building a wastewater plant and spray field in a Flood Zone. These maps were drawn in Washington DC. They did not intend the County to put a wastewater plant/ spray field in Flood Zone “A” in the middle of a residential neighborhood. This area is less than 10 miles from the Gulf, seafood industry, Historical Wakulla Springs and our drinking water, not to mention it is next to at least 300 homes. There are sink holes on this property, you are trying to destroy what GOD has made. When the storms/hurricanes come with the downpour of rain it will cause the sinkholes to fill and develop. Then what will the commissioners say. Can’t say they weren’t warned, because they have been. God have mercy on your souls if y’all go through with putting a wastewater plant and spray field on this coastal property. The people of Wakulla will never forgive you for ruining our water, Gulf/seafood and Wakulla Springs. I am surprised and disappointed that our commissioners cannot understand this. I have lived and worked across from this land since 1988. I can truthfully swear with my hand on a bible that I have seen swamp water there because of the rain. Let’s face it Mr. Moore has had this land since 2012, he was not able to sale the land for the last 12 years or he would have. Would you want someone to build wastewater/Spray field in your backyard? What if there is Some kind of disease the people living there could get from smelling that stuff. There is just too many liabilities associated with this land. For some people the largest purchase they will ever make is their home, and you are destroying their peace and wrecking the value of it. BE AWARE you are opening up the largest can of worms this County will ever see.!!!!!!!!
99		Jul 13 2021 03:02 PM	contributing factors
100	C	Jul 13 2021 01:14 PM	Nitrate from septic systems.
101	A	Jul 13 2021 12:59 PM	Septic and road runoff
102	B	Jul 13 2021 12:53 PM	Contaminants coming from Leon County. Also contaminants going into the Gulf.
103	E, G, L	Jul 13 2021 12:44 PM	I heard a lot of folks had to re-drill their wells this spring, it seems that there is less water available higher in the aquifer than there used to be. There is less bird and fish diversity at places where the water surfaces than there used to be. The green tint as the springs and sinkholes is a telltale sign of our drinking waters declining health.
104	K	Jul 13 2021 12:42 PM	sewer systems contaminating aquifer
105	K	Jul 13 2021 12:19 PM	Treated wastewater entering spring creek
106	K	Jul 13 2021 11:43 AM	Spray fields in Leon
107	A, B	Jul 13 2021 10:55 AM	Mineral content, runoff from Leon county contaminants,
108	J	Jul 13 2021 09:57 AM	Overall lack of concern
109	F, H, J	Jul 13 2021 09:43 AM	Overpopulation, poor conservation record, lack of environmental planning, water pollution, destruction of the environment for personal gain, not responsive to citizen input

110		Jul 13 2021 09:29 AM	Not sure
111	K	Jul 13 2021 08:48 AM	Proper disinfecting of effluent
112	B, F	Jul 13 2021 08:45 AM	Destruction of trees, clear cutting everything for more houses. Contaminants from the construction equipment
113	C	Jul 13 2021 07:39 AM	Sewage from low lying septic tanks entering our bays and rivers like mysterious waters and coastal homes I watch both flood with tropical storms
114	E, F	Jul 13 2021 07:28 AM	TTHMs, phosphates, nitrogen's, declining water quality, lack of infrastructure, overpopulation.
115	B, H, L	Jul 13 2021 06:53 AM	Water quality, contamination, and wildlife habitat.
116	A	Jul 13 2021 12:33 AM	Runoff contamination
117	F	Jul 13 2021 12:30 AM	All the new subdivisions y'all keep approving!
118	C, D, I	Jul 12 2021 11:08 PM	Nutrients, pesticides, herbicides and fuel contamination in runoff and from leaky septic systems.
119	H	Jul 12 2021 10:56 PM	Pollution of our water
120	H	Jul 12 2021 10:51 PM	The growing number of reported water quality issues
121	F, K	Jul 12 2021 10:46 PM	Growth and Sewage issues
122	A, F, J	Jul 12 2021 10:29 PM	The rate of growth in the county, poor planning for storm water management, altered hydrological patterns and maintenance of green spaces for water filtration.
123	B	Jul 12 2021 10:27 PM	Contaminants!!!
124	C, D	Jul 12 2021 10:24 PM	Septic tanks and over use fertilizer
125	B, E	Jul 12 2021 10:19 PM	Have received multiple notifications from Talquin stating contaminant levels are above normal. We don't drink our tap water because of this.
126	F	Jul 12 2021 09:53 PM	Too many people too fast.
127	B	Jul 12 2021 09:45 PM	I want the ground water to remain free of contaminates
128	F	Jul 12 2021 09:43 PM	Too many people drilling wells and putting in septic tanks.
129		Jul 12 2021 09:20 PM	.
130	C	Jul 12 2021 09:17 PM	Septic tanks causing leaks and issues at our beaches
131	H	Jul 12 2021 09:01 PM	Water management
132	E	Jul 12 2021 08:55 PM	I am concerned for the water quality in Wakulla period. I have Talquin water and we have been unable to drink the water in months. We pay a water/sewer bill, and purchase water for drinking and cooking. I have been in the same house for ten years, never had these issues before the sewer project in my neighborhood.
133	F	Jul 12 2021 08:40 PM	To much new development of sub divisions. More and more people end up with more and more litter alongside roads, loss of trees being cut down.
134	A, C, D	Jul 12 2021 08:33 PM	Septic systems, fertilizers, runoff
135	F	Jul 12 2021 07:59 PM	Too many homes coming to county that sewer system can't handle, too much sewer in one location. Sewer issues during storms, etc.
136	C	Jul 12 2021 07:58 PM	Sewage and septic tanks in almost all the county
137	D, K	Jul 12 2021 07:58 PM	Sewage □
138	G, H, K	Jul 12 2021 07:43 PM	Wastewater and its effects on our water and on Wakulla Springs
139	I, J, K	Jul 12 2021 07:39 PM	Waste, oil, gasoline, animal carcasses, general waste
140	D, F	Jul 12 2021 07:33 PM	Fertilizers from sodding in the new build homes, much needed ecosystems being destroyed by construction, forcing wildlife into increasingly urban areas.
141	B, F	Jul 12 2021 07:32 PM	My water contains contaminates according to an independent lab.. Growth of the community is staggering. Roadways seem inappropriate for the growth.
142	F	Jul 12 2021 07:04 PM	Population density and new homes being built
143	B	Jul 12 2021 07:00 PM	N
144		Jul 12 2021 06:46 PM	@
145	B	Jul 12 2021 06:27 PM	contamination of oils, trash and over construction.
146	A	Jul 12 2021 06:22 PM	Septic tank run off ruining ground water, the springs and coastal waters
147	C, D	Jul 12 2021 06:10 PM	Quality of waterways due to septic and fertilizer runoff.
148	D, K	Jul 12 2021 05:45 PM	Sewage and lawn fertilizers
149	B	Jul 12 2021 05:41 PM	Contamination
150	B	Jul 12 2021 04:45 PM	That it will contaminate Wakulla Springs or surrounding areas
151	C	Jul 12 2021 04:41 PM	Septic Tanks close to the coast, rivers and overly dense subdivisions
152		Jul 12 2021 04:38 PM	None
153	D, K	Jul 12 2021 04:36 PM	Wastewater, herbicides, pesticides
154	C, D, J	Jul 12 2021 04:30 PM	Septic Tanks and Sewage, Corexit Dispersants and Chemicals in Fertilizers and and Agricultural Runoff. I am a Toxicology Nurse.
155	J	Jul 12 2021 04:21 PM	Sewage and littering for sure
156	A, D, F	Jul 12 2021 04:13 PM	Runoff, pesticides, increase in population and septic systems
157	J	Jul 12 2021 03:51 PM	The environmental lobby doesn't hold up a necessary project that the county needs for its residence.
158	E	Jul 12 2021 03:47 PM	I have talquin and I I've seen how nasty my drinking water is. I have two dogs both with cancer I'm sure the water caused.
159	J	Jul 12 2021 03:41 PM	Uneducated opinions is my greatest concern. Trust the science
160	F	Jul 12 2021 03:33 PM	Wastewater plant is already over capacity yet more development is approved by the commission
161	A, J, K	Jul 12 2021 03:18 PM	Waste water, bad pipes, water runoff.
162	C, F	Jul 12 2021 03:09 PM	over development without sewer, small lots with septic tanks. should be a minimum of 5 acres to use a septic tank
163	B, F	Jul 12 2021 02:49 PM	Over development that may lead to water shortages, contamination of the aquifer and more problems of treated sewage disposal.□
164	D, F, I	Jul 12 2021 02:27 PM	Oils, petroleum products, fertilizers, pesticides. All increased by dense increased growth.
165	F	Jul 12 2021 02:26 PM	I'm concerned with the growth in this county. More houses equals more people equals more impact on the environment.
166	G, H, K	Jul 12 2021 02:24 PM	Nitrate levels in ground water and too much water being removed from the Florida Aquifer
167	B	Jul 12 2021 02:19 PM	Contaminants into aquifer and springs
168	C	Jul 12 2021 02:07 PM	Lack of consistency in State & County enforcement in nitrogen- reduction PBTS applications. 450 Wakulla County citizens carrying burden for entire County & State, while mandates are unfunded, which are unconstitutional.
169	C	Jul 12 2021 01:43 PM	Septic tanks adding nutrients to ground water.
170	C	Jul 12 2021 01:38 PM	septic
171		Jul 12 2021 01:24 PM	N/A
172	A, J, K	Jul 12 2021 01:22 PM	Old pipes and run off
173	E	Jul 12 2021 01:17 PM	Sulfur smell and hard water
174	J	Jul 12 2021 12:58 PM	Lack of public utilities, county need water and sewage
175	B, J	Jul 12 2021 12:55 PM	Nitrogen contamination and low water flows at spring creek
176	C	Jul 12 2021 12:54 PM	Septic tanks and drain fields. The cost of $15,000 dollars or more depending on how much land you own, for a septic system if your old system fails if you are in the Wakulla Springs basin. Need to start working on how to improve this situation.
177	B, H, L	Jul 12 2021 12:54 PM	All contaminants, depletion of the water, impact on the wildlife & water life
178	B, G	Jul 12 2021 12:50 PM	Ground water contamination from northern counties, excessive extraction..
179	C	Jul 12 2021 12:26 PM	Septic tanks

180	E	Jul 12 2021 12:26 PM	Discolored water out of home
181	C, E, K	Jul 12 2021 12:22 PM	Clean water, sewage and septic usage
182	K	Jul 12 2021 12:11 PM	Sewage
183	K	Jul 12 2021 12:06 PM	County waste water contamination
184	C, K	Jul 12 2021 12:04 PM	Sprayfield by the Tallahassee airport, outdated septic tanks
185	A, B, C, F	Jul 12 2021 12:03 PM	Excess nutrients including nitrogen and phosphorus, septic tank failures, less of pervious surfaces due to development, untreated stormwater
186	B, E	Jul 12 2021 11:57 AM	Contaminants. I am a paying for water each month and it's not cheap. I believe SS a paying customer for water that there should not be any reason or threat of contaminants in my drinking water. I also feel that fluoride should be added to the water to better everyone's oral health. Building responsibility and impact fees to builders should be charged to keep our water safe for the right equipment needed to filter the water properly and safely. It's unfair that current long time residents have to suffer due to the outages amount of homes being built at once.
187	G, H, L	Jul 12 2021 11:47 AM	Effects on wildlife, ocean water quality, springs water quality
188	B	Jul 12 2021 11:47 AM	Contaminants from a water treatment plant placed in the wrong area.
189	B, I, J	Jul 12 2021 11:45 AM	Dumping of car fluids, chemicals. Illegal dumping of trash.
190	C, F	Jul 12 2021 11:44 AM	Many septic tanks going in. So much development in the county.
191	G	Jul 12 2021 11:41 AM	dumping into our aquifer
192	D	Jul 12 2021 11:34 AM	Nitrogen load from chemical fertilizers
193	F	Jul 12 2021 11:30 AM	The rise in numbers of new homes vs the quality of our aquifer is frightening.
194	J	Jul 12 2021 11:27 AM	Mostly upslope to Leon and further north. Better water conservation methods are needed period
195	G	Jul 12 2021 11:26 AM	Wakulla springs no longer clear like was when I was a child
196		Jul 12 2021 11:26 AM	N/A
197		Jul 12 2021 11:25 AM	None
198	B	Jul 12 2021 11:23 AM	smell, mineral deposits
199	G	Jul 12 2021 11:18 AM	Pollution from Leon County flowing into Wakulla County via the aquifer
200	C	Jul 12 2021 11:17 AM	To many septic tanks in the Springs Basin area
201	K	Jul 12 2021 11:12 AM	sewage
202	K	Jul 12 2021 11:11 AM	Tallahassee was Watters in our rivers
203	K	Jul 12 2021 11:11 AM	I believe we need to expand sewer program
204	B, E	Jul 12 2021 11:10 AM	trihalogins from wastewater. Saltwater intrusion,nitrates.
205	E, G	Jul 12 2021 11:05 AM	Chemicals going into the gulf and negative affects on the underground springs, i.e. our drinking water.
206		Jul 12 2021 11:04 AM	xx
207	F	Jul 12 2021 11:02 AM	The increasing number of housing developments is going to impact water quality and the need for additional sewage treatment plants. I'm concerned that this new development is not paying for itself and creating problems that will need to be addressed and paid for in the future. Care should be given to ensuring that growth pays for the infrastructure necessary to ensure quality of life.
208	B	Jul 12 2021 11:02 AM	Any contamination of the ground water
209	A, B	Jul 12 2021 11:00 AM	Fertilizer runoff and nitrogen
210	F	Jul 12 2021 10:56 AM	Over building
211	B	Jul 12 2021 10:50 AM	Contaminates
212		Jul 12 2021 10:49 AM	n/a
213	F	Jul 12 2021 10:48 AM	People.
214	F	Jul 12 2021 10:47 AM	Increase in number of houses without supporting infrastructure
215	C, E	Jul 12 2021 10:46 AM	Talquin's TTHMs in my drinking water, have to buy bottled water to drink & worry about taking showers in it for cancer- Talquin's responsibility. Nitrates from septic tanks. County should float a BOND, like they did for my parents' house to NH, to pay for houses on septic tanks to be added to the sewer system.
216		Jul 12 2021 10:38 AM	None
217	C, D	Jul 12 2021 10:36 AM	Septic tanks and fertilizer run off.
218	C, D	Jul 12 2021 10:35 AM	fertilizer, septic tanks
219	G, K	Jul 12 2021 10:35 AM	Impacts from human waste and over-drawing.
220	F	Jul 12 2021 10:32 AM	Rate and density of growth in county and the counties ability to provide infrastructure. These dense subdivisions are adding too many people to fast in small areas. The development is out pacing the infrastructure. More water drawn from ground the more that has to be treated. We need to plan ahead not react to the budgets of developers. Development never pays for itself. The tax payers has to take over. If we want to county to grow so fast we have to get ahead of building. Develop spray fields, water all public facilities and parks with outflow from the treatment plants. We are using up all the future growth now without infrastructure in place. Stop approving comp plan changes and impose impact fees. I think you need to have these surveys about the rate and density of growth in Wakulla County, but do it in a more secure way by tax parcel Number.
221	A, J	Jul 12 2021 10:29 AM	Contributing factors such a littering, dumping in the National Forest and storm water runoff
222	C, F	Jul 12 2021 10:27 AM	Individual septic systems Uncontrolled growth in environmentally sensitive areas□
223	D, E	Jul 12 2021 10:27 AM	Concerned with both groundwater contaminants (fertilizers, etc) and the quality of drinking water provided by Talquin
224	C	Jul 12 2021 10:26 AM	Septic tanks
225	G	Jul 12 2021 10:24 AM	Phosphorus, Nitrogen/Nitrate, Pharmaceuticals, Arsenic, Chlorine/TTMH, other chemical reactions/byproducts that will occur in Groundwater when treated wastewater is added.. Sinkhole formations occurring on surrounding properties. Chemically treated water/salinity issues with Springs.
226	A	Jul 12 2021 10:22 AM	Runoff water into springs
227	B	Jul 12 2021 10:22 AM	Nitrates
228	A	Jul 12 2021 10:20 AM	Nitrate runoff from over-fertilization and septic systems.
229	E	Jul 12 2021 10:19 AM	I don't want there to be issues with our drinking water. Tallahassee water is nasty and I don't want to lose the quality water we currently have
230	G	Jul 12 2021 10:19 AM	Handling ground water issue in a smart well thought out process.
231	J	Jul 12 2021 10:19 AM	A clean and safe environment.
232	A, F	Jul 12 2021 10:18 AM	Too many homes being built and topography of the land is being changed to fit this need. Too many people that will not respect the land and use contaminants that will filter down into the ground water.□
233	C	Jul 12 2021 10:17 AM	Septic systems
234	F	Jul 12 2021 10:17 AM	Outgrowing infrastructure.
235	F	Jul 12 2021 10:16 AM	Too much building is destroying the natural flow of water. Removing so many trees will have devastating results for our ground water and for our beautiful springs.
236	J	Jul 12 2021 10:14 AM	Pollution
237		Jul 12 2021 10:14 AM	None
238	K	Jul 12 2021 10:13 AM	Sewers
239	B	Jul 12 2021 10:12 AM	Nitrogen, phosphorus,
240	F	Jul 12 2021 10:12 AM	Lack of infrastructure to support development. Too many septics in or near failure, even illegal.
241	F	Jul 12 2021 10:11 AM	Too much growth without sufficient infrastructure
242	C, D	Jul 12 2021 10:09 AM	pesticides and fertilizers getting into the groundwater and running into the springs. Septic waste is also a significant factor in the quality of the springs. This survey is seemingly aimed at calling out citizens who don't have the ability to volunteer or maybe aren't as knowledgeable as the professionals about the state of the springs. I don't see how it has any value otherwise and it's ridiculous.

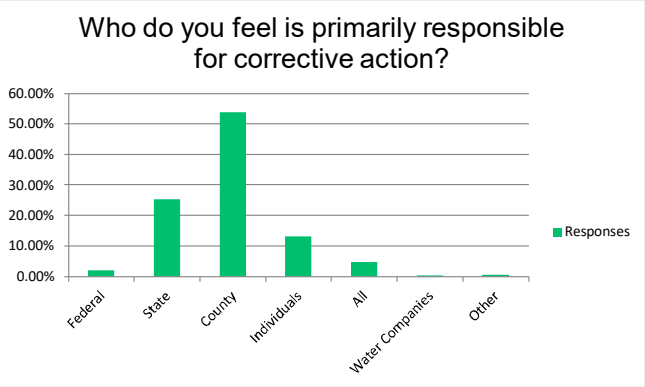
243	F	Jul 12 2021 10:09 AM	Too much new construction
244	E	Jul 12 2021 10:09 AM	Safe to drink and not polluted
245	E	Jul 12 2021 10:09 AM	I want to have clean drinking water. My family uses a well.
246	J	Jul 12 2021 10:08 AM	Toxic
247	B	Jul 12 2021 10:08 AM	Contaminants
248	B	Jul 12 2021 10:06 AM	Most concerned about contaminates from Leon County as well as Wakulla. May be time to consider impact fees to offset the cost we are facing too.
249	F	Jul 12 2021 09:59 AM	Exponential growth in the county without requiring sewer hookups
250	B, E	Jul 12 2021 09:58 AM	The clarity / contamination of Wakulla Springs and the contamination of drinking water for those on wells.
251	F	Jul 12 2021 09:58 AM	I am concerned for development in Wakulla and the world overall. Making sure that we do the best we can to keep it a nice environment to live in as population increases, because we cannot stop the increase, we can only deal with it properly or improperly.
252	E	Jul 12 2021 09:57 AM	Drinking water.
253	F	Jul 12 2021 09:56 AM	the pace of growth
254	C, F	Jul 12 2021 09:55 AM	Too many septic tanks, too much development, constant rezoning. The county is not looking out for our water.
255	C	Jul 12 2021 09:55 AM	Septic tanks
256	C	Jul 12 2021 09:54 AM	Septic tanks should be a thing of the past
257	C	Jul 12 2021 09:54 AM	Septic tank drain field flowing into Wakulla Springs
258	F	Jul 12 2021 09:54 AM	Increased housing = increased waste and contaminants
259	F, G, K	Jul 12 2021 09:53 AM	Building a wastewater pit over the Florida aquifer, also unregulated growth.
260	J, K	Jul 12 2021 09:52 AM	Nitrate-nitrogen from wastewater; salinity from sea level rise
261	C	Jul 12 2021 09:51 AM	Number of septic tanks in our county. Would like to see more houses hooked up to sewer
262	B	Jul 12 2021 09:51 AM	Contaminants and pollution
263	B	Jul 12 2021 09:50 AM	Water contamination in general.
264	J	Jul 12 2021 09:50 AM	No specific concern, just want to make sure it's clean. We don't want or need a Flint situation here.
265	A, D	Jul 12 2021 09:49 AM	Lawns are often overfertilized and the runoff goes into the ground water.
266	D, G, K	Jul 12 2021 09:49 AM	Fertilizers contaminating water, water table being so low.
267	B, K	Jul 12 2021 09:34 AM	sewage and chemical contamination
268	C	Jul 12 2021 08:50 AM	Septic system and high levels of nitrates.

General Environmental Concerns

Who do you feel is primarily responsible for corrective action?

Answer Choices	Responses	
Federal	1.62%	5
State	23.30%	72
County	52.43%	162
Individuals	10.68%	33
Other (please specify)	11.97%	37
	Answered:	**309**
	Skipped:	**1**

Comment Summary					
Responses		Original Responses	Comment Tally	Total	%
A	Federal	5	2	7	2.10%
B	State	72	12	84	25.23%
C	County	162	17	179	53.75%
D	Individuals	33	11	44	13.21%
E	All	0	16	16	4.80%
F	City				
G	Water Companies	0	1	1	0.30%
H	Other	0	2	2	0.60%



Respondents	Category	Other (please specify)
1	E	All
2	B,C	Both County/State.
3	E	All
4	B,D	State but also individuals need to do their part
5	E	All of the above
6	H	I am complete against the wastewater treatment placement and hope it's put near Wildwood golf course to water the grass, a mutual benefit.
7	E	You forgot “city” like St Marks, I’m sure there’s others. Who is responsible? Federal - st Marks river is near federal refuge, state - b/c of Springs, county/city who provide services, individuals attempting to make the best decision at the time and often under-informed.
8	E	All of the above.
9	B,C,D	I think state , county and individual
10	B,C,D	I think it is a combo of the personal, the county, and the state
11	A,B,C,D	A combination of individuals, companies, and government.
12	D	We the customer. Should have say on the matter
13	E	All the above
14	G	Water companies
15	E	all of the above
16	E	All of the above, as citizens
17	C,D	The county and individuals allowing septic in low lying areas that flood and the new septics if under water are no different
18	E	All the above
19	E	All of the above
20	C	County not enough foresight and allowing rapid growth and state for not stricter with laws and oversight of countys
21	B,C,D	Individuals, with enforcement from county and state
22	C,H	Both the county and the builders. The builders are out for money and are greedy. The county is equally as greedy for allowing it and not caring about what happens to the county when there is no more land left to build on.
23	E	All of the above.
24	E	All
25	B,C	The County is primarily responsible for the actions of our leaders from 70 years ago. Unfortunately it has created a problem to large for the County to be able to afford to fix. It is good that the state has earmarked funding for fixing "historic" subdivisions
26	E	All levels if there are problems
27	B,C	Mainly county government but state of Florida and individuals bear responsibility too.
28	E	Everyone
29	C,D	Individuals but County need to take control
30	A,B,C	See above fort Talquin's TTHMs in water. Perhaps a partnership between federal, state, and county to pay for adding septic tanks in homes to sewer for the good of all and to the environment. It is ridiculous that my neighbors paid over $40K to connect to the sewer system. My parents' home in NH was added to the sewer system in Hampton, NH, for free. The town floated a bond, I understand. I'm sure I could help you obtain the details from them on how exactly it was done!
31	C	County Commissioners
32	E	We are all responsible, but our county commissioners should be leading the way, seeking out funding sources both public and private, to expand our water treatment system.
33	E	Everyone
34	C	Wakulla County BOCC
35	B,C,D	Cooperation by state, county, and individuals.
36	B,C,D	State, County, and individuals
37	B,C,D	county, state, and individuals

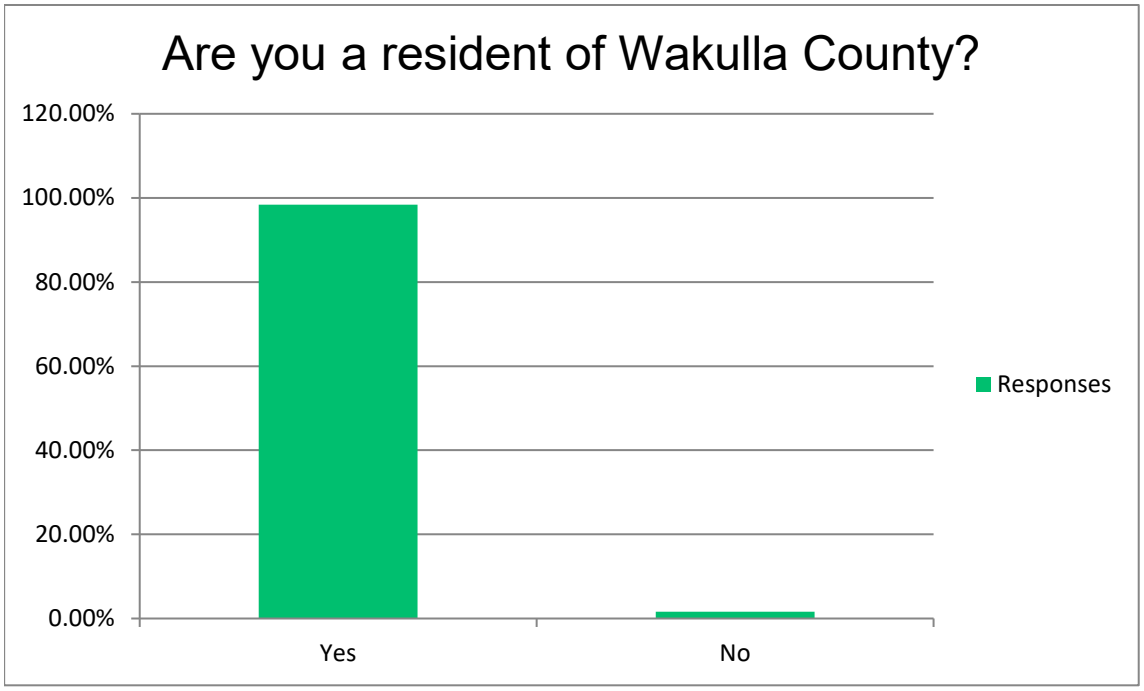
Attachment C

Survey 3: Personal Experience with Septic Upgrade Projects

Personal Experience with Septic Upgrade Projects

Are you a resident of Wakulla County?

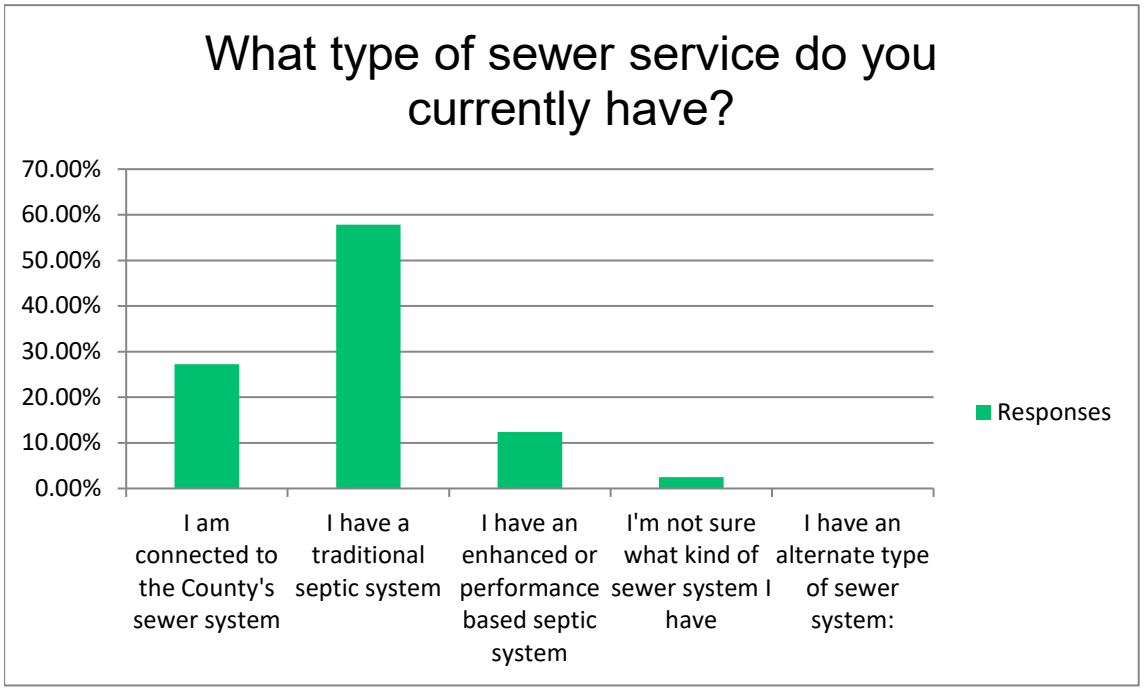
Answer Choices	Responses	
Yes	98.36%	120
No	1.64%	2
	Answered:	**122**
	Skipped:	**1**



Personal Experience with Septic Upgrade Projects

What type of sewer service do you currently have?

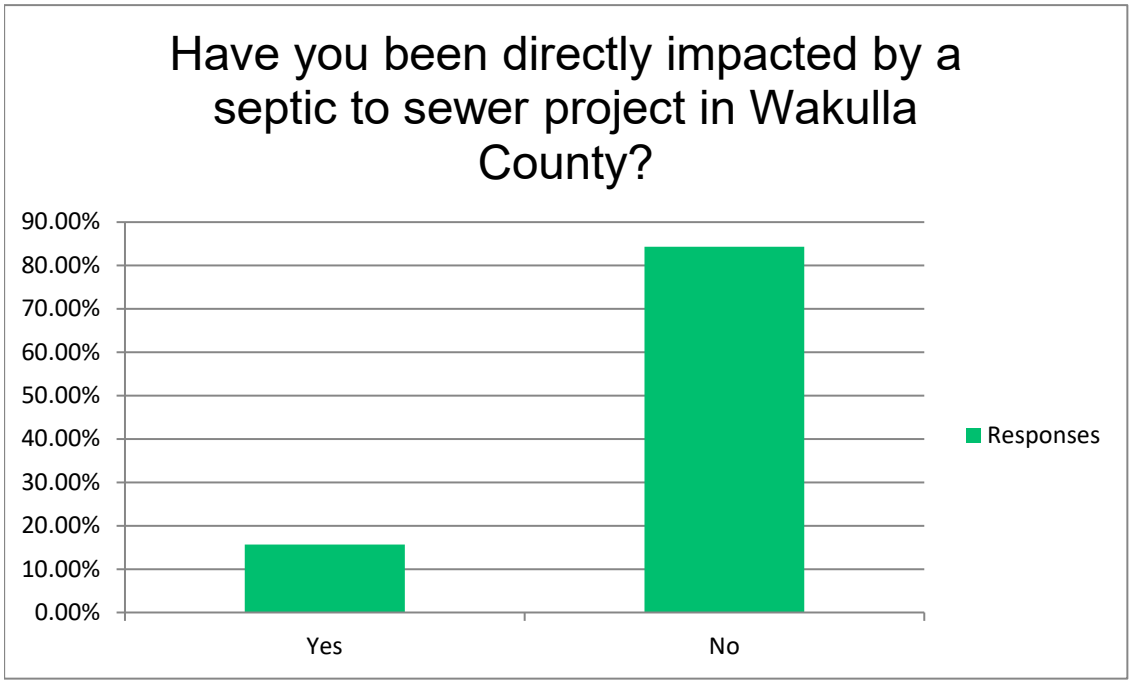
Answer Choices	Responses	
I am connected to the County's sewer system	27.27%	33
I have a traditional septic system	57.85%	70
I have an enhanced or performance based septic system	12.40%	15
I'm not sure what kind of sewer system I have	2.48%	3
I have an alternate type of sewer system:	0.00%	0
	Answered:	**121**
	Skipped:	**2**



Personal Experience with Septic Upgrade Projects

Have you been directly impacted by a septic to sewer project in Wakulla County?

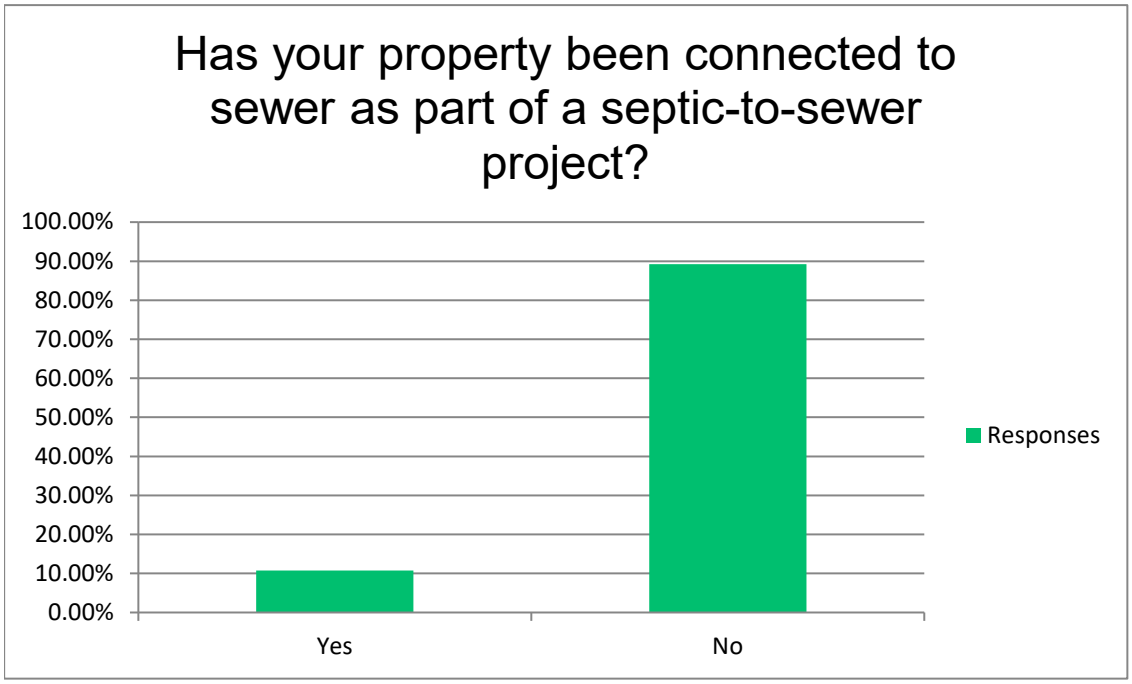
Answer Choices	Responses	
Yes	15.70%	19
No	84.30%	102
	Answered:	**121**
	Skipped:	**2**



Personal Experience with Septic Upgrade Projects

Has your property been connected to sewer as part of a septic-to-sewer project?

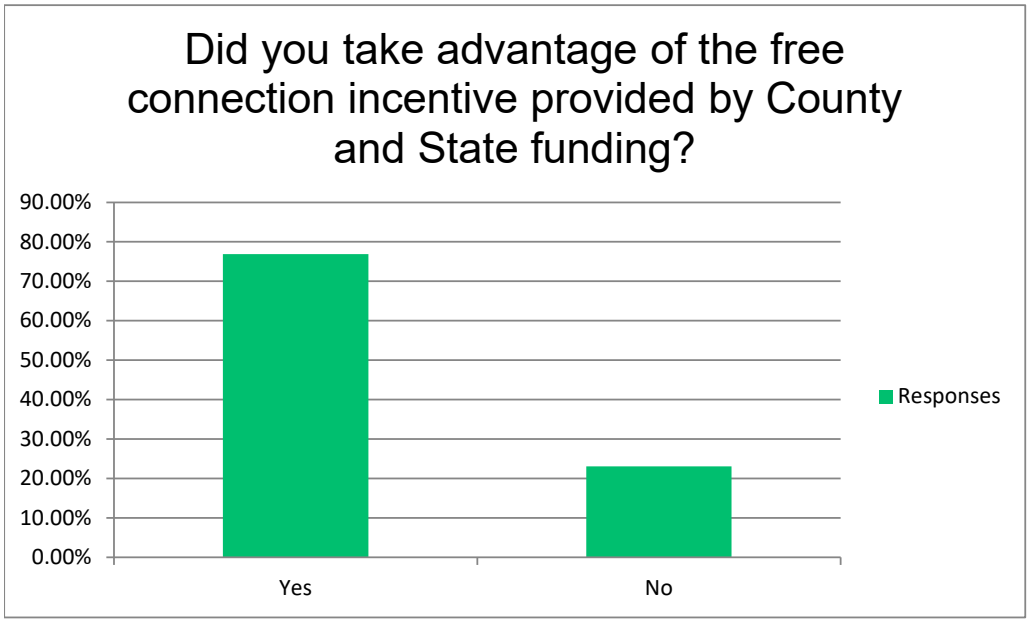
Answer Choices	Responses	
Yes	10.74%	13
No	89.26%	108
	Answered:	**121**
	Skipped:	**2**



Personal Experience with Septic Upgrade Projects

Did you take advantage of the free connection incentive provided by County and State funding?

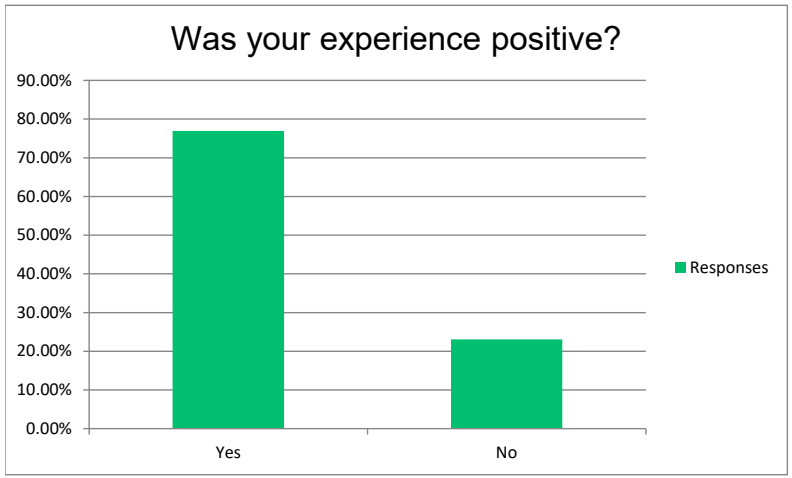
Answer Choices	Responses	
Yes	76.92%	10
No	23.08%	3
	Answered:	**13**
	Skipped:	**110**



Personal Experience with Septic Upgrade Projects

Was your experience positive?

Answer Choices	Responses	
Yes	76.92%	10
No	23.08%	3
If not please explain		3
	Answered	**13**
	Skipped	**110**

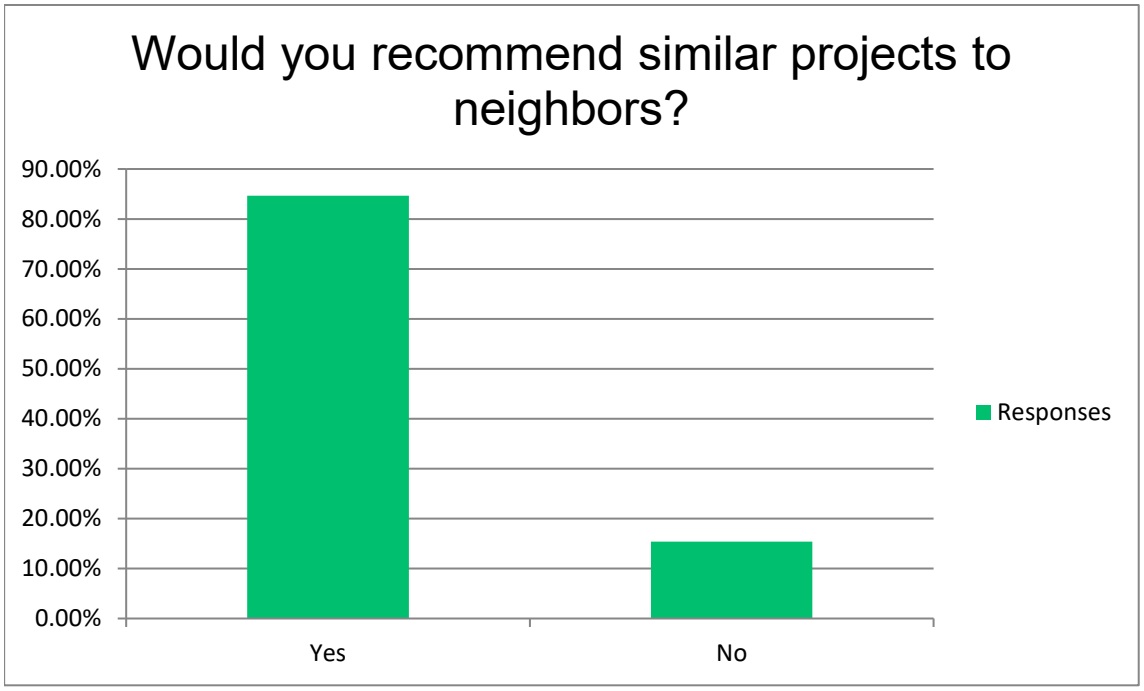


Respondents	Response Date	If not please explain
1	Jul 29 2021 02:14 PM	I have a grinder pump and it has been replaced 2x's at my expense at $1600.00 per pump plus the cost of installation
2	Jul 28 2021 05:39 PM	Left holes in my yard that kept reappearing after filling them in.. I fell in a hole while mowing my grass!
3	Jul 27 2021 09:59 AM	Overall it was positive but, the yard was (and still is messed up). We called and spoke with someone several times but it was never resolved. Otherwise, we were well informed and very happy with end result. Thank you.

Personal Experience with Septic Upgrade Projects

Would you recommend similar projects to neighbors?

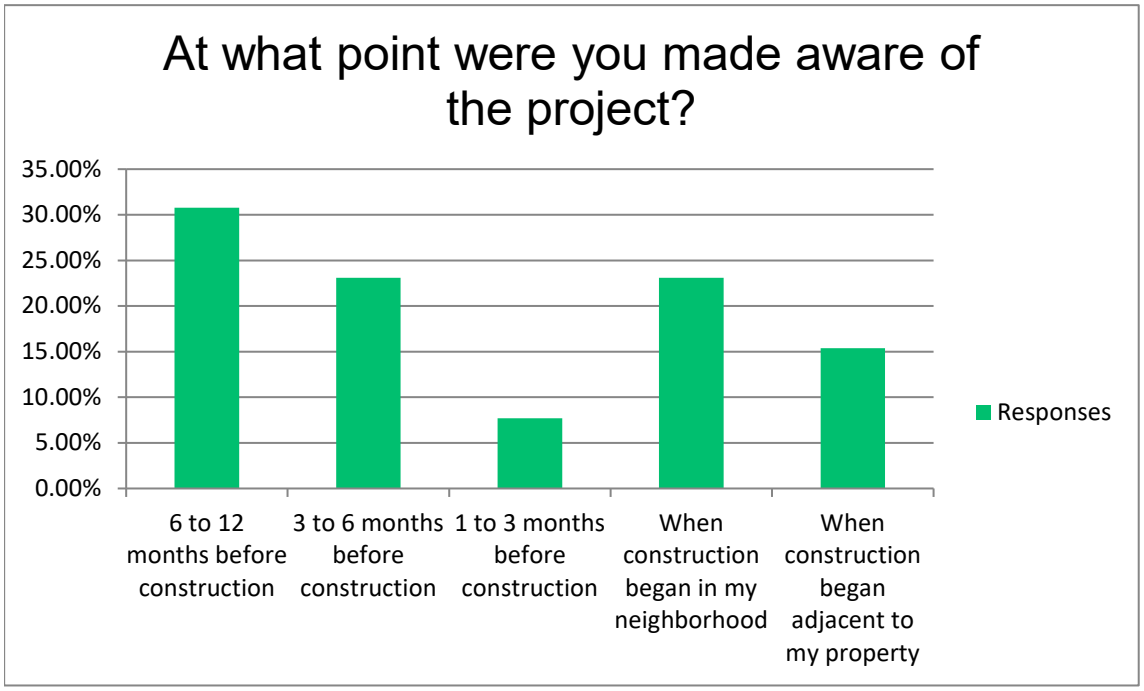
Answer Choices	Responses	
Yes	84.62%	11
No	15.38%	2
	Answered:	**13**
	Skipped:	**110**



Personal Experience with Septic Upgrade Projects

At what point were you made aware of the project?

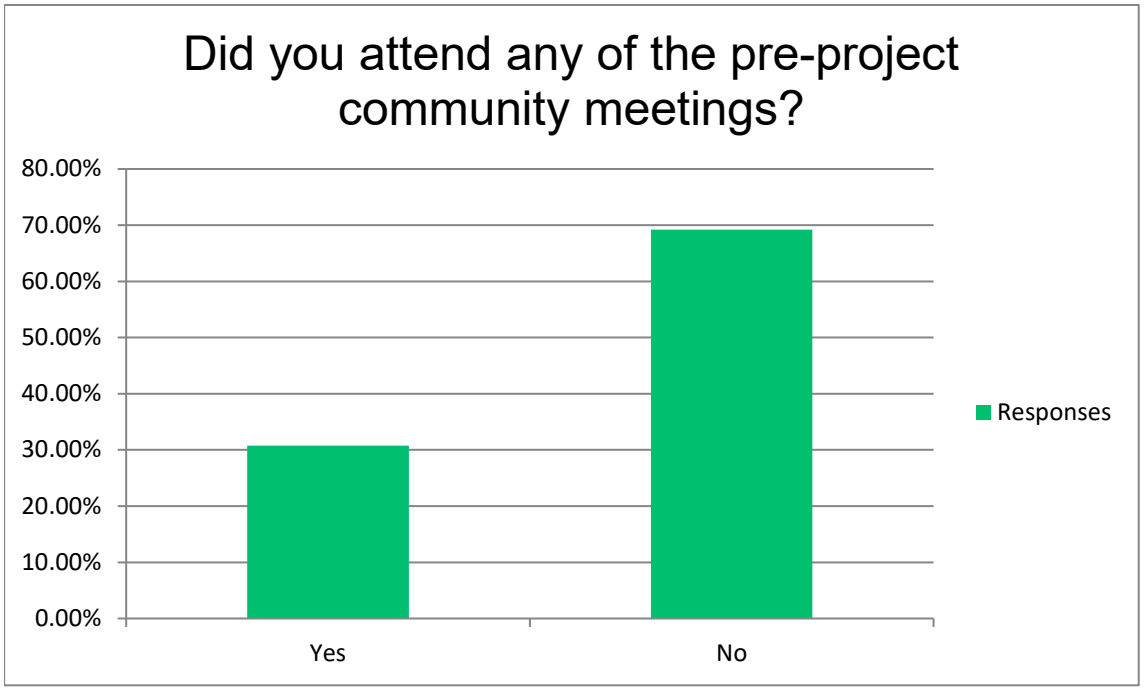
Answer Choices	Responses	
6 to 12 months before construction	30.77%	4
3 to 6 months before construction	23.08%	3
1 to 3 months before construction	7.69%	1
When construction began in my neighborhood	23.08%	3
When construction began adjacent to my property	15.38%	2
	Answered:	**13**
	Skipped:	**110**



Personal Experience with Septic Upgrade Projects

Did you attend any of the pre-project community meetings?

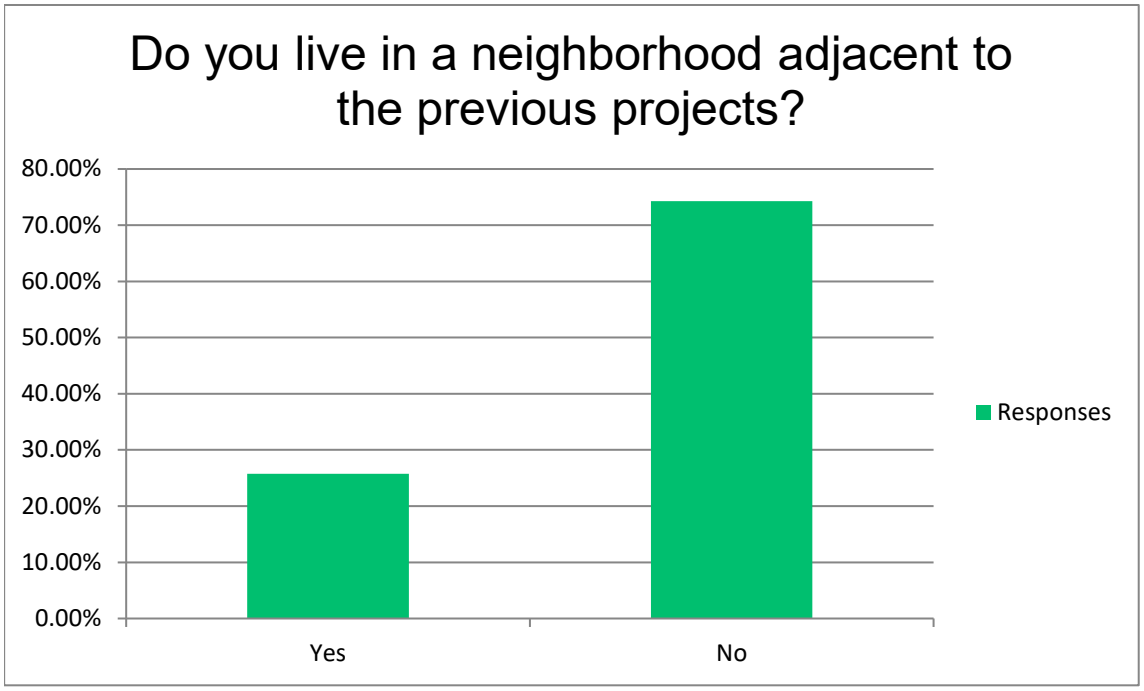
Answer Choices	Responses	
Yes	30.77%	4
No	69.23%	9
	Answered:	**13**
	Skipped:	**110**



Personal Experience with Septic Upgrade Projects

Do you live in a neighborhood adjacent to the previous projects?

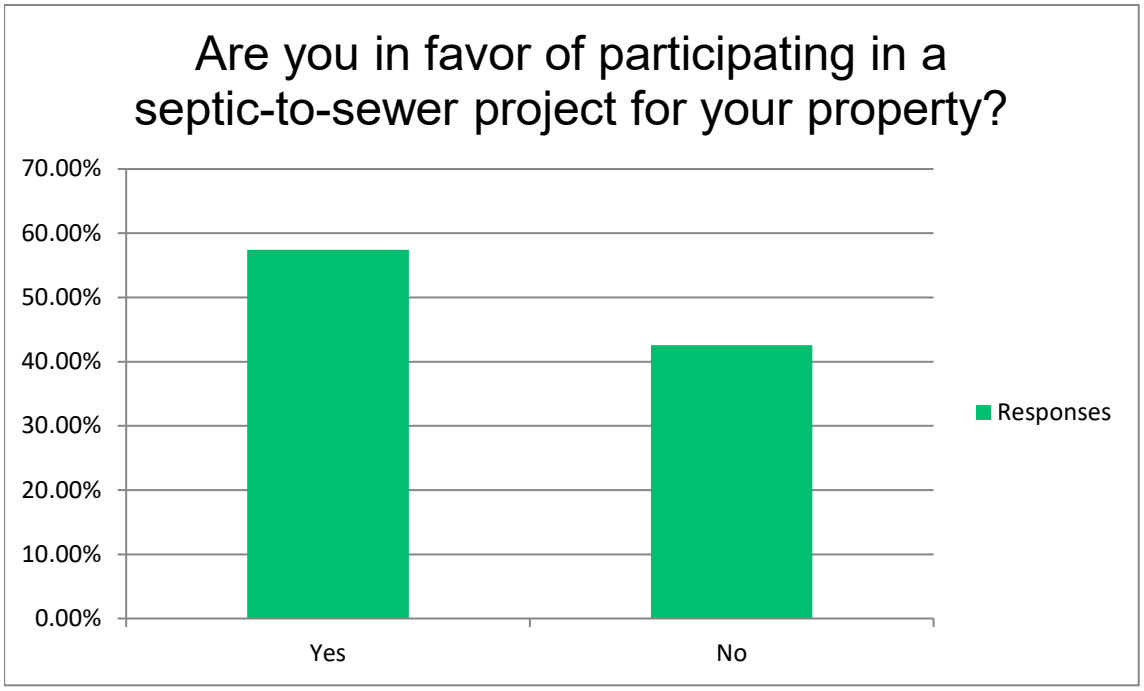
Answer Choices	Responses	
Yes	25.74%	26
No	74.26%	75
	Answered:	**101**
	Skipped:	**22**



Personal Experience with Septic Upgrade Projects

Are you in favor of participating in a septic-to-sewer project for your property?

Answer Choices	Responses	
Yes	57.43%	58
No	42.57%	43
	Answered:	**101**
	Skipped:	**22**



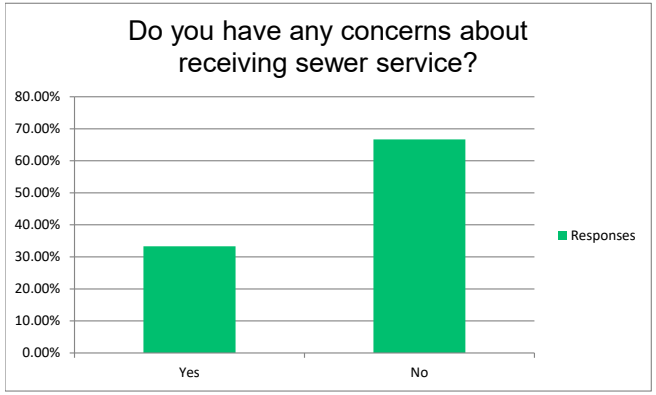
Personal Experience with Septic Upgrade Projects

Do you have any concerns about receiving sewer service?

Answer Choices	Responses	
Yes	33.33%	34
No	66.67%	68
Additional comments		26
	Answered:	**102**
	Skipped:	**21**

Comment Summary

Additional Comments	Responses	
Cost	65.38%	17
Treatment and Collection Quality	23.08%	6
Growth	3.85%	1
Location	15.38%	4
Damage to Home	3.85%	1

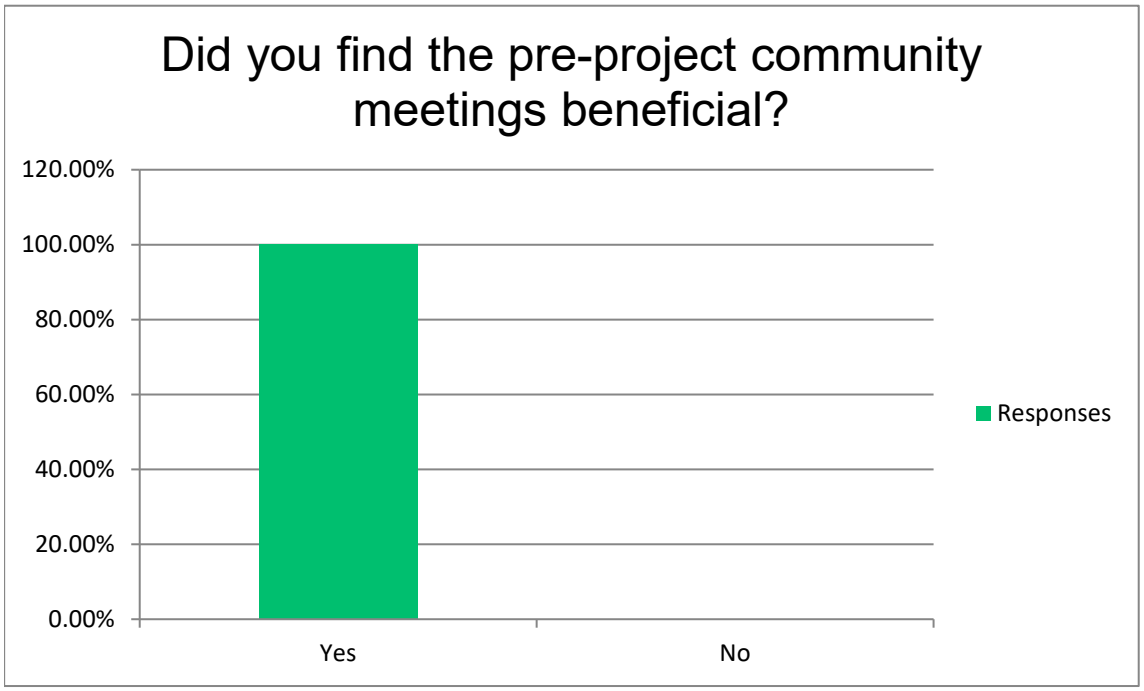


Respondents	Response Date	Additional comments
1	Aug 09 2021 10:33 AM	I believe connection to the central sewer system will better benefit fresh water from nitrate
2	Aug 06 2021 03:20 PM	Due to our location, it most likely will not be available
3	Aug 01 2021 04:06 PM	Cost
4	Jul 27 2021 08:48 PM	Cost monthly
5	Jul 27 2021 04:19 PM	Costs, demonstrated need, ability for the county to properly collect, highly treat and adequately dispose of highly treated effluent.
6	Jul 27 2021 04:11 PM	additional cost
7	Jul 27 2021 04:02 PM	Treatment plant is not large enough
8	Jul 27 2021 02:46 PM	Just the cost. We live on a very fixed income
9	Jul 27 2021 01:13 PM	Not needed. Live on 6 acres
10	Jul 27 2021 12:34 PM	Backup of raw sewage into home
11	Jul 27 2021 12:17 PM	Cost
12	Jul 27 2021 11:12 AM	Cost to homeowners on the water bill?
13	Jul 27 2021 10:55 AM	the septic to sewer project should focus on spring protection areas, including Wakulla Springs and Spring Creek watersheds where high density occurs. We live on a large parcel outside these zones. If we (still) lived within the springshed(s), we'd participate in the program.
14	Jul 27 2021 10:46 AM	Cost
15	Jul 27 2021 10:27 AM	Cost to me, where is yuck water going
16	Jul 27 2021 10:12 AM	I have concerns about unrestrained growth that is causing the environmental issues.
17	Jul 27 2021 10:09 AM	The crazy costs associated with sewer.
18	Jul 27 2021 10:07 AM	How much will it cost me?
19	Jul 27 2021 09:56 AM	Cost and impact
20	Jul 27 2021 09:50 AM	Only that the cost is so high. Coastal homes should also be allowed to receive grants or help funding the project.
21	Jul 27 2021 09:50 AM	Cost
22	Jul 27 2021 09:45 AM	Cost
23	Jul 27 2021 09:44 AM	I live on 38 acres, so I know my impact is relatively small. It also would be costly to bring sewer to my location.
24	Jul 27 2021 09:30 AM	Cost. I'm a retiree. Damage to lawn and landscaping.
25	Jul 27 2021 09:21 AM	I live in a neighborhood that has been mostly converted from septic to sewer. My specific house will be converted in future phase.
26	Jul 27 2021 09:12 AM	I know central sewer is the healthier and more environmental way to go, but I just put in that tank.

Personal Experience with Septic Upgrade Projects

Did you find the pre-project community meetings beneficial?

Answer Choices	Responses	
Yes	100.00%	3
No	0.00%	0
If not, what do you feel could make the meetings more beneficial?		0
	Answered:	**3**
	Skipped:	**120**



Personal Experience with Septic Upgrade Projects

What changes could be made to increase the success of future projects?

Answered 2

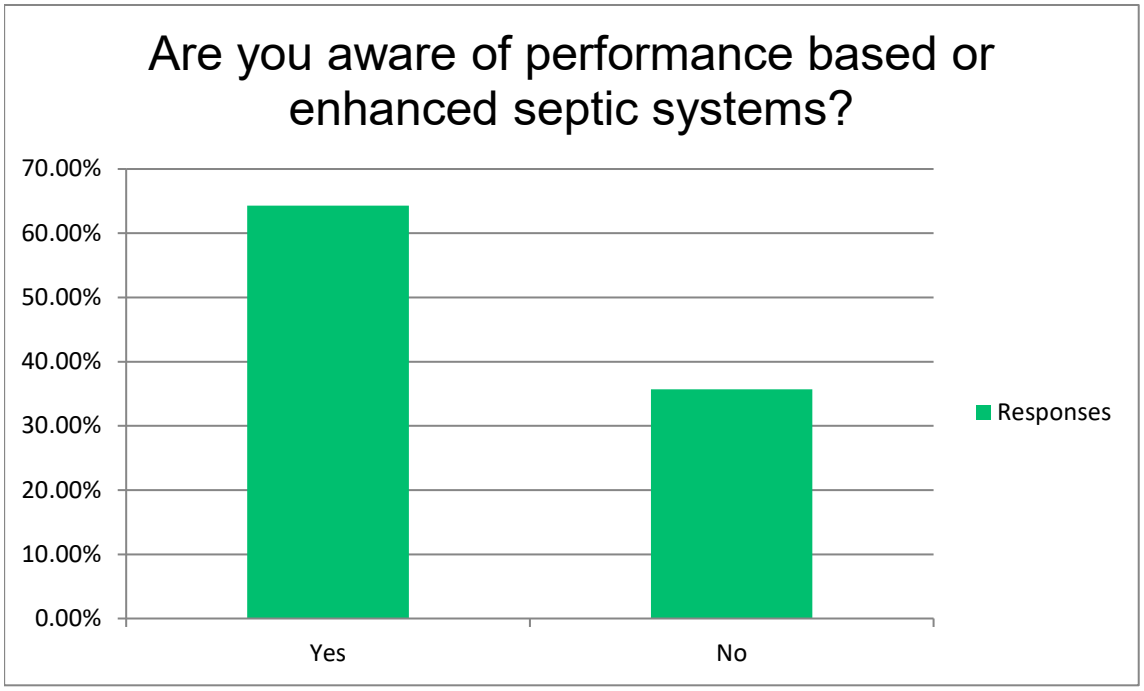
Skipped 121

Respondents	Response Date	Responses
1	Jul 28 2021 12:47 AM	At times the project was inconvenient and irritating, but the workers were always polite, informative, and helpful. There is no way to put a sewer system in a road ful of cars and people without problems arrising. I think they did a great job.
2	Jul 27 2021 10:01 AM	Some people received notices on their doors about what was happening next during each stage. We never received those. That would have been nice. The more information prior to the action the better. People were going by word of mouth and Facebook and it was not helpful or reliable at all.

Personal Experience with Septic Upgrade Projects

Are you aware of performance based or enhanced septic systems?

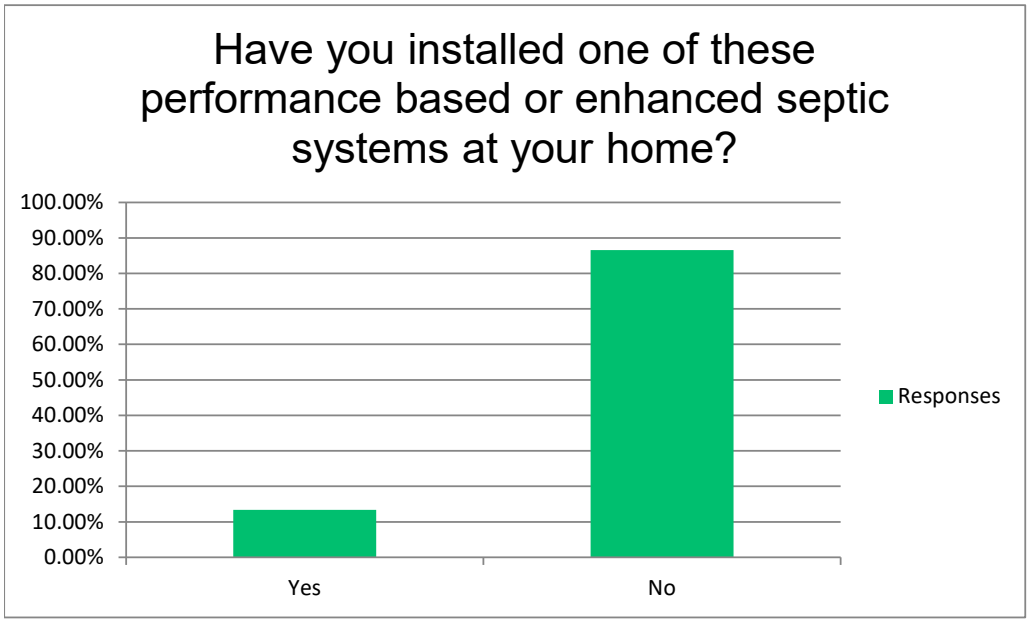
Answer Choices	Responses	
Yes	64.29%	72
No	35.71%	40
	Answered:	**112**
	Skipped:	**11**



Personal Experience with Septic Upgrade Projects

Have you installed one of these performance based or enhanced septic systems at your home?

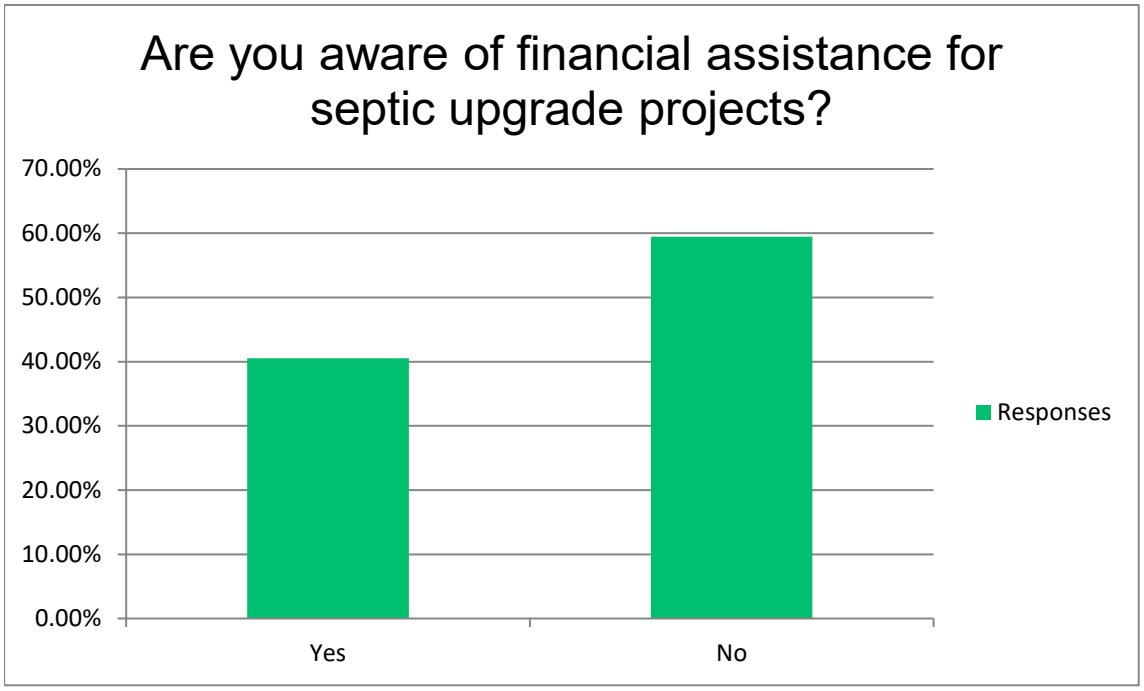
Answer Choices	Responses	
Yes	13.39%	15
No	86.61%	97
	Answered:	**112**
	Skipped:	**11**



Personal Experience with Septic Upgrade Projects

Are you aware of financial assistance for septic upgrade projects?

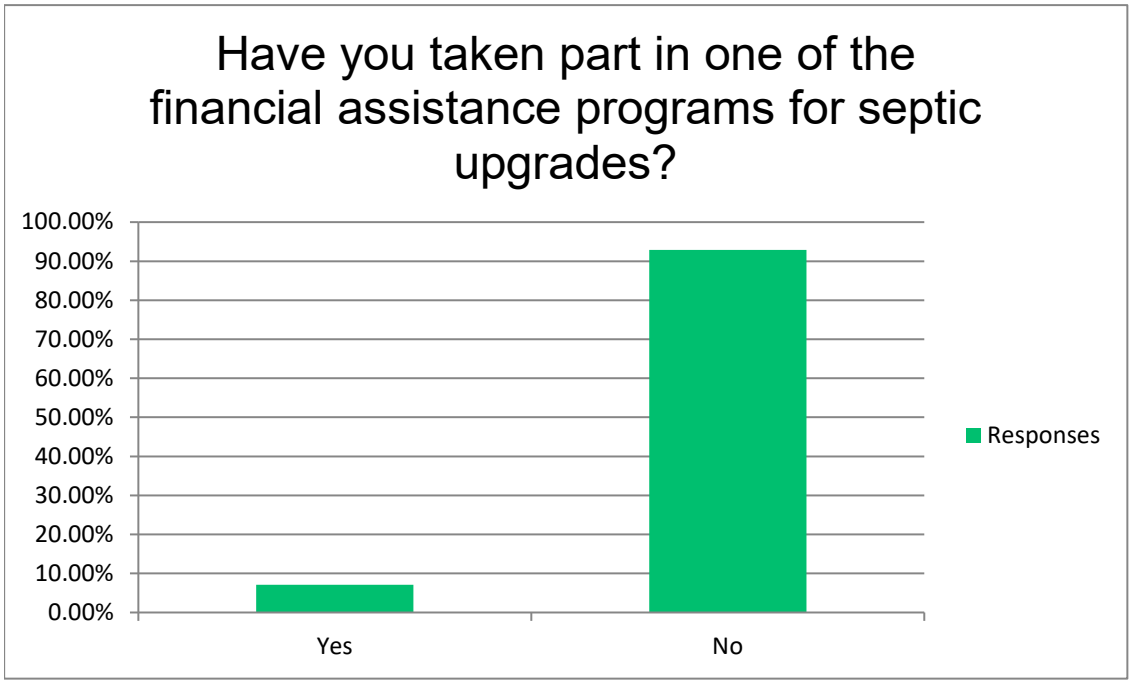
Answer Choices	Responses	
Yes	40.54%	45
No	59.46%	66
	Answered:	**111**
	Skipped:	**12**



Personal Experience with Septic Upgrade Projects

Have you taken part in one of the financial assistance programs for septic upgrades?

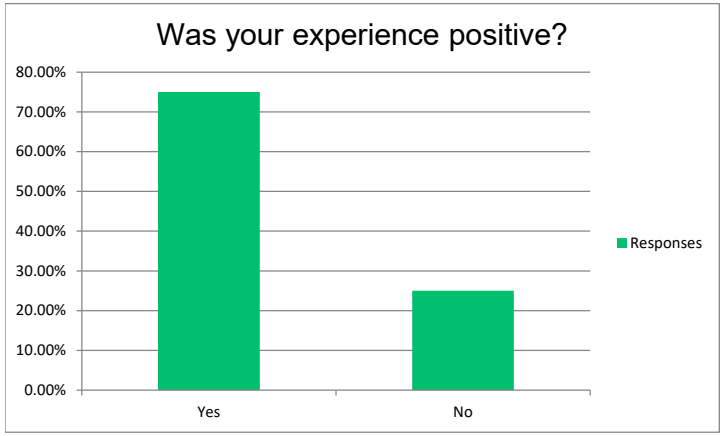
Answer Choices	Responses	
Yes	7.14%	8
No	92.86%	104
	Answered:	**112**
	Skipped:	**11**



Personal Experience with Septic Upgrade Projects

Was your experience positive?

Answer Choices	Responses	
Yes	75.00%	6
No	25.00%	2
Additional comments?		5
	Answered:	**8**
	Skipped:	**115**

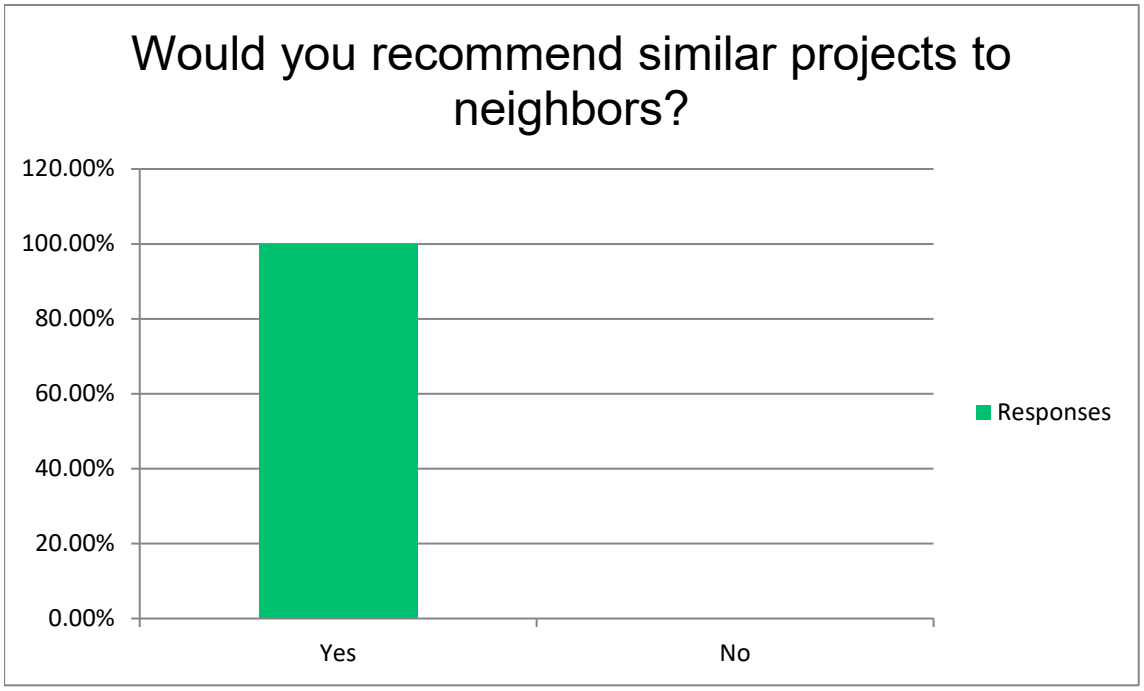


Respondents	Response Date	Additional comments?
1	Aug 09 2021 10:35 AM	Do not feel it us any better than the regular system
2	Jul 27 2021 10:10 AM	1st round of FDEP grants. Excellent. Two phone calls, $500 few for soil testing, and I sat back while everything happened.
3	Jul 27 2021 09:41 AM	No longer have to pay for tank maintenance.
4	Jul 27 2021 09:17 AM	The grant to upgrade my septic (no sewer line to connect to) was only 7k and the work was estimated to be 10k. I did not have the funds to complete the project so I did not have the septic upgraded. The grant needs to cover the entire cost, not a portion.
5	Jul 27 2021 09:11 AM	Apalachee Backhoe was awesome

Personal Experience with Septic Upgrade Projects

Would you recommend similar projects to neighbors?

Answer Choices	Responses	
Yes	100.00%	8
No	0.00%	0
	Answered:	**8**
	Skipped:	**115**



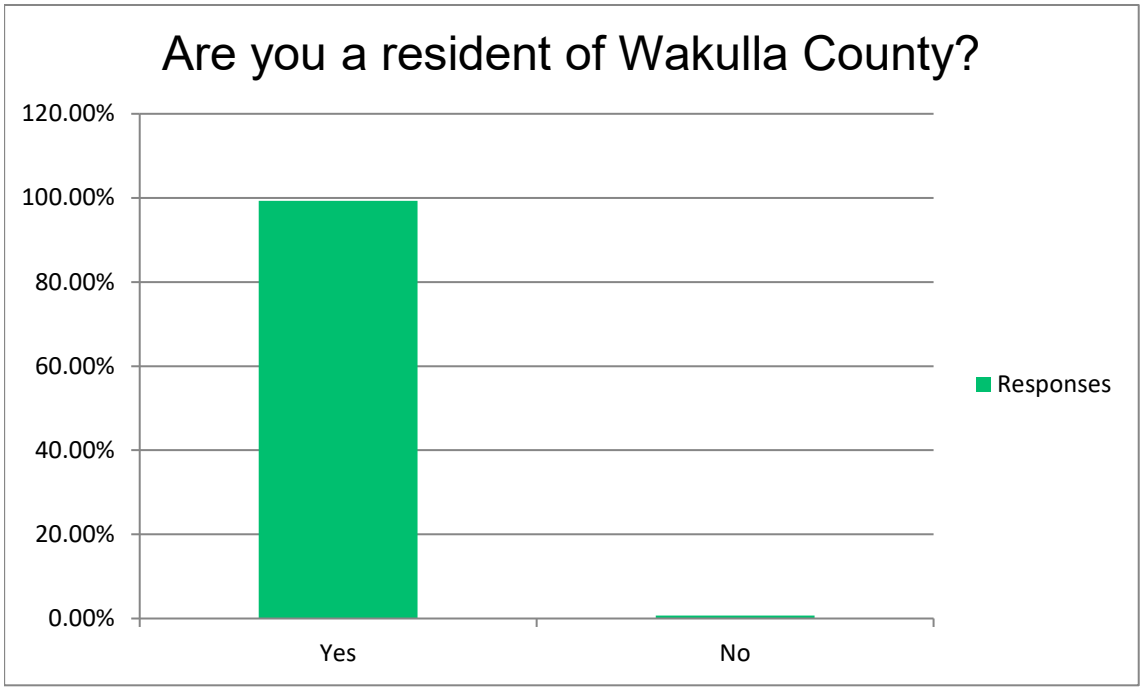
Attachment D

Survey 4: Personal Acceptance of Sewering Projects

Personal Acceptance

Are you a resident of Wakulla County?

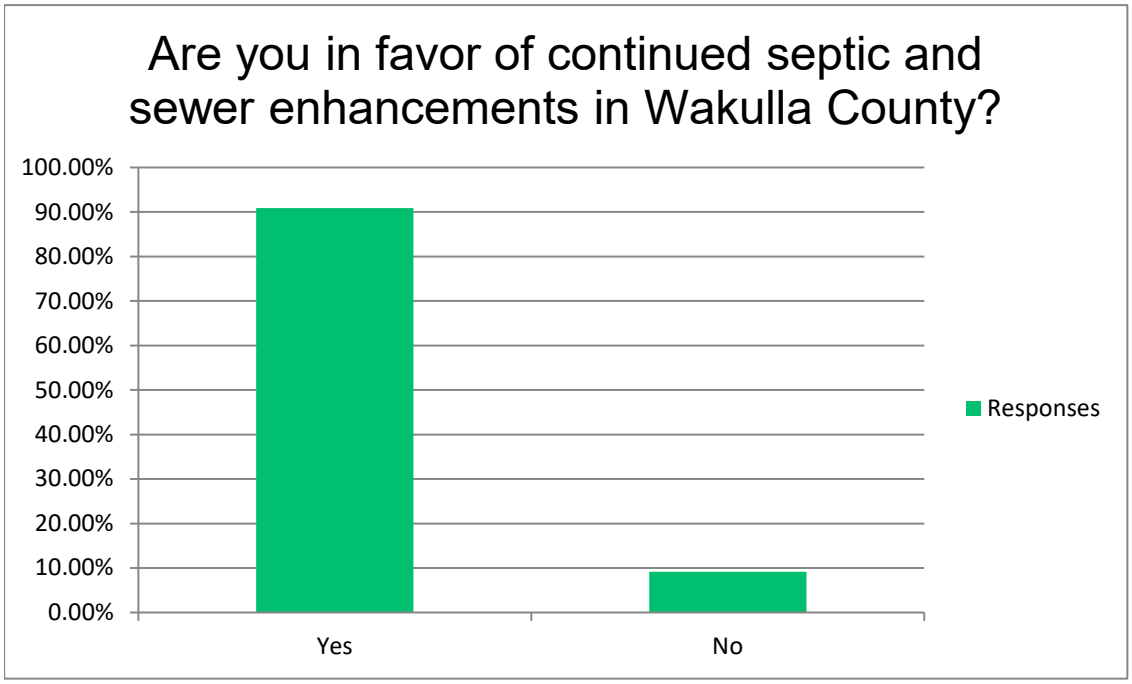
Answer Choices	Responses	
Yes	99.30%	142
No	0.70%	1
	Answered:	**143**
	Skipped:	**0**



Personal Acceptance

Are you in favor of continued septic and sewer enhancements in Wakulla County?

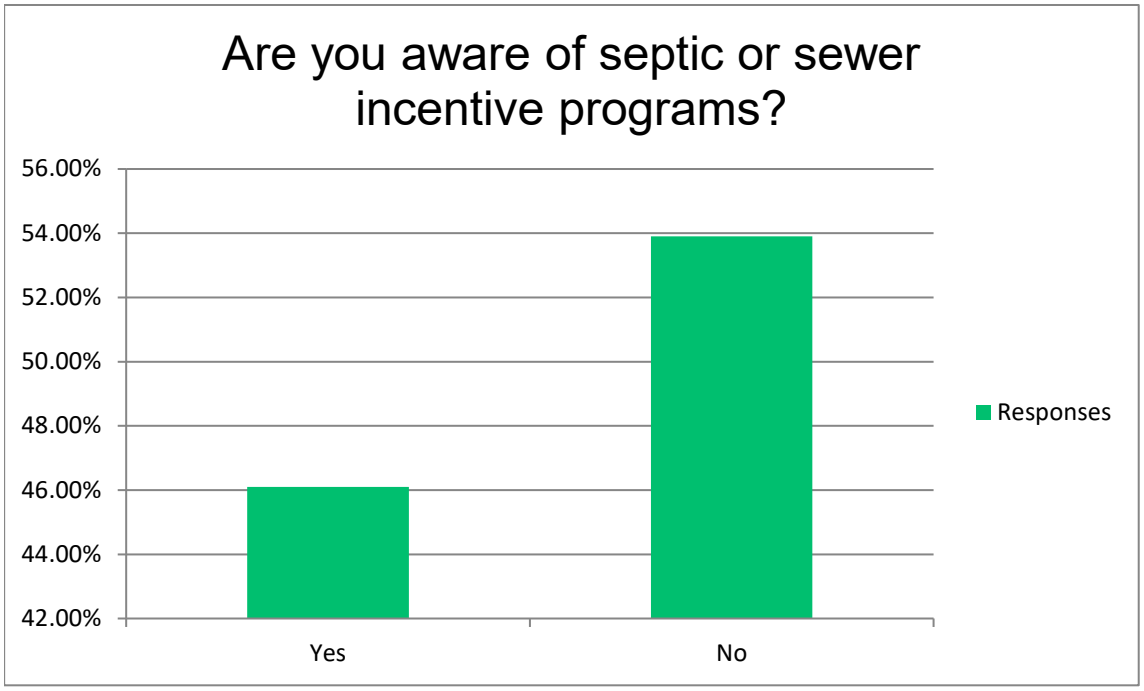
Answer Choices	Responses	
Yes	90.85%	129
No	9.15%	13
	Answered:	**142**
	Skipped:	**1**



Personal Acceptance

Are you aware of septic or sewer incentive programs?

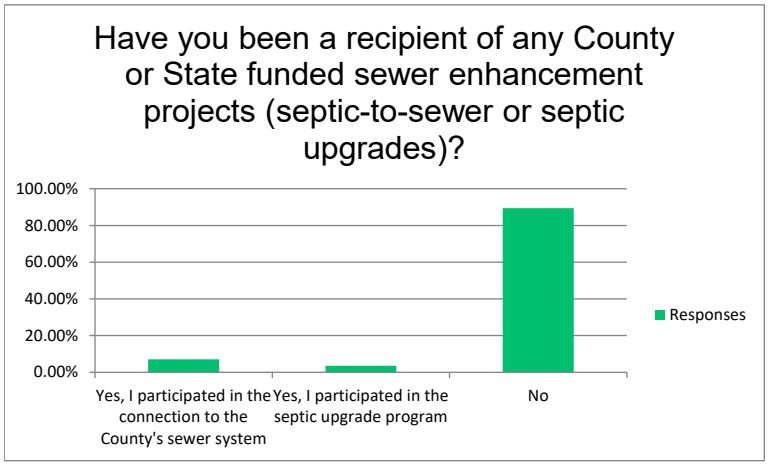
Answer Choices	Responses	
Yes	46.10%	65
No	53.90%	76
	Answered	**141**
	Skipped	**2**



Personal Acceptance

Have you been a recipient of any County or State funded sewer enhancement projects (septic-to-sewer or septic upgrades)?

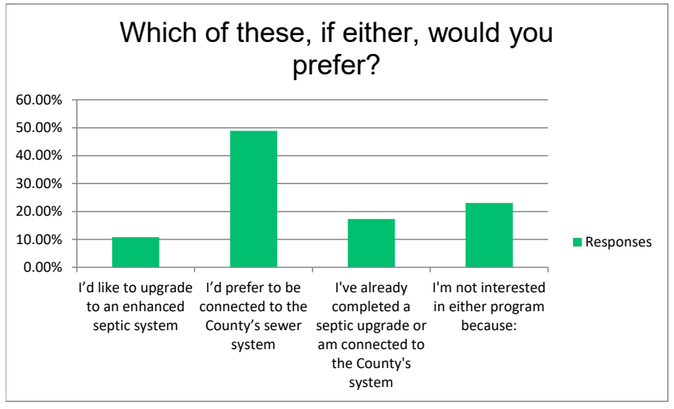
Answer Choices	Responses	
Yes, I participated in the connection to the County's sewer system	7.04%	10
Yes, I participated in the septic upgrade program	3.52%	5
No	89.44%	127
	Answered:	**142**
	Skipped:	**1**



Personal Acceptance

Which of these, if either, would you prefer?

Answer Choices	Responses	
I'd like to upgrade to an enhanced septic system	10.79%	15
I'd prefer to be connected to the County's sewer system	48.92%	68
I've already completed a septic upgrade or am connected to the County's system	17.27%	31
I'm not interested in either program because:	23.02%	25
	Answered:	**139**
	Skipped:	**4**



Comment Summary

I'm not interested in either program because:	Responses	
Cost	36.00%	9
Current system is fine	32.00%	8
General concerns	20.00%	5
Environmental or health concerns	8.00%	2
Location of home	8.00%	2

Respondents	Response Date	I'm not interested in either program because:
1	Aug 18 2021 09:04 AM	Knowing only where it's hesded
2	Aug 14 2021 07:31 PM	I have a new home and septic.
3	Aug 13 2021 05:11 PM	I am not in the springs basin.
4	Aug 12 2021 04:57 PM	Our system meets our needs
5	Aug 12 2021 08:51 AM	cost is prohibitive on my retirement income and it would destroy landscaping
6	Aug 11 2021 03:53 PM	Major problems with both at this time
7	Aug 10 2021 09:10 PM	i
8	Aug 10 2021 07:43 PM	My septic tank is 16 years old and currently does not need replacing. It is not worth connecting to sewer at this time.
9	Aug 10 2021 07:14 PM	I love too far off of a main road and I think it would be cost prohibitive to bring a sewer line to me.
10	Aug 10 2021 05:48 PM	I have a perfectly good functioning system
11	Aug 10 2021 05:26 PM	No more sewer connection until treatment plant is capable of the influent currently it is not
12	Aug 10 2021 04:33 PM	Already have sewer
13	Aug 10 2021 04:25 PM	I am on county's sewer system and have been for years.
14	Aug 10 2021 03:05 PM	I'm good
15	Aug 10 2021 01:27 PM	Currently connected to sewer system.
16	Aug 10 2021 01:24 PM	I'm on Talquin sewer
17	Aug 10 2021 12:38 PM	My current system works
18	Aug 10 2021 12:38 PM	I don't need it
19	Aug 10 2021 12:34 PM	$
20	Aug 10 2021 12:31 PM	$$$
21	Aug 10 2021 11:46 AM	Not interested in having to spend my own $
22	Aug 10 2021 11:16 AM	I don't qualify for the program and afraid of sewer backup into home.
23	Aug 10 2021 11:08 AM	My current septic system is working.
24	Aug 10 2021 11:08 AM	I was forced to get the performance base septic which never worked properly the company that did the inspections would come out and say it was working when it was not even on I had to pay addition $4,000 to have it removed and replace with regular septic
25	Aug 10 2021 09:40 AM	We're already connected to sewer system
26	Aug 10 2021 09:14 AM	I'm on a large parcel.
27	Aug 10 2021 09:06 AM	M septic tank has never had an issue because it has been maintained properly. I don't need the government telling me what to do with my land. Shame on you for putting the cart before the horse. Aka the housing development before the infrastructure.
28	Aug 10 2021 08:53 AM	Im already on sewer
29	Aug 10 2021 08:51 AM	Because if your septic is working why pay more money to fix something not broken. I've done upgrades before which didn't help me to save money in my pocket.
30	Aug 10 2021 08:44 AM	my house was built, and put on sewer to begin with in 2005
31	Aug 10 2021 08:42 AM	my septic system is working fine
32	Aug 10 2021 08:41 AM	Can't afford it

Legend:

A	Cost
B	Current system is fine
C	General concerns
D	Environmental or health concerns
E	Location of home

Respondents	Categories	Response Date	Responses
1	C	Aug 18 2021 09:04 AM	Knowing only where it’s hesded
2	B	Aug 14 2021 07:31 PM	I have a new home and septic.
3	E	Aug 13 2021 05:11 PM	I am not in the springs basin.
4	B	Aug 12 2021 04:57 PM	Our system meets our needs
5	A, C	Aug 12 2021 08:51 AM	cost is prohibitive on my retirement income and it would destroy landscaping
6	C	Aug 11 2021 03:53 PM	Major problems with both at this time
7		Aug 10 2021 09:10 PM	i
8	A, B	Aug 10 2021 07:43 PM	My septic tank is 16 years old and currently does not need replacing. It is not worth connecting to sewer at this time.
9	A	Aug 10 2021 07:14 PM	I love too far off of a main road and I think it would be cost prohibitive to bring a sewer line to me.
10	B	Aug 10 2021 05:48 PM	I have a perfectly good functioning system
11	D	Aug 10 2021 05:26 PM	No more sewer connection until treatment plant is capable of the influent currently it is not
12	Added to Option 3	Aug 10 2021 04:33 PM	Already have sewer
13	Added to Option 3	Aug 10 2021 04:25 PM	I am on county's sewer system and have been for years.
14	C	Aug 10 2021 03:05 PM	I’m good
15	Added to Option 3	Aug 10 2021 01:27 PM	Currently connected to sewer system.
16	Added to Option 3	Aug 10 2021 01:24 PM	I'm on Talquin sewer
17	B	Aug 10 2021 12:38 PM	My current system works
18	C	Aug 10 2021 12:38 PM	I don’t need it
19	A	Aug 10 2021 12:34 PM	$
20	A	Aug 10 2021 12:31 PM	$$$
21	A	Aug 10 2021 11:46 AM	Not interested in having to spend my own $
22	A, D	Aug 10 2021 11:16 AM	I don't qualify for the program and afraid of sewer backup into home.
23	B	Aug 10 2021 11:08 AM	My current septic system is working.
24	B	Aug 10 2021 11:08 AM	I was forced to get the performance base septic which never worked properly the company that did the inspections would come out and say it was working when it was not even on I had to pay addition $4,000 to have it removed and replace with regular septic
25	Added to Option 3	Aug 10 2021 09:40 AM	We’re already connected to sewer system
26	E	Aug 10 2021 09:14 AM	I’m on a large parcel.
27	B	Aug 10 2021 09:06 AM	M septic tank has never had an issue because it has been maintained properly. I don't need the government telling me what to do with my land. Shame on you for putting the cart before the horse. Aka the housing development before the infrastructure.
28	Added to Option 3	Aug 10 2021 08:53 AM	Im already on sewer
29	A	Aug 10 2021 08:51 AM	Because if your septic is working why pay more money to fix something not broken. I've done upgrades before which didn't help me to save money in my pocket.
30	Added to Option 3	Aug 10 2021 08:44 AM	my house was built, and put on sewer to begin with in 2005
31	B	Aug 10 2021 08:42 AM	my septic system is working fine
32	A	Aug 10 2021 08:41 AM	Can’t afford it

Personal Acceptance

What additional steps by State or County government do you feel would be beneficial to the environmental protection of Wakulla County?

Answered: 92
Skipped: 51

Comment Summary

What additional steps…?	Responses	
Stop growth	31.52%	29
Studies/education/communication	5.43%	5
Properly locate effluent discharge	8.70%	8
Septic upgrade or replacement and sewer expansion	23.91%	22
Developments required to have County sewer	3.26%	3
Drinking water improvements	2.17%	2
Treatment capacity	5.43%	5
Developer fees	3.26%	3
Road and stormwater improvement	3.26%	3
General: Springs and river improvement	9.78%	9
General comments	19.57%	18

Respondents	Response Date	Responses
1	Aug 15 2021 07:52 PM	Sending out information to residents as well as making sure that the septic to sewer transitions are available to those residents that are in the basin and have been existing septic residents for years before these new subdivisions are being put in yet no sewer services are available to most of us in the basin.
2	Aug 14 2021 07:31 PM	Place future homes on city / sewer coverage thru Florida .
3	Aug 14 2021 10:44 AM	Not build the Rapid Infiltration System in the a Wakulla Priority Focused Area.
4	Aug 13 2021 06:22 PM	Stop the high density development□
5	Aug 13 2021 05:11 PM	I agree with the spray field being located at the golf course and not in the springs basin area. Decrease housing units until road and sewer infrastructure is in place.
6	Aug 13 2021 06:52 AM	There should have been alloted for new septic tanks as well as old ones.
7	Aug 12 2021 04:57 PM	Stop changing property zoning from agricultural to residential for large subdivisions to come in. The county's infrastructure is not ready for all of the subdivisions coming in or attempting to come in. The wildlife that people come to the county to see are losing their habitats.
8	Aug 12 2021 08:51 AM	not sure
9	Aug 11 2021 03:53 PM	Increase sewer treatment in a safe environmentally way. Also decrease the number of wells in a safe environmentally responsible manner. Do not play politics. Use science a d the type of land Wakulla has as a basis to make decisions
10	Aug 11 2021 10:13 AM	Upgrade the roads on Shell Point Beach ! They flood ever time it rains !
11	Aug 10 2021 09:37 PM	Make it easy to hook up to the sewer system and the county should pay for the hook up to improve the environment.
12	Aug 10 2021 09:10 PM	Stop the building of more homes
13	Aug 10 2021 08:33 PM	We need to ensure compliance with concurrency intent and provide adequate infrastructure paid by development.
14	Aug 10 2021 07:58 PM	Limited coastal development
15	Aug 10 2021 07:37 PM	make it easy or free to convert to sewer and where that is not possible make it free to upgrade to a better system
16	Aug 10 2021 07:24 PM	Less development = less sewer. Protect the natural resources from contamination.
17	Aug 10 2021 07:14 PM	Find where the water pollutants are coming from and stop them. Stand up to the Foley Paper Mill so that their proposed effluent pipe to spill directly into the Gulf isn't allowed to pollute the Gulf waters in our area.
18	Aug 10 2021 06:46 PM	No comment
19	Aug 10 2021 05:57 PM	Slow down the growth
20	Aug 10 2021 05:53 PM	Stop approving high density single family subdivisions. Don't be afraid to use your authority to protect the property rights of all citizens, not just the developers.
21	Aug 10 2021 05:51 PM	Slow the building of developments!
22	Aug 10 2021 05:48 PM	Stop the growth
23	Aug 10 2021 05:38 PM	expand sewer treatment plant and distribution system, consider a lobbyist for more doc stamp funds from the state. □
24	Aug 10 2021 05:26 PM	Treatment plant needs to be able to accept more influent. It is currently at capacity and is over capacity on many days. Halt additional development until upgrades have been completed.
25	Aug 10 2021 04:33 PM	Stop building these houses 4 or 5 to an acre
26	Aug 10 2021 04:25 PM	Removing septic systems and enhancing the county's system to handle residents. ALSO those who are new hookups should pay their fair share including contractors.
27	Aug 10 2021 04:11 PM	Mandatory tie in for coastal residents
28	Aug 10 2021 04:04 PM	I am not sure. I did want my house in C'ville to be on sewer but was told (back in 2010) that wasn't going to happen.
29	Aug 10 2021 03:50 PM	None
30	Aug 10 2021 03:25 PM	Stop out of control grow
31	Aug 10 2021 03:05 PM	Not force cost on people
32	Aug 10 2021 02:58 PM	Even though I have a updated septic system, I would prefer to be on sewer. Any positive advancement towards that goal that doesn't get overly costly for residents would be a huge step forward.
33	Aug 10 2021 02:21 PM	Stop BUILDING irresponsible. Impact fees need to be in place. The new homes are impacting the county not current residents.
34	Aug 10 2021 02:13 PM	County-wide septic services. Street improvements to enhance surface water run-off, especially in rural areas. Better services to help citizens with trash and hazardous waste disposal. (present lack of convenient and free facilities leads to more dumping). Better enforcement of environmental regulations (such as junk yards, non-operable vehicles, trash piles) that lead to toxic leakage, rodent & vermin infestation.
35	Aug 10 2021 01:42 PM	Grant money for switching to county sewer
36	Aug 10 2021 01:36 PM	Wetlands, rivers, and springs should be protected.
37	Aug 10 2021 01:27 PM	Reduction in single homes per acre, support and encourage nice and affordable multi family housing, invite solar energy providers to install “fields” producing power, stop allowing clear cutting on new projects
38	Aug 10 2021 01:24 PM	Find a suitable location for the sprayfield, not the current proposed location at spring creek and Hwy 98

39	Aug 10 2021 01:18 PM	I am unsure at this time. I feel that our waterways and land areas need continual observance and more "clean up" opportunities for families and community efforts. I feel that community involvement is important to community perseverance and allows us to feel bonded. Helping neighbors build community while enhancing our community. Habitat for humanity is a good resources, churches that do yard work and help residences improvement are good projects for youth groups and the UF garden masters. Weatherization resources are also good resources but the available coordinators and information on the resources for example tax breaks are limited. Help for our elderly and disabled or single household homes with an environmental friendly splash pad or 2,3, 4 for our community would be an asset since a pool has not been affordable though promised years ago at the YMCA offer o build one. Our kids need a place to play and many noted hazards can been seen in the playgrounds that were never fixed after the last hurricane, the places that are not covered and become too hot for them to play on and so are not used or so close to a septic system that they are difficult to stay near for very long.
40	Aug 10 2021 01:15 PM	Stop the unrestricted growth. If not the infrastructure problems will increase. There has already been damage that can never be corrected.
41	Aug 10 2021 12:49 PM	No building of any new subdivisions without an upgrade to county water.
42	Aug 10 2021 12:38 PM	Stop developments with new houses until we get our water(Talquin) and sewer straightened out. They keep building new developments here and it's getting ridiculous
43	Aug 10 2021 12:38 PM	Easier permit process
44	Aug 10 2021 12:31 PM	The maintenance costs on the septic upgrades is what scares many of us.
45	Aug 10 2021 12:23 PM	More care from our commissioners. Approve residential proposals with bigger lots instead of small ones
46	Aug 10 2021 12:10 PM	Na
47	Aug 10 2021 11:46 AM	Do not use the Moore Property and do not purchase the golf course
48	Aug 10 2021 11:42 AM	Reduce the rate of growth
49	Aug 10 2021 11:41 AM	Wakulla County needs to put the environment before revenue. It seems a lot of decisions are based on revenue streams, not environmental impacts
50	Aug 10 2021 11:40 AM	Moratorium on development until capacity is in place and problems corrected. Investigate the efficacy of incinerating toilets in environmentally sensitive areas.□
51	Aug 10 2021 11:37 AM	Cease all further development until several independent 10 year studies on our aquafer, bays and freshwater bodies. impact studies performed for the current level of phosphates, nitrates, carcinogens, pharmaceuticals, heavy metals and flora/fauna impacts.
52	Aug 10 2021 11:33 AM	Sewer connection availability for all new developement.
53	Aug 10 2021 11:16 AM	Have not been on my street yet.
54	Aug 10 2021 11:16 AM	Find a better location for the proposed treated wastewater constructed wetland. A location not near homes that can be affected by sinkholes formations brought on by the wetland and not in such an environmentally impacted area that can affect the Springs and is in an already contaminated public drinking system failing to meet DEP drinking standards.
55	Aug 10 2021 11:15 AM	Keeping our natural waters clean
56	Aug 10 2021 11:08 AM	Quit among people change things I had to pay 10,000 for the performance based septic which was required when I built my house then the county decided it was not as good as they thought so I was out $14,000
57	Aug 10 2021 11:08 AM	Grants to property owners to connect to sewer. Stop rubber stamping new development!
58	Aug 10 2021 11:07 AM	Wakulla spring
59	Aug 10 2021 11:04 AM	AFFORDABLE SEWAGE in order to save our springs! INFRASTRUCTURE! Stop buying Jerry Moore's properties. He's made enough profit from Wakulla County!
60	Aug 10 2021 10:58 AM	Zero development allowed if there is no sewer available.
61	Aug 10 2021 10:56 AM	Have more grant money available so more people can hook up. Shell Point water is not even swim-able right now due to septic and other bacteria.
62	Aug 10 2021 10:39 AM	Get state funding to upgrade everything so it will have plenty of room for the continuing growth of the. County
63	Aug 10 2021 10:36 AM	Continual monitoring, evaluating and upgrading the county's sewer/ septic situation with sound science and technology to maintain and improve water quality impacts from increased development with proper set asides for conservation and environmental preservation.
64	Aug 10 2021 10:33 AM	Spray field on the northwest side of the county. Not in a hurricane evacuation area. Not in a very sandy area with sinkholes. Not in the Wakulla Springs basin area.
65	Aug 10 2021 10:30 AM	Not sure at this time
66	Aug 10 2021 10:10 AM	Require all new subdivision be connected to sewer or us Advanced Septic System.
67	Aug 10 2021 09:58 AM	no spray field
68	Aug 10 2021 09:40 AM	Infrastructure needs to be evaluated prior to issuing building permits and should impose impact fees on new construction
69	Aug 10 2021 09:33 AM	Move forward on the sewer project in Wakulla Gardens at faster pace to get everyone off the septic tank systems
70	Aug 10 2021 09:21 AM	Get a handle on the ancient septic systems...I think if you live on the water, i.e., rivers, lakes, coast a sewer system is a great idea...
71	Aug 10 2021 09:20 AM	Mandatory inspections for standard septic system to insure of no failures.
72	Aug 10 2021 09:16 AM	Continue to provide funding assistance to upgrade septic/sewer systems statewide. Require impact fees on any new construction to cover the costs of environmental protection for that project. Develop and stick to growth plans. Say no to a developer once in a while.
73	Aug 10 2021 09:14 AM	Water reuse.
74	Aug 10 2021 09:11 AM	Impose mandatory impact fees on new development and/or make developers pay for the building of WWTP plants/package plants for project that have over 200 homes projected.
75	Aug 10 2021 09:11 AM	Buy the golf course.
76	Aug 10 2021 09:06 AM	STOP DEVELOPING or have one house per 2 acres!
77	Aug 10 2021 09:05 AM	N/A
78	Aug 10 2021 08:53 AM	More communication
79	Aug 10 2021 08:53 AM	I think the lines need cleaning as sometime the shower water and toilet bubble up
80	Aug 10 2021 08:52 AM	Establish a county environmental trust fund that is funded by development impact fees and state funded improvements
81	Aug 10 2021 08:51 AM	In all these new housing developments quit taking out all the trees. Make the contractor keep and/or replant other shade trees. Other countries has this requirement.
82	Aug 10 2021 08:51 AM	I think that septic tanks should be done away with and have county sewage!!
83	Aug 10 2021 08:44 AM	too much building
84	Aug 10 2021 08:43 AM	A central water plant where water can be treated conventionally or with RO and benefit from economy of scales instead of seven water providers that really only disinfect with no other treatment (well to tank to home).
85	Aug 10 2021 08:42 AM	Any REASONABLE improvements to protect water quality
86	Aug 10 2021 08:41 AM	Put sewer system on Old Magnolia Road and St. Marks rise which is on the St. Marks river
87	Aug 10 2021 08:41 AM	Making sure that rainwater runoff and storm surge is properly mitigated.
88	Aug 10 2021 08:41 AM	Infrastructure plan with 20 -30 year projection. Decrease building Clean up Wakulla River. People get MRSA & pets stink.Shell Point is dangerous
89	Aug 10 2021 08:39 AM	Continued expansion of the sewer treatment facility and extension of services.
90	Aug 10 2021 08:38 AM	We need more large lines run that would allow people to get off the septic tanks and on to the sewer system. If available, more people would connect BUT for most of us, it's not an option.
91	Aug 10 2021 08:38 AM	Nothing
92	Aug 10 2021 08:23 AM	Continued projects to upgrade septic systems

Legend:

A	Stop growth
B	Studies/education/communication
C	Properly locate effluent discharge
D	Septic upgrade or replacement and sewer expansion
E	Developments required to have County sewer
F	Drinking water improvements
G	Treatment capacity
H	Developer fees
I	Road and stormwater improvement
J	General: Springs and river improvement
K	General comments

Respondents	Categories	Response Date	Responses
1	B, D	Aug 15 2021 07:52 PM	Sending out information to residents as well as making sure that the septic to sewer transitions are available to those residents that are in the basin and have been existing septic residents for years before these new subdivisions are being put in yet no sewer services are available to most of us in the basin.
2	E	Aug 14 2021 07:31 PM	Place future homes on city / sewer coverage thru Florida .
3	C	Aug 14 2021 10:44 AM	Not build the Rapid Infiltration System in the a Wakulla Priority Focused Area.
4	A	Aug 13 2021 06:22 PM	Stop the high density development□
5	A, C	Aug 13 2021 05:11 PM	I agree with the spray field being located at the golf course and not in the springs basin area. Decrease housing units until road and sewer infrastructure is in place.
6	K	Aug 13 2021 06:52 AM	There should have been alloted for new septic tanks as well as old ones.
7	A	Aug 12 2021 04:57 PM	Stop changing property zoning from agricultural to residential for large subdivisions to come in. The county's infrastructure is not ready for all of the subdivisions coming in or attempting to come in. The wildlife that people come to the county to see are losing their habitats.
8		Aug 12 2021 08:51 AM	not sure
9	F, G	Aug 11 2021 03:53 PM	Increase sewer treatment in a safe environmentally way. Also decrease the number of wells in a safe environmentally responsible manner. Do not play politics. Use science a d the type of land Wakulla has as a basis to make decisions
10	I	Aug 11 2021 10:13 AM	Upgrade the roads on Shell Point Beach ! They flood ever time it rains !
11	D	Aug 10 2021 09:37 PM	Make it easy to hook up to the sewer system and the county should pay for the hook up to improve the environment.
12	A	Aug 10 2021 09:10 PM	Stop the building of more homes
13	H	Aug 10 2021 08:33 PM	We need to ensure compliance with concurrency intent and provide adequate infrastructure paid by development.
14	A	Aug 10 2021 07:58 PM	Limited coastal development
15	D	Aug 10 2021 07:37 PM	make it easy or free to convert to sewer and where that is not possible make it free to upgrade to a better system
16	A, J	Aug 10 2021 07:24 PM	Less development = less sewer. Protect the natural resources from contamination.
17	J, K	Aug 10 2021 07:14 PM	Find where the water pollutants are coming from and stop them. Stand up to the Foley Paper Mill so that their proposed effluent pipe to spill directly into the Gulf isn't allowed to pollute the Gulf waters in our area.
18		Aug 10 2021 06:46 PM	No comment
19	A	Aug 10 2021 05:57 PM	Slow down the growth
20	A	Aug 10 2021 05:53 PM	Stop approving high density single family subdivisions. Don't be afraid to use your authority to protect the property rights of all citizens, not just the developers.
21	A	Aug 10 2021 05:51 PM	Slow the building of developments!
22	A	Aug 10 2021 05:48 PM	Stop the growth
23	D, G, K	Aug 10 2021 05:38 PM	expand sewer treatment plant and distribution system, consider a lobbyist for more doc stamp funds from the state. □
24	G	Aug 10 2021 05:26 PM	Treatment plant needs to be able to accept more influent. It is currently at capacity and is over capacity on many days. Halt additional development until upgrades have been completed.
25	A	Aug 10 2021 04:33 PM	Stop building these houses 4 or 5 to an acre
26	D, G	Aug 10 2021 04:25 PM	Removing septic systems and enhancing the county's system to handle residents. ALSO those who are new hookups should pay their fair share including contractors.
27	D	Aug 10 2021 04:11 PM	Mandatory tie in for coastal residents
28	D	Aug 10 2021 04:04 PM	I am not sure. I did want my house in C'ville to be on sewer but was told (back in 2010) that wasn't going to happen.
29		Aug 10 2021 03:50 PM	None
30	A	Aug 10 2021 03:25 PM	Stop out of control grow
31	K	Aug 10 2021 03:05 PM	Not force cost on people
32	D	Aug 10 2021 02:58 PM	Even though I have a updated septic system, I would prefer to be on sewer. Any positive advancement towards that goal that doesn't get overly costly for residents would be a huge step forward.
33	A	Aug 10 2021 02:21 PM	Stop BUILDING irresponsible. Impact fees need to be in place. The new homes are impacting the county not current residents.
34	D, I, K	Aug 10 2021 02:13 PM	County-wide septic services. Street improvements to enhance surface water run-off, especially in rural areas. Better services to help citizens with trash and hazardous waste disposal. (present lack of convenient and free facilities leads to more dumping). Better enforcement of environmental regulations (such as junk yards, non-operable vehicles, trash piles) that lead to toxic leakage, rodent & vermin infestation.
35	D	Aug 10 2021 01:42 PM	Grant money for switching to county sewer
36	J	Aug 10 2021 01:36 PM	Wetlands, rivers, and springs should be protected.
37	A, K	Aug 10 2021 01:27 PM	Reduction in single homes per acre, support and encourage nice and affordable multi family housing, invite solar energy providers to install “fields” producing power, stop allowing clear cutting on new projects
38	C	Aug 10 2021 01:24 PM	Find a suitable location for the sprayfield, not the current proposed location at spring creek and Hwy 98

39	K	Aug 10 2021 01:18 PM	I am unsure at this time. I feel that our waterways and land areas need continual observance and more "clean up" opportunities for families and community efforts. I feel that community involvement is important to community perseverance and allows us to feel bonded. Helping neighbors build community while enhancing our community. Habitat for humanity is a good resources, churches that do yard work and help residences improvement are good projects for youth groups and the UF garden masters. Weatherization resources are also good resources but the available coordinators and information on the resources for example tax breaks are limited. Help for our elderly and disabled or single household homes with an environmental friendly splash pad or 2,3, 4 for our community would be an asset since a pool has not been affordable though promised years ago at the YMCA offer o build one. Our kids need a place to play and many noted hazards can been seen in the playgrounds that were never fixed after the last hurricane, the places that are not covered and become too hot for them to play on and so are not used or so close to a septic system that they are difficult to stay near for very long.
40	A	Aug 10 2021 01:15 PM	Stop the unrestricted growth. If not the infrastructure problems will increase. There has already been damage that can never be corrected.
41	A	Aug 10 2021 12:49 PM	No building of any new subdivisions without an upgrade to county water.
42	A	Aug 10 2021 12:38 PM	Stop developments with new houses until we get our water(Talquin) and sewer straightened out. They keep building new developments here and it's getting ridiculous
43	K	Aug 10 2021 12:38 PM	Easier permit process
44	K	Aug 10 2021 12:31 PM	The maintenance costs on the septic upgrades is what scares many of us.
45	A	Aug 10 2021 12:23 PM	More care from our commissioners. Approve residential proposals with bigger lots instead of small ones
46		Aug 10 2021 12:10 PM	Na
47	C	Aug 10 2021 11:46 AM	Do not use the Moore Property and do not purchase the golf course
48	A	Aug 10 2021 11:42 AM	Reduce the rate of growth
49	K	Aug 10 2021 11:41 AM	Wakulla County needs to put the environment before revenue. It seems a lot of decisions are based on revenue streams, not environmental impacts
50	A, B	Aug 10 2021 11:40 AM	Moratorium on development until capacity is in place and problems corrected. Investigate the efficacy of incinerating toilets in environmentally sensitive areas.□
51	K	Aug 10 2021 11:37 AM	Cease all further development until several independent 10 year studies on our aquafer, bays and freshwater bodies. impact studies performed for the current level of phosphates, nitrates, carcinogens, pharmaceuticals, heavy metals and flora/fauna impacts.
52	E	Aug 10 2021 11:33 AM	Sewer connection availability for all new developement.
53	K	Aug 10 2021 11:16 AM	Have not been on my street yet.
54	C	Aug 10 2021 11:16 AM	Find a better location for the proposed treated wastewater constructed wetland. A location not near homes that can be affected by sinkholes formations brought on by the wetland and not in such an environmentally impacted area that can affect the Springs and is in an already contaminated public drinking system failing to meet DEP drinking standards.
55	J	Aug 10 2021 11:15 AM	Keeping our natural waters clean
56	K	Aug 10 2021 11:08 AM	Quit among people change things I had to pay 10,000 for the performance based septic which was required when I built my house then the county decided it was not as good as they thought so I was out $14,000
57	A, D	Aug 10 2021 11:08 AM	Grants to property owners to connect to sewer. Stop rubber stamping new development!
58	J	Aug 10 2021 11:07 AM	Wakulla spring
59	C, D, J	Aug 10 2021 11:04 AM	AFFORDABLE SEWAGE in order to save our springs! INFRASTRUCTURE! Stop buying Jerry Moore's properties. He's made enough profit from Wakulla County!
60	A	Aug 10 2021 10:58 AM	Zero development allowed if there is no sewer available.
61	D, J	Aug 10 2021 10:56 AM	Have more grant money available so more people can hook up. Shell Point water is not even swim-able right now due to septic and other bacteria.
62	K	Aug 10 2021 10:39 AM	Get state funding to upgrade everything so it will have plenty of room for the continuing growth of the. County
63	D, K	Aug 10 2021 10:36 AM	Continual monitoring, evaluating and upgrading the county's sewer/ septic situation with sound science and technology to maintain and improve water quality impacts from increased development with proper set asides for conservation and environmental preservation.
64	C	Aug 10 2021 10:33 AM	Spray field on the northwest side of the county. Not in a hurricane evacuation area. Not in a very sandy area with sinkholes. Not in the Wakulla Springs basin area.
65		Aug 10 2021 10:30 AM	Not sure at this time
66	E	Aug 10 2021 10:10 AM	Require all new subdivision be connected to sewer or us Advanced Septic System.
67	C	Aug 10 2021 09:58 AM	no spray field
68	A	Aug 10 2021 09:40 AM	Infrastructure needs to be evaluated prior to issuing building permits and should impose impact fees on new construction
69	D	Aug 10 2021 09:33 AM	Move forward on the sewer project in Wakulla Gardens at faster pace to get everyone off the septic tank systems
70	D	Aug 10 2021 09:21 AM	Get a handle on the ancient septic systems...I think if you live on the water, i.e., rivers, lakes, coast a sewer system is a great idea...
71	K	Aug 10 2021 09:20 AM	Mandatory inspections for standard septic system to insure of no failures.
72	A, D, H	Aug 10 2021 09:16 AM	Continue to provide funding assistance to upgrade septic/sewer systems statewide. Require impact fees on any new construction to cover the costs of environmental protection for that project. Develop and stick to growth plans. Say no to a developer once in a while.
73	K	Aug 10 2021 09:14 AM	Water reuse.
74	H	Aug 10 2021 09:11 AM	Impose mandatory impact fees on new development and/or make developers pay for the building of WWTP plants/package plants for project that have over 200 homes projected.
75	C	Aug 10 2021 09:11 AM	Buy the golf course.
76	A	Aug 10 2021 09:06 AM	STOP DEVELOPING or have one house per 2 acres!
77		Aug 10 2021 09:05 AM	N/A
78	B	Aug 10 2021 08:53 AM	More communication
79	K	Aug 10 2021 08:53 AM	I think the lines need cleaning as sometime the shower water and toilet bubble up
80	H	Aug 10 2021 08:52 AM	Establish a county environmental trust fund that is funded by development impact fees and state funded improvements
81	A	Aug 10 2021 08:51 AM	In all these new housing developments quit taking out all the trees. Make the contractor keep and/or replant other shade trees. Other countries has this requirement.
82	D	Aug 10 2021 08:51 AM	I think that septic tanks should be done away with and have county sewage!!
83	A	Aug 10 2021 08:44 AM	too much building
84	F	Aug 10 2021 08:43 AM	A central water plant where water can be treated conventionally or with RO and benefit from economy of scales instead of seven water providers that really only disinfect with no other treatment (well to tank to home).
85	J	Aug 10 2021 08:42 AM	Any REASONABLE improvements to protect water quality
86	D	Aug 10 2021 08:41 AM	Put sewer system on Old Magnolia Road and St. Marks rise which is on the St. Marks river
87	I	Aug 10 2021 08:41 AM	Making sure that rainwater runoff and storm surge is properly mitigated.
88	A, B, J	Aug 10 2021 08:41 AM	Infrastructure plan with 20 -30 year projection. Decrease building Clean up Wakulla River. People get MRSA & pets stink.Shell Point is dangerous
89	G	Aug 10 2021 08:39 AM	Continued expansion of the sewer treatment facility and extension of services.
90	D	Aug 10 2021 08:38 AM	We need more large lines run that would allow people to get off the septic tanks and on to the sewer system. If available, more people would connect BUT for most of us, it's not an option.
91		Aug 10 2021 08:38 AM	Nothing
92	D	Aug 10 2021 08:23 AM	Continued projects to upgrade septic systems

Appendix E

Public Meetings

Notice of Public Meeting
Thursday, December 12, 2019

Sewer Master Plan

WAKULLA
COUNTY

Notice of Public Meeting:

The Wakulla County BOCC Administration is holding a Public Meeting on Thursday, December 12, 2019 at 6:00 P.M. at the Wakulla County Community Center, 318 Shadeville Hwy., Crawfordville, FL, (850) 926-0919.

Purpose of Meeting:

To discuss updates to the County-wide Sewer Master Plan that will ultimately include septic-to-sewer projects, septic tank upgrades, springs protection, and future sewer planning for the County.

If a person decides to appeal any decision made by the board, agency, or commission with respect to any matter considered at such meeting or hearing, he or she will need a record of the proceedings, and that, for such purpose, he or she may need to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is to be based.

Persons with a disability needing a special accommodation should contact the Wakulla County Board of County Commissioners Administration Office at least two (2) days prior to the meeting at (850) 926-0919; Hearing & Voice Impaired at 1-800-955-8771; or email at ADARequest@mywakulla.com

Board of County Commissioners
Regular Public Meeting
Thursday, December 12, 2019

Meeting Minutes

Board of County Commissioners Administration
Public Meeting Sewer Master Plan
Thursday, December 12, 2019 at 6:00 P.M.

The Board of County Commissioners Administration Department in and for Wakulla County, Florida, met for a scheduled Public Meeting on Thursday, December 12, 2019. Present were Commissioners Ralph Thomas, County Administrator David Edwards and 9 County Staff members.

This meeting is intended to allow dialogue between the public, County staff and Dewberry Engineers, Inc. regarding the Wakulla County Sewer Master Plan.

6:00 PM – The County Administrator opened the Public Meeting.

6:02 PM - Justin Ford, P.E. and Trevor Burch, P.E. from Dewberry Engineers, Inc. delivered a presentation to and answered questions from the meeting attendees.

There were 10 citizens in attendance.

6:52 PM - The County Administrator concluded the Public Meeting.

Board of County Commissioners
Regular Public Meeting
Monday, July 13, 2020

Agenda

Revised 7/8/20 Board of County Commissioners

Wakulla County, Florida

Agenda

Regular Public Meeting
Monday, July 13, 2020
@ 5:00 P.M.

Invocation

Pledge of Allegiance

Approval of Agenda
(The Chairman and members of the Board will approve and/or modify the official agenda at this time)

Citizens to be Heard
(There is a Three (3) minute time limit; non-discussion by Commission; there shall be no debate and no action by the Commission. Citizens will have the opportunity to speak once under the Citizens to be Heard portion of the agenda which will be at the start or end of each meeting)

(To ensure fairness and encourage participation, citizens who would like to speak on any item will need to fill out a speaker's card and turn in to Ms. Welch prior to the beginning of discussion on that particular item. Citizens are allowed a maximum of 3 minutes to speak.)

Awards and Presentations
(Members of the Board will have the opportunity to acknowledge members of the community or commendable efforts at this time. Presentations will be made from individuals concerning issue of importance)

Consent
(All items contained herein may be voted on with one motion. Consent items are considered to be routine in nature, are typically non-controversial and do not deviate from past Board direction or policy. However, any Commissioner, the County Administrator, or the County Attorney may withdraw an item from the consent agenda, either in writing prior to the meeting, or at the beginning of the meeting and it shall then be voted on individually. Every effort shall be made to provide such a request to the Chairman at least 24 hours before the meeting)

1. Approval of Minutes from the June 15, 2020 Regular Board Meeting
   (Brent Thurmond, Clerk of Court)

2. Approval of Bills and Vouchers Submitted for June 10, 2020 through July 7, 2020
   (Brent Thurmond, Clerk of Court)

3. Request Board Approval to Schedule a Public Hearing to Adopt the FY2020/2021 Tentative Millage Rate and Tentative Budget on September 8, 2020 and Approval to Schedule a Public Hearing to Adopt the FY2020/2021 Final Millage Rate and Final Budget on September 21, 2020
   (Brandy King, Fiscal Operations Director)

4. Request Board Approval of a Resolution Authorizing the Chairman to Execute and Enter Into the FDOT Small County Outreach Program (SCOP) Agreement for the Construction Phase for Resurfacing CR 375 Smith Creek Road and Approval of the FDOT SCOP Agreement in the Amount of $1,448,781.00
(Brandy King, Fiscal Operations Director)

5. Request Board Approval of a Resolution Authorizing the Chairman to Execute and Enter Into the FDOT Small County Road Assistance Program (SCRAP) Agreement for the Construction Phase for Reconstruction of Aaron Strickland Road and Approval of the FDOT SCRAP Agreement in the Amount of $485,032.00
(Brandy King, Fiscal Operations Director)

6. Request Board Approval of a Resolution Authorizing the Chairman to Execute and Enter Into the FDOT County Incentive Grant Program (CIGP) Agreement for the Design and Construction Phases for Resurfacing Old Woodville Road Phase I, Approval of the FDOT CIGP Agreement in the Amount of $999,165.00, and Approval of Dewberry Work Authorization No. 20-17 in the Amount of $84,675.00 for Design Services
(Brandy King, Fiscal Operations Director)

7. Request Board Approval of a Resolution Authorizing the Chairman to Execute and Enter Into the FDOT Small County Road Assistance Program (SCRAP) Agreement for the Design Phase for Resurfacing Martin Luther King Jr. Memorial Road, Approval of the FDOT SCRAP Agreement in the Amount of $138,527.00, and Approval of Dewberry Work Authorization No. 20-16 in the Amount of $138,527.00 for Design Services
(Brandy King, Fiscal Operations Director)

8. Request Board Approval of Amended AR 3.07 Non-Profit Funding Procedures
(Brandy King, Fiscal Operations Director)

9. Request Board Approval to Accept and Award ITB #2020-14 Sheriff Work Camp to SimplerBuilt, Inc. and Approval of the Agreement
(Brandy King, Fiscal Operations Director)

10. Request Board Approval to Adopt the Preliminary Rate Resolution for Solid Waste Services
(Jessica Welch, Communications & Public Services Director)

11. Request Board Approval to Adopt the Preliminary Rate Resolution for Fire Protection Services
(Jessica Welch, Communications & Public Services Director)

12. Request Board Approval of SHIP Project Change Orders for New Various Required Items for David Berry ($23,300), Judy Parker ($9,500), and Jonathan Adams ($3,000)
(Somer Pell, Planning & Community Development Director)

13. Request the Board Adopt a Resolution Reappointing a Member to the Wakulla County Historic Preservation Committee
(Somer Pell, Planning & Community Development Director)

14. Request Board Approval of the Release of Title for Pafford Properties and Construction, LLC on Lots in Plat of Cecil King Subdivision
(Somer Pell, Planning & Community Development Director)

15. Request Board Approval of an Extension of the Wastewater Facilities Concurrency Proportionate Share Mitigation Agreement with Affordable Housing Solutions for Florida, Inc. and Authorize the County Administrator to Approve Future Time Extensions as Needed
(Somer Pell, Planning & Community Development Director)

16. Request Board Approval to Donate $3,000 from the Wakulla County Drug Trust Fund for Community Crime Prevention Programs
(Sheriff Jared Miller, WCSO)

17. Request Board Approval of Amended AR 1.01 Personnel Policy & Procedures
(Debbie DuBose, Employee Support Services Director)

18. Request Board Approval of the Kimley-Horn and Associates, Inc. Work Authorization No. 20-18 to Conduct the Bayside Marina Feasibility Study
(Sheree Keeler, Intergovernmental Affairs and RESTORE Act Director)

19. Request Board Approval of the Baskerville-Donovan, Inc. Work Authorization No. 20-19 Increasing Fees for the RESTORE Act Otter Creek WWTP Retrofit -Train 1
(Sheree Keeler, Intergovernmental Affairs and RESTORE Act Director)

Consent Items Pulled for Discussion

(Members requesting further information on items placed under "Consent Agenda," may withdraw those items and place them here, for further discussion)

General Business

(General Business items are items of a general nature that require Board directions or pertain to Board policy)

20. Request Board Approval of the Wakulla County Public Safety Infrastructure and Proposed Plan to Address Future Needs
(David Edwards, County Administrator)

21. Request Board Approval of the Five-Year Sewer Collections System and Otter Creek WWTP Expansion and Improvements Plan, and Approval of the Utility Facilities Construction & Reimbursement Agreement Between the County and Palmetto of Wakulla, LLC, Continuing Services Agreement Between the County and Raftelis Financial Consultants, Inc., Dewberry Work Authorization No. 20-21 for the Facilities Plan and Environmental Report, and Jones Edmunds Work Authorization No.20-13 for the RIB Design and Permitting
(David Edwards, County Administrator)

22. Request Board Approval of Amendment No. 2 to the Bike Trail Maintenance Agreement with Jeff Cannon DBA J & K Lawn Service, LLC for Bike Trail Maintenance Services to Include Lawn Maintenance Services
(Brandy King, Fiscal Operations Director)

23. Request Board Approval to Dispose of County Property and Approval of the Dock Easement Within the Shell Point Boat Basin
(Somer Pell, Planning & Community Development Director)

26. Request Board Approval of the County's CARES Act Proposed Programs and Allocations Plan
(Sheree Keeler, Intergovernmental Affairs and RESTORE Act Director)

Public Hearing(s)

(Public Hearings are held as required to receive public comments on matters of special importance or as prescribed by law. For regular Board meetings, public hearings shall be scheduled as the first substantive item on the agenda and heard at the time scheduled for the start of the meeting or as soon thereafter as is possible. Individual speakers are encouraged to adhere to a three (3) minute time limit. The Chairman has the discretion to either extend or reduce time limits, based on the number of speakers)

24. Request Board Approval to Conduct the Public Hearing and Adopt an Ordinance Amending Chapter 21, Article IV of the Code Related to the Regulation of Noise
(Heather Encinosa, County Attorney)

Planning and Zoning

(*Members will be provided with planning and zoning amendment requests five (5) business days prior to the scheduled meeting. To the maximum extent possible, all support information and documentation for P&Z items shall be made available through a variety of means including the County website that will provide the public with the greatest opportunity to review documentation at the date of advertisement pursuant to Resolution No. 04-43. "In accordance with Sec. 24.01 of County Code, for all quasi-judicial proceedings each Commission member must disclose all contact received from interested parties and/or their representatives, lobbyists, or any other third parties concerning any application and any personal investigation or knowledge being relied upon during the consideration of any quasi-judicial planning and zoning matters")*

25. Application for Final Plat 20-01 (George Simack & Keith Vause, Applicants; Sara Robinson, Agent)

Commissioner Agenda Items

(Items with supporting documentation shall be provided by a Commissioner to the County Administrator three (3) business days prior to the scheduled meeting. Items that are agendaed by Commissioners and fail to gain approval may not be replaced on the agenda by a Commissioner on the non-prevailing side for a period of six (6) months without approval of the Chairman unless there is substantive new information to present)

County Attorney

(County Attorney items are items of a legal nature that require Board direction or represent general information to Board Members, staff, or the public)

County Administrator

(County Administrator items are items that require Board direction or represent general information to Board Members, staff or the public)

Citizens to be Heard

(There is a Three (3) minute time limit; non-discussion by Commission; there shall be no debate and no action by the Commission. Citizens will have the opportunity to speak once under the Citizens to be Heard portion of the agenda which will be at the start or end of each meeting)

Discussion Issues by Commissioners

(The purpose of this section is for Commissioners to request staff action on various issues, including scheduling of a future agenda item for later Board action, based on the approval of a majority of the Board. No assignments or request for agenda items shall be given to the County Administrator or County Attorney without the express approval of the majority of the Board. The Board shall take no policy action without an agenda item unless such is accomplished through a unanimous vote of the Board. The remarks of each Commissioner during his or her "discussion items" shall adhere to Robert Rules of Order, for proper decorum and civility as enforced by the Chairman)

Commissioner Stewart – Wakulla County 2020 Census

Adjourn

(Any departure from the order of business set forth in the official agenda shall be made only upon majority vote of the members of the Commission present at the meeting)

The next Board of County Commissioners Meeting is scheduled for
Monday, August 3, 2020 at 5:00p.m.

PUBLIC NOTICE

2020 Tentative Schedule

All Workshops, Meetings, and Public Hearings are subject to change

All sessions are held in the Commission Chambers, 29 Arran Road, Suite 101, Crawfordville, FL.
Workshops are scheduled as needed.

Month	Day	Time	Meeting Type
July 2020	Wednesday, 8	5:30P.M.	Code Enforcement Board Meeting
	Monday, 13	3:00P.M.	1st FY2020/2021 Budget Development Workshop
	Monday, 13	5:00P.M.	Regular Board Meeting
	Tuesday, 14	7:00P.M.	Planning Commission Meeting
August 2020	Monday, 3	5:00P.M.	Regular Board Meeting
	Monday, 10	7:00P.M.	Planning Commission Meeting
	Monday, 17	TBD	2nd FY2020/2021 Budget Development Workshop
	Monday, 17	5:00P.M.	Regular Board Meeting
September 2020	Tuesday, 8	5:00P.M.	Regular Board Meeting
	Wednesday, 9	5:30P.M.	Code Enforcement Board Meeting
	Monday, 14	7:00P.M.	Planning Commission Meeting
	Monday, 21	5:00P.M.	Regular Board Meeting
October 2020	Monday, 5	5:00P.M.	Regular Board Meeting
	Monday, 12	7:00P.M.	Planning Commission Meeting
	Monday, 19	5:00P.M.	Regular Board Meeting
November 2020	Monday, 2	5:00P.M.	Regular Board Meeting
	Wednesday, 4	5:30P.M.	Code Enforcement Board Meeting
	Monday, 9	7:00P.M.	Planning Commission Meeting
	Monday, 16	5:00P.M.	Regular Board Meeting
December 2020	Monday, 14	5:00P.M.	Regular Board Meeting
	Tuesday, 15	7:00P.M.	Planning Commission Meeting

Board of County Commissioners
Regular Public Meeting
Monday, July 13, 2020

Meeting Minutes

Board of County Commissioners
Regular Public Meeting
Monday, July 13, 2020

The Board of County Commissioners in and for Wakulla County, Florida met for a Regular Public Meeting on Monday, July 13., 2020 at 5:00 p.m. with Chairman Mike Stewart presiding. Present were Commissioners Ralph Thomas, Randy Merritt, Quincee Messersmith, and Chuck Hess. Also present were County Administrator David Edwards, County Attorney Heather Encinosa, and Deputy Clerk Kelly Sessor.

The Invocation and Pledge of Allegiance were provided by Commissioner Messersmith.

APPROVAL OF AGENDA
(CD5:01) Commissioner Merritt added an Add-on Item to Commissioner Items

(CD5:01) Commissioner Merritt moved to approve the agenda as amended; second by Commissioner Thomas and the motion passed unanimously, 5/0.

CITIZENS TO BE HEARD
(CD5:02) Steve Cushman: CARES Act Funding

AWARDS AND PRESENTATIONS
None

CONSENT AGENDA
(CD5:04) Commissioner Merritt moved to approve the consent agenda; second by Commissioner Thomas and the motion passed unanimously, 5/0.

1. Approval of Minutes from the June 15, 2020 Regular Board Meeting
Approve – Minutes from the June 15, 2020 Regular Board Meeting

2. Approval of Bills and Vouchers Submitted for June 10, 2020 through July 7, 2020
Approve – Payment of Bills and Vouchers Submitted for June 10, 2020 through July 7, 2020

3. Request Board Approval to Schedule a Public Hearing to Adopt the FY2020/2021 Tentative Millage Rate and Tentative Budget on September 8, 2020 and Approval to Schedule a Public Hearing to Adopt the FY2020/2021 Final Millage Rate and Final Budget on September 21, 2020
Approve – Schedule a Public Hearing to Adopt the FY2020/2021 Tentative Millage Rate and Tentative Budget on September 8, 2020 and Approval to Schedule a Public Hearing to Adopt the FY2020/2021 Final Millage Rate and Final Budget on September 21, 2020

4. Request Board Approval of a Resolution Authorizing the Chairman to Execute and Enter Into the FDOT Small County Outreach Program (SCOP) Agreement for the Construction Phase for Resurfacing CR 375 Smith Creek Road and Approval of the FDOT SCOP Agreement in the Amount of $1,448,781.00
Approve – Resolution Authorizing the Chairman to Execute and Enter Into the FDOT Small County Outreach Program (SCOP) Agreement for the Construction Phase for Resurfacing CR 375 Smith Creek Road and Approval of the FDOT SCOP Agreement in the Amount of $1,448,781.00

5. Request Board Approval of a Resolution Authorizing the Chairman to Execute and Enter Into the FDOT Small County Road Assistance Program (SCRAP) Agreement for the Construction Phase for Reconstruction of Aaron Strickland Road and Approval of the FDOT SCRAP Agreement in the Amount of $485,032.00
Approve – Resolution Authorizing the Chairman to Execute and Enter Into the FDOT Small County Road Assistance Program (SCRAP) Agreement for the Construction Phase for Reconstruction of Aaron Strickland Road and Approval of the FDOT SCRAP Agreement in the Amount of $485,032.00

6. Request Board Approval of a Resolution Authorizing the Chairman to Execute and Enter Into the FDOT County Incentive Grant Program (CIGP) Agreement for the Design and Construction Phases for Resurfacing Old Woodville Road Phase I, Approval of the FDOT CIGP Agreement in the Amount of $999,165.00, and Approval of Dewberry Work Authorization No. 20-17 in the Amount of $84,675.00 for Design Services
Approve – Resolution Authorizing the Chairman to Execute and Enter Into the FDOT County Incentive Grant Program (CIGP) Agreement for the Design and Construction Phases for Resurfacing Old Woodville Road Phase I, Approval of the FDOT CIGP Agreement in the Amount of $999,165.00, and Approval of Dewberry Work Authorization No. 20-17 in the Amount of $84,675.00 for Design Services

7. Request Board Approval of a Resolution Authorizing the Chairman to Execute and Enter Into the FDOT Small County Road Assistance Program (SCRAP) Agreement for the Design Phase for Resurfacing Martin Luther King Jr. Memorial Road, Approval of the FDOT SCRAP Agreement in the Amount of $138,527.00, and Approval of Dewberry Work Authorization No. 20-16 in the Amount of $138,527.00 for Design Services
Approve – Resolution Authorizing the Chairman to Execute and Enter Into the FDOT Small County Road Assistance Program (SCRAP) Agreement for the Design Phase for Resurfacing Martin Luther King Jr. Memorial Road, Approval of the FDOT SCRAP Agreement in the Amount of $138,527.00, and Approval of Dewberry Work Authorization No. 20-16 in the Amount of $138,527.00 for Design Services

8. Request Board Approval of Amended AR 3.07 Non-Profit Funding Procedures
Approve – Amended AR 3.07 Non-Profit Funding Procedures

9. Request Board Approval to Accept and Award ITB #2020-14 Sheriff Work Camp to SimplerBuilt, Inc. and Approval of the Agreement
Approve – Accept and Award ITB #2020-14 Sheriff Work Camp to SimplerBuilt, Inc. and Approval of the Agreement

10. Request Board Approval to Adopt the Preliminary Rate Resolution for Solid Waste Services
Approve – Adopt the Preliminary Rate Resolution for Solid Waste Services

11. Request Board Approval to Adopt the Preliminary Rate Resolution for Fire Protection Services
Approve – Adopt the Preliminary Rate Resolution for Fire Protection Services

12. Request Board Approval of SHIP Project Change Orders for New Various Required Items for David Berry ($23,300), Judy Parker ($9,500), and Jonathan Adams ($3,000)
Approve – SHIP Project Change Orders for New Various Required Items for David Berry ($23,300), Judy Parker ($9,500), and Jonathan Adams ($3,000)

13. Request the Board Adopt a Resolution Reappointing a Member to the Wakulla County Historic Preservation Committee
Approve – Resolution Reappointing a Member to the Wakulla County Historic Preservation Committee

14. Request Board Approval of the Release of Title for Pafford Properties and Construction, LLC on Lots in Plat of Cecil King Subdivision
Approve – Release of Title for Pafford Properties and Construction, LLC on Lots in Plat of Cecil King Subdivision

15. Request Board Approval of an Extension of the Wastewater Facilities Concurrency Proportionate Share Mitigation Agreement with Affordable Housing Solutions for Florida, Inc. and Authorize the County Administrator to Approve Future Time Extensions as Needed
Approve – Extension of the Wastewater Facilities Concurrency Proportionate Share Mitigation Agreement with Affordable Housing Solutions for Florida, Inc. and Authorize the County Administrator to Approve Future Time Extensions as Needed

16. Request Board Approval to Donate $3,000 from the Wakulla County Drug Trust Fund for Community Crime Prevention Programs
Approve – Donate $3,000 from the Wakulla County Drug Trust Fund for Community Crime Prevention Programs

17. Request Board Approval of Amended AR 1.01 Personnel Policy & Procedures
Approve – Amended AR 1.01 Personnel Policy & Procedures

18. Request Board Approval of the Kimley-Horn and Associates, Inc. Work Authorization No. 20-18 to Conduct the Bayside Marina Feasibility Study
Approve – Kimley-Horn and Associates, Inc. Work Authorization No. 20-18 to Conduct the Bayside Marina Feasibility Study

19. Request Board Approval of the Baskerville-Donovan, Inc. Work Authorization No. 20-19 Increasing Fees for the RESTORE Act Otter Creek WWTP Retrofit -Train 1
Approve – Baskerville-Donovan, Inc. Work Authorization No. 20-19 Increasing Fees for the RESTORE Act Otter Creek WWTP Retrofit -Train 1

CONSENT ITEMS PULLED FOR DISCUSSION
None

GENERAL BUSINESS
(CD5:05) 20. Request Board Approval of the Wakulla County Public Safety Infrastructure and Proposed Plan to Address Future Needs
Commissioner Merritt moved to Approve the Wakulla County Public Safety Infrastructure and Proposed Plan to Address Future Needs; second by Commissioner Hess and the motion passed unanimously, 5/0.

(CD5:13) 21. Request Board Approval of the Five-Year Sewer Collections System and Otter Creek WWTP Expansion and Improvements Plan, and Approval of the Utility Facilities Construction & Reimbursement Agreement Between the County and Palmetto of Wakulla, LLC, Continuing Services Agreement Between the County and Raftelis Financial Consultants, Inc., Dewberry Work Authorization No. 20-21 for the Facilities Plan and Environmental Report, and Jones Edmunds Work Authorization No.20-13 for the RIB Design and Permitting
Commissioner Merritt moved to Approve the Five-Year Sewer Collections System and Otter Creek WWTP Expansion and Improvements Plan, and Approval of the Utility Facilities Construction & Reimbursement Agreement Between the County and Palmetto of Wakulla, LLC, Continuing Services Agreement Between the County and Raftelis Financial Consultants, Inc., Dewberry Work Authorization No. 20-21 for the Facilities Plan and Environmental Report, and Jones Edmunds Work Authorization No.20-13 for the RIB Design and Permitting; second by Commissioner Thomas and the motion passed unanimously, 5/0.

(CD5:29) 22. Request Board Approval of Amendment No. 2 to the Bike Trail Maintenance Agreement with Jeff Cannon DBA J & K Lawn Service, LLC for Bike Trail Maintenance Services to Include Lawn Maintenance Services
Commissioner Merritt moved to Approve Amendment No. 2 to the Bike Trail Maintenance Agreement with Jeff Cannon DBA J & K Lawn Service, LLC for Bike Trail Maintenance Services to Include Lawn Maintenance Services; second by Commissioner Thomas and the motion passed unanimously, 5/0.

(CD5:29) 23. Request Board Approval to Dispose of County Property and Approval of the Dock Easement Within the Shell Point Boat Basin
Commissioner Merritt moved to Approve to Dispose of County Property and Approval of the Dock Easement Within the Shell Point Boat Basin; second by Commissioner Hess and the motion passed unanimously, 5/0.

(CD5:30) 26. Request Board Approval of the County's CARES Act Proposed Programs and Allocations Plan
Commissioner Merritt moved to Approve the County's CARES Act Proposed Programs and Allocations Plan; second by Commissioner Hess and the motion passed unanimously, 5/0.

PUBLIC HEARING
(CD5:39) 24. Request Board Approval to Conduct the Public Hearing and Adopt an Ordinance Amending Chapter 21, Article IV of the Code Related to the Regulation of Noise
Commissioner Merritt moved to Approve to Conduct the Public Hearing and Adopt an Ordinance Amending Chapter 21, Article IV of the Code Related to the Regulation of Noise; second by Commissioner Messersmith and the motion passed unanimously, 5/0.

PLANNING AND ZONING
(CD5:40) 25. Application for Final Plat 20-01 (George Simack & Keith Vause, Applicants; Sara Robinson, Agent)
Commissioner Merritt moved to Conduct the final Public Hearing and vote to approve the Application for Final Plat FP20-01, based upon the recommendation of Staff and the findings of fact and conclusions of law made by the Board and any evidence submitted at the Hearing hereon; second by Commissioner Hess and the motion passed unanimously, 5/0.

COMMISSIONER AGENDA ITEMS
(CD5:42) **Add-On:** Request Board Approval to Accept Roads within Commodore Commons Subdivision for County Maintenance
Commissioner Merritt moved to Approve to Direct Staff to Accept Roads within Commodore Commons Subdivision for County Maintenance; second by Commissioner Thomas and the motion passed unanimously, 5/0.

COUNTY ATTORNEY
None

COUNTY ADMINISTRATOR
(CD5:44) Thank the Commissioners and staff for getting the CARES Act funding

CITIZENS TO BE HEARD

(CD5:46) Robbie Taylor: Would like the Board to Waive the $25 User Fee per Player for the Wakulla County Football and Cheerleader Association to use the park

(CD5:49) Adam Carr: Would like the Board to Waive the $25 User Fee per Player for the Wakulla County Football and Cheerleader Association to use the park

DISCUSSION ISSUES BY COMMISSIONERS

(CD5:59) COMMISSIONER HESS – COVID-19 numbers are climbing, suggests mandatory mask wearing

(CD6:04) COMMISSIONER STEWART – Wakulla County 2020 Census

(CD6:07) There being no further business to come before the Board, Commissioner Merritt made a motion to adjourn; second by Commissioner Thomas and the motion passed unanimously, 5/0.

The meeting adjourned at 6:07 p.m.

Board of County Commissioners
Regular Public Meeting
Monday, December 14, 2020

Agenda

Revised 12/9/20 Board of County Commissioners

Wakulla County, Florida

Agenda

Regular Public Meeting
Monday, December 14, 2020
@ 5:00 P.M.

Invocation

Pledge of Allegiance

Approval of Agenda
(The Chairman and members of the Board will approve and/or modify the official agenda at this time)

Citizens to be Heard
(There is a Three (3) minute time limit; non-discussion by Commission; there shall be no debate and no action by the Commission. Citizens will have the opportunity to speak once under the Citizens to be Heard portion of the agenda which will be at the start or end of each meeting)

(To ensure fairness and encourage participation, citizens who would like to speak on any item will need to fill out a speaker's card and turn in to Ms. Welch prior to the beginning of discussion on that particular item. Citizens are allowed a maximum of 3 minutes to speak.)

Awards and Presentations
(Members of the Board will have the opportunity to acknowledge members of the community or commendable efforts at this time. Presentations will be made from individuals concerning issue of importance)

Consent
(All items contained herein may be voted on with one motion. Consent items are considered to be routine in nature, are typically non-controversial and do not deviate from past Board direction or policy. However, any Commissioner, the County Administrator, or the County Attorney may withdraw an item from the consent agenda, either in writing prior to the meeting, or at the beginning of the meeting and it shall then be voted on individually. Every effort shall be made to provide such a request to the Chairman at least 24 hours before the meeting)

1. Approval of Minutes from the November 16, 2020 Regular Board Meeting
   (Brent Thurmond, Clerk of Court)

2. Approval of Minutes from the November 17, 2020 Swearing-In Ceremony
   (Brent Thurmond, Clerk of Court)

3. Approval of Bills and Vouchers Submitted for November 11, 2020 through December 8, 2020
   (Brent Thurmond, Clerk of Court)

4. Request Board Approval of a Data Sharing Agreement Between the Florida Department of Economic Opportunity and Chief Elected Official of Local Workforce Development Area 5 and CareerSource Capital Region
(Jessica Welch, Communications and Public Services Director)

5. Request Board Approval of an Agreement Between Big Bend Jobs Education Council, Inc. d/b/a CareerSource Capital Region, Gadsden County, Leon County, and Wakulla County Relating to the Local Workforce Development Board
(Jessica Welch, Communications and Public Services Director)

6. Request Board Approval to Accept and Award ITB No. 2020-25 East Ivan Road Resurfacing Project (CIGP) to C.W. Roberts Contracting, Inc., Approval of the Construction Agreement and Work Authorization No. 20-36 to Anchor CEI, Inc. for Construction Inspection Services
(Brandy King, Fiscal Operations Director)

7. Request Board Approval of the One Cent Sales Tax Committee 2020 Annual Report
(Brandy King, Fiscal Operations Director)

8. Request Board Approval of the 2020 Fall E911 Rural County Grant Award Agreement in the Amount of $6,120.00 for FY2020-2021 Maintenance Costs of the E911/Nice Call Recording System
(Sheriff Jared Miller, WCSO)

9. Request Board Approval of the 2020 Fall E911 Rural County Grant Award Agreement in the Amount of $29,930.12 for FY2020-2021 Maintenance Costs of the E911 System
(Sheriff Jared Miller, WCSO)

10. Request Board Approval of a Resolution Reappointing and Appointing Members to the Code Enforcement Board
(Somer Pell, Planning & Community Development Director)

11. Request Board Approval of a Resolution Appointing Planning Commission Members
(Somer Pell, Planning & Community Development Director)

12. Request Board Approval of a Resolution Appointing a Chairman for the Planning Commission
(Somer Pell, Planning & Community Development Director)

13. Request Board Approval to Renew the $2,000,000 Line of Credit with Ameris Bank Reserved for Emergency / Disaster Relief
(Greg James, Finance Director)

14. Request Board Approval of the Florida Department of Environmental Protection Grant Agreement T19002 Providing $76,199.00 in Federal Funding from the Recreational Trails Program for Improvements to Hudson Park and Approval of a Resolution and Budget Amendment
(Sheree Keeler, Director of Intergovernmental Affairs and RESTORE Act)

15. Request Board Approval of US Treasury RESTORE Act Authorized Officials and the GrantSolutions Grantee User Account Request Forms
(Sheree Keeler, Director of Intergovernmental Affairs and RESTORE Act)

16. Request Board Approval of the US Treasury Agreement RDCGR240084-01-02 for County RESTORE Act Funding in the Amount of $146,528.00 for the Otter Creek WWTP Retrofit – Train 1 Amended Scope of Work, and Approve the Chairman to Sign a Statement of Board Acceptance of the Award
(Sheree Keeler, Director of Intergovernmental Affairs and RESTORE Act)

17. Request Board Approval to Schedule and Advertise a Public Hearing to Consider Adopting an Ordinance Amending the Code Pertaining to the Regulation of Swimming at Wakulla River Lower Bridge Boat Ramp
(Cody Solburg, Parks & Facilities Director)

18. Request Board to Declare Its Interest in Retained Mineral Rights to be Surplus and Authorize the Chairman to Execute a Quit Claim Deed to Release Retained Mineral Rights to Talquin Water and Wastewater, Inc.
(Heather Encinosa, County Attorney)

24. Request Board Approval to Award RFQ #2020-06 Professional Engineering Services to Dewberry Engineers, Inc. to Plan, Design, Permit, and Provide Construction Inspection Services for the RESTORE Act Retrofit of Lift Station #76
(Sheree Keeler, Director of Intergovernmental Affairs and RESTORE Act)

Consent Items Pulled for Discussion

(Members requesting further information on items placed under "Consent Agenda," may withdraw those items and place them here, for further discussion)

General Business

(General Business items are items of a general nature that require Board directions or pertain to Board policy)

19. Request Board Direction Regarding an Application for Reduction of Code Enforcement Lien Pertaining to Case No. CE2018-3416
(Somer Pell, Planning & Community Development Director)

20. Request Board Approval of a Resolution Adopting the Wastewater Facilities Plan for Implementation of Wastewater System Improvements and Authorizing the Execution and Submission of the Wastewater Facilities Plan to FDEP for Purposes of the State Revolving Loan Fund Program and Approval to Allow Public Comment
(David Edwards, County Administrator)

25. Request Board Approval to Authorize the Chairman to Execute an Economic Development Marketing Grant Application to Duke Energy Foundation on Behalf of the Wakulla EDC
(David Edwards, County Administrator)

Public Hearing(s)

(Public Hearings are held as required to receive public comments on matters of special importance or as prescribed by law. For regular Board meetings, public hearings shall be scheduled as the first substantive item on the agenda and heard at the time scheduled for the start of the meeting or as soon thereafter as is possible. Individual speakers are encouraged to adhere to a three (3) minute time limit. The Chairman has the discretion to either extend or reduce time limits, based on the number of speakers)

21. Request Board Approval to Conduct the Public Hearing and Consider a Purchase and Sale Agreement for the Acquisition of Property on US Hwy. 98
(Jessica Welch, Communications and Public Services Director)

Planning and Zoning

(*Members will be provided with planning and zoning amendment requests five (5) business days prior to the scheduled meeting. To the maximum extent possible, all support information and documentation for P&Z items shall be made available through a variety of means including the County website that will provide the public with the greatest opportunity to review documentation at the date of advertisement pursuant to Resolution No. 04-43. "In accordance with Sec. 24.01 of County Code, for all quasi-judicial proceedings each Commission member must disclose all contact received from interested parties and/or their representatives, lobbyists, or any other third parties concerning any application and any personal investigation or knowledge being relied upon during the consideration of any quasi-judicial planning and zoning matters")*

22. Request Board Consideration to File an Application to Close/Abandon Westmarch Road, Troll Lane, and Bilbo Baggins Drive in Hobbiton Subdivision (Seabolt Investments, Ltd., Applicant/David C. Jones, Agent)

Commissioner Agenda Items

(Items with supporting documentation shall be provided by a Commissioner to the County Administrator three (3) business days prior to the scheduled meeting. Items that are agendaed by Commissioners and fail to gain approval may not be replaced on the agenda by a Commissioner on the non-prevailing side for a period of six (6) months without approval of the Chairman unless there is substantive new information to present)

23. Commissioner Thomas
    a. Request Board Approval of Commissioner Appointments on Various Committees, Councils, and Boards for 2021

County Attorney

(County Attorney items are items of a legal nature that require Board direction or represent general information to Board Members, staff, or the public)

County Administrator

(County Administrator items are items that require Board direction or represent general information to Board Members, staff or the public)

Citizens to be Heard

(There is a Three (3) minute time limit; non-discussion by Commission; there shall be no debate and no action by the Commission. Citizens will have the opportunity to speak once under the Citizens to be Heard portion of the agenda which will be at the start or end of each meeting)

Discussion Issues by Commissioners

(The purpose of this section is for Commissioners to request staff action on various issues, including scheduling of a future agenda item for later Board action, based on the approval of a majority of the Board. No assignments or request for agenda items shall be given to the County Administrator or County Attorney without the express approval of the majority of the Board. The Board shall take no policy action without an agenda item unless such is accomplished through a unanimous vote of the Board. The remarks of each Commissioner during his or her "discussion items" shall adhere to Robert Rules of Order, for proper decorum and civility as enforced by the Chairman)

Adjourn

(Any departure from the order of business set forth in the official agenda shall be made only upon majority vote of the members of the Commission present at the meeting)

The next Board of County Commissioners Meeting is scheduled for
Monday, January 4, 2021 at 5:00p.m.

PUBLIC NOTICE

2020/2021 Tentative Schedule

All Workshops, Meetings, and Public Hearings are subject to change

All sessions are held in the Commission Chambers, 29 Arran Road, Suite 101, Crawfordville, FL.
Workshops are scheduled as needed.

Month	Day	Time	Meeting Type
December 2020	Monday, 14	5:00P.M.	Regular Board Meeting
	Tuesday, 15	7:00P.M.	Planning Commission Meeting
January 2021	Monday, 4	5:00P.M.	Regular Board Meeting
	Monday, 11	7:00P.M.	Planning Commission Meeting
	Tuesday, 19	5:00P.M.	Regular Board Meeting
February 2021	Monday, 1	5:00P.M.	Regular Board Meeting
	Monday, 8	7:00P.M.	Planning Commission Meeting
	Tuesday, 16	5:00P.M.	Regular Board Meeting
March 2021	Monday, 1	5:00P.M.	Regular Board Meeting
	Monday, 8	7:00P.M.	Planning Commission Meeting
	Monday, 22	5:00P.M.	Regular Board Meeting

Board of County Commissioners
Regular Public Meeting
Monday, December 14, 2020

Meeting Minutes

Board of County Commissioners
Regular Public Meeting
Monday, December 14, 2020

The Board of County Commissioners in and for Wakulla County, Florida met for a Regular Public Meeting on Monday, December 14, 2020 at 5:00 p.m. with Chairman Ralph Thomas presiding. Present were Commissioners Randy Merritt, Mike Kemp, Quincee Messersmith, and Chuck Hess. Also present were County Administrator David Edwards, County Attorney Heather Encinosa, and Deputy Clerk Kelly Sessor.

The Invocation and Pledge of Allegiance was provided by Commissioner Thomas.

APPROVAL OF AGENDA
(CD5:01) Commissioner Hess pulls Items #16 and #24 from the Consent Agenda
(CD5:01) Commissioner Thomas pulls Item #17 from the Consent Agenda

(CD5:01) Commissioner Merritt moved to approve the agenda as amended; second by Commissioner Hess and the motion passed unanimously, 5/0.

CITIZENS TO BE HEARD
(CD5:02) Cheryl Olah: Tax Collectors Office Operations update

AWARDS AND PRESENTATIONS
None

CONSENT AGENDA
(CD5:05) Commissioner Merritt moved to approve the consent agenda as amended; second by Commissioner Hess and the motion passed unanimously, 5/0.

1. Approval of Minutes from the November 16, 2020 Regular Board Meeting
Approve – Minutes from the November 16, 2020 Regular Board Meeting

2. Approval of Minutes from the November 17, 2020 Swearing-In Ceremony
Approve – Minutes from the November 17, 2020 Swearing-In Ceremony

3. Approval of Bills and Vouchers Submitted for November 11, 2020 through December 8, 2020
Approve – Payment of Bills and Vouchers Submitted for November 11, 2020 through December 8, 2020

4. Request Board Approval of a Data Sharing Agreement Between the Florida Department of Economic Opportunity and Chief Elected Official of Local Workforce Development Area 5 and CareerSource Capital Region
Approve – Data Sharing Agreement Between the Florida Department of Economic Opportunity and Chief Elected Official of Local Workforce Development Area 5 and CareerSource Capital Region

5. Request Board Approval of an Agreement Between Big Bend Jobs Education Council, Inc. d/b/a CareerSource Capital Region, Gadsden County, Leon County, and Wakulla County Relating to the Local Workforce Development Board
Approve – Agreement Between Big Bend Jobs Education Council, Inc. d/b/a CareerSource Capital Region, Gadsden County, Leon County, and Wakulla County Relating to the Local Workforce Development Board

6. Request Board Approval to Accept and Award ITB No. 2020-25 East Ivan Road Resurfacing Project (CIGP) to C.W. Roberts Contracting, Inc., Approval of the Construction Agreement and Work Authorization No. 20-36 to Anchor CEI, Inc. for Construction Inspection Services
Approve – Accept and Award ITB No. 2020-25 East Ivan Road Resurfacing Project (CIGP) to C.W. Roberts Contracting, Inc., Approval of the Construction Agreement and Work Authorization No. 20-36 to Anchor CEI, Inc. for Construction Inspection Services

7. Request Board Approval of the One Cent Sales Tax Committee 2020 Annual Report
Approve – One Cent Sales Tax Committee 2020 Annual Report

8. Request Board Approval of the 2020 Fall E911 Rural County Grant Award Agreement in the Amount of $6,120.00 for FY2020-2021 Maintenance Costs of the E911/Nice Call Recording System
Approve – 2020 Fall E911 Rural County Grant Award Agreement in the Amount of $6,120.00 for FY2020-2021 Maintenance Costs of the E911/Nice Call Recording System

9. Request Board Approval of the 2020 Fall E911 Rural County Grant Award Agreement in the Amount of $29,930.12 for FY2020-2021 Maintenance Costs of the E911 System
Approve – 2020 Fall E911 Rural County Grant Award Agreement in the Amount of $29,930.12 for FY2020-2021 Maintenance Costs of the E911 System

10. Request Board Approval of a Resolution Reappointing and Appointing Members to the Code Enforcement Board
Approve – Resolution Reappointing and Appointing Members to the Code Enforcement Board

11. Request Board Approval of a Resolution Appointing Planning Commission Members
Approve – Resolution Appointing Planning Commission Members

12. Request Board Approval of a Resolution Appointing a Chairman for the Planning Commission
Approve – Resolution Appointing a Chairman for the Planning Commission

13. Request Board Approval to Renew the $2,000,000 Line of Credit with Ameris Bank Reserved for Emergency / Disaster Relief
Approve – Renew the $2,000,000 Line of Credit with Ameris Bank Reserved for Emergency / Disaster Relief

14. Request Board Approval of the Florida Department of Environmental Protection Grant Agreement T19002 Providing $76,199.00 in Federal Funding from the Recreational Trails Program for Improvements to Hudson Park and Approval of a Resolution and Budget Amendment
Approve –Florida Department of Environmental Protection Grant Agreement T19002 Providing $76,199.00 in Federal Funding from the Recreational Trails Program for Improvements to Hudson Park and Approval of a Resolution and Budget Amendment

15. Request Board Approval of US Treasury RESTORE Act Authorized Officials and the GrantSolutions Grantee User Account Request Forms
Approve – US Treasury RESTORE Act Authorized Officials and the GrantSolutions Grantee User Account Request Forms

18. Request Board to Declare Its Interest in Retained Mineral Rights to be Surplus and Authorize the Chairman to Execute a Quit Claim Deed to Release Retained Mineral Rights to Talquin Water and Wastewater, Inc.
Approve – Declare Its Interest in Retained Mineral Rights to be Surplus and Authorize the Chairman to Execute a Quit Claim Deed to Release Retained Mineral Rights to Talquin Water and Wastewater, Inc.

CONSENT ITEMS PULLED FOR DISCUSSION
(CD5:05) 16. Request Board Approval of the US Treasury Agreement RDCGR240084-01-02 for County RESTORE Act Funding in the Amount of $146,528.00 for the Otter Creek WWTP Retrofit – Train 1 Amended Scope of Work, and Approve the Chairman to Sign a Statement of Board Acceptance of the Award
Commissioner Merritt moved to Approve the US Treasury Agreement RDCGR240084-01-02 for County RESTORE Act Funding in the Amount of $146,528.00 for the Otter Creek WWTP Retrofit – Train 1 Amended Scope of Work, and Approve the Chairman to Sign a Statement of Board Acceptance of the Award; second by Commissioner Messersmith and the motion passed 4/1 with Commissioners Thomas, Merritt, Kemp, and Messersmith voting for and Commissioner Hess voting against.

(CD5:10) 17. Request Board Approval to Schedule and Advertise a Public Hearing to Consider Adopting an Ordinance Amending the Code Pertaining to the Regulation of Swimming at Wakulla River Lower Bridge Boat Ramp
Commissioner Merritt moved to Approve to Schedule and Advertise a Public Hearing to Consider Adopting an Ordinance Amending the Code Pertaining to the Regulation of Swimming at Wakulla River Lower Bridge Boat Ramp with staff direction to explore the option of complying with the Grant while still allowing some swimming; second by Commissioner Hess and the motion passed unanimously, 5/0.

(CD5:13) 24. Request Board Approval to Award RFQ #2020-06 Professional Engineering Services to Dewberry Engineers, Inc. to Plan, Design, Permit, and Provide Construction Inspection Services for the RESTORE Act Retrofit of Lift Station #76
Commissioner Merritt moved to Approve to Award RFQ #2020-06 Professional Engineering Services to Dewberry Engineers, Inc. to Plan, Design, Permit, and Provide Construction Inspection Services for the RESTORE Act Retrofit of Lift Station #76; second by Commissioner Messersmith and the motion passed 4/1 with Commissioners Thomas, Merritt, Kemp, and Messersmith voting for and Commissioner Hess voting against.

GENERAL BUSINESS
(CD5:13) 19. Request Board Direction Regarding an Application for Reduction of Code Enforcement Lien Pertaining to Case No. CE2018-3416
Commissioner Merritt moved to Not Approve the Application for Reduction of Code Enforcement Lien to CE2018-3416; second by Commissioner Hess and the motion passed 4/1 with Commissioners Merritt, Kemp, Messersmith, and Hess voting for and Commissioner Thomas voting against.

(CD5:21) 20. Request Board Approval of a Resolution Adopting the Wastewater Facilities Plan for Implementation of Wastewater System Improvements and Authorizing the Execution and Submission of the Wastewater Facilities Plan to FDEP for Purposes of the State Revolving Loan Fund Program and Approval to Allow Public Comment
Commissioner Merritt moved to Approve the Resolution Adopting the Wastewater Facilities Plan for Implementation of Wastewater System Improvements and Authorizing the Execution and Submission of the Wastewater Facilities Plan to FDEP for Purposes of the State Revolving Loan Fund Program and Approve to Allow Public Comment; second by Commissioner Kemp and the motion passed 4/1 with Commissioners Thomas, Merritt, Kemp, and Messersmith voting for and Commissioner Hess voting against.

(CD6:26) 25. Request Board Approval to Authorize the Chairman to Execute an Economic Development Marketing Grant Application to Duke Energy Foundation on Behalf of the Wakulla EDC
Commissioner Merritt moved to Approve to Authorize the Chairman to Execute an Economic Development Marketing Grant Application to Duke Energy Foundation on Behalf of the Wakulla EDC; second by Commissioner Hess and the motion passed unanimously, 5/0.

PUBLIC HEARING
(CD6:26) 21. Request Board Approval to Conduct the Public Hearing and Consider a Purchase and Sale Agreement for the Acquisition of Property on US Hwy. 98
Commissioner Merritt moved to Approve to Conduct the Public Hearing and Approve the Purchase and Sale Agreement for the Acquisition of Property on US Hwy. 98; second by Commissioner Kemp and the motion passed 4/1 with Commissioners Thomas, Merritt, Kemp, and Messersmith voting for and Commissioner Hess voting against.

PLANNING AND ZONING
(CD6:32) 22. Request Board Consideration to File an Application to Close/Abandon Westmarch Road, Troll Lane, and Bilbo Baggins Drive in Hobbiton Subdivision (Seabolt Investments, Ltd., Applicant/David C. Jones, Agent)
Commissioner Merritt moved to Approve the Filing of an Application to Close/Abandon Westmarch Road, Troll Lane, and Bilbo Baggins Drive in the Recorded Plat of Hobbiton Subdivision with the condition that the owner provide staff with a satisfactory ingress, egress, and utility easement for the property owners; second by Commissioner Kemp and the motion passed unanimously, 5/0.

COMMISSIONER AGENDA ITEMS
(CD6:35) 23. Commissioner Thomas
a. Request Board Approval of Commissioner Appointments on Various Committees, Councils, and Boards for 2021
Commissioner Merritt moved to Approve the Recommended Commissioner Appointments for 2021 with the amendments of: a.) Wakulla Coalition of Youth - Commissioner Kemp be the primary, Commissioner Thomas as alternate, b.) Canvassing Board – Commissioner Kemp as alternate; second by Commissioner Kemp and the motion passed unanimously, 5/0.

COUNTY ATTORNEY
(CD6:37) Driftwood Drive Settlement update
(CD6:38) Merry Christmas and Happy Holidays

COUNTY ADMINISTRATOR
None

CITIZENS TO BE HEARD
None

DISCUSSION ISSUES BY COMMISSIONERS
(CD6:38) COMMISSIONER MERRITT – Merry Christmas and Happy New Year
(CD6:38) COMMISSIONER HESS – Merry Christmas

(CD6:38) There being no further business to come before the Board, Commissioner Merritt made a motion to adjourn; second by Commissioner Hess and the motion passed unanimously, 5/0.

The meeting adjourned at 6:38 p.m.

Notice of Public Meeting
Tuesday, February 23, 2021

Aquifer Recharge Project

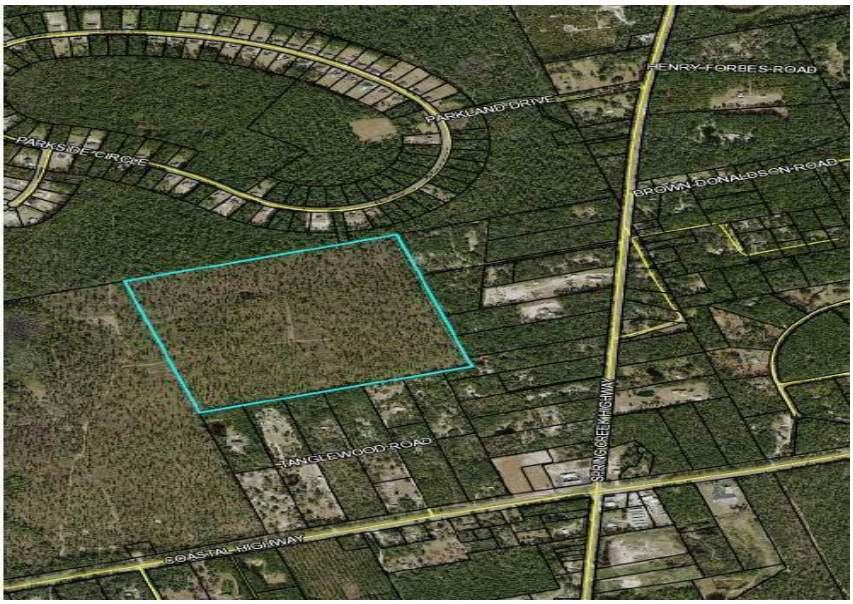
WAKULLA
COUNTY

NOTICE OF PUBLIC MEETING

Wakulla County will hold a Public Meeting on Tuesday, February 23, 2021 at 6:00p.m., at the Wakulla County Community Center, Crawfordville Room, 318 Shadeville Hwy., Crawfordville, FL 32327, (850) 926-0919.

Purpose of Meeting:

To provide the public with an overview of the Aquifer Recharge Project planned at the recently acquired 100-acre site on Hwy. 98.



Persons with a disability needing a special accommodation should contact the Wakulla County Board of County Commissioners Administration Office at least two (2) days prior to the meeting at (850) 926-0919; Hearing & Voice Impaired at 1-800-955-8771; or email at ADARequest@mywakulla.com

Board of County Commissioners
Regular Public Meeting
February 23, 2021

Meeting Minutes

Wakulla County BOCC
Public Meeting: Aquifer Recharge Project
February 23, 2021 @ 6:00p.m.
Wakulla County Community Center

The purpose of this public meeting is to provide the public with an overview of the Aquifer Recharge Project planned at the recently acquired 100-acre site on Hwy. 98.

David Edwards, County Administrator opened the meeting and welcomed the public. A PowerPoint Presentation was provided. Presenters include Brett Cyphers, NWFWMD; Terri Lowrey and Troy Hayes, Jones Edmunds & Associates; Tyler Lee, Baskerville Donovan Eng.; Trevor Burch, Dewberry Eng.; Bill Gibson, WCHD; and Scott Knight, Wetland Solutions.

There was discussion between the citizens and presenters.

Meeting adjouned.

Wakulla County
Open House Flyer

Adopted Infrastructure Plan

WAKULLA COUNTY

WAKULLA COUNTY OPEN HOUSE

ADOPTED INFRASTRUCTURE PLAN

The Wakulla County Planning & Community Development Department is updating Wakulla County's Adopted Infrastructure Plan (AIP), and is seeking community input on current and future infrastructure needs. The AIP Open House is your opportunity to share ideas and learn about the various departments that provide service to the residents of Wakulla County. Stop by at any time to ask questions and discuss plans for your community's future development.

THURSDAY, JUNE 24, 2021
6:00 pm – 7:30 pm
Wakulla County Extension Office
84 Cedar Avenue, Crawfordville, FL
(Located within the Livestock Pavilion)

We want to hear from you!

Community Survey will be open for response until Wednesday, June 30, 2021. Responses will be submitted anonymously and can be completed via desktop or smart phone. Your input is greatly appreciated. The AIP survey may be located at: https://survey.alchemer.com/s3/6341343/Adopted-Infrastructure-Community-Survey.

For questions, contact the Planning and Community Development Department at 850-926-3695.

Board of County Commissioners
Workshop
Monday, December 13, 2021

Presentation

Dewberry

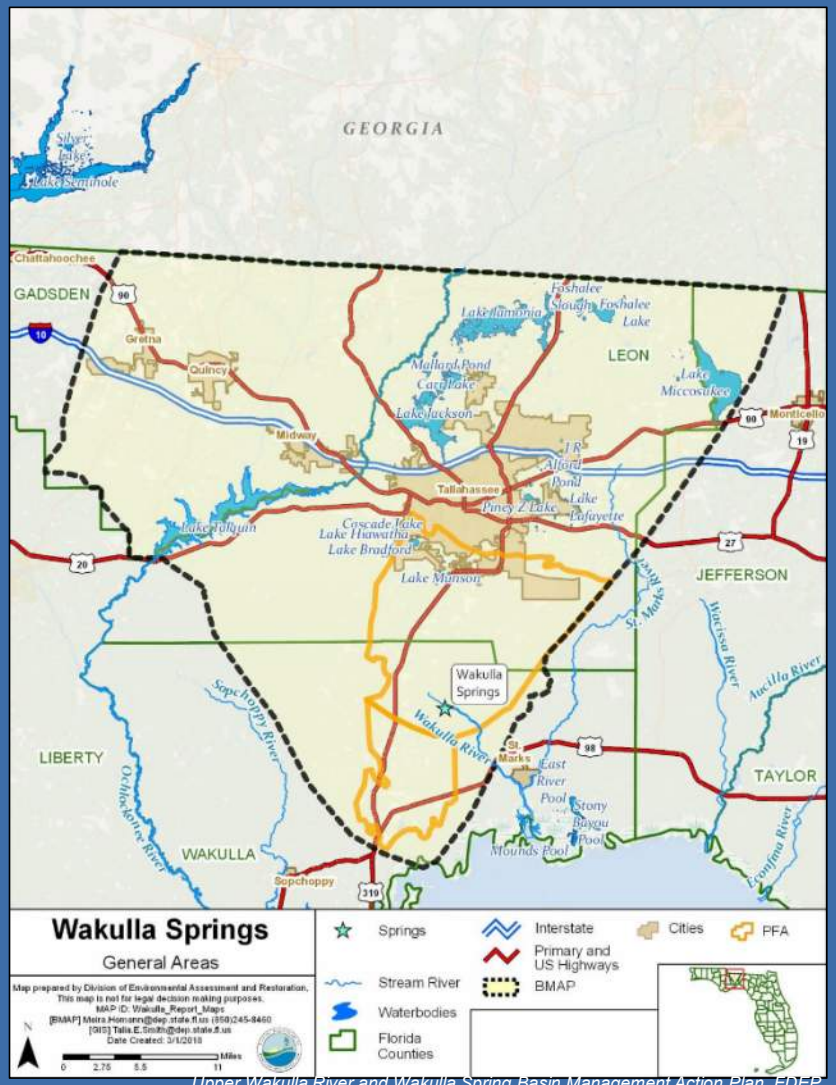
Wakulla County Sewer Feasibility Analysis

Workshop – December 13, 2021

Wakulla County BOCC

BMAP and PFA's

- Basin Management Action Plan
- "Blueprint" to:
  - Restore impaired waters
  - Reduce pollutant loads
  - Inform decision-making and funding
- Priority Focus Areas
  - Areas of highest aquifer vulnerability



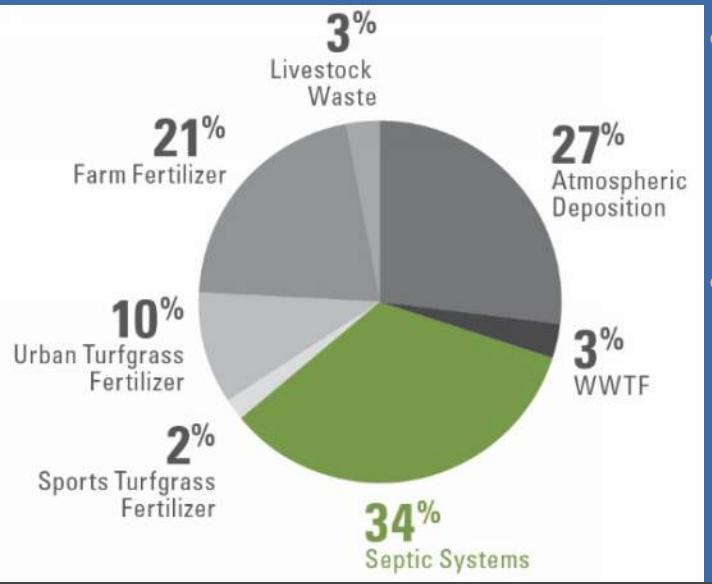
Upper Wakulla River and Wakulla Spring Basin Management Action Plan, FDEP


Wakulla Spring, 1967
http://www.floridamemory.com/items/show/233579

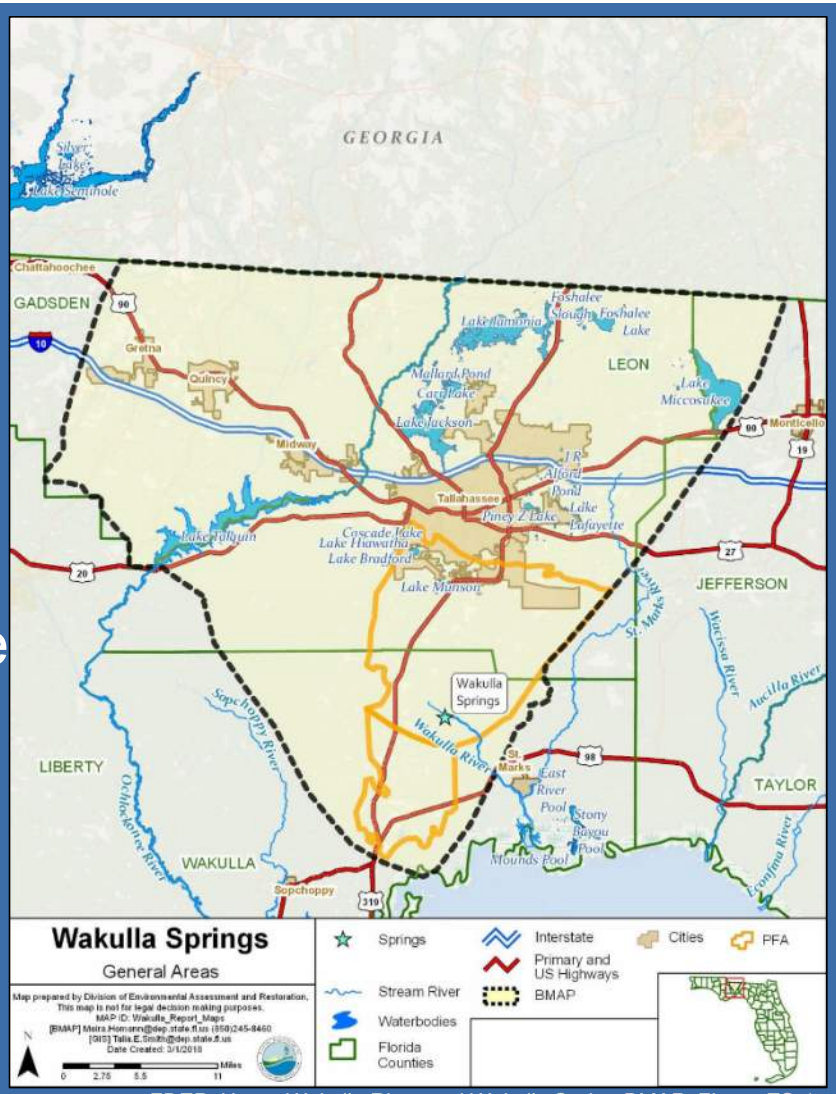

Wakulla Spring, 2018
Google Earth

General Background

- Septic Systems are the greatest contributor of nutrients to the Wakulla Springs basin per BMAP

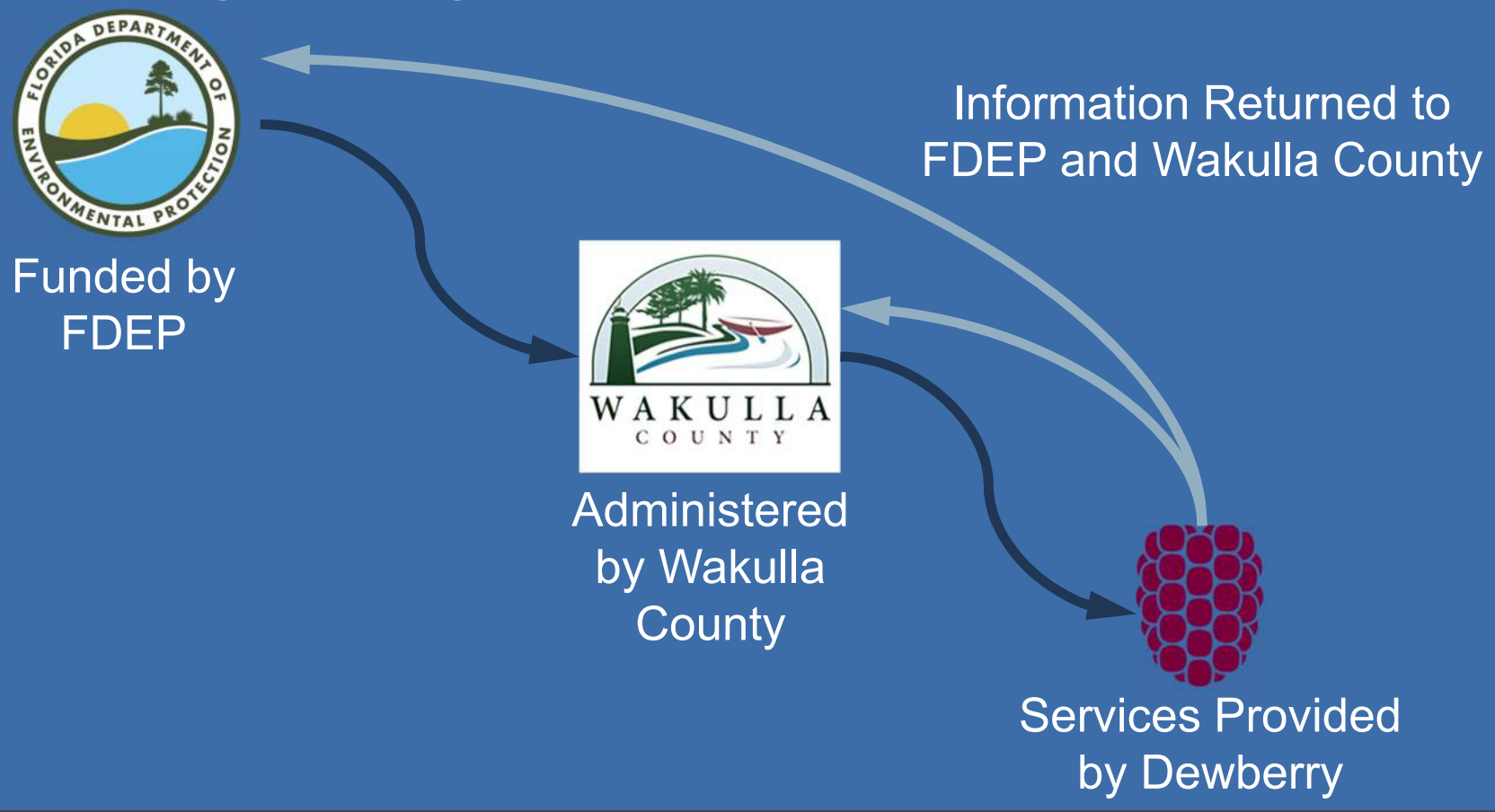


- Upgrades are needed to achieve goals of BMAP
- Analysis needed to determine strategies



FDEP: Upper Wakulla River and Wakulla Spring BMAP, Figure ES-1

Feasibility Analysis Overview

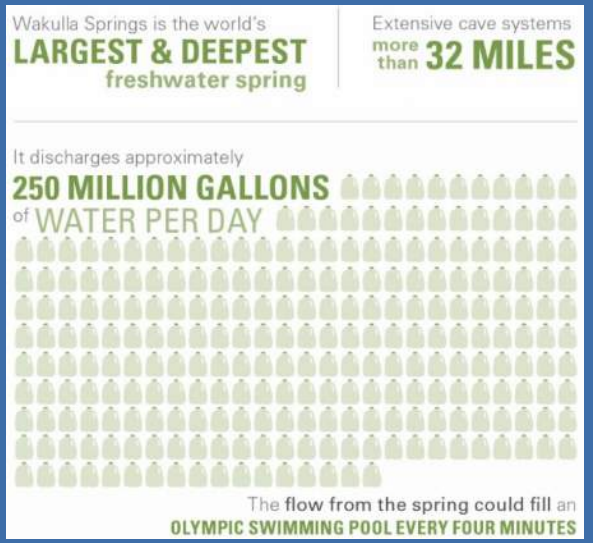


Feasibility Analysis Overview

Purpose: Improve water quality and protect Wakulla Springs and the surrounding community

http://www.floridamemory.com/items/show/233579

http://www.floridamemory.com/items/show/166344

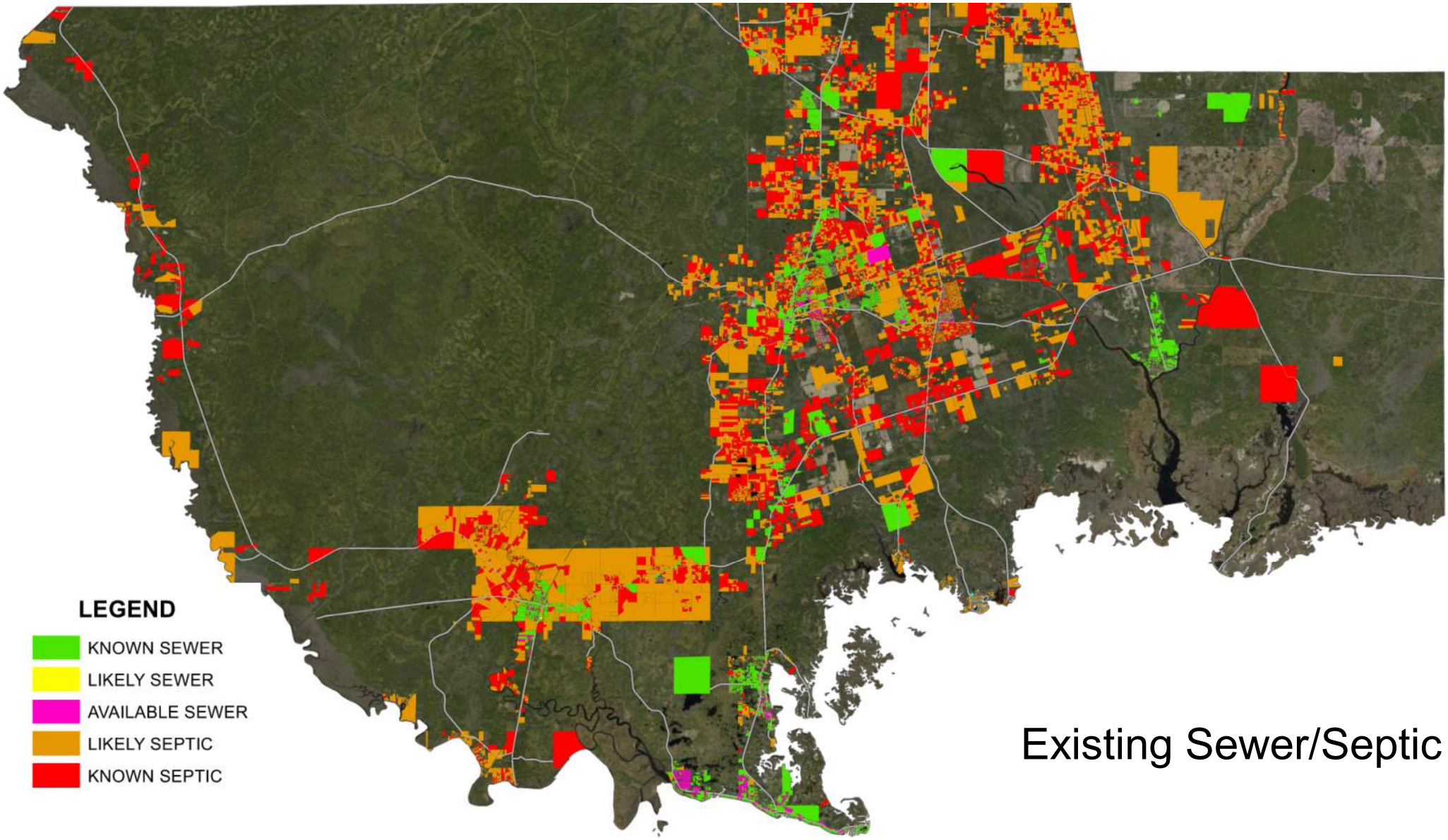


Feasibility Analysis Overview

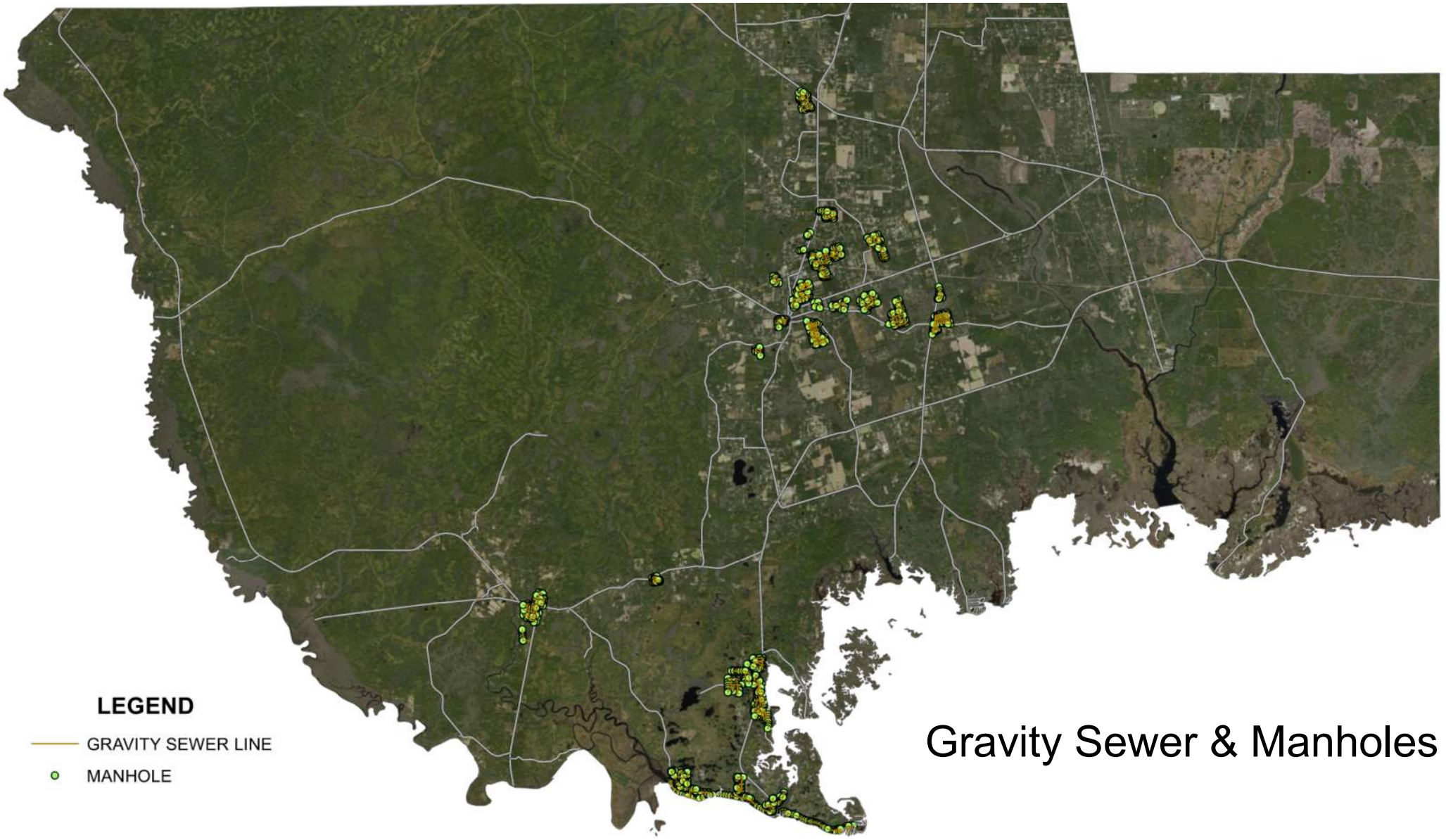
- Planning period of 20-years
- Focus on BMAP within Wakulla County
- Evaluate existing septic systems and wastewater treatment systems
- Gauge community interest in sewering projects
- Propose projects and options to achieve BMAP compliance
- Provide County with reports, maps, and documentation to utilize for implementation of plan

GIS Mapping

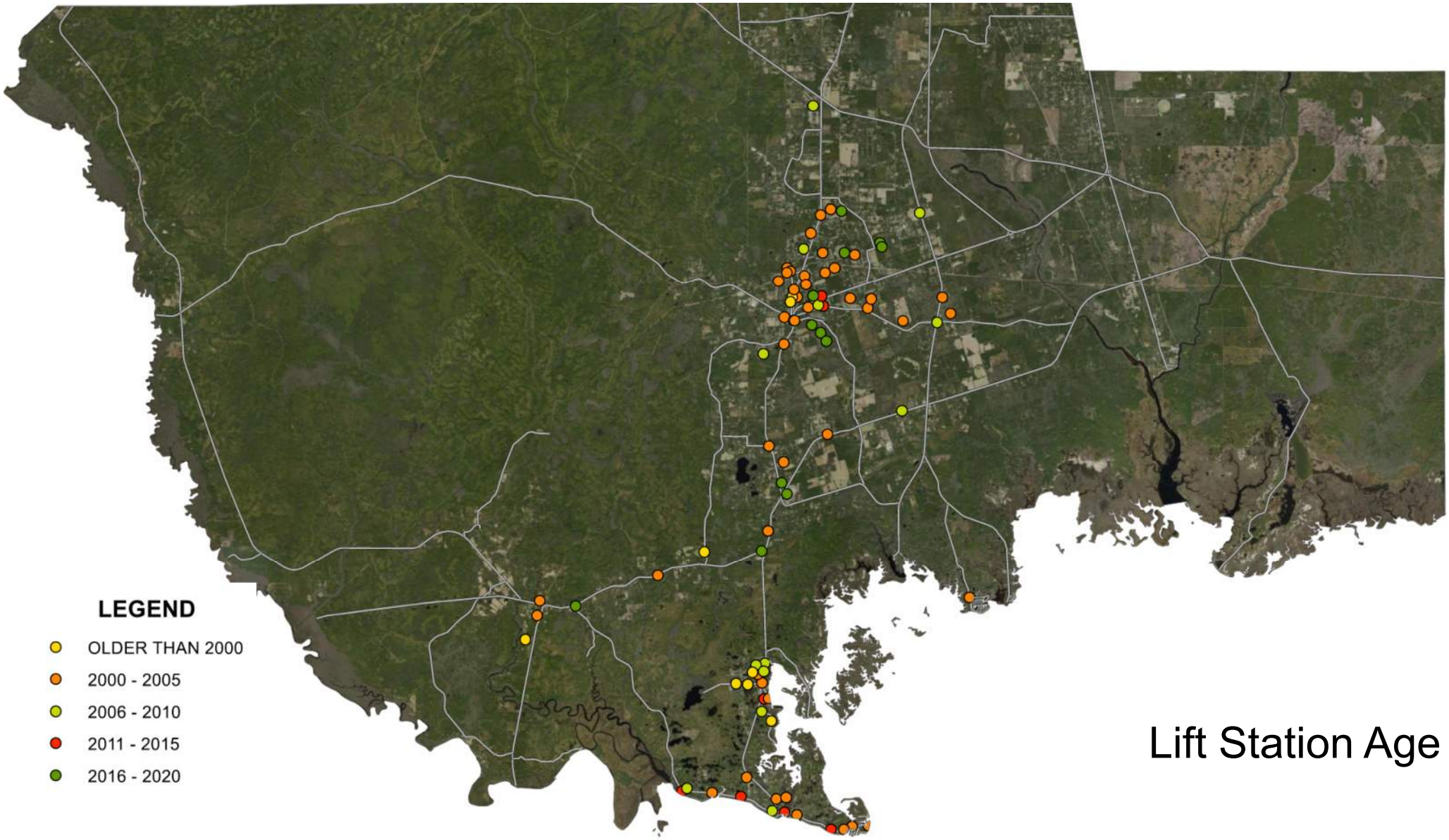
- Existing Septic and Sewer Areas
- Location, Age, and Type of Wastewater System
- Smoke Testing Results
- Anticipated Growth Patterns
- Proposed System Improvements
- OSTDS Within the BMAP
- Service Areas and Census Tracts



Existing Sewer/Septic

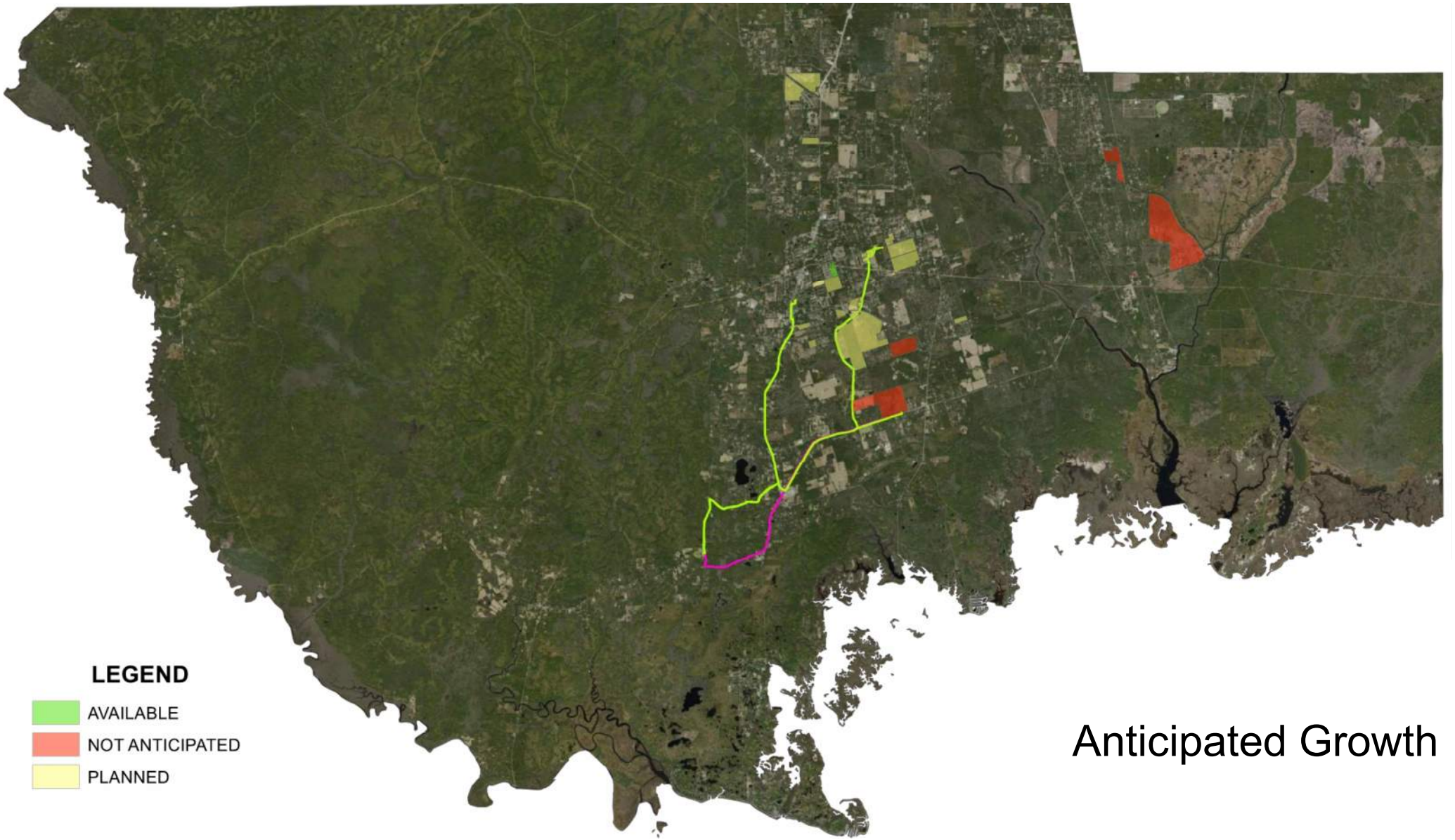


Gravity Sewer & Manholes



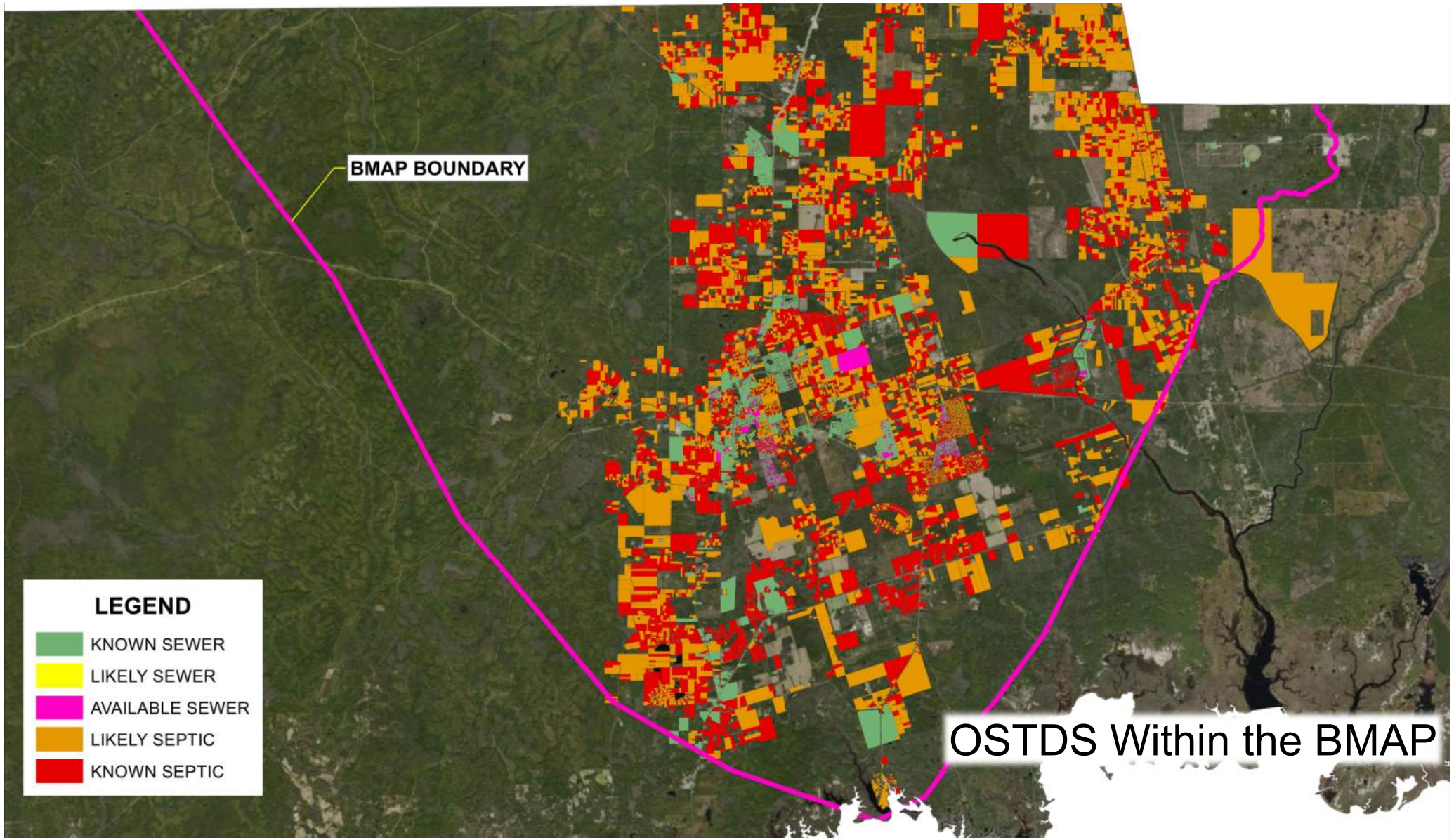
Lift Station Age

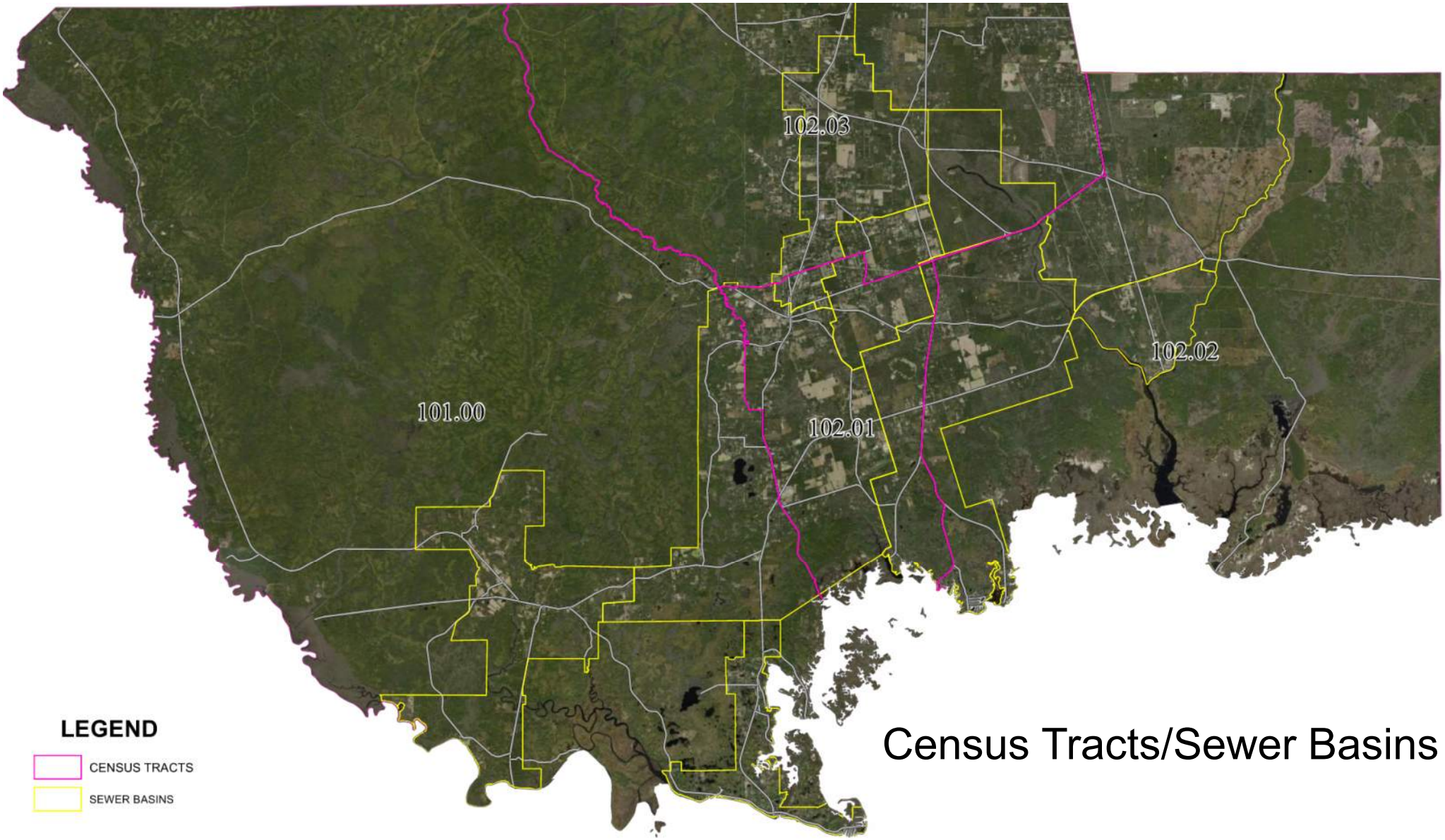
Smoke Testing Defects



Anticipated Growth


LEGEND
12" EFFLUENT LINE
4" FORCEMAIN
12" FORCEMAIN
16" FORCEMAIN
20" FORCEMAIN
EFFLUENT DISCHARGE SITE
PROPOSED LIFT STATION
Proposed Improvements

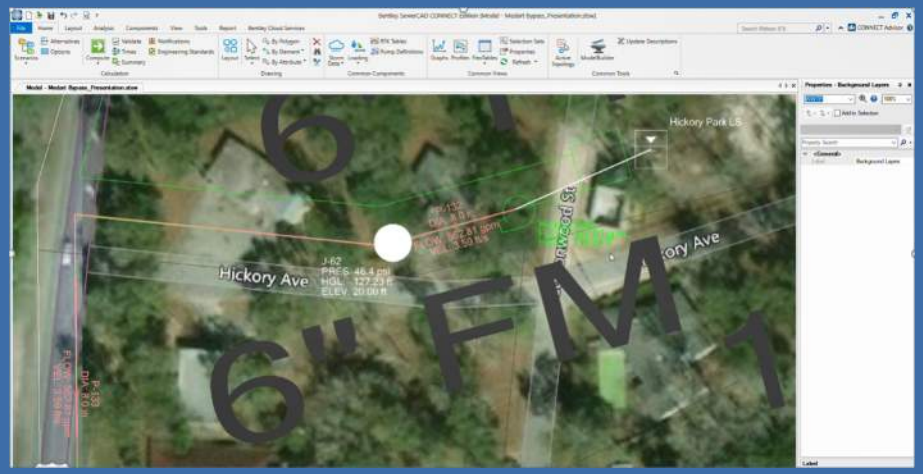

BMAP BOUNDARY
LEGEND
KNOWN SEWER
LIKELY SEWER
AVAILABLE SEWER
LIKELY SEPTIC
KNOWN SEPTIC
OSTDS Within the BMAP

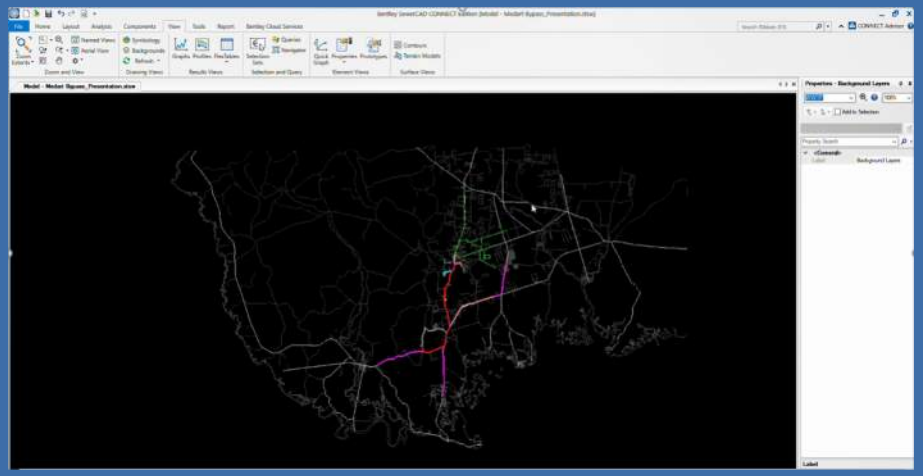


Census Tracts/Sewer Basins

Hydraulic Modeling

- Utilized Bentley SewerCAD to analyze flows and pressures
- Field tested important lift stations (pump stations) to calibrate
- Allows future projects and system upgrades to be quickly verified





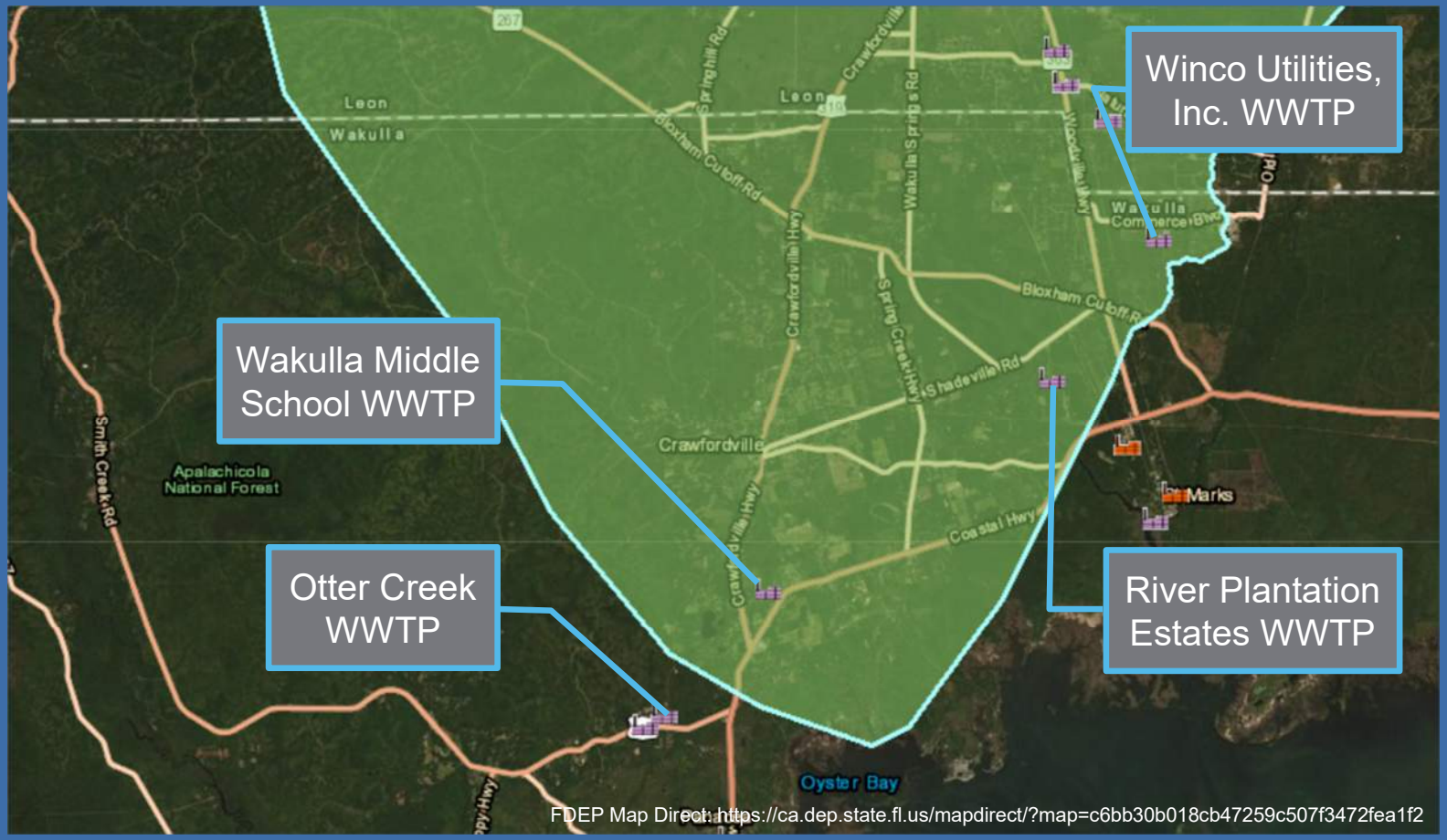
Sewer Standards

- Book of details to be utilized for sewer related projects
- Assists County with plan review
- Ensures projects conform to each other
- Aides with operation and maintenance of system by keeping equipment easily interchangeable

Summary of Community Surveys

- 4 questionnaires posted to County's website and Facebook page
  - General knowledge of sewer and BMAP
  - General environmental concerns
  - Personal experience with septic upgrade projects
  - Personal acceptance of sewering projects
- Public opinion gauged for variety of sewer related topics
- Shows desire to continue septic and sewer enhancements
- Experience with completed projects was mostly positive
- Further community outreach and education is important

Flow and Capacity

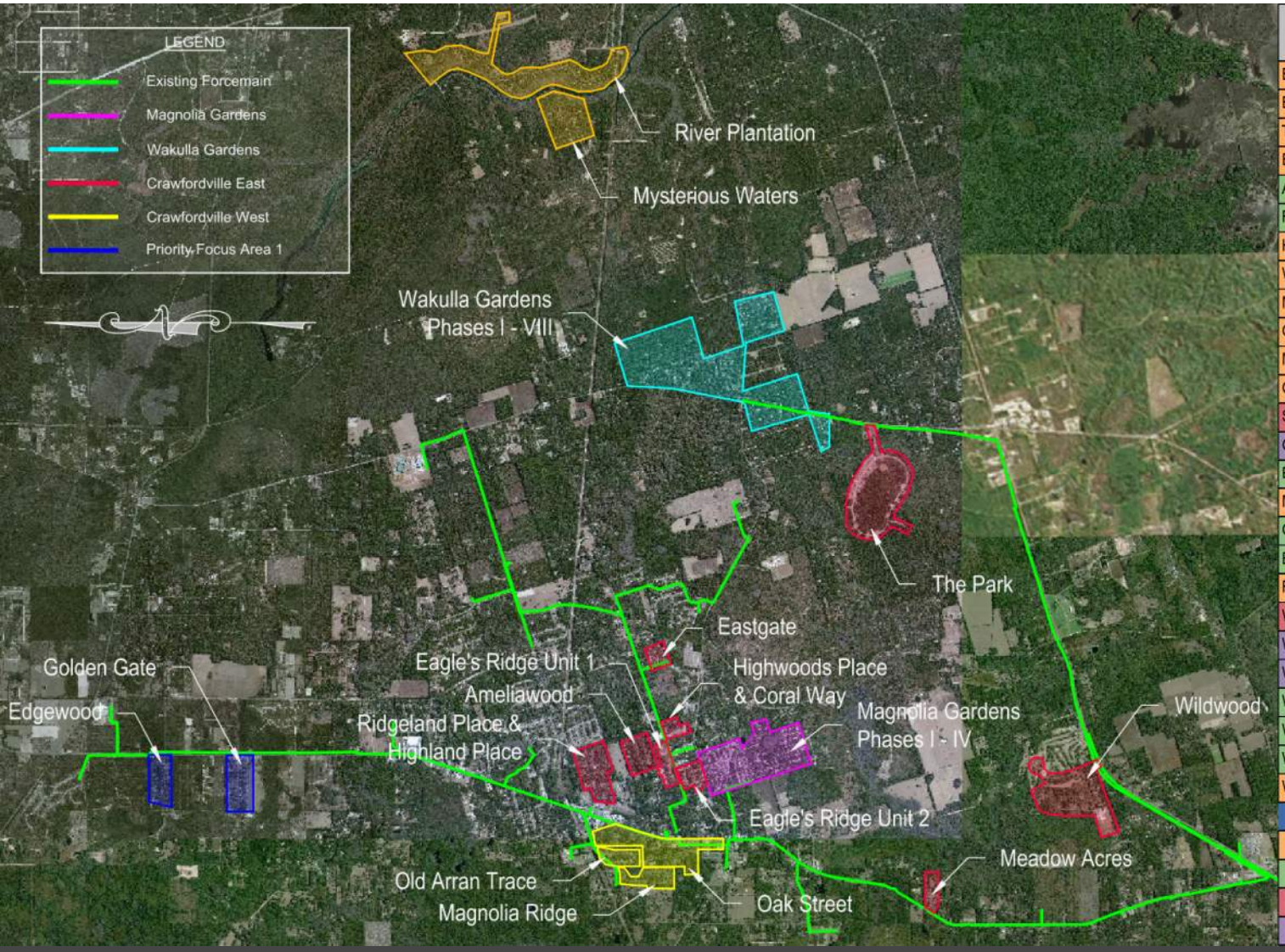


Flow and Capacity

- Four wastewater treatment facilities within BMAP:
  - Otter Creek WWTP
  - Wakulla Middle School WWTP
  - River Plantation Estates WWTP
  - Winco Utilities, Inc. WWTP
- Growth only anticipated at Otter Creek WWTP
- Upgrades likely required for Wakulla Middle School, River Plantation Estates, and Winco Utilities to meet BMAP requirements
- Potential acquisition of wastewater facilities by County

Cost Comparison of Alternative Strategies

- Evaluation of remediation options for existing septic systems in the BMAP area of Wakulla County
- Option 1: continue currently funded septic-to-sewer projects and upgrade remainder to enhanced systems per local and state regulations
- Option 2: large-scale septic-to-sewer projects with remainder upgraded to enhanced systems per local and state regulations
- Option 2 had lower cost per pound of nitrogen removed and greater benefit values



General Location	Number of Connections	Total Probable Cost
Eagle's Ridge Phase 2	41	$ 1,785,903.00
Eagle's Ridge Phase 1	18	$ 586,673.00
The Park	120	$ 5,548,419.00
Eastgate	43	$ 2,025,943.00
Ameliawood	76	$ 3,512,599.00
Ridgeland Place & Highland Place	93	$ 4,724,225.00
Highwoods Place Unit 2 and Coral Way	29	$ 1,303,997.00
Wildwood	89	$ 5,806,725.00
Meadow Acres	17	$ 999,595.00
Old Arran Trace	58	$ 2,248,011.00
Magnolia Ridge	73	$ 2,574,607.00
Oak Street Sewer	75	$ 7,070,200.00
South & West of Rehwinkel Road	251	$ 6,125,672.73
Greiner's Addition	172	$ 6,789,429.50
East of Rehwinkel Road	35	$ 2,944,922.00
Mysterious Waters	80	$ 7,109,063.00
Golden Gate	81	$ 3,980,707.00
Edgewood	44	$ 2,584,437.00
River Plantation Estates	TBD	TBD
Wakulla Gardens - Units 2, 3 (NE), & 4	275	$ 6,624,461.93
Wakulla Gardens - Unit 1 (west)	216	$ 5,726,604.00
Wakulla Gardens - Unit 5	195	$ 6,960,606.00
Wakulla Gardens - Unit 3 (southeast)	87	$ 5,499,834.00
Wakulla Gardens - Unit 3 (west)	76	$ 4,137,281.00
Wakulla Gardens - Unit 6	40	$ 2,609,107.00
Wakulla Gardens - Unit 1 (east)	122	$ 14,702,923.00

Planned
Funded
Complete
In Progress

Summary of Proposed Upgrades

- Upgrade wastewater collection and transmission system
- Expand Otter Creek WWTP
- Upgrades to Wildwood Country Club for effluent discharge
- Acquisition of wastewater treatment facilities located in BMAP
- Replacement of qualifying existing conventional septic systems with approved nitrogen-reducing systems


LEGEND
12" EFFLUENT LINE
4" FORCEMAIN
12" FORCEMAIN
16" FORCEMAIN
20" FORCEMAIN
EFFLUENT DISCHARGE SITE
PROPOSED LIFT STATION
Proposed Improvements

Potential Funding Sources

- FDEP Wastewater Grants
- Springs Grants (NWFWMD and FDEP)
- RESTORE Act
- USDA Rural Development (USDA RD)
- Community Development Block Grant (CDBG)
- FDEP State Revolving Fund (SRF)
- American Rescue Plan Act (ARPA)
- FDEP Septic Upgrade or Connection Grant Program
- Local Sewer Revenues

Dewberry

Wakulla County Sewer Feasibility Analysis

Workshop – December 13, 2021

Wakulla County BOCC

Appendix F

Flow and Capacity

WASTEWATER TREATMENT FACILITY FLOW AND CAPACITY

Wakulla County Wastewater Feasibility Analysis

December 15, 2021

Dewberry

PREPARED FOR
Wakulla County
3093 Crawfordville Highway
Crawfordville, FL 32327
Phone: 850.926.0919

PREPARED BY
Dewberry
20684 Central Avenue East
Blountstown, FL 32424
Phone: 850.674.3300
Contact: Justin Ford, P.E.

TABLE OF CONTENTS

SECTION 1 – INTRODUCTION

Wakulla County is located in the Florida panhandle along the coast south of Tallahassee. Multiple wastewater treatment plants (WWTP) are located within the County. This report focuses on those located within the section of the County intersected by the Upper Wakulla River and Wakulla Spring Basin Management Action Plan (BMAP). These include River Plantation Estates WWTP, Winco Utilities, Inc. WWTP, Wakulla Middle School WWTP, and the Otter Creek WWTP (also known as Wakulla County WWTP). The sections below include excerpts taken directly from each facility's operating permit to describe their operation as well as historic data recorded for each facility. The primary purpose is to summarize the operational status of each facility, denote the recorded flow, and discuss potential capacity issues.

SECTION 2 – RIVER PLANTATION ESTATES WWTP (FLA010241)

2.1 – WWTP Information

Facility Capacity

- Existing Permitted Capacity: 0.025 MGD Annual Average Daily Flow
- Proposed Increase in Permitted Capacity: 0.000 MGD Annual Average Daily Flow
- Proposed Total Permitted Capacity: 0.025 MGD Annual Average Daily Flow

Wastewater Treatment

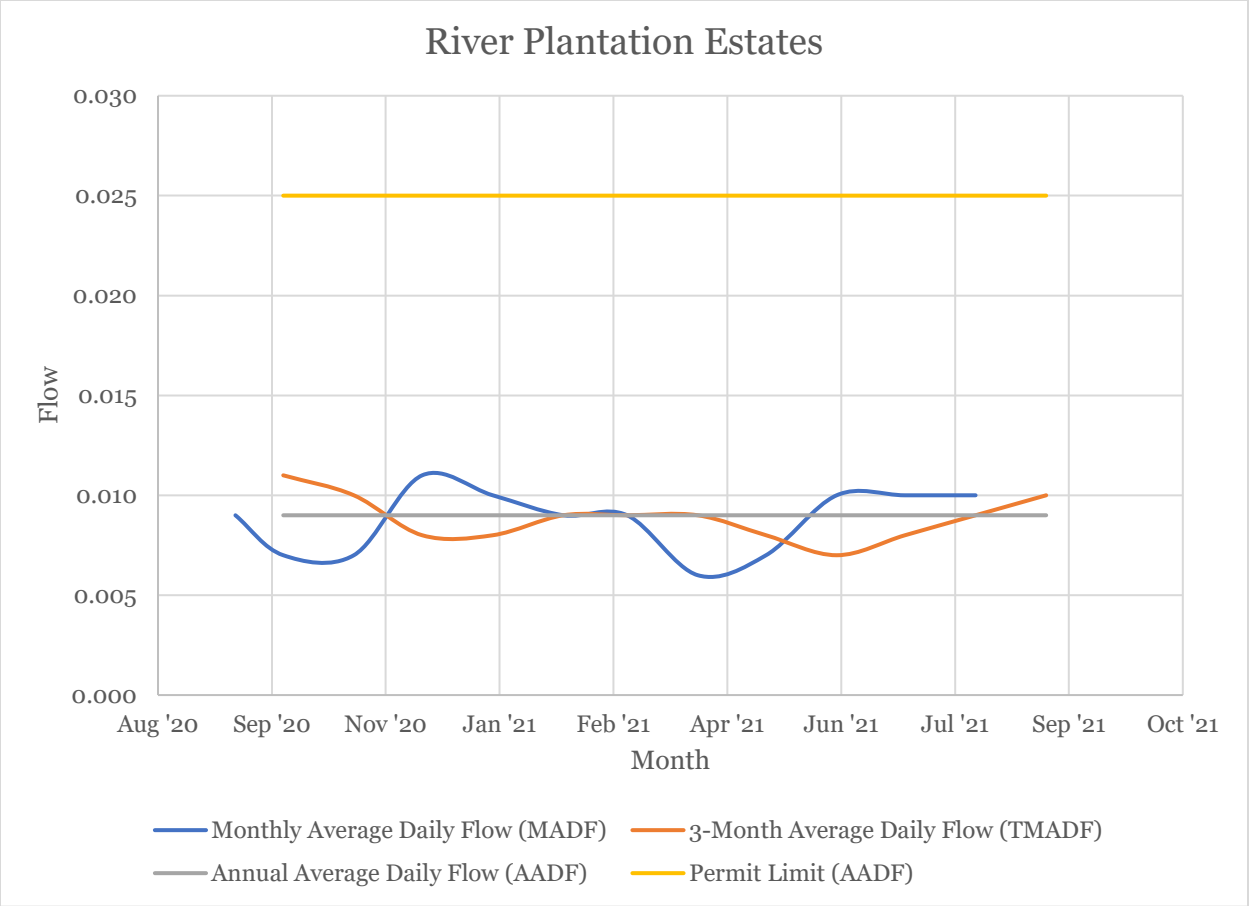
Per the operating permit, River Plantation Estates WWTP is an "extended aeration activated sludge, secondary treatment domestic wastewater treatment plant consisting of duplex lift station, bar screen, flow equalization basin, splitter box, three aeration tanks, an anoxic tank, two reaeration tanks, two clarifiers, aerobic sludge digester, chlorine contact chamber, and four sludge drying beds."[4] The permit limit for nitrogen (nitrate, total) is 12.0 mg/L as a single sample. No limit is required for phosphorus per the operating permit. Annual averages for Biological Oxygen Demand (cBOD5) and Total Suspended Solids (TSS) are not to exceed 20 mg/L. Residual chlorine for disinfection must be maintained at a minimum of 0.5 mg/L. It is anticipated that the WWTP would be required to meet the BMAP requirement of 3 mg/L for nitrogen in the future.

Effluent Disposal and Biosolids Management

"The land application system is an existing 0.025 MGD annual average daily flow permitted capacity rapid infiltration basin (RIB) system. Biosolids generated by this facility may be land applied and transferred to a biosolids treatment facility or disposed of in a Class I solid waste landfill."[4]

2.2 – Historic Flow

Flow data for a 12-month period as denoted in the graph was obtained from discharge monitoring reports filed by the facility. Monthly average daily flow (MADF), three-month average daily flow (TMADF), and annual average daily flow (AADF) for this time period were plotted against the permitted limit for AADF.



2.3 – Potential Growth

The River Plantation Estates WWTP is not anticipated to grow significantly within the next 20 years. The past 12 months of flow data show that the WWTP is at 36% capacity. It is possible that the County could acquire this facility in order to decommission it and send wastewater to the Otter Creek WWTP for treatment. If this is not accomplished, the River Plantation facility will be required to meet the same standards as the Otter Creek facility with regards to effluent nitrogen concentration to comply with the BMAP. If this cannot be met with existing infrastructure, upgrades to River Plantation will be required.

SECTION 3 – WINCO UTILITIES, INC. WWTP (FLA016544)

3.1 – WWTP Information

Facility Capacity

- Existing Permitted WWTP Capacity: 0.495 MGD Annual Average Daily Flow
- Proposed Increase in Permitted WWTP Capacity: 0.000 MGD Annual Average Daily Flow
- Proposed Total Permitted WWTP Capacity: 0.495 MGD Annual Average Daily Flow

Wastewater Treatment

Per the operating permit, Winco Utilities, Inc. WWTP is an "existing 0.495 MGD annual average daily flow (AADF) permitted capacity activated sludge wastewater treatment

facility operated in the extended aeration mode. The WWTP consists of pretreatment with dual micro-screens, nitrification with dual oxidation ditches (360,000 gallons, each), dual secondary clarifiers (61,800 gallons, each), disinfection with dual chlorine contact chambers (7,850 gallons, each), digester (213,400 gallons), and reclaimed water holding pond (2.1 MG) prior to reuse at a spray irrigation field."[3]

"Process parameters are measured with flow metering and influent and effluent composite samplers. Residuals treatment consists of aerobic digestion followed by dewatering in sand drying beds (7,920 ft^2, total) and land application of dried residuals at approved sites. The wastewater treatment facility will continue to receive flow from the Winco Utilities service area which includes the Wakulla Correctional Facility and Opportunity Park (nearby industrial park)."[3]

The most recent operating permit renewal allowed "continued operation of the 0.495 MGD AADF WWTF and reuse system which include a Part II, slow-rate restricted public access spray field system. Construction of the 100,000-gallon surge tank was re-authorized. In addition, the permittee desired to convert from a 20 Hp Scott Zahner hydraulically driven rotor brush aerator (one unit per oxidation ditch) to two (2) 20 Hp directional aspirators + two (2) 23 Hp directional aspirators (20 Hp drive + 3 Hp blower assist) + two (2) 10 Hp blower diffused aeration assist system."[3]

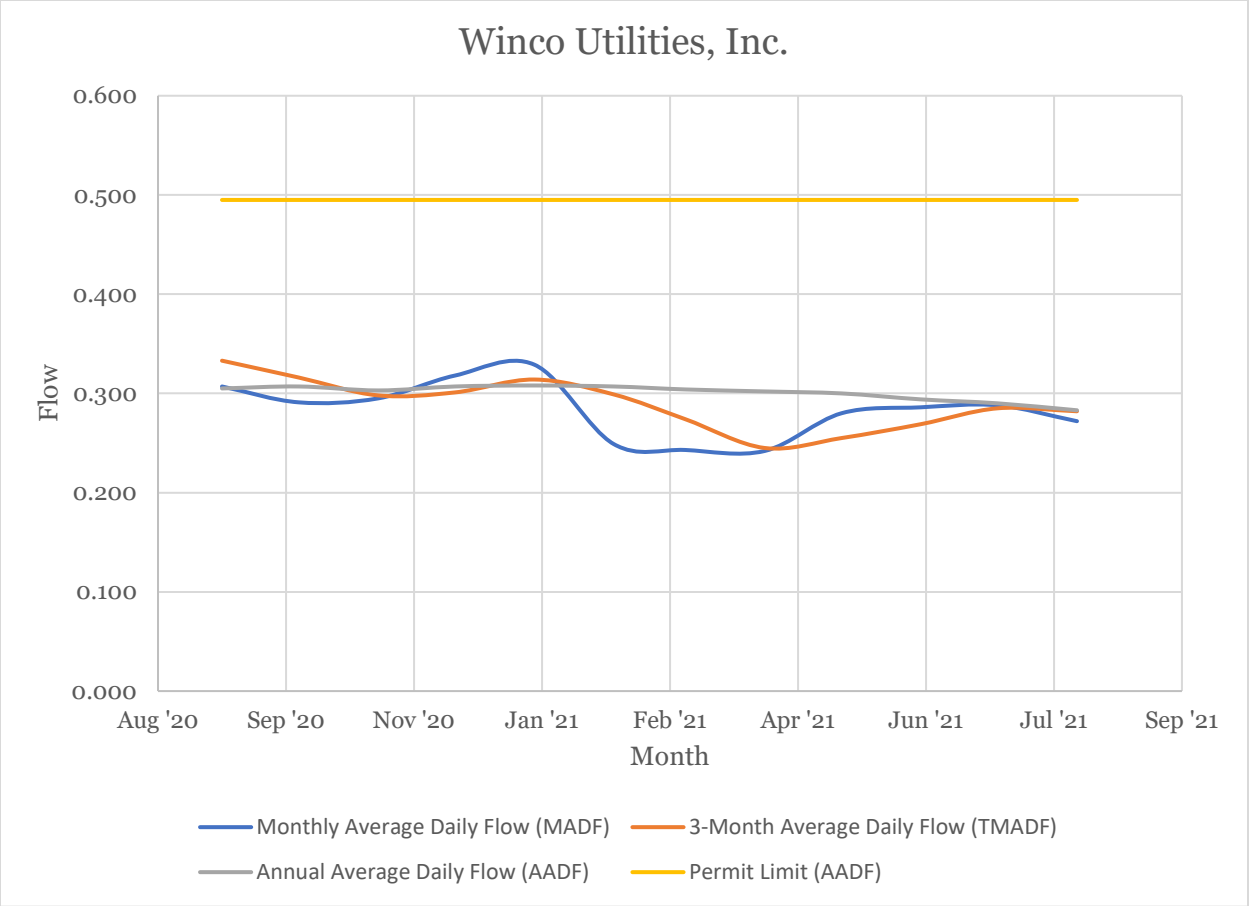
Effluent limits in the permit did not include parameters for nitrogen or phosphorus. cBOD5 and TSS are permitted on an annual average basis not to exceed 20 mg/L. Disinfection provided by chlorine is required to be maintained at or above 0.5 mg/L. It is anticipated that the WWTP would be required to meet the BMAP requirement of 3 mg/L for nitrogen in the future. A preliminary engineering report (PER) dated September 7, 2021, which was prepared by McDonald Group International, Inc. outlines the proposed upgrades required for the WWTP to meet these more stringent standards.

Effluent Disposal and Biosolids Management

"An existing 0.495 MGD AADF permitted capacity slow-rate Part II restricted public access system. R-001 consists of 64 wetted acres with a single pivot Spray field Irrigation System. The Spray field Irrigation System has a reuse application rate of 1.99 inches/week and located approximately at latitude 30° 15' 36" N, longitude 84° 12' 18" W."[3]

3.2 – Historic Flow

Flow data for a 12-month period as denoted in the graph was obtained from discharge monitoring reports filed by the facility. MADF, TMADF, and AADF for this time period were plotted against the permitted limit for AADF.



3.3 – Potential Growth

The service area for this WWTP consists of the Wakulla Correctional Facility and Opportunity Park which is an industrial park near the facility. The past 12 months of flow data show that the WWTP is at 61% capacity. Based on conversations with County staff and the Winco operator, it is not anticipated that the Winco Utilities, Inc. WWTP would expand outside its current service area although growth via new businesses at Opportunity Park or additional inmates at the Correctional Institution may occur. Wakulla County has discussed acquisition and upgrades of this WWTP in order to expand sewer service into northeastern Wakulla County; however, no agreements have been made at the time of this report.

SECTION 4 – WAKULLA MIDDLE SCHOOL WWTP (FLA010229)

4.1 – WWTP Information

Facility Capacity

- Existing Permitted Capacity: 0.018 MGD Annual Average Daily Flow
- Proposed Increase in Permitted Capacity: 0.000 MGD Annual Average Daily Flow
- Proposed Total Permitted Capacity: 0.018 MGD Annual Average Daily Flow

Wastewater Treatment

Per the permit, this facility is "a 0.018 MGD Annual Average Daily Flow extended

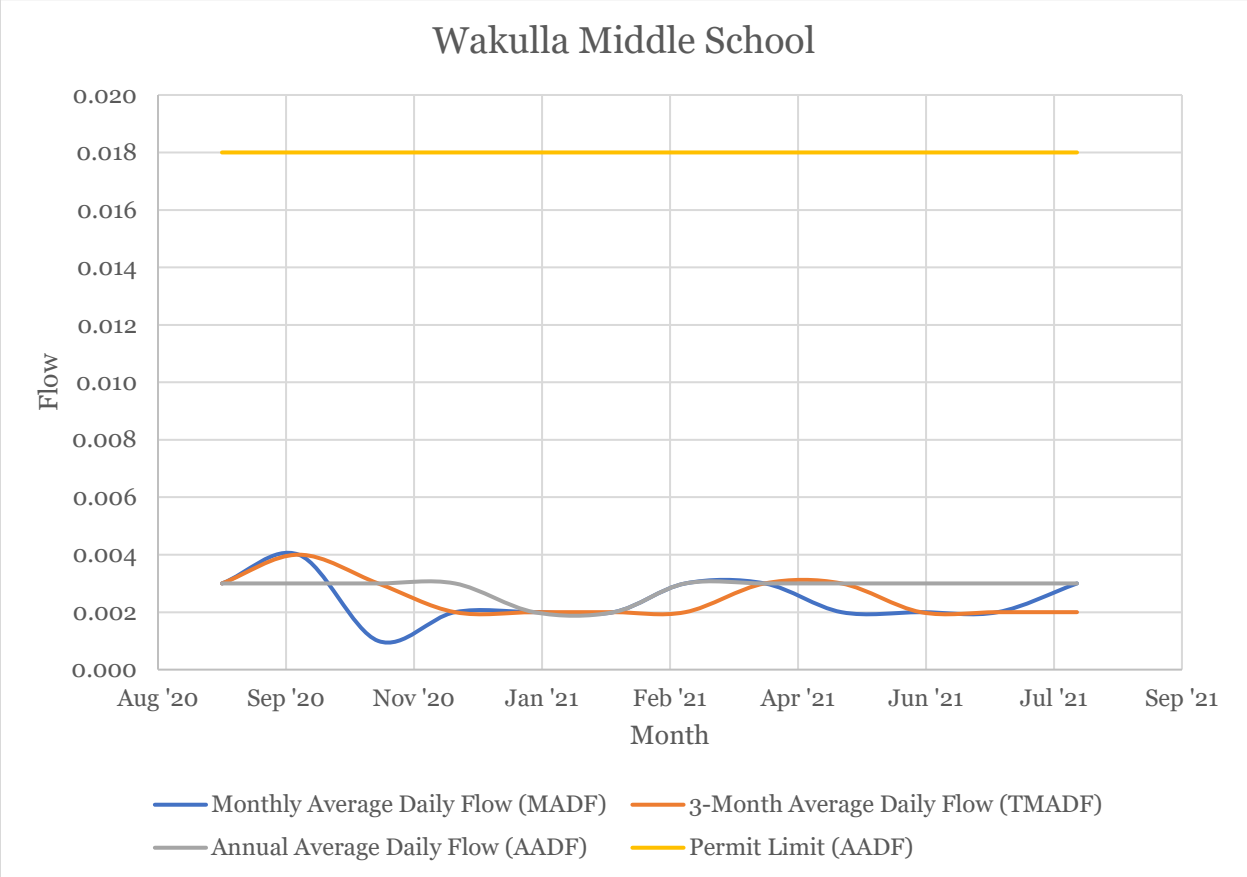
aeration wastewater treatment facility. The facilities consist of a trash trap and surge tank followed by a flow splitter box; three aeration tanks, a settling tank (clarifier), chlorine contact chamber with tablet chlorinator, two post-disinfection sand filters, a clear well and dosing tank."[2] This system serves Wakulla Middle School solely. Effluent limits in the permit did not include parameters for nitrogen or phosphorus. cBOD5 and TSS are permitted on an annual average basis not to exceed 20 mg/L. Disinfection provided by chlorine is required to be maintained at or above 0.5 mg/L. It is anticipated that the WWTP would be required to meet the BMAP requirement of 6 mg/L for nitrogen in the future.

Effluent Disposal and Biosolids Management

"Effluent is discharged via land application to two 3,000 ft² absorption beds adjacent to the treatment plant at the school located approximately at latitude 30° 7' 38" N, longitude 84° 22' 22" W. Biosolids are stored in the sludge holding tank and are hauled by truck to the Wakulla County WWTF acting as a biosolids treatment facility (BTF) for further treatment and disposal."[2]

4.2 – Historic Flow

Flow data for a 12-month period as denoted in the graph was obtained from discharge monitoring reports filed by the facility. MADF, TMADF, and AADF for this time period were plotted against the permitted limit for AADF.



4.3 – Potential Growth

As the treatment facility solely serves the Middle School, growth other than that experienced by school attendance is not anticipated. The past 12 months of flow data show that the WWTP is at 16% capacity. Wakulla County has advised that they support an option to work with the School to decommission the facility and construct a lift station to send sewage to the Otter Creek WWTP which treats to AWT and PAR standards. If this is not accomplished, the Middle School facility will be required to meet effluent nitrogen standards complying with the BMAP (6 mg/L). If this cannot be met with existing infrastructure, upgrades will be required. It should be noted that the Otter Creek facility treats wastewater to AWT and PAR standards with effluent nitrogen concentrations no greater than 3 mg/L.

SECTION 5 - WAKULLA COUNTY – OTTER CREEK WWTP (FLA010225)

5.1 – WWTP Information

Facility Capacity

- Existing Permitted Capacity: 1.2 MGD Annual Average Daily Flow
- Proposed Increase in Permitted Capacity: 0.000 MGD Annual Average Daily Flow
- Proposed Total Permitted Capacity: 1.2 MGD Annual Average Daily Flow

Description of Wastewater Treatment

Per operating permit, Otter Creek WWTP is an "1.20 MGD annual average daily flow (AADF) activated sludge wastewater treatment facility has common headworks consisting of a mechanical screen and grit removal chamber, a flow splitter box to two different biological treatment plants, each 0.60 MGD AADF whose clarified effluent combines for tertiary filtration in dual 2.25 MGD cloth media disk filter tanks and dual chlorine contact chambers with disinfection using sodium hypochlorite. Two new sodium hypochlorite storage tanks, 3,100-gallon each will be constructed."[5]

One biological treatment plant is an AeroMod Sequox Plant constructed in 2019 with a single fermenter tank and anaerobic tank which splits to dual treatment trains consisting of first stage and second stage aeration tanks, a clarifier tank and a digester tank for each train. Return activated sludge is transferred from the clarifiers to the anaerobic tank. Sludge is wasted from the first stage aeration tank to the aerobic digesters for each train. Digester supernatant is returned to the selector tank. Chemical addition equipment is provided for increasing alkalinity in the first stage aeration tank to promote nitrification and alum in the third stage clarifier tanks to promote phosphorus removal.

The second biological treatment plant is an existing Modified Ludzack-Ettinger (MLE) treatment process that has been converted to mimic the AeroMod Sequox process by constructing a fermenter tank, a selector tank, and three stage aeration tanks that splits flow to two clarifiers. Return activated sludge is transferred from the clarifiers to the aeration tank. Sludge is wasted from the third stage aeration tank to two aerobic digester tanks. Digester supernatant is returned to the aeration tank C-1. Chemical addition equipment is provided for increasing alkalinity in the first stage aeration tank to promote nitrification and alum in the third stage aeration tank prior to the clarifiers to promote

phosphorus removal. This plant will utilize three 50 HP blowers, new aeration diffuser arrays for the aeration and digester tanks, and new mixers in the selector tank. Modifications to this second biological treatment plant will be in accordance with the application file number, FLA010225-013-DW1P, and its drawings certified by Curtis Gentile, PE. and T. Keith Hill, P.E. A permit renewal for this facility to update the process information is in progress at the time of this report.

Digested sludge from both biological treatment plants is transferred to a belt press with polymer addition for dewatering with sludge drying beds as backup prior to hauling for disposal in a Class I landfill. Filtrate and wash water are returned to the plant sewer pump station. A septage receiving station with a rock trap is provided before the plant sewer pump station.

Separate wet weather storage ponds are provided:

- Part II restricted sprayfield, two lined ponds, 1.2 and 0.8 MG capacities, with its associated sprayfield pump station

- Part III public access reuse, one unlined pond 1.18 MG capacity, with its associated reclaimed water pump station.

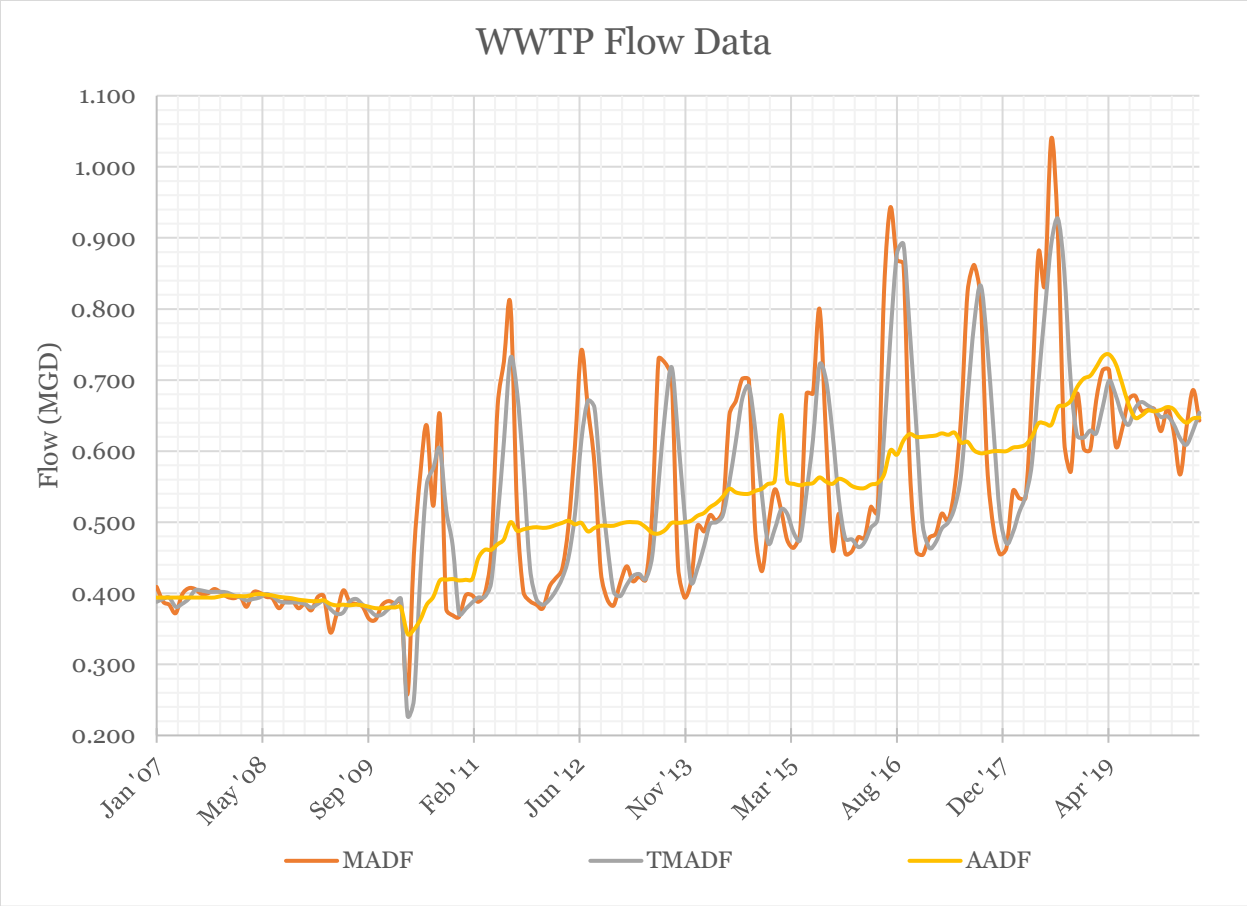
One lined 0.6 MG reject water storage pond is provided. The in-plant reuse water system consists of a booster pump station drawing reclaimed water from the CCC and a bladder tank with distribution piping throughout the WWTF. Standby Emergency Power is provided by two (2) 300kw 480/277-volt, 3 phase diesel-fueled generator sets, which will handle major plant components for both treatment trains in emergency situations.

Effluent Disposal and Biosolids Management

"An existing 0.600 MGD annual average daily flow permitted capacity slow-rate restricted public access (except subsurface) system. R-AWT 1 is a reuse system which consists of Part II Reuse 40-acre spray irrigation field having a capacity of 0.60 MGD located approximately at latitude 30° 4' 51" N, longitude 84° 24' 50" W."[5] A new 0.600 MGD annual average daily flow permitted capacity slow-rate public access reuse system. R-AWT2 is a reuse system which consists of a General Service Area and one major ser, PAA-WGC, an 88-acre golf course.

5.2 – Historic Flow

Flow data for January 2007 through July 2020 as denoted in the graph was obtained from discharge monitoring reports filed by the facility. MADF, TMADF, and AADF for this time period are shown on the graph. As the permit is in the process of being renewed, the permitted flow limit of 0.600 MGD (current) and 1.200 MGD (proposed) are not plotted.



5.3 – Potential Growth

The County is under a Consent Order with FDEP due to elevated nitrogen levels in the groundwater monitoring wells at the sprayfield adjacent to the WWTP (R-001). Facility operations staff believe the elevated levels are due to overloading at the sprayfield. The sprayfield is rated for 0.600 MGD but currently receives more than this as the effluent is not currently meeting the standards to discharge to the Wildwood Country Club for irrigation (R-002). The retrofit project which is substantially complete is anticipated to remediate the nitrogen exceedances observed at the sprayfield as the WWTP will be capable of producing effluent to AWT standards. This will not only reduce the nitrogen concentration in the effluent, but also allow the WWTP to send effluent to the Country Club which will reduce the loading on the sprayfield.

The discharge at the Country Club (R-002) is permitted for 0.600 MGD. The County recently acquired this site and is working to upgrade irrigation infrastructure and construct additional discharge structures to ensure sufficient effluent discharge can occur at this site. The County is experiencing growth from both new construction and from septic-to-sewer projects which have been performed in conjunction with the Florida Department of Environmental Protection (FDEP) and Northwest Florida Water Management District (NWFWMD). Without these essential upgrades to discharge capacity, these necessary septic-to-sewer conversion projects will not be able to continue.

Similarly, the sewer transmission system infrastructure is reaching capacity in several critical locations within the County. In order for the County to continue performing the septic-to-sewer projects that are necessary to improve the water quality at Wakulla Springs, upgrades must be completed in the transmission system capacity.

If the effluent and transmission system capacity is not increased for future growth, it could become overloaded. Also, this will force potential customers to install septic systems instead of connecting to the wastewater treatment and collection system. Septic systems are not currently required to provide treatment quality to the levels of a centralized wastewater treatment system, are difficult to regulate, and the effluent quality is not typically monitored with the frequency a WWTP is required to be. This is of prime importance to Wakulla County as the protection of Wakulla Springs is paramount. Furthermore, this will allow the County to continue contributing to efforts outlined in the BMAP that are anticipated to assist with reductions to nutrient loading at the springs.

Aging Infrastructure

Much of the infrastructure within the County is relatively new. The WWTP was constructed in 1983 and received renovations in 1987 and over the past few years, culminating in the upgraded WWTP capable of producing effluent meeting AWT and PAR standards. Collection and transmission system infrastructure in the proposed project area do not seem to be considerably impacted by the systems age; however, the growth experienced within the County during this time period was unanticipated and the transmission system capacity is being overloaded.

Reasonable Growth

Wakulla County's sewer system services 3,344 residences, approximately 39.6% of the total existing residences in the County. The data in the following section analyzes multiple records of growth tracked by the County. These records include Bureau of Economic and Business Research (BEBR) data, Building Department records, Planning and Zoning development information, and WWTP flow records.

Service Area Population Projections

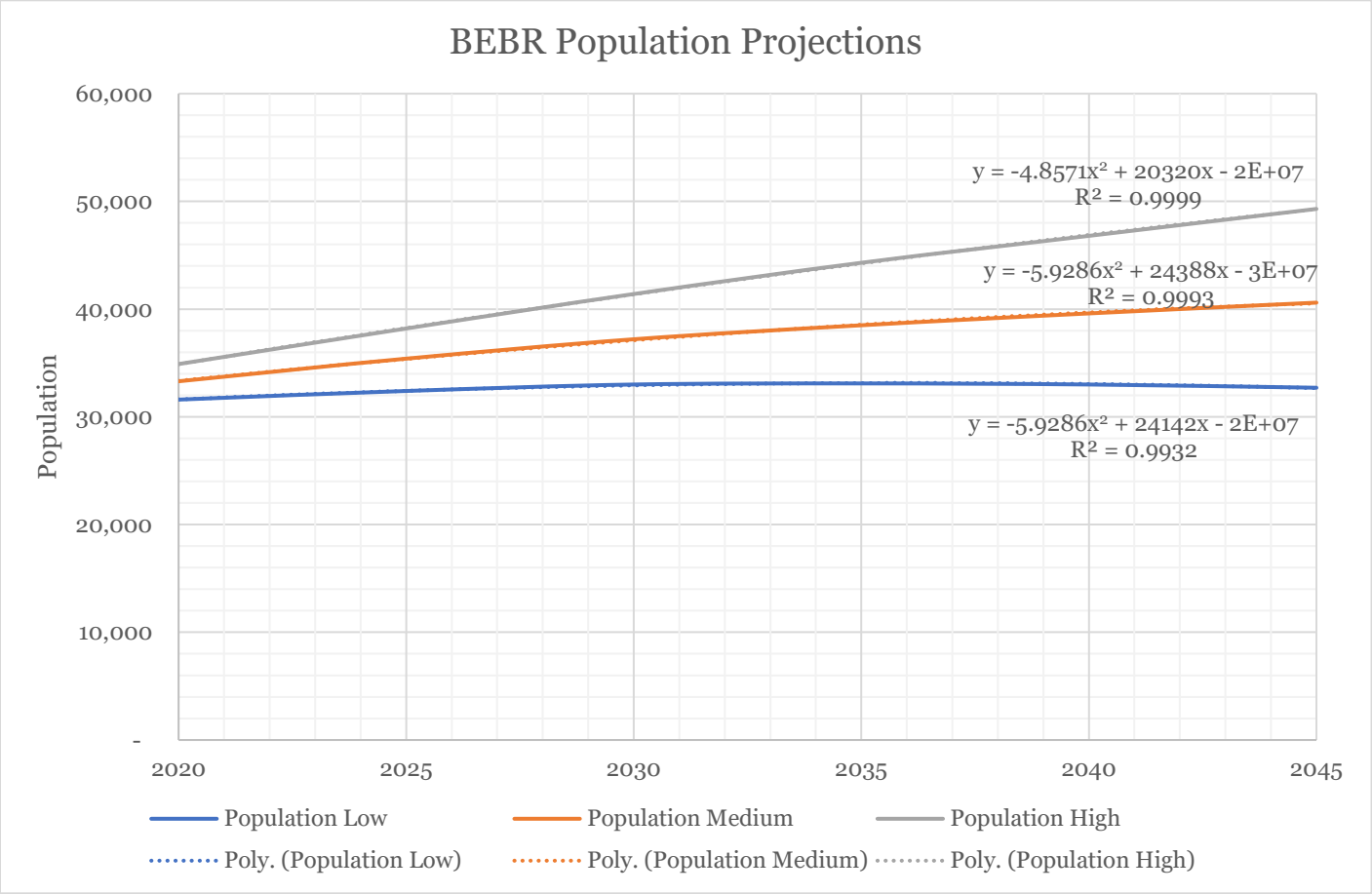
BEBR Data

The table and chart below show Wakulla County's data provided by the BEBR Projections of Florida Population by County (Volume 53, Bulletin 186, January 2020).

Table 5.1 – BEBR Population Projections

Year	Population		
	Low	Medium	High
2020	31,600	33,300	34,900
2025	32,400	35,400	38,200
2030	33,000	37,200	41,400
2035	33,100	38,500	44,300
2040	33,000	39,600	46,800
2045	32,700	40,600	49,300

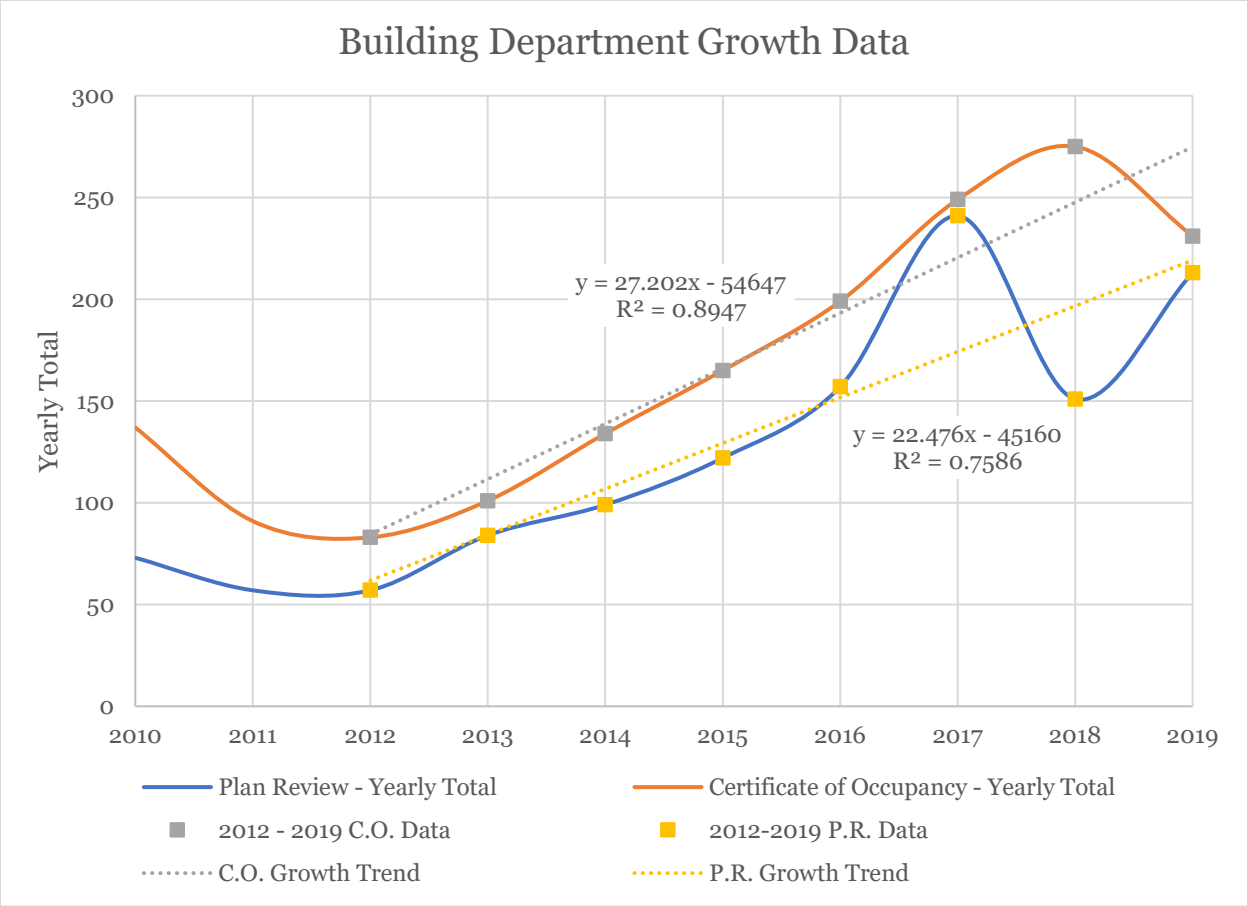
Figure 5.1 – BEBR Population Projections



Building Department Data

The Building Department has provided records of Certificates of Occupancy and Plan Reviews for single family dwellings since 2010. The data is plotted in the graph below and shows the growth trend which can be seen from 2012 to present.

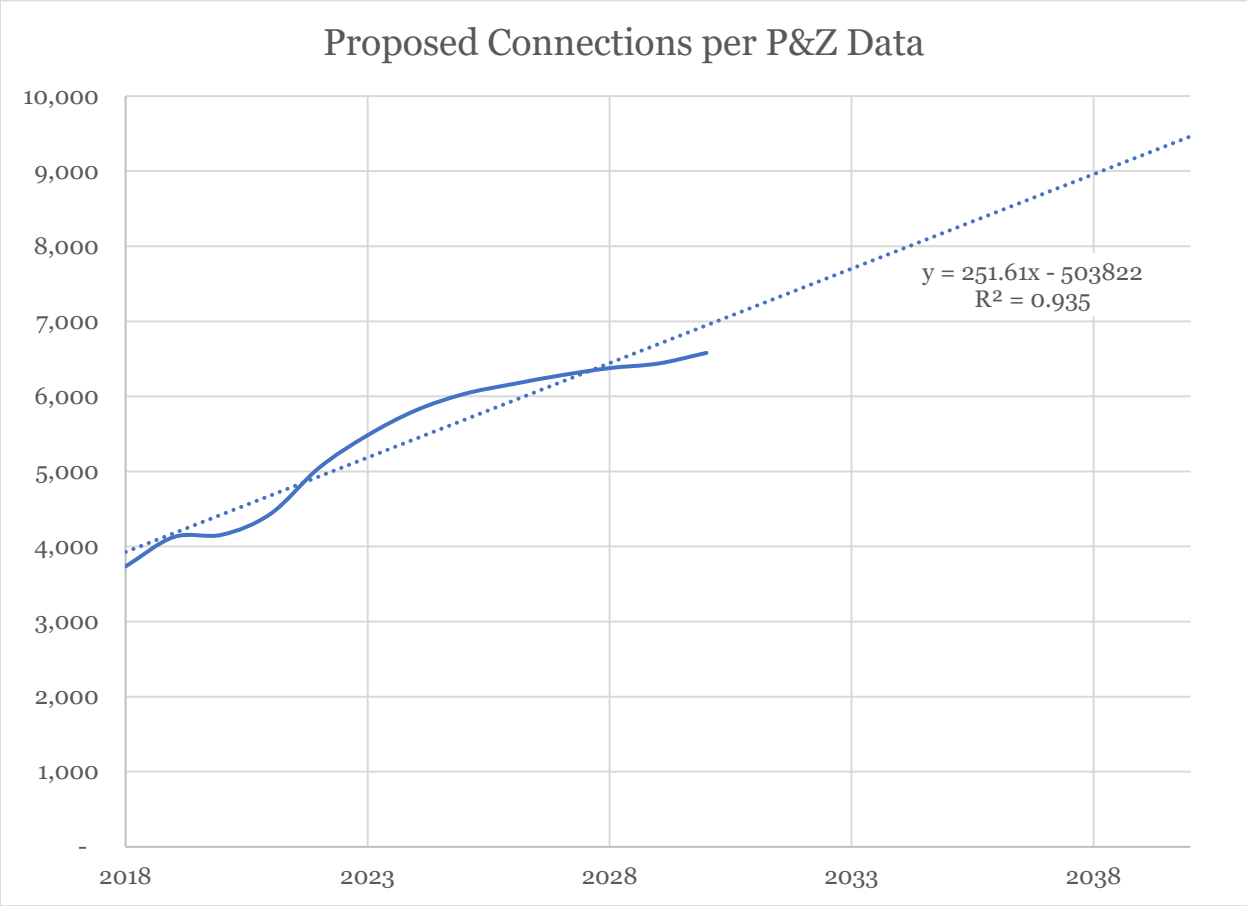
Figure 5.2 – Building Department Growth Data



Planning and Zoning Data

The County has an internal projection spreadsheet that tracks proposed developments known to the County and septic-to-sewer projects for the next 10 years. The graph below shows the number of new developments and septic-to-sewer connections anticipated by the County over the next 10 years with a trendline to extrapolate data for future years.

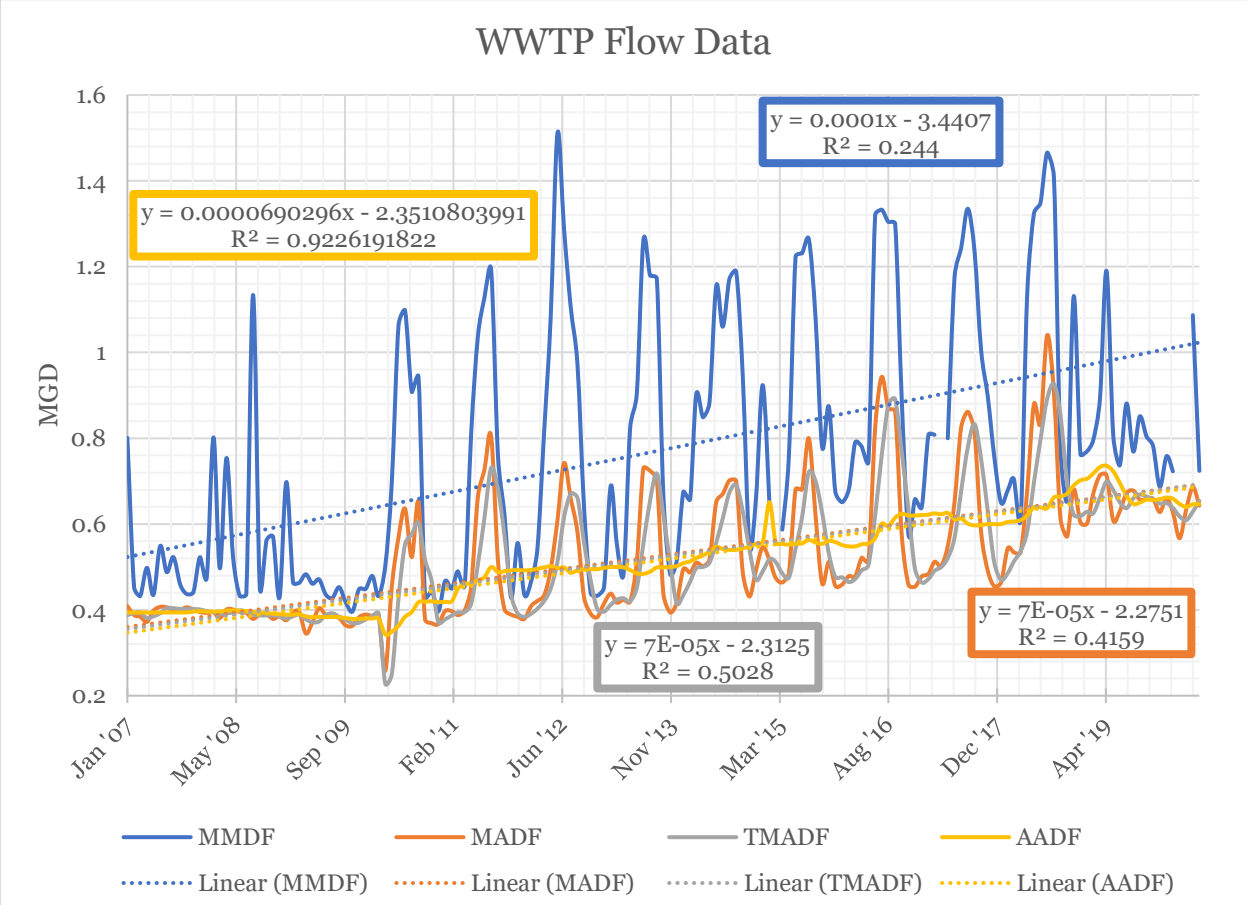
Figure 5.3 – Planning and Zoning Data



WWTP Flow Records

Flow data recorded at the WWTP is provided in the following graph. Trendlines approximating linear growth are provided for each tracked flow: Max Monthly Daily Flow (MMDF), Monthly Average Daily Flow (MADF), Three Month Average Daily Flow (TMADF), and Average Annual Daily Flow (AADF). Upon observation of each of the trendline formulas, the approximated AADF growth trendline has the highest reliability (R^2 = 0.9226) of the four tracked flow rates. (Note: the trendline formulas on this chart use the Microsoft Excel numeric date value as "x")

Figure 5.4 – WWTP Flow Data



Comparison of Growth Rates

A summary of 2020 values compared to 2040 values along with the growth percentage is shown in the table below. Data from BEBR has already been projected by that agency. The Plan Review, Certificate of Occupancy, Planning and Zoning, and WWTP Flow data is projected by methods previously described in their respective sections.

Table 5.2 – Growth Projection Summaries

Evaluation Category	2020	2040	Growth %
BEBR - Low	31,600	33,000	4%
BEBR - Medium	33,300	39,600	19%
BEBR - High	34,900	46,800	34%
Plan Review	242	691	186%
Certificate of Occupancy	301	845	181%
Planning and Zoning	4,158	9,463	128%
WWTP Flow (AADF)	0.656	1.180	80%

The actual growth of the County's wastewater systems is based on two factors: septic-to-sewer and new developments. Upon review of the categories listed above, only the WWTP Flow (AADF) and Planning and Zoning growth rates take both catalysts for growth into consideration. The BEBR, Plan Review, and Certificate of Occupancy evaluations only take population-based growth into account. Furthermore, these projections represent the far upper and lower values in the evaluation summary. For the purposes of this report, the average of the WWTP Flow (AADF) and Planning and Zoning growth rates (104% growth which equals 2.04x present values) will be used to target a balanced growth prediction for the County.

Future Demand

Based on the aforementioned growth rate of 104% (2.04x present values) between 2020 and 2040, it is anticipated that the following values will be relevant for the wastewater system evaluation.

Table 5.3 – Present and Future System Values

Category	Year	
	2020	2040
General System		
Population Served	8,594	17,532
Service Connections	3,706	7,560
Wastewater Treatment Plant		
AADF	0.656	1.338
MADF	0.635	1.295
MTMADF	0.870	1.775

Assuming linear growth between 2020 and 2040, the maximum three-month average daily flow (MTAMDF) can be approximated by the formula $y = ax+b$ where y is the flow (MGD) x years from 2020. The values of a and b are constants with values of 0.04525 and 0.870, respectively. Based on this formula, the MTMADF is anticipated to exceed WWTP capacity

in 2027. Per FDEP guidelines, capacity increase should be considered 5-years prior to exceedance which would be 2022.

SECTION 6 - CONCLUSION

The primary sewer system growth is at Otter Creek Facility owned by Wakulla County and operated by contract with ESG, Inc. Wakulla County is amenable, under the right conditions, to the acquisition of the other facilities mentioned in this report. In so doing, the County can oversee improvements that will have the potential to provide improvements for public health and welfare of existing and future residents and visitors to the area.

SECTION 7 - REFERENCES

1. Bureau of Economic and Business Research. (2020, January). BEBR Projections of Florida Population by County (Volume 53, Bulletin 186, January 2020). Bureau of Economic and Business Research.
2. Florida Department of Environmental Protection. (2010, December 29). Wakulla County Middle School WWTP Domestic Wastewater Facility Permit. Florida Department of Environmental Protection.
3. Florida Department of Environmental Protection. (2012, July 10). Winco Utilities, Inc. WWTP Domestic Wastewater Facility Permit. Florida Department of Environmental Protection.
4. Florida Department of Environmental Protection. (2014, June 13). River Plantation Estates WWTP Domestic Wastewater Facility Permit. Florida Department of Environmental Protection.
5. Florida Department of Environmental Protection. (2016). *Wakulla County WWTF Domestic Wastewater Facility Permit*. Florida Department of Environmental Protection.
6. Florida Department of Environmental Protection. (2018). *Upper Wakulla River and Wakulla Spring Basin Management Action Plan*. Florida Department of Environmental Protection.
7. McDonald Group International, Inc. (2021). *Preliminary Engineering Report for Treatment Process Modifications: Winco Utilities Water Reclamation Plant*.

Appendix G

Cost Comparison of Alternative Strategies

COST COMPARISON OF ALTERNATIVE STRATEGIES

Wakulla County Wastewater Feasibility Analysis

December 15, 2021

Dewberry

PREPARED FOR
Wakulla County
3093 Crawfordville Highway
Crawfordville, FL 32327
Phone: 850.926.0919

PREPARED BY
Dewberry
20684 Central Avenue East
Blountstown, FL 32424
Phone: 850.674.3300
Contact: Justin Ford, P.E.

TABLE OF CONTENTS

SECTION 1 – INTRODUCTION

The purpose of this report is to outline options for remediating septic systems, also known as onsite sewer treatment and disposal systems (OSTDS), with strategies approved within the *Upper Wakulla River and Wakulla Spring Basin Management Action Plan* (BMAP)[2]. This includes the documentation of a cost comparison of alternative strategies in conformance to the BMAP that will achieve remediation objectives using a present-worth analysis. These strategies will address those septic systems to be eliminated in favor of central wastewater service, those onsite systems to be remediated with enhanced nitrogen-reducing features, and those that are not expected to be eliminated or upgraded. This only evaluates existing improved properties of Wakulla County within the BMAP which are currently served by a septic system. It is assumed for the sake of this evaluation that future property development, whether commercial or residential, would follow the BMAP requirements during construction and would not require remediation.

BMAP rules require lots less than 1 acre within the priority focus areas (PFA's) that utilize OSTDS to include nitrogen-reducing features as allowed by the Florida Department of Health (FDOH)[4] and Florida Administrative Code (FAC)[5]. Wakulla County has additional OSTDS rules codified in the Infrastructure Element of the Comprehensive Plan Objective 1.3[9] that became effective October 1, 2012. This requires all properties served by an OSTDS within the County less than 0.229 acres and all properties less than 5 acres within the Wakulla Springs Special Planning Area (WSSPA) to utilize performance-based treatment systems (PBTS). The Future Land Use Element (FLUE) section Objective 7, Policy 7.5[9], requires the PBTS treatment standard to be 10 mg/L or less of nitrogen.

The cost comparison of alternative strategies is based off a planning period of 20 years which allows for a more accurate cost analysis for advantages and disadvantages. The process uses the evaluation of capital costs and Operation and Maintenance (O&M) costs for the duration of the planning period. Anticipated benefits provided by the projects are also discussed. The two alternatives evaluated are Septic Upgrades Only and Sewer Expansion with Septic Upgrades.

The Septic Upgrades Only includes the evaluation of existing improved properties within the BMAP that meet the County or BMAP requirements for remediation of a conventional septic system by being replaced with an approved nitrogen-reducing septic system per applicable FDOH and County regulations. It also includes expansion of sewer for projects currently funded by the Florida Department of Environmental Protection (FDEP) and the Northwest Florida Water Management District (NWFWMD). The Sewer Expansion with Septic Upgrades evaluates the same area as described in the first option, utilizing options for additional expansion of the County's existing sewer collection system, as well as remediation via approved nitrogen-reducing septic systems where expansion of the sewer collection system is not anticipated or practical.

SECTION 2 – CALCULATIONS

The alternatives will be compared by evaluating the cost per pound of nitrogen removed per guidance provided by the BMAP. The calculations provided by the BMAP reveal, when compared to traditional septic systems, nitrogen reduction of 65% for enhanced systems and 95% for connection to central sewer. The spreadsheets included in **Attachment A** are utilized to show the nitrogen reduction anticipated for the proposed remediation efforts. These spreadsheets were

provided by FDEP and are the standard method of reduction calculation utilized by the Department. No distinction for differences in nitrogen reduction were made between types of enhanced septic systems; however, the total number of each type of enhanced system anticipated to be utilized per County and BMAP requirements was tracked for cost evaluation (see **Section 3** for further information).

SECTION 3 – PROPOSED OPTIONS

Option 1: Septic Upgrades Only

This option involves upgrading existing conventional septic systems within the BMAP to nitrogen-reducing septic systems per FDOH and County standards as well as providing connection to the County's central sewer collection system for areas already funded by FDEP and NWFWMD. The list of these subdivisions funded for sewer expansion are included in **Table 1**. FDOH allows three types of nitrogen-reducing septic systems: In-Ground Nitrogen-Reducing Biofilters (INRBs), Nitrogen-Reducing (NSF-245 Certified) Aerobic Treatment Units (Aerated), and Nitrogen-Reducing Performance Based Treatment Systems (PBTS). The BMAP requires lots less than 1 acre within the PFA's to include nitrogen-reducing approved technology. The County's comprehensive plan requires PBTS on lots less than 0.229 acres Countywide and lots less than 5 acres within the WSSPA and does not provide an allowance for the other 2 FDOH approved technologies. The enhanced systems evaluated within this report will be the PBTS where required by the County's more stringent Comprehensive Plan rules and INRBs where otherwise allowable due to the great amount of current interest shown in this technology via the existing septic upgrade grant program.

A life cycle of 20 years will be utilized to evaluate the proposed costs of this alternative. Per a draft report published by Jim Stidham and Associates on February 25, 2021, titled *Comprehensive Wastewater Treatment Facilities Plan Task 2: Cost-Effectiveness of Alternative Technologies*[7], life cycle costs for typical PBTS and INRB systems are $39,249 and $14,506, respectively, and both include $610 of permitting fees which were observed in Leon County. Per Wakulla County's Department of Health[4], posted fees for a system modification are $395. Wakulla County does not require additional permitting other than what is required by the FDOH. Based on the difference between Wakulla County and Leon County's fees for the upgrade of conventional OSTDS's to PBTS and INRB, the adjusted life cycle costs for Wakulla County's PBTS and INRB are $39,034 and $14,291, respectively.

The total cost to implement this remediation strategy as present worth is estimated to be $146,757,251.55 based on the 4,045 existing septic systems identified within the BMAP in Wakulla County that will require upgrades per the BMAP. The total amount of nitrogen (N) anticipated to be reduced on a yearly basis is approximately 22,630 lb.-N/year. Therefore, the estimated cost per pound of nitrogen reduced per year utilizing this strategy is $6,485.08.

Table 1 – Central Sewer Connections for Options 1 & 2

Project	General Area	Approximate No. of Existing Homes	Included in:	Project Status
Crawfordville East - Phase I	Eagle's Ridge Phase 2	41	Option 2	Planned
Crawfordville East - Phase II	Eagle's Ridge Phase 1	18	Option 2	Planned
Crawfordville East - Phase III	The Park	120	Option 2	Planned
Crawfordville East - Phase IV	Eastgate	43	Option 2	Planned
Crawfordville East - Phase V	Ameliawood	76	Option 1 & 2	Funded
Crawfordville East - Phase VI	Ridgeland Place and Highland Place	93	Option 1 & 2	Funded
Crawfordville East - Phase VII	Highwoods and Coral Way	29	Option 2	Planned
Crawfordville East - Phase VIII	Wildwood	89	Option 2	Planned
Crawfordville East - Phase IX	Meadow Acres	17	Option 2	Planned
Crawfordville West - Phase I	Old Arran Trace	58	Option 2	Planned
Crawfordville West - Phase II	Magnolia Ridge	73	Option 2	Planned
Crawfordville West - Phase III	Oak Street Sewer	75	Option 2	Planned
Magnolia Gardens - Phase III	Greiner's Addition	172	Option 1 & 2	Construction
Magnolia Gardens - Phase IV	East of Rehwinkel Road	35	Option 1 & 2	Funded
Mysterious Waters	Mysterious Waters	80	Option 2	Planned
PFA 1 Sewer - Phase I	Golden Gate	81	Option 1 & 2	Funded
PFA 1 Sewer - Phase II	Edgewood	44	Option 1 & 2	Funded
River Plantation System	River Plantation Estates	TBD	Option 2	Planned
Wakulla Gardens - Phase III	Wakulla Gardens - Unit 1 (west)	216	Option 1 & 2	Design
Wakulla Gardens - Phase IV	Wakulla Gardens - Unit 5	195	Option 1 & 2	Design
Wakulla Gardens - Phase V	Wakulla Gardens - Unit 3 (southeast)	87	Option 1 & 2	Funded
Wakulla Gardens - Phase VI	Wakulla Gardens - Unit 3 (west)	76	Option 1 & 2	Funded
Wakulla Gardens - Phase VII	Wakulla Gardens - Unit 6	40	Option 1 & 2	Funded
Wakulla Gardens - Phase VIII	Wakulla Gardens - Unit 1 (east)	122	Option 2	Planned

Option 2: Sewer Expansion with Septic Upgrades

This option includes further expansion of the existing sewer system into areas currently served by OSTDS where practical (**Table 1**) and providing septic upgrades in compliance with BMAP and County standards as described in Option 1. This expansion will involve growth at the plant, effluent system, and sewer service to accommodate the additional flow anticipated from this option. Currently, the plant receives an average of 0.656 MGD on an annual average daily flow (AADF) basis and the anticipated additional flow over the planning period is 0.682 MGD. This gives the plant an estimated AADF of 1.338 MGD by the end of the planning period. The County-owned and operated Otter Creek WWTP is currently under a permit renewal to increase permitted treatment to 1.2 MGD on an AADF basis. The effluent system is currently permitted to discharge 1.2 MGD split as 0.600 MGD to both a sprayfield site adjacent to the treatment facility and the Wildwood Country Club. Therefore, both the treatment and effluent discharge systems must be expanded. Considering the anticipated growth, the County's rate structure was recently reviewed by Raftelis Financial Consultants, Inc., and recommendations were provided in their June 10, 2021, *Wastewater Revenue Sufficiency and Access Fee Study* (**Attachment B**). Per conversations with County staff, the monthly sewer rates cover operation and maintenance (O&M) costs, the tap fees cover initial connection to the County's system, and the access fee covers incremental system growth and expansion. For this reason, specific O&M costs and incremental system expansion will not be evaluated as a separate cost and will be assumed to be fully covered by the County's billing and rate structure.

The County has completed several septic-to-sewer conversion projects. The historical data from Magnolia Gardens Phases I & II, Wakulla Gardens Phases I & II, and recent bids for Magnolia Gardens Phase III were averaged to determine the cost of connection to the County's system (**Table 2**). The Phase I & II projects were bid and completed before the recent global pandemic whereas Magnolia Gardens Phase III was bid in November 2021 and appears to reflect what has been called "pandemic pricing" which is greatly increased from historic project costs. As the market is difficult to predict, the average of these costs was utilized to project future connection costs in this report. **Table 3** shows these historical costs and the County's billing and fee data. **Attachment C** includes the County's proposed rate structure and **Attachment D** includes the projected monthly bills and their present worth for a period of 20-years. The access fee was assumed to be for a "5/8 x 3/4 Meter." The deposit was assumed to be the minimum of $110. The monthly bill was assumed to be based on an average usage rate of 100 gallons per person per day with an average household population of 2.58 per BEBR data for an average of 30-days. This resulted in an average usage of 7,740 gallons per connection per month. Septic upgrades are evaluated as described in the previous section where sewer expansion is not probable.

Table 2 – Sewer System Construction Costs

Project	Notes	Project Cost	Connections Constructed	Cost per Connection
Wakulla Gardens Phase I & II	based on historic construction costs	$ 6,624,461.93	275	$ 24,088.95
Magnolia Gardens Phase I & II	based on historic construction costs	$ 6,125,672.73	251	$ 24,405.07
Magnolia Gardens Phase III	average of bids submitted (not yet constructed)	$ 6,789,429.50	172	$ 39,473.43
			Average Cost per Connection:	$ 29,322.48

Table 3 – Average Costs for Gravity Sewer

Description	Notes	Present Worth
Access Fee	Cost at time of connection	$ 4,050.00
Account Set Up & Deposit	Cost at time of connection	$ 135.00
Avg. Monthly Bill	Present Worth for 20-year period at 7% Discount Rate	$ 10,952.49
System Construction	Cost at time of connection	$ 29,332.48
	TOTAL:	$ 44,469.97

At the conclusion of the 20-year planning period, the sewer system is anticipated to have 30 years of useful life remaining. Although some components may fail or require replacement during this time period, the major infrastructure including pipelines, manholes, and tanks are generally assumed to have a useful life of 50 years and are known, in many situations, to continue functioning properly far beyond this.

The total cost to implement this remediation strategy as present worth is estimated to be $171,790,042.60 based on the 4,382 existing septic systems identified within the BMAP in

Wakulla County that will require upgrades per the BMAP. The total amount of nitrogen (N) anticipated to be reduced on a yearly basis is approximately 40,546 lb.-N/year. Therefore, the estimated cost per pound of nitrogen reduced per year utilizing this strategy is $4,236.92.

SECTION 4 – COMPARISON OF OPTIONS

Cost Comparison

A comparison of the two options evaluated in this report is shown in **Table 4**. As noted in the table, Option 1 is less expensive than Option 2; however, Option 2 reduces an additional 17,916 pounds of nitrogen per year compared to Option 1. When comparing the cost per pound of nitrogen reduced, Option 2 appears to be more cost effective with an estimated cost per pound of nitrogen removed of $4,236.92 compared to Option 1 at $6,485.08/lb.-N. By choosing Option 2 and expanding the sewer system and enhancing existing septic systems, the cost to reduce nitrogen appears to be more efficient than Option 1. As described in the Option 2 narrative within this report, the implementation of connections to the central sewer system provides additional benefits such as enhanced reliability and reduced long-term operation concerns as well as providing connection points for currently undeveloped lots within the selected neighborhoods.

Table 4 – Nitrogen Reduction Calculations

Option 1: Septic Upgrades Only				
Upgraded System Type	**No. of Required Upgrades**	**Projected Present Worth Cost**	**Total Cost of Improvements (Present Worth)**	**Est. Nitrogen Reduction, Total (lb-N/yr)**
PBTS	2,235	$ 39,034.00	$ 87,240,990.00	22,630
INRB	695	$ 14,291.00	$ 9,932,245.00	
WWTP	1,115	$ 44,469.97	$ 49,584,016.55	12,586
		TOTALS:	$ 146,757,251.55	22,630
		Estimated Cost per Pound of Nitrogen Removed		$ 6,485.08

Option 2: Sewer Expansion with Septic Upgrades				
Upgraded System Type	**Number of Required Upgrades**	**Projected Present Worth Cost**	**Total Cost of Improvements (Present Worth)**	**Est. Nitrogen Reduction, Total (lb-N/yr)**
PBTS	2,119	$ 39,034.00	$ 82,713,046.00	19,324
INRB	383	$ 14,291.00	$ 5,473,453.00	
WWTP	1,880	$ 44,469.97	$ 83,603,543.60	21,222
		TOTALS:	$ 171,790,042.60	40,546
		Estimated Cost per Pound of Nitrogen Removed		$ 4,236.92

Benefit Comparison

In addition to compliance with rules and regulations, the nitrogen reduction provided by the proposed projects has many added benefits which should be considered. The draft report published by Jim Stidham and Associates on February 25, 2021, titled *Comprehensive Wastewater Treatment Facilities Plan Task 2: Cost-Effectiveness of Alternative Technologies,*[7]

estimated benefit costs for nitrogen reduction based upon the type of system utilized. Per that report, non-market benefits for the different types of systems did not vary and the value of the nitrogen reduced by upgrades was calculated to be $541 per kilogram of nitrogen per year (converted to approximately $246 per pound) based on "nutrient removal data from 40-DEP funded stormwater management projects." For the two options presented in this report, this results in benefits of $5,566,980 for Option 1 and $9,974,316 for Option 2 for the increased nitrogen reduction in comparison to the nitrogen output of a conventional septic system. Additionally, the expansion of the County's sewer collection system will provide the ability to connect approximately 1,837 undeveloped parcels immediately upon the development of those currently vacant parcels. As the sewer tap is already included as part of the construction for the developed homes, the County does not charge a tap fee and will only charge the deposit, account set-up fee, and access (connection) fee in addition to the monthly bill. This results in a present worth value for these additional connections of $15,137, which is marginally more expensive than the present worth of an INRB and nearly half that of a PBTS. Furthermore, the central sewer collection provides nearly 46% more nitrogen reduction than an INRB or PBTS per the BMAP calculation guidance.

There are multiple other benefits which were not assigned a monetary value in this report. Centralized sewer service typically reduces maintenance responsibility to homeowners as the sewer system is the municipality's responsibility and is covered by the monthly bill. The homeowner is still responsible for the infrastructure on their property which typically consists of a 4-inch PVC pipe directing the home's sewer to the collection system but removes the responsibility to maintain on-site treatment infrastructure which is more costly to repair. The operation of septic systems can be impacted by storms with high rainfall as the drainfield can become inundated with stormwater. Typically, central sewer collection systems can handle these significant rainfall events and the homeowner does not see an interruption in service. Finally, County maintained infrastructure has staff dedicated to its continued efficient operation and maintenance. Although many privately owned septic systems are well-maintained by the owner, it is possible for these systems to fall into a state of disrepair for multiple reasons. In the 2008 report by FDOH, *Report on Range of Costs to Implement a Mandatory Statewide 5-year Septic Tank Inspection Program*[3], data was taken from three Florida counties with inspection programs. The failure rates ranged from 8% to 11% with an average utilized for the report's calculations of 9.5%. Another study from 2013 entitled *Managing the "Other" Advanced Sewage Systems: An Assessment of Florida's Aerobic Treatment Units and Similar Onsite Sewage Treatment Systems*[8] by Eberhard Roeder and Elke Ursin through the FDOH discovered failure rates of approximately 30% for the systems which were randomly surveyed, although the report states that these issues were concentrated in vacant homes (an exact number is not provided). County owned infrastructure is monitored not only by County staff, but also by FDEP via inspections and monthly reporting. Furthermore, the County's sewer bill provides a consistent revenue stream to cover costs of necessary repairs, if required. Due to rigorous testing and maintenance required at the County's WWTP and the ability for the County government to fund its upkeep, it is likely to remain fully operational and reliable.

SECTION 5 – CONCLUSION

Both alternatives are reasonable and provide improvements to assist with meeting the remediation needs of the BMAP; however, the more cost-effective course of action appears to be the implementation of Option 2. This option is anticipated to provide a greater reduction in nitrogen to the groundwater, additional benefits, and increase the likelihood that a greater amount of the wastewater generated in the County is regularly monitored due to the requirements placed on the County-owned facility.

SECTION 6 – REFERENCES

1. Bureau of Economic and Business Research. (n.d.). *Florida Population Studies*. Retrieved from Households and Average Household Size in Florida: April 1, 2020 (Volume 54, Bulletin 188, December 2020): https://www.bebr.ufl.edu/sites/default/files/Research%20Reports/households_2020.pdf

2. Florida Department of Environmental Protection. (2018). *Upper Wakulla River and Wakulla Spring Basin Management Action Plan*. Florida Department of Environmental Protection.

3. Florida Department of Health. (2008, October 1). *Report on Range of Costs to Implement a Mandatory Statewide 5-Year Septic Tank Inspection Program*. Retrieved from Florida Department of Health: http://www.floridahealth.gov/environmental-health/onsite-sewage/_documents/costs-implement-mandatory-statewide-inspection.pdf

4. Florida Department of Health. (n.d.). *Nitrogen-Reducing Systems for Areas Affected by the Florida Springs and Aquifer Protection Act (updated May 2021)*. Retrieved from http://www.floridahealth.gov/environmental-health/onsite-sewage/products/_documents/bmap-n-reducing-tech-18-10-29.pdf

5. Florida Department of State. (2018, July 31). *Rule: 64E-6.009*. Retrieved from Florida Administrative Code & Florida Administrative Register: https://www.flrules.org/gateway/RuleNo.asp?ID=64E-6.009

6. Great Lakes -- Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers. (n.d.). *Recommended Standards for Wastewater Facilities, 2004 Edition*. Albany: Health Research, Innc., Health Education Services Division.

7. Jim Stidham and Associates. (2021, December 1). *Comprehensive Wastewater Treatment Facilities Plan Task 2: Cost-Effectiveness of Alternative Technologies*. Retrieved from Wakulla Springs Alliance: http://wakullaspringsalliance.org/wp-content/uploads/2016/11/Leon-County-CWTFP-Task-2-Report.pdf

8. Roeder, E., & Ursin, E. (n.d.). *Managing the "Other" Advanced Sewage Treatment Systems: An Assessment of Florida's Aerobic Treatment Units and Similar Onsite Sewage Treatment Systems*. Retrieved from Florida Department of Health: https://www.alachuacounty.us/Depts/epd/EPAC/Archive/Septic%20Report/130530_Assessment%20of%20FL%20aerobic%20treatment%20units%20and%20similiar%20onsite%20sewage%20treatment%20systems_Roeder.pdf

9. Wakulla County. (2021, May 20). Retrieved from Wakulla County Comprehensive Plan: Goals, Objectives, and Policies: https://files4.1.revize.com/wakullacountyfl/Comprehensive%20Plan_20210520.Remediated.pdf

Attachment A

Nitrogen Reduction Calculations

Option 1 - Estimated Nitrogen Reduction

County (Select from Drop Down)	Persons Per Household	Load Per Person	Rate
Wakulla	**2.93**	**9.012**	**0.4**

Calculation Table (auto-generated based on county selected)

Recharge Category	Conventional OSTDS Load to GW (lb-N/yr/tank)	Improvement to GW (lb-N/yr/tank)	
		Enhanced OSTDS	Replaced OSTDS
Nitrogen Input	26.41		
Attenuation	13.2		
Low Recharge	1.3	**0.9**	**1.3**
Medium Recharge	5.3	**3.4**	**5.0**
High Recharge	11.9	**7.7**	**11.3**

Enhancement Table--OSTDS With Additional Nitrogen Treatment Installed

Recharge	Enhanced OSTDS in PFA		Enhanced OSTDS Outside PFA		Total Enhancement Reductions
	Number of Enhanced OSTDS	Load Reductions Through Enhancement	Number of Enhanced OSTDS	Load Reductions Through Enhancement	Load Reductions Through Enhancement
High	1000	7,724	1027	7,932	**15,656**
Medium	0	0	0	0	**0**
Low	0	0	0	0	**0**
Total	**1,000**	**7,724**	**1,027**	**7,932**	**15,656**

Phase Out Table--OSTDS Properly Abandonned and Connected to Sewer

Recharge	Phased Out OSTDS in PFA		Phased Out OSTDS Outside PFA		Total Phase Out Reductions
	Number of Phased Out OSTDS	Load Reductions Through Sewering	Number of Phased Out OSTDS	Load Reductions Through Sewering	Load Reductions Through Sewering
High	1000	11,288	0	0	**11,288**
Medium	0	0	0	0	**0**
Low	0	0	0	0	**0**
Total	**1,000**	**11,288**	**0**	**0**	**11,288**

Option 2 - Estimated Nitrogen Reduction

County (Select from Drop Down)	Persons Per Household	Load Per Person	Rate
Wakulla	**2.93**	**9.012**	**0.4**

Calculation Table (auto-generated based on county selected)

Recharge Category	Conventional OSTDS Load to GW (lb-N/yr/tank)	Improvement to GW (lb-N/yr/tank)	
		Enhanced OSTDS	Replaced OSTDS
Nitrogen Input	26.41		
Attenuation	13.2		
Low Recharge	1.3	**0.9**	**1.3**
Medium Recharge	5.3	**3.4**	**5.0**
High Recharge	11.9	**7.7**	**11.3**

Enhancement Table--OSTDS With Additional Nitrogen Treatment Installed

Recharge	Enhanced OSTDS in PFA		Enhanced OSTDS Outside PFA		Total Enhancement Reductions
	Number of Enhanced OSTDS	Load Reductions Through Enhancement	Number of Enhanced OSTDS	Load Reductions Through Enhancement	Load Reductions Through Enhancement
High	1475	11,392	1027	7,932	**19,324**
Medium	0	0	0	0	**0**
Low	0	0	0	0	**0**
Total	**1,475**	**11,392**	**1,027**	**7,932**	**19,324**

Phase Out Table--OSTDS Properly Abandonned and Connected to Sewer

Recharge	Phased Out OSTDS in PFA		Phased Out OSTDS Outside PFA		Total Phase Out Reductions
	Number of Phased Out OSTDS	Load Reductions Through Sewering	Number of Phased Out OSTDS	Load Reductions Through Sewering	Load Reductions Through Sewering
High	1800	20,319	80	903	**21,222**
Medium	0	0	0	0	**0**
Low	0	0	0	0	**0**
Total	**1,800**	**20,319**	**80**	**903**	**21,222**

Attachment B

Wastewater Revenue Sufficiency and Access Fee Study

WAKULLA COUNTY
FLORIDA

Wastewater Revenue Sufficiency and Access Fee Study

June 10, 2021

Final Report

RAFTELIS

WAKULLA COUNTY

This page intentionally left blank to facilitate two-sided printing.

RAFTELIS

June 10, 2021

Mr. David Edwards
County Administrator
Wakulla County Board of County Commissioners
3093 Crawfordville Highway
Crawfordville, FL 32327

Subject: **Wastewater Revenue Sufficiency and Access Fee Study**

Dear Mr. Edwards:

Raftelis Financial Consultants, Inc. ("Raftelis") has completed our review of the wastewater user rates, miscellaneous charges, and access fees for Wakulla County (the "County") and have summarized the results of our analyses, assumptions, recommendations, and conclusions in this report for your consideration. This report summarizes our review of the County's rate levels necessary to support the funding required for the projects identified in the capital plan and to meet the projected wastewater utility system (the "System") revenue requirements for the six (6) fiscal year period beginning October 1, 2020 through September 30, 2026 (the "Forecast Period").

In our review of the adequacy of the existing wastewater rates, we have relied upon certain information and data provided by the County and to the extent we have performed our analyses using the data and information obtained from the County and others, we have relied upon such information to be accurate, no assurances are intended, and no representation or warranties are made with respect thereto or the use made herein.

The rate analysis is designed to meet several goals and objectives. The main objective of the study was to estimate the rate levels necessary to produce revenues sufficient to meet the projected expenditure requirements of the System. Other goals and objectives considered in the study include:

- The proposed rates should allow the utility to maintain a financial position that is both sustainable and consistent with performance criteria established in conjunction with the County and based on utility industry standards to promote credit worthiness in support of financing major projects identified in the capital plan.
- The proposed rates should comply with all rate covenant requirements associated with existing debt or future borrowings.
- The proposed rates should be based on full cost recovery principles.
- The proposed rates should recognize historical rate structures or forms and mitigate annual rate increases to the extent possible.

341 N. Maitland Avenue, Suite 300
Maitland, FL 32751
www.raftelis.com

- The proposed rates, to the extent practical, should be comparable with those of neighboring utility systems.

The proposed rates and charges for wastewater service are designed to meet the goals and objectives outlined above and should be sufficient to provide for the recovery of the total costs anticipated for the System.

During the Access Fee analysis, it was determined that the proposed Access Fees should meet a number of goals and objectives. These goals and objectives dealt primarily with fee sufficiency and level. Specifically, the major objectives considered in this study included:

- The Access Fees should be based on the capital requirements associated with providing service to new growth and development;
- The Access Fees should not be used to fund any capital deficiencies associated with providing services to existing customers;
- The Access Fees should be based upon reasonable level of service standards that meet the needs of the County, do not create an unfair burden relative to capital needs, and are similar to industry standards; and
- The Access Fees should be in compliance with Florida Statues and Case Law on impact fees.

The proposed Access Fees presented in this report are designed to meet the above objectives. As such, based on information provided by the County and the assumptions and considerations outlined in this report, Raftelis Financial Consultants, Inc. considers the proposed fees to be cost-based, reasonable, and representative of the capital funding requirements of the County.

Following this letter, we have provided a report that summarizes the results of our study and outlines our recommendations and conclusions.

(Remainder of page intentionally left blank)

We appreciate the opportunity to be of service to the County and would like to thank the County staff for their valuable assistance and cooperation during the course of this study.

Respectfully submitted,

Raftelis Financial Consultants, Inc.

Henry L. Thomas
Vice President

Shawn A. Ocasio
Manager

HLT/dlc
Attachments

TABLE OF CONTENTS

List of Tables – Section 1

List of Appendices

List of Tables – Section 2

SECTION 1: REVENUE SUFFICIENCY

Introduction

Wakulla County (the "County") operates a wastewater system (the "System") to serve customers within the County's service territory. The County's wastewater systems are established as a utility enterprise fund. As such, the enterprise fund should collect revenues equal to the costs of the services provided and should establish rates sufficient to cover the cost of operating, maintaining, repairing, and financing system operations. According to the Governmental Accounting Standards Board, "Enterprise Funds should be used to account for operations that are financed and operated in a manner similar to private business enterprises – where the intent of the governing body is that costs of providing services to the general public on a continuing basis should be financed or recovered primarily through user charges."

The goal of this study is to assist the County in developing wastewater rates that are sufficient to recover the cost of operating, maintaining, repairing, and financing the System. The revenue requirements for this revenue sufficiency study were predicated on an analysis of wastewater expenditures projected for the six (6) fiscal year period beginning October 1, 2020 through September 30, 2026 (the "Forecast Period").

Summary of Study Results

Based on our studies, assumptions, and analyses the County's existing rates for wastewater service are not adequate to support the projected revenue requirements. As a result, rate adjustments are recommended to meet the capital and operating needs of the System. A summary of the proposed rate near term (2022 – 2026) System-wide adjustments is shown as follows:

Proposed Monthly User Rate Adjustments for the Forecast Period [*]						
	Fiscal Year Ending September 30,					
	2021	2022	2023	2024	2025	2026
Wastewater System	N/A	15.00%	2.50%	2.50%	2.50%	2.50%

[*] Proposed rate adjustments assumed to be applied uniformly to the monthly base and usage charges.

The primary reasons for the identified rate adjustments include the following:

1. The need to maintain appropriate debt service coverage ratios associated with existing and anticipated utility indebtedness. To maintain creditworthiness and ensure that the County can finance major capital improvements at reasonable rates.

2. Increased operating expenses as a result anticipated inflationary effects on the costs of labor, electricity, fuel, chemical, and other operating expenditures of the utility system. Additionally, the cost of contract operations provided by ESG in running the County's facilities is anticipated to increase due to additional personnel, process changes, and other factors as well.

3. The need to fund the capital improvements and upgrades identified in the County's capital improvement program, including capacity expansions, annual renewal and replacement requirements, and other major capital improvement needs of the system.

4. The need to maintain adequate operating reserves and margins to ensure a sustainable financial position and provide funds for emergencies.

Customer and Revenue Forecast

During Fiscal Year 2020, it is estimated that the County provided service to an average of 3,750 wastewater customers. Based on discussions with County staff, projections of anticipated development as provided by the County, and a review of historical customer trends, it is estimated that an average of approximately 334 new customers will connect to the wastewater systems annually over the forecast period. This average is based on a growth rate starting at approximately 600 accounts per year and decreasing over time to approximately 130 accounts per year by 2026. The projected customer growth forecast is summarized below:

Summary of Projected Customer Accounts		
Fiscal Year	Wastewater System Average Accounts	Annual Change in Average Accounts
2020 [*]	3,750	N/A
2021	4,030	280
2022	4,642	612
2023	5,074	432
2024	5,407	333
2025	5,625	218
2026	5,756	131
Average Annual Growth Rate	7.40%	334

[*] Based on historical results provided by the County.

Based on the customer growth assumed, projected revenues from existing monthly user rates without any rate increases are assumed to increase over the forecast period by approximately $0.9 million cumulatively from $2.3 million to $3.2 million through Fiscal Year 2026 as shown below and on Table 1-1.

(Remainder of page intentionally left blank)

Summary of Projected Revenues at Existing Rates	
Fiscal Year	Wastewater System Rate Revenues
2020 [*]	$2,178,140
2021	2,321,968
2022	2,636,336
2023	2,858,242
2024	3,029,295
2025	3,141,275
2026	3,208,566
Average Annual Growth Rate	6.67%

[*] Based on historical results provided by the County.

Other System revenues (sewer dumping fees, tap-in fees, penalties, etc.) are projected on average to be approximately $148,000 per year throughout the forecast period and interest earnings on unrestricted funded balances are estimated to average approximately $4,300 per year. The projection of the System's other revenues is shown in detail on Table 1-2.

Based on the projected customer growth, access fee revenues are projected at approximately $888,000 per year (starting at $1,215,000 in 2021 and decreasing to about $122,000 by 2026) consistent with the assumption that annual customer growth will decline over time. These amounts are anticipated to be utilized to pay a portion of the expansion related component of the System's annual debt service payments. The projection of the System's access fee revenues is shown in detail on Table 1-3.

Revenue Requirements

The various components of cost associated with operating and maintaining a county-owned utility system, as well as the cost of financing the renewal and replacement of facilities and capital improvements for upgrades and expansion, are generally referred to as the utility revenue requirements. The sum of these cost components, after adjusting for other income and miscellaneous utility revenues, represents the net revenue requirements. The revenue requirements for this rate study are predicated on an analysis of the wastewater expenditures for the Forecast Period. The projected revenue requirements included the various generalized cost components described below:

- Operating Expenses: These expenses include the cost of utilities, chemicals, labor, materials, supplies, and other items necessary for the operation and maintenance of the wastewater system.
- Debt Service: Debt service includes the principal and interest on the County's current and future anticipated loan obligations payable from the net operating revenues of the wastewater system.
- Other Revenue Requirements: This component of cost includes, in general, any ongoing capital improvements (capital outlay) to be financed from revenues, any ongoing system renewals and replacements, transfers to the County's General Fund, and transfers to reserve balances.

PRINCIPAL ASSUMPTIONS AND CONSIDERATIONS

The projected revenue requirements as shown on Table 1-4 for the System reflect certain assumptions, considerations, and analyses. The major assumptions, considerations, and analyses that are included in the projected revenue requirements are as follows:

1. The adopted Fiscal Year 2021 Budget associated with the operations of the System serves as the basis for the expenditure projections. Unless otherwise noted, the underlying assumptions and expenditure amounts included therein are assumed to be reasonable and reflect anticipated operations. Such budgetary amounts are incorporated into the revenue requirements component of the study, except for adjustments and assumptions as noted hereunder. The detailed operating budget and adjustments are shown in detail on Table 1-5.

2. The total operations and maintenance expenses of the wastewater system budgeted for Fiscal Year 2021 is then projected for the subsequent six (6) years of the Forecast Period. These operating expense projections are shown in detail on Table 1-6. A summary of the operating expense escalation factors is shown on Table 1-7. The following summarizes several of the general cost escalation factors used to project future expenditures:

    a. Contract Operations (ESG) – 3.0%

    b. Professional / Other Contractual Services – 3.0%

    c. Repair and Maintenance – 3.0%

    d. Consumer Price Index (CPI-U) – Average of Approximately 2.1% per Year

    e. Chemicals, Electricity, and Fuel – 5.0% per Year

3. Based on a review of historical operating results, the 2021 budget, and discussions with County staff it was determined that the System budgets conservatively and therefore a contingency allowance on operation and maintenance expenses was not necessary in each fiscal year for the forecast period. However, a bad debt allowance of one quarter of one percent (0.25%) of rate revenues was recognized in each fiscal year to account for uncollectible revenues. The allowance represents an average of approximately $8,500 per year ($5,900 in 2021 increasing to $10,400 by 2026).

4. The capital expenditures for the wastewater system are based on estimated project costs developed in the County's Capital Improvement Program (the "CIP") for the Fiscal Years 2021 through 2026 as set forth herein. The cost estimates in the CIP were based on current year dollars and, therefore Table 1-8 provides a detailed listing of the planned capital projects during the forecast period, the future projects were escalated by Engineering News-Record ("ENR") index, which is approximately 3.0% per year. The CIP totals approximately $29.9 million with three major projects comprising $22.6 million, or 75%, of the total. The remainder of the projects include various improvements, upgrades, replacements, and ongoing capital outlay.

The three major projects totaling $22.6 million include:

a. Collection System Phase 1 – $6.4 Million

b. Treatment System Expansion – $8.8 Million

c. Discharge System – $7.4 Million

As noted above, Table 1-8 provides a detailed listing of the planned capital improvements. The following summarizes funding sources of the planned capital improvements and expenditures:

Summary of Capital Funding [*]	
Funding Source	6 -Year Total
Wastewater Rates / Operating Reserves	$3,221,953
Wastewater Access Fees	1,042,647
Grants (RESTORE / USDA)	17,632,849
Proposed Debt Proceeds	8,076,828
Total	$29,974,276

[*] Amounts shown may not sum due to rounding assumptions.

5. As shown in Table 1-9, the wastewater system has current outstanding debt in the form of two USDA Sewer Revenue Bonds requiring annual principal and interest payments of approximately $275,000 for Fiscal Year 2021. These loans were issued in October 2017 and the payments are anticipated to continue through October 2057.

6. As shown on Table 1-9 and discussed previously, the forecast assumes the issuance of additional debt to fund certain CIP projects. The major assumptions for each proposed loan are shown below:

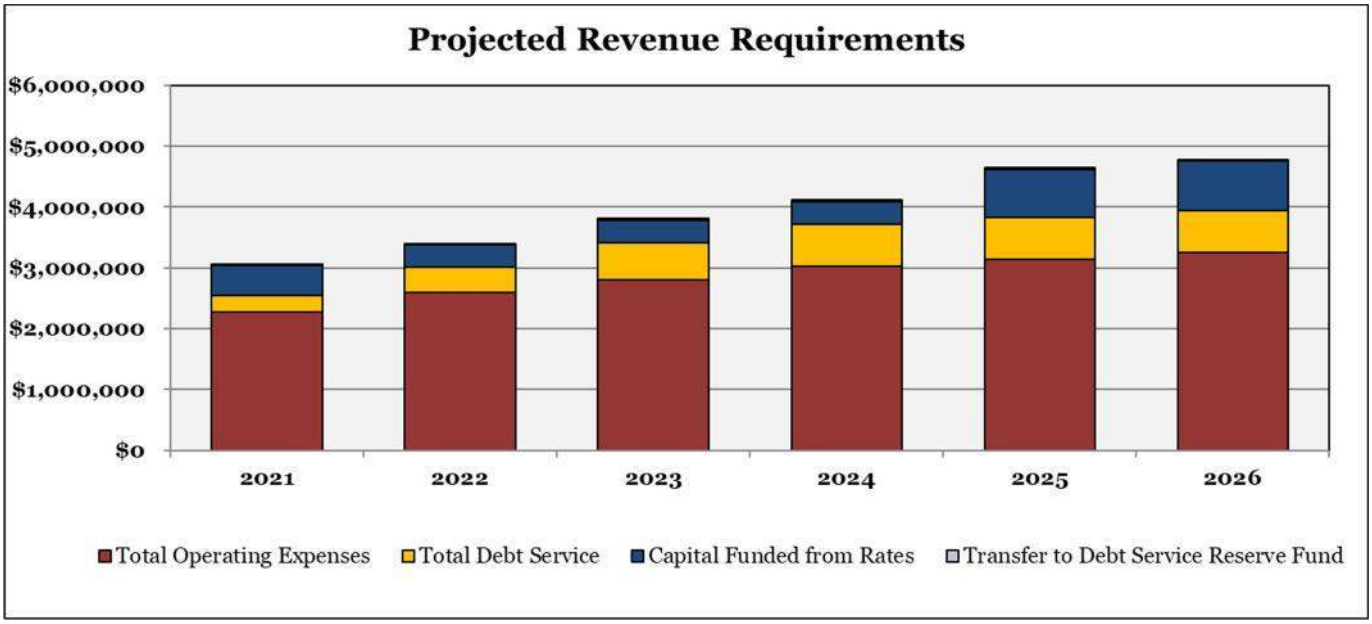
Summary of Proposed Debt Assumptions						
Description	Project Costs	Interest	Term	Total Principal	Annual Payment	Year of First Payment
SRF Design Loan [1]	$1,342,011	1.50%	20	$1,400,000	$151,808	2023
USDA Construction Loan	6,734,817	2.25%	40	6,910,000	263,806	2022

[1] Loan assumes a period of capitalized interest of 2 years.

7. The System's annual Intragovernmental Transfer is projected to increase by approximately four and a half percent (4.6%) per year starting at $246,000 in Fiscal Year 2021 and increasing to approximately $352,000 by Fiscal Year 2026. This annual transfer is made to reimburse the County's General Fund for services (e.g., finance, information technology, human resources, etc.) provided to the System and is based on the increase in the overall systems operating expenses. This transfer is considered a part of operating expenses and is shown on Table 1-6.

WASTEWATER SYSTEM REVENUE REQUIREMENTS SUMMARY

The projected revenue requirements through Fiscal Year 2026 for the County's wastewater system that are estimated to be needed to be recovered from user rates or other charges are shown in Table 1-4 and are shown in the chart below:



As can be seen in the above chart, the estimated revenue requirements for the wastewater system for the six (6) years beginning with the Fiscal Year 2021 are anticipated to increase by approximately 7.4%, or approximately $196,000, per year on average. The primary reasons for these increases are: i) incremental and inflationary increases in operating expenses; ii) funding the major capital needs identified in the CIP; and iii) the increase in the annual debt service payments associated with additional borrowings to fund the CIP.

ADEQUACY OF EXISTING UTILITY RATE REVENUES

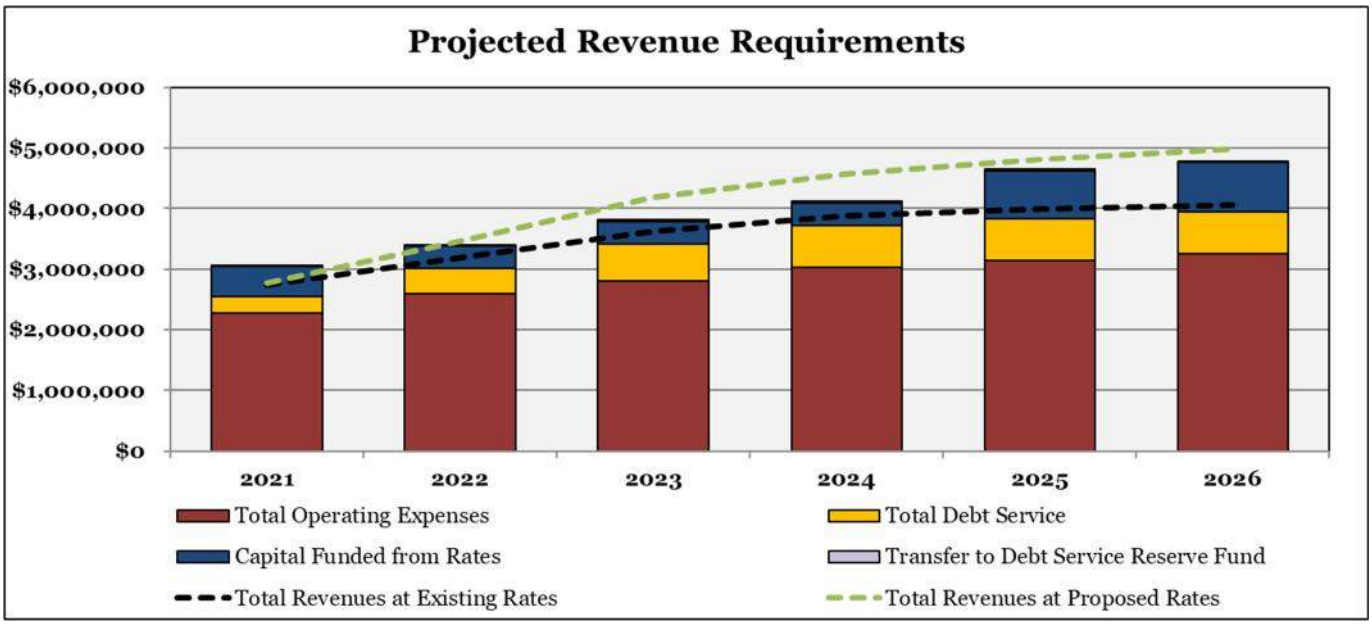
As shown on Table 1-4, based on the forecast of sales and revenues for the System and the assumptions and considerations set forth herein with respect to the estimation of wastewater system revenue requirements, the following rate adjustments are recommended:

Proposed Monthly User Rate Adjustments for the Forecast Period [*]						
	Fiscal Year Ending September 30,					
	2021	2022	2023	2024	2025	2026
Wastewater System [1]	N/A	15.00%	2.50%	2.50%	2.50%	2.50%

[*] Proposed rate adjustments assumed to be applied uniformly to the monthly base and usage charges.

(Remainder of page intentionally left blank)

Based on these proposed and projected rate increases the wastewater rate revenue sufficiency for the forecast period is anticipated to be as follows:



Based on these proposed rates for the next five years, it is estimated that if such rates are adopted revenues would: i) meet the projected net revenue requirements of the System; ii) fulfill the minimum debt service coverage requirements on existing and proposed debt; and iii) achieve total unrestricted cash reserves of exceeding 120 days of annual rate revenues by the end of the forecast period.

Debt Service Compliance

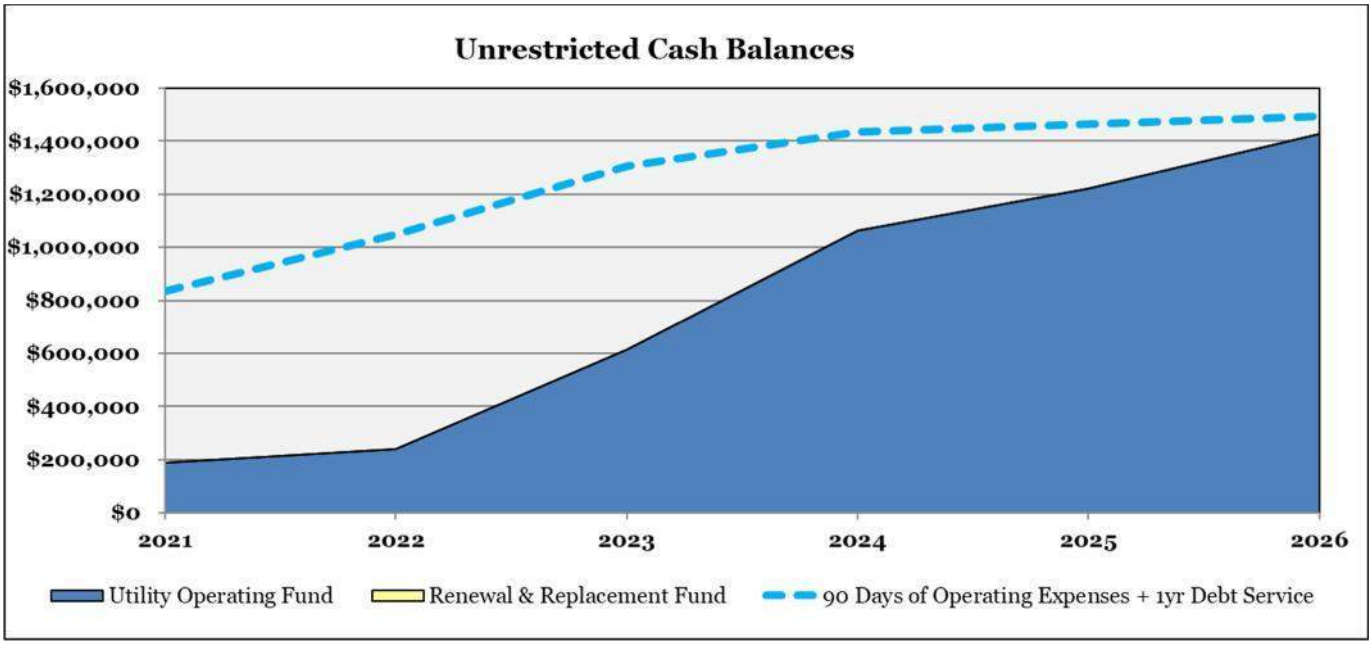
In addition to funding the net revenue requirements of the system, the proposed wastewater rates must be sufficient to meet the debt service coverage requirements of the County's existing and proposed future debt. The County's Bond Resolution requires the County to maintain rates adequate to maintain or exceed a minimum debt service coverage ratio on senior lien debt. To achieve this debt service coverage, the County's Net Revenues must be equal or greater than 100% of the senior lien bond service requirements. It should be noted that it is projected for Fiscal Year 2021 that senior lien debt service coverage will not be sufficient to make this requirement but in all subsequent years it is anticipated to be fulfilled. To the extent that revenues are higher than anticipated or expenses are lower than projected it could potentially remedy this coverage projection issue for 2021.

Additionally, the County must achieve a subordinate lien debt service coverage ratio of 115% after the payment of senior lien debt, including senior lien coverage for its proposed State Revolving Fund Loan. Based on the adoption of the proposed rate adjustments, the County is anticipated to be in compliance with the rate covenants as shown in Table 1-10.

Cash Balances

The wastewater system should have adequate cash reserves in order to meet day-to-day funding needs, as well as to be able to meet any unexpected emergencies requiring immediate financial resources. Based on discussions with the

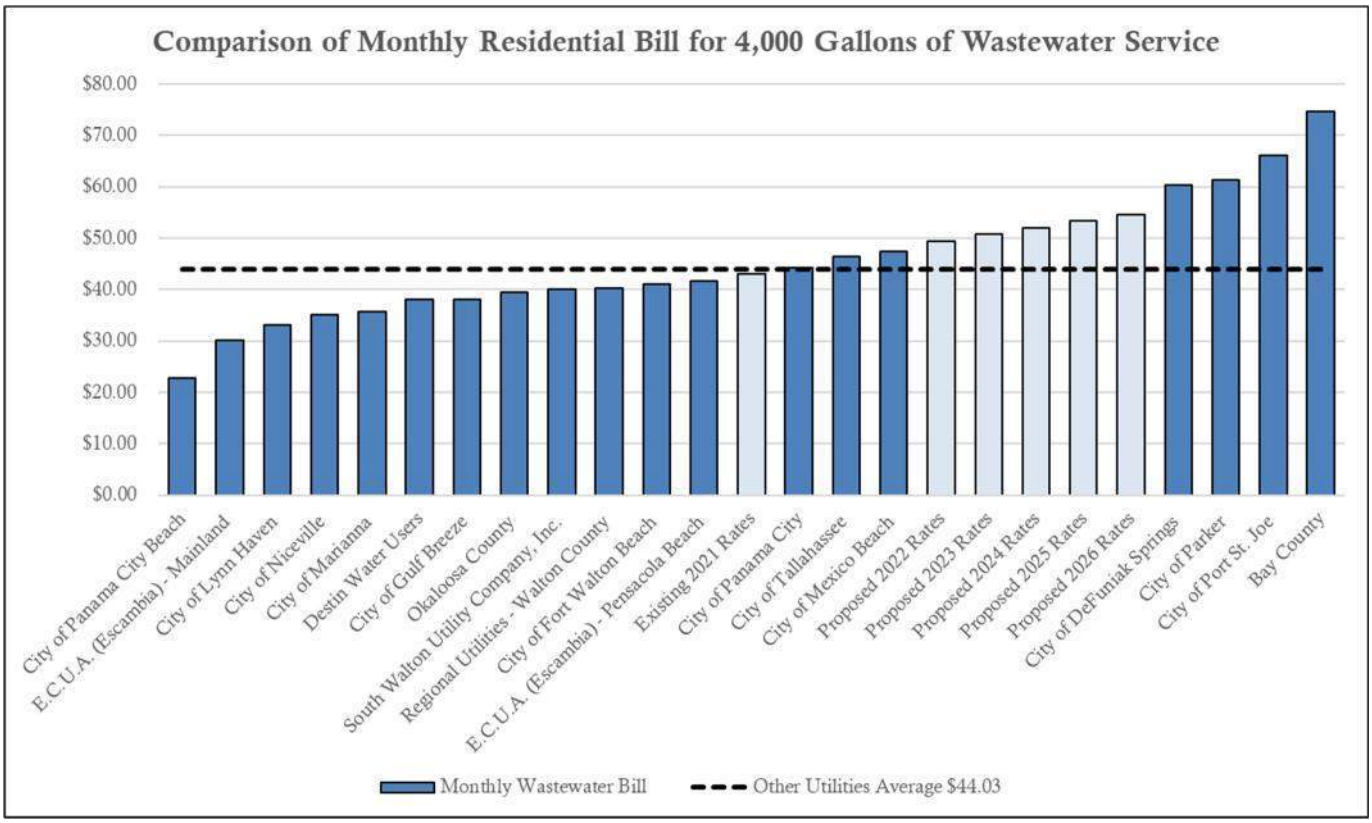
County, the County's internal policy is to maintain an average unrestricted balance equal to at least 90 days of operating expenses plus one (1) year of annual debt service. Based on the adoption and implementation of the proposed rates, the County is building its reserves over time and anticipated to nearly meet this target by 2026. A projection of the County's estimated ending cash balances is shown on Table 1-11 and the chart below:



(Remainder of page intentionally left blank)

Rate Comparison

As shown below for an average bill based on 4,000 gallons of billed flow and on Table 1-12 for a range of usage levels, bills under the proposed Fiscal Year 2022 - 2026 wastewater rates are slightly above average when compared to the surveyed, neighboring utilities' average.



As can be seen in the chart above, the proposed monthly wastewater rates (shown in detail on Table 1-12) are still competitive with other Florida utilities. It should also be noted that as the County implements the proposed rate adjustments its relative position on the comparison chart may not change much as many other utilities are also facing increasing operating and capital costs and will be considering the need for rate adjustments.

Miscellaneous Charge Analysis

In addition to charging user fees for monthly wastewater service, the County also charges fees for certain miscellaneous utility services. Examples of these fees include tap charges, late payment fees, grease trap inspections, etc. Revenues from these charges supplement revenue derived from monthly rates. Generally, these fees are designed on a cost recovery basis predicated on the specific cost of the services requested. This study includes an analysis of the cost of miscellaneous services and this analysis has been used to develop the proposed schedule of charges shown on Table 1-13.

To support this part of the study, a miscellaneous fee workbook was developed with the assistance of County staff that itemizes the costs for each service or activity. Such costs consider the appropriate staffing levels, equipment

needs, and materials and supplies for each type of service. Appendix B at the end of this report includes the County's detailed miscellaneous fee worksheets in support of Table 1-13.

Findings, Conclusions, and Recommendations

Based on our studies, assumptions, considerations, and analyses as summarized herein, Raftelis offers the following findings and conclusions for consideration by the Board of County Commissioners:

1. The County should adopt the proposed wastewater rate adjustments for Fiscal Years 2022 through 2026 to recover the projected revenue requirements during the forecast period. These rates are projected to be sufficient to fund the systems near term operations and capital needs.

2. The County should continue performing periodic updates to its financial forecast to ensure the adequacy and sustainability of the County's long-term rate plan.

3. The proposed rates allow the utility to maintain a financial position that is both sustainable and consistent with performance criteria established by the County and based on utility industry standards.

4. The proposed rates comply with any and all rate covenant requirements associated with existing debt or future borrowings.

5. The proposed rates produce monthly wastewater bills that are generally competitive when compared to those of other Florida utilities.

(Remainder of page intentionally left blank)

List of Tables – Section 1

Table 1-1
Wakulla County
Wastewater Utility Revenue Sufficiency Study

Summary of Projected Rate Revenues at Existing Rates

Line No.	Fiscal Year	Wastewater System Rate Revenues
1	2020	$2,178,140
2	2021	2,321,968
3	2022	2,636,336
4	2023	2,858,242
5	2024	3,029,295
6	2025	3,141,275
7	2026	3,208,566
8	Average Annual Growth Rate	6.67%

Table 1-2
Wakulla County
Wastewater Utility Revenue Sufficiency Study

Summary of Historical & Projected Other Operating Revenues

Line No.	Cost Center Code	Description	Actual 2018	Actual 2019	Actual FY 2020	Adjustments	Adjusted 2020	Budget FY 2021	Adjustments	Adjusted 2021	Escalation Factor	Fiscal Year Ending September 30, 2022	2023	2024	2025	2026
1	343510	Sewer Fees Sopchoppy	$803,792	$908,369	$926,980	($926,980)	$0	$952,000	($952,000)	$0	Eliminate	$0	$0	$0	$0	$0
2	343511	Tap-in Fees	$1,050	$1,000	3,000	0	3,000	0	0	0	Constant	0	0	0	0	0
3	34512	Sewer Fees Paws	454,027	452,701	467,202	(467,202)	0	468,000	(468,000)	0	Eliminate	0	0	0	0	0
4	343513	Sewer Fees Talquin Sewer	534,196	632,326	783,958	(783,958)	0	800,000	(800,000)	0	Eliminate	0	0	0	0	0
5	343514	Oyster Bay Sewer Fees	5,011	0	0	0	0	0	0	0	Constant	0	0	0	0	0
6	343515	Sewer Dumping Fees	110,475	116,282	134,114	0	134,114	118,000	12,000	130,000	WWDumping	131,950	133,929	135,938	137,977	140,047
7	366010	Local Contributions	0	17,593	115,865	0	115,865	0	0	0	Constant	0	0	0	0	0
8	365010	Sale of Surplus Property	0	0	4,000	0	4,000	4,000	0	4,000	Eliminate	0	0	0	0	0
9	369900	Miscellaneous Revenues	0	0	51	0	51	2,000	0	2,000	Constant	2,000	2,000	2,000	2,000	2,000
10	369305	Misc Rev Insurance Settlements	0	68,281	0	0	0	0	0	0	Constant	0	0	0	0	0
11	369900	Miscellaneous Revenues - Other	2,857	1,287	0	0	0	0	0	0	Constant	0	0	0	0	0
12	369901	Misc Rev - Recycling Receipts	0	303	0	0	0	0	0	0	Constant	0	0	0	0	0
13	369907	Misc Revenue Credit Card Fees	7,524	10,083	14,169	0	14,169	10,000	0	10,000	Constant	10,000	10,000	10,000	10,000	10,000
14	381000	Interfund Transfers	84,259	12,909,550	500,000	(500,000)	0	0	0	0	Eliminate	0	0	0	0	0
15	389000	Cash Forward	0	0	0	0	0	500,000	(500,000)	0	Eliminate	0	0	0	0	0
16		Total Operating Revenues	$2,003,191	$15,117,775	$2,949,340	($2,678,140)	$271,199	$2,854,000	($2,708,000)	$146,000		$143,950	$145,929	$147,938	$149,977	$152,047

Table 1-3
Wakulla County
Wastewater Utility Revenue Sufficiency Study

Projection of Wastewater Access Fee Revenues

Line No.	Description	Actual 2018	Actual 2019	Budget FY 2020	Adjustments	Actual 2020	Fiscal Year Ending September 30th, 2021	2022	2023	2024	2025	2026
1	**Fee Inflation Index**	N/A	N/A	N/A	N/A	N/A	N/A	0.00%	0.00%	0.00%	0.00%	0.00%
	Wastewater System:											
2	Implied Accounts	303	348	212	31	242	280	612	432	333	218	131
3	Septic to Sewer Adjustments	0	0	0	0	0	(40)	(288)	(120)	(80)	(122)	(101)
4	Adjusted Implied Accounts	303	348	212	31	242	240	324	312	253	96	30
5	Rate per Unit	$3,850.00	$3,850.00	$3,850.00	$3,850.00	$3,850.00	$3,850.00	$4,050.00	$4,050.00	$4,050.00	$4,050.00	$4,050.00
6	Wastewater Access Fees [1]	$1,167,225	$1,340,125	$815,000	$118,425	$933,425	$924,000	$1,312,200	$1,263,600	$1,024,650	$388,800	$121,500
7	Other Adjustments -	0	0	0	0	0	291,000	0	0	0	0	0
8	Total Wastewater Access Fees	$1,167,225	$1,340,125	$815,000	$118,425	$933,425	$1,215,000	$1,312,200	$1,263,600	$1,024,650	$388,800	$121,500
9	**Total Wastewater Access Fee Revenues**	$1,167,225	$1,340,125	$815,000	$118,425	$933,425	$1,215,000	$1,312,200	$1,263,600	$1,024,650	$388,800	$121,500

Footnotes:
[1] Historical and Budgeted amounts shown based on data provided by the City.

Table 1-4
Wakulla County
Wastewater Utility Revenue Sufficiency Study

Projection of Wastewater System Revenue Requirements - USDA Loan with Grant

Line No.	Description	Fiscal Year Ending September 30th, 2021	2022	2023	2024	2025	2026
	Operating Expenses: [1]						
1	Operating Expenses	$2,271,957	$2,595,118	$2,795,615	$3,011,873	$3,131,261	$3,249,289
2	Contingency - 0.00%	0	0	0	0	0	0
3	Bad Debt Expense - 0.25%	5,889	7,291	8,561	9,301	9,886	10,350
4	Other Adjustments	0	0	0	0	0	0
5	Total Operating Expenses	$2,277,846	$2,602,409	$2,804,177	$3,021,174	$3,141,146	$3,259,639
	Debt Service Payments:						
	Existing Debt Service: [2]						
6	USDA Sewer Revenue Bond Series 2016 Loan # 92-06	$263,430	$263,523	$262,644	$262,814	$263,005	$263,215
7	USDA Sewer Revenue Bond Series 2016 Loan # 92-08	11,773	11,660	12,548	12,413	12,278	12,143
8	Total Existing Debt Service Payments	$275,202	$275,183	$275,191	$275,226	$275,283	$275,358
	Proposed Debt Service: [3]						
9	Additional Senior Lien Debt 1	$0	$131,903	$263,806	$263,806	$263,806	$263,806
10	Additional Subordinate Lien Debt 1	$0	$0	$75,904	$151,808	$151,808	$151,808
11	Total Proposed Debt Service Payments	$0	$131,903	$339,710	$415,614	$415,614	$415,614
12	Total Annual Debt Service Payments	$275,202	$407,086	$614,901	$690,840	$690,896	$690,971
	Other Revenue Requirements:						
13	Intragovernmental Transfer Out	$0	$0	$0	$0	$0	$0
14	Renewal and Replacement Fund Transfer [4]	0	0	0	0	0	0
15	Capital Funded From Rates [5]	485,000	365,850	366,320	377,471	782,889	806,548
16	Transfer to Operating Reserves	0	0	0	0	0	0
17	Transfer to Debt Service Reserve Fund	27,843	27,843	27,843	27,843	27,843	27,843
18	Total Other Revenue Requirements	$512,843	$393,693	$394,164	$405,314	$810,733	$834,391
19	**Gross Revenue Requirements**	$3,065,892	$3,403,189	$3,813,241	$4,117,327	$4,642,775	$4,785,002
	Other Revenues and Financial Resources:						
20	Other Operating Revenues	$146,000	$143,950	$145,929	$147,938	$149,977	$152,047
21	Unrestricted Interest Income [6]	2,136	1,640	2,910	5,081	6,665	7,647
22	Access Fees Used for Debt Service Payments	275,202	407,086	614,901	690,840	690,896	690,971
23	Transfers from Operating Reserves	0	0	0	0	0	0
24	Total Other Revenues and Financial Resources	$423,338	$552,676	$763,739	$843,859	$847,539	$850,665
25	**Net Revenue Requirements**	$2,642,554	$2,850,512	$3,049,502	$3,273,468	$3,795,236	$3,934,337
	Revenue From Existing Wastewater Rates:						
26	Existing Wastewater Rate Revenue	$2,321,968	$2,636,336	$2,858,242	$3,029,295	$3,141,275	$3,208,566
27	Prior Year Rate Adjustments	0	76,450	524,060	645,040	764,140	880,230
28	Total Rate Revenue Before Current Year Adjustment	$2,321,968	$2,712,786	$3,382,302	$3,674,335	$3,905,415	$4,088,796
	Current Year Rate Adjustment						
29	Current Year Wastewater Rate Adjustment (CPI)	2.90%	15.00%	2.50%	2.50%	2.50%	2.50%
30	Effective Month	Apr.	Apr.	Apr.	Apr.	Apr.	Apr.
31	Percent of Current Year Effective	50%	50%	50%	50%	50%	50%
32	Total Revenue From Current Year Adjustments	$33,669	$203,459	$42,279	$45,929	$48,818	$51,110
33	**Total Revenue From Rates**	$2,355,637	$2,916,245	$3,424,581	$3,720,264	$3,954,233	$4,139,906
34	**Revenue Surplus / (Deficiency) [7]**	($286,917)	$65,732	$375,079	$446,796	$158,997	$205,569
35	**Revenue Surplus / (Deficiency) Percentage of Revenue**	-12.18%	2.25%	10.95%	12.01%	4.02%	4.97%

Footnotes located on following page.

Table 1-4
Wakulla County
Wastewater Utility Revenue Sufficiency Study

Projection of Wastewater System Revenue Requirements - USDA Loan with Grant

Footnotes:

[1] Amounts derived from the County's Fiscal Year 2021 Budget and are escalated as shown on Table 1-6.

[2] Payment amounts shown were based on debt service schedules provided by County Staff.

[3] The proposed debt is based upon the funding of the capital improvement program. Initial payments shown may indicate a partial year's payment of debt service due to the timing of the instrument. The following indicated the estimated terms and conditions of the proposed debt.

Additional Senior Lien Debt 1	
Principal (Includes Project Costs and Costs of Issuance)	$6,910,000
First Payment	4/1/2022
Interest Rate	2.25%
Term (Years)	40
Annual Average Debt Service	$263,806
Additional Subordinate Lien Debt 1	
Principal (Includes Project Costs and Costs of Issuance)	$1,400,000
First Payment	4/1/2023
Interest Rate	1.50%
Term (Years)	10
Annual Average Debt Service	$151,808

[4] Amounts are transfers to a Capital Replacement Fund and are to be used for Renewal & Replacement related capital projects.

[5] Amounts based on the proposed capital funding plan as shown in Table 1-8.

[6] Interest income is estimated on earnings on projected fund balances from unrestricted reserves allocated to the wastewater system.

[7] The forecast assumes that any deficiencies will be funded from available operating reserves.

Table 1-5
Wakulla County
Wastewater Utility Revenue Sufficiency Study

Fiscal Year 2021 Operating Budget [1]

Line No.	Cost Center Code	Description	Budget 2021	Adjustments	2021 Adjusted
		Operating Expenses			
1	531000	Professional Services	$1,107,000	$0	$1,107,000
2	AddPer	Additional Personnel	0	0	0
3	AddTesting	Additional Lab Testing	0	0	0
4	534000	Contracted Services	120,000	0	120,000
5	534500	Contracted Svs-Info Technology	9,000	0	9,000
6	541000	Telephone	8,200	0	8,200
7	541100	Telemetry Communications	25,000	0	25,000
8	542000	Postage & Freight	0	300	300
9	543000	Utilities - Electric	100,000	0	100,000
10	543300	Utilities-Water/Sewer	8,000	0	8,000
11	543600	Electric WWTP	125,000	0	125,000
12	543700	Utilities - Water WWTP	5,000	0	5,000
13	544000	Leases-Mach & Equip	0	0	0
14	546200	Maint & Repair - Equipment	240,000	0	240,000
15	546300	Maint & Repair - Facility	50,000	0	50,000
16	546400	Maint & Repair - Fleet	30,000	0	30,000
17	549000	Other Current Charges	48,000	0	48,000
18	551000	Office Supplies	500	0	500
19	552000	Operating Supplies	15,000	0	15,000
20	552100	Fuel	60,000	0	60,000
21	552500	WWTP Chemicals	60,000	0	60,000
22	552600	Collections Chemicals	15,000	0	15,000
23		Total O&M	$2,025,700	$300	$2,026,000
		Capital [2]			
24	561000	Capital Outlay - Land	$0	$0	$0
25	564000	Operating Equipment	5,000	(5,000)	0
26	564500	Capital Outlay - Machinery & Equipment	0	0	0
27		Total Capital	$5,000	($5,000)	$0
	40190000	Transfers			
28	40190000-5827010	Intragov Transfer Out [3]	$245,957	$0	$245,957
29	40190000-5829021	Reserve	497,343	(497,343)	0
30		Total Transfers	$743,300	($497,343)	$245,957
		Other Adjustments			
31	Contingency	Contingency - 0.00% of O&M [5]	$0	$0	$0
32	BadDebt	Bad Debt Expense - 0.25% of Rate Revs. [6]	0	5,889	5,889
33	Other	Other Adjustments	0	0	0
34		Subtotal Other Adjustments	$0	$5,889	$5,889
35		**Grand Total Operating Budget**	$2,774,000	($496,154)	$2,277,846

Table 1-5
Wakulla County
Wastewater Utility Revenue Sufficiency Study

Fiscal Year 2021 Operating Budget [1]

Footnotes:

[1] Amounts shown are based on the Fiscal Year 2020 Actual Operating Results as provided by the County.
[2] Amounts are adjusted from budget as shown herein since such capital outlay expenses and debt service payments are reflected in the Capital Improvements Plan or the Revenue Requirements part of the rate model.
[3] Budgeted amounts are to reimburse the General Fund for services that benefit the Utility.
[4] A contingency of 0.00% of O&M was added to allow for unforeseen contingencies.
[5] An allowance for bad debt expense of 0.25% of rate was recognized to account for uncollectible revenues.

Table 1-6
Wakulla County
Wastewater Utility Revenue Sufficiency Study

Projection of Wastewater System Operating Expenses

Line No.	Cost Center Code	Description	Actual [1] 2020	Escalation Factor	Adjusted [1] 2021	Escalation Factor	Fiscal Year Ending September 30th, 2022	2023	2024	2025	2026
		Operating Expenses									
1	531000	Professional Services	$1,163,399	ContractOps	$1,107,000	ContractOps	$1,140,210	$1,174,416	$1,209,649	$1,245,938	$1,283,316
2	AddPer	Additional Personnel	0	Input	0	Input	66,000	111,980	159,339	164,120	169,043
3	AddTesting	Additional Lab Testing	0	ContractOps	0	ContractOps	18,000	18,540	19,096	19,669	20,259
4	534000	Contracted Services	97,742	Contract	120,000	Contract	156,600	194,298	200,127	206,131	212,315
5	534500	Contracted Svs-Info Technology	11,293	Contract	9,000	Contract	9,270	9,548	9,835	10,130	10,433
6	541000	Telephone	7,991	Inflation	8,200	Inflation	8,274	8,414	8,591	8,780	8,982
7	541100	Telemetry Communications	18,860	Inflation	25,000	Inflation	25,225	25,654	26,193	26,769	27,384
8	542000	Postage & Freight	300	WW-Accounts	300	WW-Accounts	346	378	403	419	428
9	543000	Utilities - Electric	100,553	Utilities	100,000	Utilities	105,000	110,250	115,763	121,551	127,628
10	543300	Utilities-Water/Sewer	9,676	Utilities	8,000	Utilities	8,400	8,820	9,261	9,724	10,210
11	543600	Electric WWTP	89,558	WW-Elec	125,000	WW-Elec	146,554	165,225	217,667	236,070	252,619
12	543700	Utilities - Water WWTP	1,172	WWFlowInf	5,000	WWFlowInf	5,633	6,151	6,613	6,981	7,278
13	544000	Leases-Mach & Equip	0	Inflation	0	Inflation	0	0	0	0	0
14	546200	Maint & Repair - Equipment	551,959	Repair	240,000	Repair	247,200	254,616	262,254	270,122	278,226
15	546300	Maint & Repair - Facility	116,041	Repair	50,000	Repair	61,500	63,345	75,245	77,503	79,828
16	546400	Maint & Repair - Fleet	36,206	Repair	30,000	Repair	30,900	31,827	32,782	33,765	34,778
17	549000	Other Current Charges	48,370	Inflation	48,000	Inflation	48,432	49,255	50,290	51,396	52,578
18	551000	Office Supplies	0	Inflation	500	Inflation	505	513	524	535	548
19	552000	Operating Supplies	20,679	Inflation	15,000	Inflation	15,135	15,392	15,716	16,061	16,431
20	552100	Fuel	29,621	Fuel	60,000	Fuel	63,000	66,150	69,458	72,930	76,577
21	552500	WWTP Chemicals	49,941	WW-Chem	60,000	WW-Chem	140,346	158,226	174,929	189,719	203,018
22	552600	Collections Chemicals	2,543	WW-Chem	15,000	WW-Chem	17,587	19,827	21,920	23,773	25,440
23		Total O&M	$2,355,906		$2,026,000		$2,314,116	$2,492,826	$2,685,653	$2,792,086	$2,897,320
		Capital [2]									
24	561000	Capital Outlay - Land	$0	Eliminate	$0	Eliminate	$0	$0	$0	$0	$0
25	564000	Operating Equipment	0	Eliminate	0	Eliminate	0	0	0	0	0
26	564500	Capital Outlay - Machinery & Equipment	0	Eliminate	0	Eliminate	0	0	0	0	0
27		Total Capital	$0		$0		$0	$0	$0	$0	$0
		Transfers									
28	40190000-5827010	Intragov Transfer Out [3]	$245,957	O&M	$245,957	O&M	$281,003	$302,789	$326,220	$339,174	$351,969
29	40190000-5829021	Reserve	0	Eliminate	0	Eliminate	0	0	0	0	0
30		Other Adjustments	$245,957		$245,957		$281,003	$302,789	$326,220	$339,174	$351,969
		Other Adjustments									
31	Contingency	Contingency - 0.00% of O&M [4]	$0	Input	$0	Input	$0	$0	$0	$0	$0
32	BadDebt	Bad Debt Expense - 0.25% of Rate Revs. [5]	0	Input	5,889	Input	7,291	8,561	9,301	9,886	10,350

Table 1-6
Wakulla County
Wastewater Utility Revenue Sufficiency Study

Projection of Wastewater System Operating Expenses

Line No.	Cost Center Code	Description	Actual [1] 2020	Escalation Factor	Adjusted [1] 2021	Escalation Factor	Fiscal Year Ending September 30th, 2022	2023	2024	2025	2026
33	Other	Other Adjustments	0	Eliminate	0		0	0	0	0	0
34		Subtotal Other Adjustments	$0		$5,889		$7,291	$8,561	$9,301	$9,886	$10,350
35		**Grand Total Operating Budget**	$2,601,863		$2,277,846		$2,602,409	$2,804,177	$3,021,174	$3,141,146	$3,259,639
36		**Annual Rate of Change**	N/A		-12.45%		14.25%	7.75%	7.74%	3.97%	3.77%

Footnotes:

[1] Amounts shown based on Table 1-5.

[2] Amounts are adjusted from budget as shown herein since such capital outlay expenses and debt service payments are reflected in the Capital Improvements Plan or the Revenue Requirements part of the rate model.

[3] Budgeted amounts are to reimburse the General Fund for services that benefit the Utility.

[4] A contingency of 0.00% of O&M was added to allow for unforeseen contingencies.

[5] An allowance for bad debt expense of 0.25% of rate was recognized to account for uncollectible revenues.

Table 1-7
Wakulla County
Wastewater Utility Revenue Sufficiency Study

Summary of Projected Escalation Factors

Line No.	Description	Escalation Factor	Fiscal Year Ending September 30th, 2021	2022	2023	2024	2025	2026
1	Inflation (CPI) [1]	Inflation	1.000	1.009	1.017	1.021	1.022	1.023
2	Contract Services	Contract	1.000	1.030	1.030	1.030	1.030	1.030
3	Contract Operations	ContractOps	1.000	1.030	1.030	1.030	1.030	1.030
4	Repair and Maintenance	Repair	1.000	1.030	1.030	1.030	1.030	1.030
5	Chemicals	Chemicals	1.000	1.050	1.050	1.050	1.050	1.050
6	Utilities	Utilities	1.000	1.050	1.050	1.050	1.050	1.050
7	Fuel & Oil	Fuel	1.000	1.050	1.050	1.050	1.050	1.050
8	Constant	Constant	1.000	1.000	1.000	1.000	1.000	1.000
9	Eliminate	Eliminate	0.000	0.000	0.000	0.000	0.000	0.000
10	Marginal	Marginal	1.000	1.010	1.010	1.010	1.010	1.010
11	Wastewater Customer Accounts	WW-Accounts	1.075	1.152	1.093	1.066	1.040	1.023
12	Treated Wastewater Flows	WW-Flows	1.056	1.117	1.074	1.053	1.033	1.019
13	Wastewater Flows + Inflation	WWFlowInf	1.056	1.127	1.092	1.075	1.056	1.043
14	Wastewater Flows + Chemicals	WW-Chem	1.056	1.172	1.127	1.106	1.085	1.070
15	Wastewater Flows + Electricity	WW-Elec	1.056	1.172	1.127	1.106	1.085	1.070
16	Change in Wastewater Customers	WW-Growth	1.155	2.186	0.706	0.771	0.655	0.601
17	Total Operating Costs	O&M	0.875	1.142	1.078	1.077	1.040	1.038
18	Wastewater Dumping Fees	WWDumping	1.000	1.015	1.015	1.015	1.015	1.015
19	Placeholder	Placeholder	1.000	1.000	1.000	1.000	1.000	1.000

Footnotes:

[1] Estimated based on projections from *Budget and Economic Outlook: 2020 to 2030,* published by the Congressional Budget Office in July 2020.

Table 1-8
Wakulla County
Wastewater Utility Revenue Sufficiency Study

Capital Improvement Program Funding Plan

Line No.	Description	Escalation Reference	Funding Source	Fiscal Year Ending September 30, 2021	2022	2023	2024	2025	2026	Total CIP
	CIP Escalation Factor Alternatives									
	General Project Escalators									
1	No Assumed Escalation (0.0% per Year)	None		1.000	1.000	1.000	1.000	1.000	1.000	
2	Capital Outlay (3.5% per Year)	Outlay		1.000	1.035	1.071	1.109	1.148	1.188	
3	ENR Index Average (3.0% per Year)	ENR		1.000	1.030	1.061	1.093	1.126	1.159	
4	Marginal Increase (1.0% per Year)	Marginal		1.000	1.010	1.020	1.030	1.041	1.051	
5	High Increase (5.0% per Year)	High		1.000	1.050	1.103	1.158	1.216	1.276	
	Wastewater System:									
	Projects in Progress									
6	Collection System Phase 1 - SRF Funded	ENR	Senior1	$0	$896,332	$897,760	$0	$0	$0	$1,794,092
7	Collection System Phase 1 - SRF Funded - Split Funding	ENR	Grant	0	597,554	598,507	0	0	0	1,196,061
8	Collection System Phase 1 - SRF Funded - Split Funding	ENR	Junior1	143,400	0	0	0	0	0	143,400
9	Collection System Phase 1 - RESTORE	ENR	Grant	1,292,535	1,862,225	0	0	0	0	3,154,760
10	Collection System Phase 1 - Sewer Fund	ENR	S-Impact	119,992	0	0	0	0	0	119,992
11	Collection System Phase 2 - Sewer Fund	ENR	S-Impact	0	0	0	0	0	0	0
12	Collection System Phase 2 - SRF	ENR	Senior1	0	1,032,987	1,073,843	0	0	0	2,106,830
13	Collection System Phase 2 - SRF - Split Funding	ENR	Junior1	171,438	0	0	0	0	0	171,438
14	Collection System Phase 2 - SRF - Split Funding	ENR	Grant	0	688,658	715,895	0	0	0	1,404,553
15	Treatment System - Restore	ENR	Grant	0	3,470,585	2,283,322	2,351,822	0	0	8,105,729
16	Treatment System - Sewer Fund	ENR	S-Op	25,000	12,875	0	0	0	0	37,875
17	Treatment System - SRF	ENR	Senior1	0	0	0	0	0	0	0
18	Treatment System - SRF - Split Funding	ENR	Grant	0	0	0	0	0	0	0
19	Treatment System - SRF - Split Funding	ENR	Junior1	344,100	308,073	0	0	0	0	652,173
20	Discharge System - Sewer Fund	ENR	S-Impact	158,850	0	0	0	0	0	158,850
21	Discharge System - SRF	ENR	Senior1	0	344,998	805,223	1,683,674	0	0	2,833,895
21	Discharge System - Sewer Fund - Split Funding	ENR	S-Impact	273,768	0	0	0	0	0	273,768
22	Discharge System - SRF - Split Funding	ENR	Junior1	375,000	0	0	0	0	0	375,000
23	Discharge System - SRF - Split Funding	ENR	Grant	182,482	229,999	536,816	1,122,449	0	0	2,071,746
24	Discharge System - RESTORE	ENR	Grant	1,700,000	0	0	0	0	0	1,700,000
25	Land Purchase - Wetland RIB System	ENR	S-Impact	490,037	0	0	0	0	0	490,037
26	Lift Station Rehab (1 or 2 per year)	ENR	S-Rates	240,000	154,500	159,135	163,909	168,826	173,891	1,060,261
27	Lift Station Rehab (1 or 2 per year) - Split Funding	ENR	S-Impact	0	0	0	0	0	0	0
28	Manhole Rehab/Lining Program	ENR	S-Rates	15,000	15,450	15,914	16,391	16,883	17,389	97,026
29	Additional Lift Station Rehab	ENR	S-Rates	150,000	154,500	159,135	163,909	562,754	579,637	1,769,935
30	Additional Lift Station Rehab - Split Funding	ENR	S-Impact	0	0	0	0	0	0	0
31	Ongoing Capital Outlay	Outlay	S-Rates	$80,000	$41,400	$32,137	$33,262	$34,426	$35,631	$256,855
27	**Total System CIP**			$5,761,602	$9,810,136	$7,277,686	$5,535,415	$782,889	$806,548	$29,974,276

Table 1-8
Wakulla County
Wastewater Utility Revenue Sufficiency Study

Capital Improvement Program Funding Plan

Line No.	Description	Escalation Reference	Funding Source	Fiscal Year Ending September 30, 2021	2022	2023	2024	2025	2026	Total CIP
	Project Funding Sources Summary									
	Wastewater Funding Sources:									
32	Wastewater Rates		S-Rates	$485,000	$365,850	$366,320	$377,471	$782,889	$806,548	$3,184,078
33	Utility Operating Fund		S-Op	25,000	12,875	0	0	0	0	37,875
34	Renewal and Replacement Fund		S-R&R	0	0	0	0	0	0	0
35	Wastewater Access Fees		S-Impact	1,042,647	0	0	0	0	0	1,042,647
36	Grants		Grant	3,175,017	6,849,021	4,134,540	3,474,271	0	0	17,632,849
37	Existing Bond Proceeds		ExistingBond	0	0	0	0	0	0	0
38	Additional Senior Lien Debt 1		Senior1	0	2,274,317	2,776,826	1,683,674	0	0	6,734,817
39	Additional Senior Lien Debt 2		Senior2	0	0	0	0	0	0	0
40	Additional Senior Lien Debt 3		Senior3	0	0	0	0	0	0	0
41	Additional Senior Lien Debt 4		Senior4	0	0	0	0	0	0	0
42	Additional Senior Lien Debt 5		Senior5	0	0	0	0	0	0	0
43	Additional Senior Lien Debt 6		Senior6	0	0	0	0	0	0	0
44	Additional Senior Lien Debt 7		Senior7	0	0	0	0	0	0	0
45	Additional Senior Lien Debt 8		Senior8	0	0	0	0	0	0	0
46	Additional Subordinate Lien Debt 1		Junior1	1,033,938	308,073	0	0	0	0	1,342,011
47	Additional Subordinate Lien Debt 2		Junior2	0	0	0	0	0	0	0
48	Additional Subordinate Lien Debt 3		Junior3	0	0	0	0	0	0	0
49	Additional Subordinate Lien Debt 4		Junior4	0	0	0	0	0	0	0
50	Other		Other	0	0	0	0	0	0	0
51	**Total Funding Sources**			$5,761,602	$9,810,136	$7,277,686	$5,535,415	$782,889	$806,548	$29,974,276

Footnotes:
[1] Original amounts as provided by staff and adjusted for inflation.

Table 1-9
Wakulla County
Wastewater Utility Revenue Sufficiency Study

Summary of Existing and Proposed Annual Debt Service Payments

Line No.	Description	Fiscal Year Ending September 30th, 2021	2022	2023	2024	2025	2026
	Existing Debt Service:						
1	USDA Sewer Revenue Bond Series 2016 Loan # 92-06	$263,430	$263,523	$262,644	$262,814	$263,005	$263,215
2	USDA Sewer Revenue Bond Series 2016 Loan # 92-08	11,773	11,660	12,548	12,413	12,278	12,143
3	Total Existing Debt Service Payments	$275,202	$275,183	$275,191	$275,226	$275,283	$275,358
	Proposed Debt Service:						
	Proposed Senior Lien Debt:						
4	Additional Senior Lien Debt 1	$0	$131,903	$263,806	$263,806	$263,806	$263,806
5	Total Proposed Senior Lien Debt Service Payments	$0	$131,903	$263,806	$263,806	$263,806	$263,806
	Proposed Subordinate Lien Debt:						
6	Additional Subordinate Lien Debt 1	$0	$0	$75,904	$151,808	$151,808	$151,808
7	Total Proposed Subordinate Lien Debt Service Payments	$0	$0	$75,904	$151,808	$151,808	$151,808
8	Total Proposed Debt Service Payments	$0	$131,903	$339,710	$415,614	$415,614	$415,614
9	**Total Existing and Proposed Debt Service Payments**	$275,202	$407,086	$614,901	$690,840	$690,896	$690,971

Table 1-10
Wakulla County
Wastewater Utility Revenue Sufficiency Study

Projection of Debt Service Coverage Compliance

Line No.	Description	Fiscal Year Ending September 30th, 2021	2022	2023	2024	2025	2026
	Gross Revenues:						
	Rate Revenues						
1	Revenues at Existing Rates	$2,321,968	$2,636,336	$2,858,242	$3,029,295	$3,141,275	$3,208,566
2	Revenues From Rate Adjustments	33,669	279,909	566,339	690,969	812,958	931,340
3	Subtotal Rate Revenues	$2,355,637	$2,916,245	$3,424,581	$3,720,264	$3,954,233	$4,139,906
	Revenues From Other Sources:						
4	Other Operating Revenues	$146,000	$143,950	$145,929	$147,938	$149,977	$152,047
5	Unrestricted Interest Income	2,136	1,640	2,910	5,081	6,665	7,647
6	Subtotal Revenues from Other Sources	$148,136	$145,590	$148,839	$153,020	$156,643	$159,693
7	Total Gross Revenues	$2,503,773	$3,061,835	$3,573,420	$3,873,283	$4,110,876	$4,299,600
8	Access Fee Revenues	$1,215,000	$1,312,200	$1,263,600	$1,024,650	$388,800	$121,500
	Cost of Operation and Maintenance:						
9	Wastewater System Cost of Operation and Maintenance	$2,277,846	$2,602,409	$2,804,177	$3,021,174	$3,141,146	$3,259,639
10	Total Costs of Operation and Maintenance	$2,277,846	$2,602,409	$2,804,177	$3,021,174	$3,141,146	$3,259,639
11	**Net Revenues W/O Access Fees**	$225,927	$459,426	$769,243	$852,110	$969,729	$1,039,961
	Annual Debt Service Requirements:						
	Senior Lien Bond Service Requirements						
12	USDA Sewer Revenue Bond Series 2016 Loan # 92-06	$263,430	$263,523	$262,644	$262,814	$263,005	$263,215
13	USDA Sewer Revenue Bond Series 2016 Loan # 92-08	11,773	11,660	12,548	12,413	12,278	12,143
14	Additional Senior Lien Debt 1	0	131,903	263,806	263,806	263,806	263,806
15	Total Senior Lien Bond Service Requirements	$275,202	$407,086	$538,997	$539,032	$539,088	$539,164
	Subordinate Lien Debt Service Requirements						
16	Additional Subordinate Lien Debt 1	$0	$0	$75,904	$151,808	$151,808	$151,808
17	Total Subordinate Lien Bond Service Requirements	$0	$0	$75,904	$151,808	$151,808	$151,808
18	Total Annual Debt Service Requirements	$275,202	$407,086	$614,901	$690,840	$690,896	$690,971
	Senior Lien Test (USDA Loans):						
19	Net Revenues W/O Access Fees	$225,927	$459,426	$769,243	$852,110	$969,729	$1,039,961
20	Total Senior Lien Debt Service Payments	$275,202	$407,086	$538,997	$539,032	$539,088	$539,164
21	Calculated Ratio	82.09%	112.86%	142.72%	158.08%	179.88%	192.88%
22	Minimum Required Coverage Ratio - 100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
	Subordinate Lien Debt Service Coverage:						
23	Net Revenues Plus Access Fees After Senior Lien Debt Payment (W/Coverage)	$1,165,724	$1,364,539	$1,493,846	$1,337,728	$819,441	$622,297
24	Subordinate Lien Debt Service Requirements	0	0	75,904	151,808	151,808	151,808
25	Calculated Ratio	N/A	N/A	1968.07%	881.20%	539.79%	409.92%
26	Minimum Required Coverage Ratio - 115.00%	115.00%	115.00%	115.00%	115.00%	115.00%	115.00%
27	Net Revenues W/O Access Fees After Senior Lien Debt Payment (W/Coverage)	($49,276)	$52,339	$230,246	$313,078	$430,641	$500,797
28	Subordinate Lien Debt Service Requirements	0	0	75,904	151,808	151,808	151,808
29	Calculated Ratio	N/A	N/A	303.34%	206.23%	283.67%	329.89%
30	Minimum Required Coverage Ratio - 115.00%	115.00%	115.00%	115.00%	115.00%	115.00%	115.00%
	All-In-Debt Service Coverage:						
31	Net Revenues	$225,927	$459,426	$769,243	$852,110	$969,729	$1,039,961
32	Total Debt Service Payments	275,202	407,086	614,901	690,840	690,896	690,971
33	Calculated Ratio	82.09%	112.86%	125.10%	123.34%	140.36%	150.51%
34	Target Coverage Ratio - 150.00%	150.00%	150.00%	150.00%	150.00%	150.00%	150.00%
35	Net Revenues After Payment of Debt Service	($49,276)	$52,339	$154,342	$161,270	$278,833	$348,989
36	Use of Impact Fees for Debt Service Payments	275,202	407,086	614,901	690,840	690,896	690,971
37	Subtotal	$225,927	$459,426	$769,243	$852,110	$969,729	$1,039,961
	Less Other Payments and Transfers from Rates:						
38	Transfer to General Fund	$0	$0	$0	$0	$0	$0
39	Capital Fund Transfer	0	0	0	0	0	0
40	Capital Funded From Rates	485,000	365,850	366,320	377,471	782,889	806,548
41	Net Transfer to/ (from) Operating Reserves	0	0	0	0	0	0
42	Transfer to Debt Service Reserve Fund	27,843	27,843	27,843	27,843	27,843	27,843
43	Net Amount Available for Other Utility System Purposes	($286,917)	$65,732	$375,079	$446,796	$158,997	$205,569

Table 1-11
Wakulla County
Wastewater Utility Revenue Sufficiency Study

Projection of Ending System Cash Balances and Interest Income

Line No.	Description	Investment Reference Cash Balance	Investment Reference Interest Income	Projected Fiscal Year Ending September 30, 2021	2022	2023	2024	2025	2026
	Year End Cash Balances Roll-Up:								
1	Utility Operating Fund	(U)	(U)	$188,083	$240,940	$616,019	$1,062,815	$1,221,812	$1,427,381
2	Customer Deposits	(R)	(R)	103,650	103,650	103,650	103,650	103,650	103,650
3	Access Fees Fund	(R)	(R)	3,362,135	4,276,786	4,936,988	5,283,558	4,994,293	4,436,595
4	Proposed Bonds Construction Fund	(R)	(R)	0	4,460,500	1,683,674	0	0	0
5	Debt Service Reserve Fund	(R)	(U)	111,374	139,217	167,061	194,904	222,748	250,591
6	Total Ending Cash Balances			$3,765,242	$9,221,093	$7,507,392	$6,644,927	$6,542,503	$6,218,218
	Utility Operating Fund								
7	Beginning Balance			$500,000	$188,083	$240,940	$616,019	$1,062,815	$1,221,812
8	Transfers In - Revenues			2,355,637	2,916,245	3,424,581	3,720,264	3,954,233	4,139,906
9	Transfers In - Sewer Access Fee Fund			0	0	0	0	0	0
10	Transfers In - Operating Transfer			0	0	0	0	0	0
11	Transfers In - R&R Fund			0	0	0	0	0	0
12	Transfers In - Debt Service Reserve			0	0	0	0	0	0
13	Transfers Out - Revenue Requirements			2,642,554	2,850,512	3,049,502	3,273,468	3,795,236	3,934,337
14	Transfers Out - Capital Improvements			25,000	12,875	0	0	0	0
15	Transfers Out - R&R Fund			0	0	0	0	0	0
16	Transfers Out - Operating Transfer			0	0	0	0	0	0
17	Transfers Out - Other			0	0	0	0	0	0
18	Interest Rate			0.25%	0.25%	0.25%	0.25%	0.25%	0.25%
19	Interest Income		(U)	$1,720	$1,073	$2,142	$4,197	$5,712	$6,623
20	Recognition of Interest Income in Revenue Requirements			$1,720	$1,073	$2,142	$4,197	$5,712	$6,623
21	Ending Balance Before Adjustments			$188,083	$240,940	$616,019	$1,062,815	$1,221,812	$1,427,381
22	Adjustment to Actual (Increase in Net Liabilities)			0	0	0	0	0	0
23	Adjusted Ending Balance	(U)		$188,083	$240,940	$616,019	$1,062,815	$1,221,812	$1,427,381
24	90 Days of Operating Expenses			$561,661	$641,690	$691,441	$744,947	$774,529	$803,747
25	Amount Allocable to Wastewater System			$1,720	$1,073	$2,142	$4,197	$5,712	$6,623

Table 1-11
Wakulla County
Wastewater Utility Revenue Sufficiency Study

Projection of Ending System Cash Balances and Interest Income

Line No.	Description	Investment Reference Cash Balance	Investment Reference Interest Income	Projected Fiscal Year Ending September 30, 2021	2022	2023	2024	2025	2026
	Customer Deposits								
26	Beginning Balance			$103,650	$103,650	$103,650	$103,650	$103,650	$103,650
27	Transfers In			0	0	0	0	0	0
28	Transfers Out			0	0	0	0	0	0
29	Interest Rate			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
30	Interest Income		(R)	$0	$0	$0	$0	$0	$0
31	Recognition of Interest Income in Revenue Requirements			$0	$0	$0	$0	$0	$0
32	Ending Balance Before Adjustments			$103,650	$103,650	$103,650	$103,650	$103,650	$103,650
33	Adjustment to Actual (Increase in Net Liabilities)			0	0	0	0	0	0
34	Adjusted Ending Balance	(R)		$103,650	$103,650	$103,650	$103,650	$103,650	$103,650
35	Amount Allocable to Wastewater System			$0	$0	$0	$0	$0	$0
	Access Fees Fund								
36	Beginning Balance			$3,456,472	$3,362,135	$4,276,786	$4,936,988	$5,283,558	$4,994,293
37	Transfers In			1,215,000	1,312,200	1,263,600	1,024,650	388,800	121,500
38	Transfers Out - CIP			1,042,647	0	0	0	0	0
39	Transfers Out - Operating Fund			0	0	0	0	0	0
40	Transfers Out - Total Debt Payment			275,202	407,086	614,901	690,840	690,896	690,971
41	Interest Rate			0.25%	0.25%	0.25%	0.25%	0.25%	0.25%
42	Interest Income		(R)	$8,513	$9,537	$11,503	$12,760	$12,831	$11,774
43	Recognition of Interest Income in Revenue Requirements			$0	$0	$0	$0	$0	$0
44	Ending Balance Before Adjustments			$3,362,135	$4,276,786	$4,936,988	$5,283,558	$4,994,293	$4,436,595
45	Adjustment to Actual (Increase in Net Liabilities)			0	0	0	0	0	0
46	Adjusted Ending Balance	(R)		$3,362,135	$4,276,786	$4,936,988	$5,283,558	$4,994,293	$4,436,595
47	Amount Allocable to Wastewater System			0	0	0	0	0	0

Table 1-11
Wakulla County
Wastewater Utility Revenue Sufficiency Study

Projection of Ending System Cash Balances and Interest Income

Line No.	Description	Investment Reference Cash Balance	Investment Reference Interest Income	Projected Fiscal Year Ending September 30, 2021	2022	2023	2024	2025	2026
	Debt Service Reserve Fund								
48	Beginning Balance			$83,530	$111,374	$139,217	$167,061	$194,904	$222,748
49	Transfers In - Debt Service Reserve Requirement			27,843	27,843	27,843	27,843	27,843	27,843
50	Transfers Out - Other			$0	$0	$0	$0	$0	$0
51	Interest Rate			0.25%	0.25%	0.25%	0.25%	0.25%	0.25%
52	Interest Income		(U)	$244	$313	$383	$452	$522	$592
53	Recognition of Interest Income in Revenue Requirements			$244	$313	$383	$452	$522	$592
	Ending Balance Before Adjustments			$111,374	$139,217	$167,061	$194,904	$222,748	$250,591
	Adjustment to Actual (Increase in Net Liabilities)			0	0	0	0	0	0
54	Adjusted Ending Balance	(R)		$111,374	$139,217	$167,061	$194,904	$222,748	$250,591
55	Amount Allocable to Wastewater System			244	313	383	452	522	592
	Debt Service Sinking Fund								
56	Annual Debt Service Payment			$275,202	$407,086	$614,901	$690,840	$690,896	$690,971
57	Average Balance	(R)		68,801	101,772	153,725	172,710	172,724	172,743
58	Interest Rate			0.25%	0.25%	0.25%	0.25%	0.25%	0.25%
59	Interest Income		(U)	$172	$254	$384	$432	$432	$432
60	Recognition of Interest Income in Revenue Requirements			$172	$254	$384	$432	$432	$432
61	Amount Allocable to Wastewater System			172	254	384	432	432	432

Table 1-11
Wakulla County
Wastewater Utility Revenue Sufficiency Study

Projection of Ending System Cash Balances and Interest Income

Line No.	Description	Investment Reference Cash Balance	Investment Reference Interest Income	Projected Fiscal Year Ending September 30, 2021	2022	2023	2024	2025	2026
	Proposed Bonds Construction Fund								
62	Beginning Balance			$0	$0	$4,460,500	$1,683,674	$0	$0
63	Transfers In			0	6,734,817	0	0	0	0
64	Transfers Out - CIP			0	2,274,317	2,776,826	1,683,674	0	0
65	Interest Rate			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
66	Interest Income		(R)	$0	$0	$0	$0	$0	$0
67	Recognition of Interest Income in Revenue Requirements			$0	$0	$0	$0	$0	$0
	Ending Balance Before Adjustments			$0	$4,460,500	$1,683,674	$0	$0	$0
	Adjustment to Actual (Increase in Net Liabilities)			0	0	0	0	0	0
68	Adjusted Ending Balance	(R)		$0	$4,460,500	$1,683,674	$0	$0	$0
69	Percent Allocable to Wastewater System			100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
70	Amount Allocable to Wastewater System			0	0	0	0	0	0
	Interest Income:								
71	Unrestricted Interest Income - Wastewater			$2,136	$1,640	$2,910	$5,081	$6,665	$7,647
72	Total Unrestricted Interest Income			$2,136	$1,640	$2,910	$5,081	$6,665	$7,647
73	Restricted Interest Income			$8,513	$9,537	$11,503	$12,760	$12,831	$11,774
74	**Total Interest Income**			$10,648	$11,177	$14,412	$17,841	$19,497	$19,420

Table 1-12
Wakulla County, Florida
Wastewater Revenue Sufficiency Study

Comparison of Typical Monthly Residential Bills For Wastewater Service [1]

Line No.	Description	Residential Service for a 5/8" or 3/4" Meter 0 Gallons	2,000 Gallons	3,000 Gallons	4,000 Gallons	6,000 Gallons	8,000 Gallons	10,000 Gallons	12,000 Gallons
	Wakulla County								
1	Existing 2021 Rates	$33.11	$33.11	$38.08	$43.05	$52.99	$62.93	$72.87	$82.81
2	Proposed 2022 Rates	38.08	38.08	43.80	49.52	60.96	72.40	83.84	95.28
3	Proposed 2023 Rates	39.03	39.03	44.89	50.75	62.47	74.19	85.91	97.63
4	Proposed 2024 Rates	40.01	40.01	46.02	52.03	64.05	76.07	88.09	100.11
5	Proposed 2025 Rates	41.01	41.01	47.17	53.33	65.65	77.97	90.29	102.61
6	Proposed 2026 Rates	42.04	42.04	48.35	54.66	67.28	79.90	92.52	105.14
	Other Florida Utilities:								
7	Regional Utilities - Walton County	$40.20	$40.20	$40.20	$40.20	$40.20	$40.20	$40.20	$49.54
8	Bay County [2]	35.24	54.96	64.82	74.68	94.40	114.12	133.84	133.84
8	Okaloosa County	22.36	30.94	35.23	39.52	48.10	56.68	65.26	65.26
9	City of DeFuniak Springs	31.41	45.91	53.16	60.41	74.91	89.41	103.91	119.85
10	City of Fort Walton Beach	25.18	25.18	33.09	41.00	56.82	72.64	88.46	104.28
11	City of Gulf Breeze	18.96	28.56	33.36	38.16	47.76	57.36	66.96	76.56
12	City of Lynn Haven	9.52	21.32	27.22	33.12	44.92	56.72	68.52	80.32
13	City of Marianna	20.15	27.95	31.85	35.75	43.55	51.35	59.15	66.95
14	City of Mexico Beach	47.45	47.45	47.45	47.45	55.79	64.13	72.47	80.81
15	City of Niceville	22.56	28.86	32.01	35.16	41.46	47.76	54.06	60.36
16	City of Panama City [2]	17.91	31.11	37.71	44.31	57.51	70.71	83.91	97.11
17	City of Panama City Beach [2]	19.92	19.92	19.92	22.88	28.80	34.72	40.64	46.56
18	City of Parker	27.07	44.21	52.78	61.35	78.49	95.63	112.77	129.91
18	City of Tallahassee	20.39	33.43	39.95	46.47	59.51	59.51	59.51	59.51
19	E.C.U.A. (Escambia County) - Pensacola Beach	37.27	37.27	37.27	41.73	50.65	59.57	68.49	74.81
20	Destin Water Users [2]	29.62	33.82	35.92	38.02	42.22	46.42	50.62	54.82
21	E.C.U.A. (Escambia County) - Mainland	14.46	14.46	22.34	30.22	34.16	34.16	34.16	34.16
22	City of Port St. Joe	35.33	50.73	58.43	66.13	81.53	96.93	112.33	127.73
23	South Walton Utility Company, Inc.	16.88	28.44	34.22	40.00	51.56	63.12	74.68	86.24
24	Other Florida Utilities' Average	$25.89	$33.93	$38.79	$44.03	$54.33	$63.74	$73.15	$81.51
25	Other Florida Utilities' Minimum	$9.52	$14.46	$19.92	$22.88	$28.80	$34.16	$34.16	$34.16
26	Other Florida Utilities' Maximum	$47.45	$54.96	$64.82	$74.68	$94.40	$114.12	$133.84	$133.84

[1] Unless otherwise noted, amounts shown reflect residential rates in effect March 2021 and are exclusive of taxes or franchise fees, if any, and franchise fees, if any and reflect rates charged for inside the city service. All rates are as reported by the respective utility. This comparison is intended to show comparable charges for similar service for comparison purposes only and is not intended to be a complete listing of all rates and charges offered by each listed utility. Residential service comparison illustrated since these customers reflect majority of accounts served.

[2] Based on information obtained during this survey, the utility may be reviewing and/or updating its utility rates within the next twelve months.

Table 1-13
Wakulla County
Wastewater Revenue Sufficiency Study

Summary of Existing and Proposed Customer Deposits and Miscellaneous Service Charges

Line No.	Description	Existing Fees	Proposed Fees
	Customer Deposits:		
	Wastewater		
1	Residential	$100.00	2x Avg. Bill or $110 min.
2	Commercial	200.00	2x Avg. Bill or $370 min.
	Miscellaneous Service Charges:		
3	Account Set up Fee	$0.00	$25.00
	Tap Fee - Inside County		
	Gravity Meter On a Paved Road		
4	5/8" x 3/4" Meter	$1,000.00	$1,450.00
	Additional Charge for Every 1/4" Increment Above 3/4"	$100.00	$145.00
	Gravity Meter On an Unpaved Road		
5	5/8" x 3/4" Meter	$750.00	$950.00
	Additional Charge for Every 1/4" Increment Above 3/4"	$100.00	$125.00
	Pressure Meter On a Paved Road		
6	5/8" x 3/4" Meter	$1,000.00	$1,550.00
	Additional Charge for Every 1/4" Increment Above 3/4"	$100.00	$155.00
	Pressure Meter On an Unpaved Road		
7	5/8" x 3/4" Meter	$750.00	$1,050.00
	Additional Charge for Every 1/4" Increment Above 3/4"	$100.00	$140.00
8	Late Fee	$5.00	$5.00
9	Grease Trap Inspection	$10 per Month	$10 per Month
10	Reinstatement Fee	$50.00	$50.00

SECTION 2: ACCESS FEES

Introduction

GENERAL

The County's wastewater System, as well as other publicly owned utility systems, face increasing capital commitments necessary to expand wastewater system facilities to serve new growth. The utility business is capital intensive and requires the commitment of significant resources in advance of the growth in demand. In addition, System improvements and regulatory compliance also require significant capital expenditures in today's utility business environment. Further, the impact of inflation on System operating expenses and on the cost of new and replacement facilities results in upward pressure on monthly utility user rates. The compelling capital needs associated with the utility business and the desire to control the increase in monthly utility user rates and charges have resulted in the use of funding alternatives such as access fees to finance, in part at least, the cost of System expansion. Per discussions with the County, the County is of the opinion that it does not charge impact fees but instead charges an "Access Fee" based on a specific level of service per new connection. For the purposes of this report, Raftelis has calculated this fee in accordance with industry standards and the rules for Impact Fees as delineated in the Florida Statutes.

CRITERIA FOR IMPACT FEES

The purpose of impact fees is to assign, to the extent practical, growth-related capital costs to those new customers or development responsible for such additional costs. To the extent new population growth and associated development imposes identifiable capacity-related capital costs to wastewater utility services, modern capital funding practices include the assignment of such costs to those new residents and commercial entities responsible for those costs rather than the existing population base. Generally, this practice has been labeled as "growth paying its own way" to avoid overburdening existing users with the cost of expansion.

Florida Statutes authorize the use of impact fees. Section 163.31801 of the Florida Statutes was created on June 14, 2006 and is referred to as the "Florida Impact Fee Act". The Florida Impact Fee Act has since been updated in 2009, 2011, and 2019. Within this section, the Legislature finds that impact fees are an important source of revenue for local government to use in funding the infrastructure necessitated by new growth. Section 163.31801 of the Florida Statutes further provides that an impact fee adopted by ordinance of a county or municipality or by resolution of a special district must, at a minimum:

1. Require that the calculation of the impact fee be based on the most recent and localized data;
2. Provide for accounting and reporting of impact fee revenues and expenditures in a separate accounting fund;
3. Collection of the impact fee cannot occur before the issuance of a building permit;
4. Limit administrative charges for the collection of impact fees to actual costs; and
5. Require that notice be provided no less than ninety (90) days before the effective date of an ordinance or resolution imposing a new or amended impact fee.

Additionally, the Florida Impact Fee Act requires that audits of financial statements of local governmental entities and district school boards that are performed by a certified public accountant pursuant to F.S. 218.39 and submitted to the Audited General must include an affidavit signed by the chief financial officer of the local governmental entity or district school board stating that the local governmental entity or district school board has complied with this section.

The Florida Impact Fee Act is further reinforced through existing Florida case law and the Municipal Home Rule Powers Act that grants Florida municipalities the governmental, corporate, and proprietary powers to enable them to conduct municipal government, perform municipal functions, and render municipal services, as limited by legislation or as prohibited by state constitution or general law. Florida courts have ruled that the Municipal Home Rule Powers Act grants the requisite power and authority to establish valid impact fees. The authority for Florida governments to implement valid system impact fees is further granted in the Florida Growth Management Act of 1985[1].

The initial precedent for impact fees in Florida was set in the Florida Supreme Court decision, *Contractors and Builders Association of Pinellas Authority v. The City of Dunedin, Florida*. In this case, the Court's ruling found that an equitable cost recovery mechanism, such as impact fees, could be levied for a specific purpose by a Florida municipality. An impact fee should not be considered as a special assessment or an additional tax. A special assessment is predicated upon an estimated increase in property value as a result of an improvement being constructed in the vicinity of the property. Further, the assessment must be directly and reasonably related to the benefit that the property receives. Conversely, impact fees are not related to the value of the improvement to the property, but rather to the property's use of the public facility.

Until property is put to use and developed, there is no burden upon servicing facilities and the land use may be entirely unrelated to the value or assessment basis of the underlying land. Impact fees are distinguishable from taxes primarily in the direct relationship between amount charged and the measurable quantity of public facilities required to provide service. In the case of taxation, there is no requirement that the payment be in proportion to the quantity of public services consumed since tax revenue can be expended for any legitimate public purpose.

Based on Section 163.31801 of the Florida Statutes and existing Florida case law, certain conditions are required to develop a valid impact fee. Generally, it is our understanding that these conditions involve the following issues:

1. The impact fee must meet the "dual rational nexus" test. First, impact fees are valid when a reasonable impact or rationale exists between the anticipated need for additional capital facilities and the growth in population. Second, impact fees are valid when a reasonable association, or rational nexus, exists between the expenditure of the impact fee proceeds and the benefits accruing to the growth from those proceeds. Thus, the "dual rational nexus" test requires that impact fees should be based on the cost of projects necessitated by growth, and when collected, these fees should be spent on those same growth-related projects that were identified as the basis for the fees.

2. The system of fees and charges should be set up so that there is not an intentional windfall to existing users.

[1] The Act allows for impact fees under land use regulation by stating:
"This section shall be construed to encourage the use of innovative land development regulations, which include provisions such as the transfer of development rights, incentive and inclusionary zoning, planned unit development, impact fees, and performance zoning."—Florida Statutes, Sec. 163.3202(3).

3. The impact fee should only cover the capital cost of construction and related costs thereto (engineering, legal, financing, administrative, etc.) for capital expansions or other additional capital requirements that are required solely due to growth. Therefore, expenses due to rehabilitation or replacement of a facility serving existing customers (e.g., replacement of a capital asset) or an increase in the level of service should be borne by all users of the facility (i.e., existing and future users). Likewise, increased expenses due to operation and maintenance of that facility should be borne by all users of the facility.

4. The County should maintain an impact fee resolution that explicitly restricts the use of impact fees collected. Therefore, impact fee revenue should be set aside in a separate account, and separate accounting must be made for those funds to ensure that they are used only for the lawful purposes described above.

5. The County shall provide advanced notice of not less than ninety (90) days before the effective date of a resolution amending the existing impact fees.

Based on the criteria above, the access fees developed in subsequent sections herein: i) include only the cost of capital facilities necessary to serve growth; ii) do not reflect renewal and replacement of any existing capital assets currently serving existing users; and iii) do not include any costs of operation and maintenance.

IMPACT FEE METHODOLOGY

There are several different methods generally recognized for the calculation of impact fees. The calculation is dependent on the type of fee being calculated (e.g., water, police services, transportation, etc.), cost and engineering data available, and the availability of other local data such as household and population projections, current levels of service, and other related items. The proposed impact fees reflected in this report generally considered the blending of two methods. These two methods are: i) the improvements-driven method; ii) and the "buy-in" method. These two methods have been utilized in the development of impact fees for local governments in Florida.

The improvements-driven method is an approach that utilizes a specific list of planned capital improvements over a period of time. For example, the fee may correspond to the level of capital improvements that have been identified in the capital improvements element of the Comprehensive Land Use Plan or capital improvement budget of the local government. The buy-in approach recognizes the existing historical investment in the currently-in-service capital facilities that have capacity available to serve new customers. The primary difference between the three methodologies is how the capital costs, which must be recovered from the application of the fee, are calculated.

The development of the access fees in this report was primarily based on a hybrid or blending of these the improvements-driven and system buy-in methods. This hybrid methodology recognizes the cost of existing available and unused capacity available from existing facilities, which are currently in service and available to meet near-term growth requirements, along with incremental costs for new facilities to derive a blended cost allocable to new growth over the next several years.

The following section of this report will address the development and design of the wastewater utility service access fees. It will include a discussion on level of service requirements, capital costs, and the design of the fees themselves.

(Remainder of page intentionally left blank)

Wastewater Utility Access Fees

GENERAL

This section provides a discussion of the development and design of the access fees for wastewater services, (the "Access Fees"). Included in this section is a discussion of the level of service requirements, capital costs, included as the basis for the determination of the fee, and the design of the fee to be applied to new growth within the County.

WASTEWATER SYSTEM OVERVIEW

The County's wastewater system ("Wastewater System") includes wastewater treatment, transmission, and collection facilities. These treatment facilities are capable of treating 1.2 million gallons per day ("MGD") average daily flow ("ADF"). The transmission and collection system is comprised of gravity and force mains along with lift stations and other supporting infrastructure.

LEVEL OF SERVICE REQUIREMENTS

In the evaluation of the capital facility needs for providing wastewater utility services, Level of Service ("LOS") standards must be established. Pursuant to Section 163.3164 of the Florida Statutes, the level of service means an indicator of the extent or degree of service provided by, or proposed to be provided by, a facility based on and related to the operational characteristics of the facility. Level of service shall indicate the capacity demand per unit for each public facility. The level of service standards is established in order to ensure that adequate facility capacity will be provided for future development and for purposes of issuing development orders or permits, pursuant to F.S. Section 163.3202(2)(g). As further stated in the statutes, each local government shall establish a LOS standard for each public facility located within the boundary for which such local government has authority to issue development orders or permits.

For wastewater service, the level of service that is commonly used in the industry is the amount of capacity (service) allocable to an equivalent residential connection (ERC) expressed as the amount of capacity (gallons) allocated on an average daily basis. The level of service generally represents the amount of capacity allocable to an ERC, whether or not such capacity is actually used (commonly referred to as the "readiness-to-serve"). As previously discussed, an ERC is representative of the average capacity required to service a typical individually-metered single-family residential connection. This class of users represents the largest number of customers served by Wastewater Systems and generally the lowest level of usage requirements for a specifically metered account. The current method of access fee application for its wastewater utility access fees is based on the meter size associated with the new customer account. The following table summarizes the Wastewater System's LOS levels:

Existing Level of Service for Residential Customers
1 Wastewater ERC = 250 gpd (ADF)

gpd = gallons per day
ADF= Average Daily Flow

These LOS standards are consistent with the capacity planning and Florida Department of Environmental Protection ("FDEP") permitting requirements for the County and are also generally comparable with those utilized by other utilities throughout the state of Florida.

EXISTING PLANT-IN-SERVICE

In the determination of the Access Fees associated with the servicing of future customers, any excess capacity of the existing utility system available to serve such growth was considered. Since this capacity is available to serve the near-term customer growth of the System, it is appropriate to evaluate the cost and capacity availability of such facilities. In order to evaluate the availability of the existing utility assets-in-service to meet future capacity needs, it was necessary to functionalize the asset by specific requirement. The functionalization of the existing assets is necessary to: i) identify those assets that should be included in the determination of the access fees; and ii) match existing asset type to the capital improvements to meet future service needs.

The functional cost categories are based on the purpose of the assets and the utility function that such assets serve. The following is a general summary of the functional cost categories for the utility assets-in-service identified in this report.

Functional Asset Categories	
Wastewater Service [*]	Other Plant
Land	Equipment
Facilities / Infrastructure – Treatment & Transmission	N/A

[*] Amounts shown would not include any assets that were contributed by a developer (primarily wastewater collection lines) or grant funded.

It is necessary to categorize the utility assets into functional cost categories so that a proper fee can be developed. Generally, the costs of on-site facilities that serve a specific development or customer such as wastewater collection lines and meters are usually: i) donated by a developer (a contribution of the plant); ii) recovered from the individual properties through an assessment program based on those properties that receive special benefit from such facilities or from the application of a main line extension fee to recover the specific cost of such facilities; or iii) funded from the customer directly (e.g., by a "front-foot" charge where the on-site lines were initially financed by the utility and then paid by the customer or an installation charge to recover the cost of a new service line and/or the meter) and the cost of such on-site facilities are not included in Access Fees. Access Fees are typically based on the cost of facilities that serve the entire utility system such bulk transmission lines and treatment plants.

The County provided Raftelis with a fixed asset register report identifying the fixed assets in service by function as of September 30, 2019 for the System. The summary of the functionalization of the existing utility plant is included in Tables 2-1 and 2-2 at the end of this section. This functionalization of the existing utility assets-in-service represents the original cost of such assets (gross book value) and was based on the reported in-service values as of September 30, 2019 (the most recent Fixed Asset records available at the time of the start of the study). The following is a summary of the functionalization of the System's existing utility plant-in-service as shown in Tables 2-1 and 2-2:

(Remainder of page intentionally left blank)

Wastewater System Fixed Assets		
	Wastewater System [1]	
Function	Amount	Percent
Land [1]	$402,317	1.1%
Treatment and Transmission [1]	29,936,542	78.8%
Collection [1]	6,543,398	17.2%
Equipment [1]	1,131,593	2.9%
Total Assets [1]	$38,013,850	100.0%
Total Assets [1][2]	$38,013,850	100.0%
Grant / Contributed Funding [1][2]	(9,838,946)	(25.9%)
Collection [2]	(6,543,398)	(17.2%)
Renewal and Replacement Assets [1][2]	(495,811)	(1.3%)
Equipment [1]	(1,131,593)	(2.9%)
Total Assets Recognized in Access Fee Calculation	$20,004,102	52.7%

[1] Amounts as provided by County staff and found on Tables 2-1 and 2-2.
[2] Amounts as shown on Table 2-4.

ADDITIONAL CAPITAL INVESTMENT

The County's Wastewater System Capital Improvement Program ("CIP") for the Fiscal Years 2020 through 2026, as prepared and estimated by the utility staff outlines the best estimate of future capital improvements for the System. It should be noted that the asset listing provided by the County was as of September 30, 2019 and due to the COVID-19 pandemic in 2020 not many projects were completed during 2020 which is why the 2021 through 2026 CIP was used. These capital projects include: i) upgrades and expansion of existing assets to accommodate both new and existing customers; and ii) replacements of existing assets or projects that generally are deemed to benefit current users of the System (e.g., existing plant renewal and replacement, reliability projects).

As shown on Table 2-3 at the end of this section, The CIP totals approximately $30.0 million in capital projects for the Wastewater System. It should be noted that the Wastewater System's CIP includes a $8.8 million capacity expansion of 6.0 MGD ADF along with significant additional investment in transmission system expansions and upgrades as well.

Based on our understanding of the fair share apportionment rule as identified by case law, only production / treatment and major backbone transmission costs were recognized in the wastewater access fee calculations. General transmission and collection project costs were not recognized because they: i) generally are not System-wide costs (i.e., collection project costs tend to benefit specific customer locale); ii) in many instances, are funded by a specific charge applied to a customer (e.g., water meter installation fee); and iii) are often contributed as part of the development process (e.g., it would not be fair for a developer who has contributed the collection assets to pay an access fee which includes recovery of collection projects).

(Remainder of page intentionally left blank)

A summary of all the adjustments that were made in order to arrive at the treatment and major transmission costs recognized for the calculation of impact fees are shown as follows:

Derivation of Treatment and Major Transmission Capital Costs Recognized in Access Fee Study [1]	
	Wastewater System
Projects in Utility's CIP [1]	$29,974,276
Adj. to Remove R&R Related Projects [2]	(3,184,078)
Adj. to Remove Grant Funded Projects [2]	(17,632,849)
Total Treatment and Major Transmission Capital Costs Recognized in Access Fees	$9,157,350

[1] Amounts shown derived from Table 2-3.
[2] Amounts shown derived from Table 2-4.

DESIGN OF WASTEWATER SYSTEM ACCESS FEE

As shown on Table 2-4 at the end of this section, the total calculated access fee for the Wastewater System is $4,050 per ERC. This represents an increase in the fee of $200 or 5.2% when compared with the current fee of $3,850 per ERC. The reason for this increase is that the system has a higher cost per unit of capacity than what was calculated previously due to the increased costs associated with Wastewater System capacity based on the CIP.

In the development of the proposed Wastewater System Access Fee, several assumptions were utilized or incorporated in the analysis. The major assumptions utilized in the design of the proposed Wastewater System Access Fee are:

1. The existing assets of the Wastewater System as provided by the County were reviewed and categorized by function in order to identify those assets that should be included in the determination of the impact fee. The major categories were: i) Land; ii) Treatment and Transmission; and iii) equipment. For the assets identified as Land, Treatment, and Transmission, which benefit both existing and future users, the total cost of such assets have been recognized in the analysis.

2. The Wastewater System capital improvement program as prepared by staff for the Fiscal Years 2020 through 2026 was reviewed and the capital costs were apportioned: i) by functional category; and ii) to existing and future users in the determination of the Wastewater System Access Fee. Those facilities that were considered to be allocable to growth were included in the fee determination at full cost (i.e., 100% of the total cost). The single largest project that is 100% growth related is the 0.6 MGD plant expansion at a cost of $8.8 million and other significant conveyance system expansions. For capital expenditures, which were solely for the replacement of existing assets, which would benefit existing customers or were considered as an on-site cost (provide service to a local area such as a development, which would normally be constructed and subsequently contributed to the System by a developer), such amounts were not reflected as a cost to be recovered from the application of the wastewater access fee. The CIP capital costs recognized in the Wastewater System Access Fee analysis are shown on Table 2-3 at the end of this report.

3. For the capital improvements identified as transmission system upgrades, which would benefit both existing and future users, the total cost of such improvements has been recognized in the analysis. These costs were

allocated to existing and future customers based on capacity relationships and the project information as provided by the County.

4. No capital facility costs associated with the existing collection facilities, including local lift stations, manholes, laterals, and on-site collection facilities have been included in the calculation of the Wastewater System Access Fees since the developer generally contributes such facilities, or County has adopted a separate fee (e.g., wastewater tap-on fee) to recover such capital additions. All capital improvements to such respective facilities in the CIP were also not recognized in the Wastewater System Access Fee analysis.

5. Because: i) the utility system is operated as an enterprise fund; ii) all financial resources received by the System stay within the fund for the benefit of such system; iii) the costs reflected in the fee are at original cost and not adjusted for any fair market value to reflect current cost conditions; iv) there is no interest-expense carry in the impact associated with the financing of the capital investment to serve new development and v) there are no other revenues received by the County from new development for the capital costs / utility plant reflected in the tap-on (e.g., ad valorem taxes on the property), no credit for the future payment of debt service allocable to the properties has been recognized. All access fee funds remain in the system and the long-term capital financing costs for infrastructure construed and available to serve new growth are mitigated by using the access fees for ongoing expansion-related capital project financing or for the direct payment of the annual expansion-related debt service payments.

As shown on Table 2-5 at the end of this section, the Wastewater System Access Fee was calculated utilizing: i) the estimated transmission-related capital costs of the Wastewater System; ii) the treatment / disposal-related capital costs for the Wastewater System; and iii) current fixed asset and plant capacity data available to Raftelis regarding the County's Wastewater System. By designing the Wastewater System Access Fees to recover costs on a prospective basis, an attempt is made to design a charge that will provide funds on a reasonable basis in order to meet the future needs of the Wastewater System. It should be noted that in the event the construction costs, capacity requirements, or utility service area materially change from what is reflected on Tables 2-3 and 2-4, the Wastewater System Access Fees may need to be adjusted accordingly.

As shown on Table 2-4 at the end of this section, the calculated Wastewater System Impact fee $4,050 per ERC, which is $200 or 5.2% higher than the existing Wastewater System Impact Fee of $3,850 per ERC. This fee would be the per ERC amount that an account would be charged in accordance with the County's access fee application methodology.

ACCESS FEE COMPARISONS

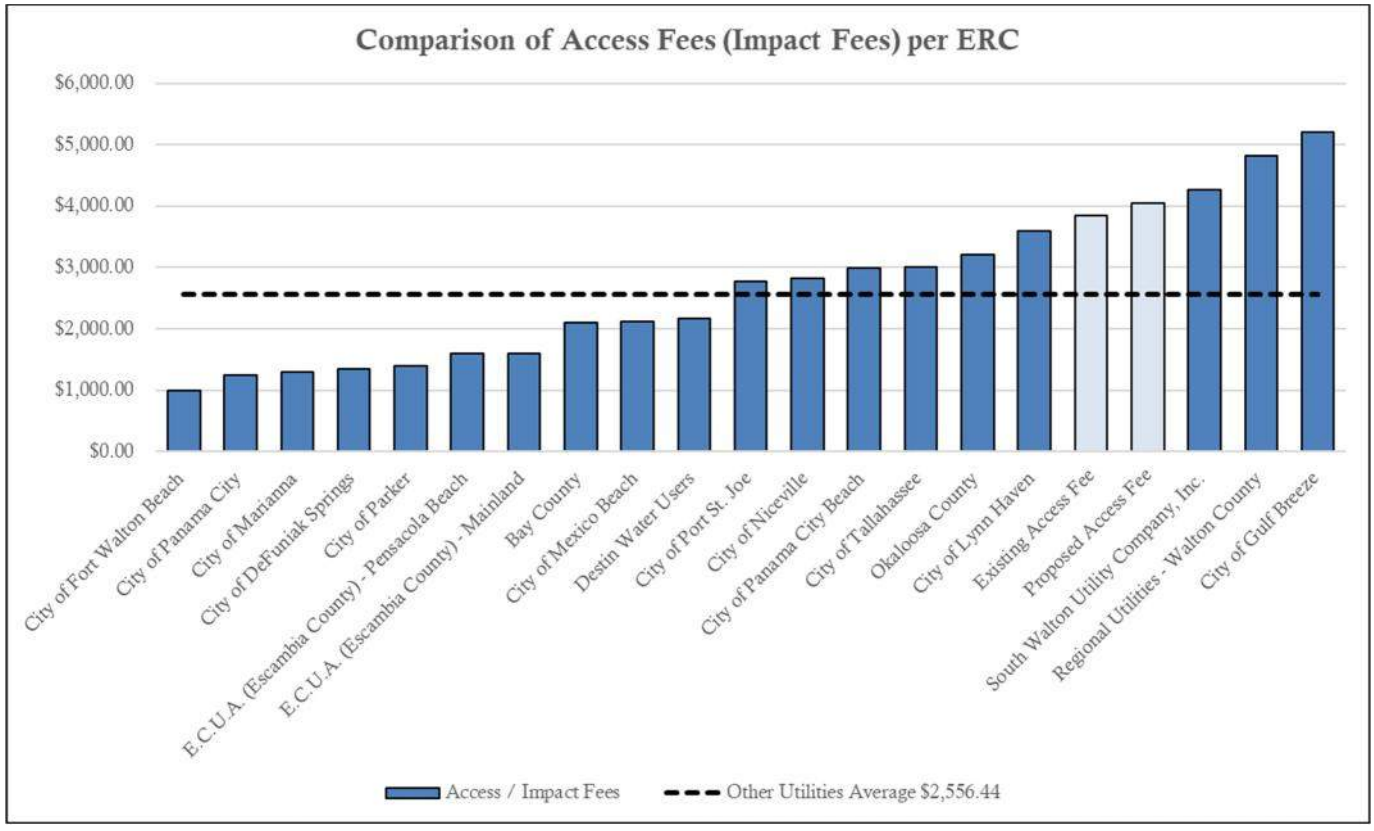
In order to provide additional information to County regarding the existing and proposed Access Fees, a comparison of the existing and calculated fees for the County with similar related capital charges imposed by of other Florida jurisdictions was prepared. Table 2-5 at the end of this section, provides a comparison of the County's existing and proposed Access Fees for single-family residential connections (i.e., one ERC of 250 gpd for the Wastewater System) with the fees or comparable charges currently imposed by other municipal / governmental wastewater systems located across Florida. It is important to note that utilities may be different from a facility standpoint, and the methods used in the development of the wastewater impact fees imposed may vary. Moreover, no analysis has been performed to determine whether 100% of the cost of new facilities is recovered from impact fees or some percentage less than 100% with the balance recovered through the user charges. Additionally, the types of capital facilities currently in service or planned for the utility may have a material impact fee charged by a local government. For

example, the costs of wastewater effluent disposal utilizing a deep injection well system generally has a higher capital cost per unit of capacity than use of a surface water discharge such as an outfall to a bay or river.

Some reasons why impact fees differ among utilities:

- Type of treatment
- Effluent disposal method
- Density of service area
- Availability of grant funding to finance CIP
- Age of system
- Utility life cycle (e.g., growth-oriented vs. mature)
- Level of service standards
- Administrative policies

As shown on Table 2-5, the average Wastewater System Impact Fees per ERC for the nineteen (19) governmental entities selected for this comparison are $2,556 per ERC. Of the surveyed utilities, the City of Gulf Breeze has the highest wastewater fees at $5,200 per ERC. City of Fort Walton Beach with a wastewater fee of $1,000 had the lowest of the surveyed utilities. The proposed wastewater access fees, while comparable, are still higher than similar fees charged by the surveyed utilities. Below is a chart showing the comparison of access / impact fees detailed further on Table 2-5.



FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Based on our assumptions, considerations, and analyses as summarized herein, Raftelis offers the following findings and conclusions for consideration by the Board of County Commissioners:

- The County should consider adopting the proposed wastewater utility Access Fees as shown above in this report.
- The County should review the wastewater utility Access Fees periodically (every three to five years) to account for recent development trends, changes in capital needs, and cost allocations.
- The County should continue to maintain separate accounting for the collection and usage of the Access Fees.
- The Access Fees cannot be collected before the issuance of a building permit by the County.
- The County should set an effective date for collection of the new Access Fees ninety (90) days from the date of adoption. This is to allow for a "grace period" for possible in-progress development and is required by the Florida Statutes.

(Remainder of page intentionally left blank)

List of Tables – Section 2

Table 2-1
Wakulla County
Wastewater Access Fee Study

Land and Facility Assets

Line No.	Object Code	Inventory #	Type	Fund #	Description	Date In Service	Life	Cost / Other Basis	Classification	Contributed	R&R
1	161900	161900	Land	435	Sewer - Land	10/1/1983	0.0	144,869.00	Land		
2	161900	161900	Land	435	Wakulla Gardens Lot 16	7/29/2008	0.0	9,548.36	Land		
3	161900	161900	Land	435	Wakulla Gardens Lot 49	7/29/2008	0.0	9,548.36	Land		
4	161900	161900	Land	435	Wakulla Gardens Lot 13	8/13/2008	0.0	8,583.24	Land		
5	161900	161900	Land	435	Wakulla Gardens Lot 13	2009	0.0	10,635.00	Land		
6	161900	161900	Land	435	Wakulla Gardens Lot 50	2009	0.0	9,915.00	Land		
7	161900	161900	Land	435	Wakulla Gardens Lot 21 / 22	2009	0.0	11,635.00	Land		
8	161900	161900	Land	435	Wakulla Gardens Lot 29	2009	0.0	10,135.00	Land		
9	161900	161900	Land	435	Wakulla Gardens Lot 48	2009	0.0	10,135.00	Land		
10	161900	161900	Land	435	Wakulla Gardens Lot 67	2009	0.0	7,635.00	Land		
11	161900	161900	Land	435	Wakulla Gardens Lot 5	2010	0.0	12,310.00	Land		
12	161900	161900	Land	435	Wakulla Gardens Lot 49	2010	0.0	9,285.00	Land		
13	161900	161900	Land	435	Wakulla Gardens Lot 7	2010	0.0	11,635.00	Land		
14	161900	161900	Land	435	Wakulla Gardens Lot 8 & 9	2010	0.0	15,635.00	Land		
15	161900	161900	Land	435	Wakulla Gardens Lot 45	2010	0.0	10,635.00	Land		
16	161900	161900	Land	435	Wakulla Gardens Lot 46	2010	0.0	10,135.00	Land		
17	161900	161900	Land	435	Wakulla Gardens Lot 48	2010	0.0	8,135.00	Land		
18	161900	161900	Land	435	Wakulla Gardens Lot 60	2010	0.0	11,635.00	Land		
19	161900	161900	Land	435	Wakulla Gardens Lot 62 & 63	2010	0.0	17,162.00	Land		
20	161900	161900	Land	435	Wakulla Gardens Lot 21 & 22	2011	0.0	12,574.27	Land		
21	161900	161900	Land	435	Hwy 98/Spring Creek Lift Station - J. Moore	2011	0.0	5,000.00	Land		
22	161900	161900	Land	435	Magnolia Gardens Block A Lot 160	5/5/2016	0.0	5,199.78	Land		
23	161900	161900	Land	435	Wakulla Gardens Block 26 Lot 67	1/22/2016	0.0	2,050.00	Land		
24	161900	161900	Land	435	Wakulla Gardens Block 16 Lot 16	1/22/2016	0.0	1,550.00	Land		
25	161900	161900	Land	435	Wakulla Gardens Block 26 Lot 16	1/22/2016	0.0	1,550.00	Land		
26	161900	161900	Land	435	Magnolia Gardens Parcel#00-00-078-013-11161-000 .114 acres	2017	0.0	5,559.75	Land		
27	161900	161900	Land	435	Wakulla Heights Parcel#00-00-041-079-09791-011 .229 acres	2017	0.0	6,000.00	Land		
28	161900	161900	Land	435	Wakulla Business Center Parcel #00-00-089-310-11598-005 .09 acres	2017	0.0	6,250.00	Land		
29	161900	161900	Land	435	Magnolia/Wakulla Gardens 00-00-078-013-10800-000	2018	0.0	3,526.45	Land		
30	161900	161900	Land	435	Magnolia/Wakulla Gardens 00-00-034-009-08321-000	2018	0.0	5,329.59	Land		
31	161900	161900	Land	435	4 lots in Wakulla Gardens for future use	2018	0.0	8,521.48	Land		
32	164900	164900	Sewer	435	Sewer Improvement	5/1/1992	5.0	3,352.00	Facilities		
33	164900	164900	Sewer	435	Pump	3/1/1991	7.0	3,370.00	Facilities		
34	164900	164900	Sewer	435	Wastewater Treatment Plant	6/25/2003	39.0	8,754.00	Facilities		
35	164900	164900	Sewer	435	Lawhon Mill Plant	10/1/1983	39.0	4,180,233.30	Facilities		
36	164900	164900	Sewer	435	CDBG Sewer	3/31/2004	39.0	900,873.88	Facilities	Contributed	
37	164900	164900	Sewer	435	Sewer - Contributed	10/1/1990	39.0	3,231,147.00	Facilities	Contributed	
38	164900	164900	Sewer	435	Sewer - Contributed	5/1/1999	39.0	315,250.00	Facilities	Contributed	
39	164900	164900	Sewer	435	Sewer - Contributed	5/1/1999	39.0	943,532.00	Facilities	Contributed	
40	164900	164900	Sewer	435	Sewer - Contributed	5/1/1999	39.0	701,218.00	Facilities	Contributed	
41	164900	164900	Sewer	435	Sewer - Contributed	9/1/1999	39.0	214,713.00	Facilities	Contributed	
42	164900	164900	Sewer	435	Sewer - Contributed	8/1/2006	39.0	1,075,587.00	Facilities	Contributed	
43	164901	164901	Sewer	435	Sheriff's Sewer	2/14/2006	7.0	51,338.65	Facilities		
44	164901	164901	Sewer	435	Crawfordville Sewer	9/1/1999	39.0	4,061,040.27	Facilities		
45	164901	164901	Sewer	435	Crawfordville Improvement	6/1/2000	39.0	54,981.97	Facilities		
46	164901	164901	Sewer	435	Hidden Meadows - Contributed	9/30/2007	39.0	759,278.00	Facilities	Contributed	
47	164901	164901	Sewer	435	Linzy Mills - Contributed	9/30/2007	39.0	261,005.00	Facilities	Contributed	
48	164901	164901	Sewer	435	Ruby Hills - Contributed	9/30/2007	39.0	125,000.00	Facilities	Contributed	
49	164901	164901	Sewer	435	Tuscany Trace - Contributed	9/30/2007	39.0	180,000.00	Facilities	Contributed	
50	164902	164902	Sewer	435	Panacea Sewer	5/1/1999	39.0	943,532.18	Facilities		
51	164902	164902	Sewer	435	Panacea Sewer L/S #8 Rebuild	2013	39.0	99,742.63	Facilities		R&R
52	164902	164902	Sewer	435	Panacea Sewer Improvement	9/1/2001	39.0	41,798.50	Facilities		
53	164902	164902	Sewer	435	Silver Glen Ph. II - Contributed	9/30/2007	39.0	422,800.00	Facilities	Contributed	
54	164902	164902	Sewer	435	Refuge @ Panancea - Contributed	9/30/2007	39.0	358,750.00	Facilities	Contributed	

Table 2-1
Wakulla County
Wastewater Access Fee Study

Land and Facility Assets

Line No.	Object Code	Inventory #	Type	Fund #	Description	Date In Service	Life	Cost / Other Basis	Classification	Contributed	R&R
55	164902	164902	Sewer	435	Panacea Sewer L/S #3 Pump Replacement	8/11/2014	10.0	7,770.50	Facilities		R&R
56	164902	164902	Sewer	435	Panacea Sewer L/S #3 Pump Replacement	8/11/2014	10.0	7,770.50	Facilities		R&R
57	164902	164902	Sewer	435	Panacea Sewer L/S #3 Structure Rehabilitation	9/30/2014	25.0	53,156.52	Facilities		R&R
58	164903	164903	Sewer	435	Shadeville Sewer	3/31/2004	39.0	139,379.68	Facilities		
59	164904	164904	Sewer	435	Wakulla Spring Sewer	3/31/2004	39.0	328,245.49	Facilities		
60	164906	164906	Sewer	435	Otter Creek Sewer	3/31/2004	39.0	23,406.00	Facilities		
61	164907	164907	Sewer	435	319 Expansion to CR267	7/1/2008	39.0	211,099.05	Facilities		
62	164907	164907	Sewer	435	319 North Sewer Extension	2009	39.0	52,760.45	Facilities		
63	164907	164907	Sewer	435	Flowers - 319 Expansion to CR267 - Contributed	7/1/2008	39.0	209,791.95	Facilities	Contributed	
64	164907	164907	Sewer	435	School Board - 319 Expansion to CR267 - Contributed	7/1/2008	39.0	140,000.00	Facilities	Contributed	
65	164908	164908	Sewer	435	Hickory Park Lift Station Structure Rehabilitation	9/30/2014	25.0	14,840.47	Facilities		R&R
66	164908	164908	Sewer	435	Hickory Park Lift Station Structure Rehabilitation	9/30/2015	25.0	10,343.00	Facilities		R&R
67	164908	164908	Sewer	435	Hickory Park Lift Station Structure Rehabilitation	9/30/2016	25.0	302,187.50	Facilities		R&R
68	164908	164908	Sewer	435	Medart Lift Station- Sewer	9/30/2019	25.0	875,410.26	Facilities		
69	164908	164908	Sewer	435	Medart Lift Station- Sewer	9/30/2019	25.0	350,785.81	Facilities		
70	164909	164909	Sewer	435	Reuse Line	2009	39.0	500.00	Facilities		
71	164909	164909	Sewer	435	Reuse Line	2010	39.0	527,201.75	Facilities		
72	164910	164910	Sewer	435	Wakulla Gardens 2006	9/30/2006	39.0	80,668.00	Facilities		
73	164910	164910	Sewer	435	Wakulla Gardens 2007	9/30/2007	39.0	380,319.95	Facilities		
74	164910	164910	Sewer	435	Wakulla Gardens 2008	9/30/2007	39.0	34,295.00	Facilities		
75	164910	164910	Sewer	435	Wakulla Gardens 2009	2009	39.0	500.00	Facilities		
76	164910	164910	Sewer	435	Wakulla Gardens Extension	2011	39.0	280,337.02	Facilities		
77	164910	164910	Sewer	435	Wakulla Gardens Phase I Retrofit	09/30/2019	39.0	992,081.85	Facilities		
78	164910	164910	Sewer	435	Wakulla Gardens Phase I Retrofit	09/30/2019	39.0	401,869.25	Facilities		
79	164910	164910	Sewer	435	Wakulla Gardens Phase I Retrofit	09/30/2019	39.0	4,234,196.27	Facilities		
80	164911	164911	Sewer	435	Medart Extension	8/1/1996	39.0	154,833.00	Facilities		
81	164912	164912	Sewer	435	Buckhorn Expansion	2009	39.0	67,352.71	Facilities		
82	164912	164912	Sewer	435	Buckhorn Expansion	9/1/2008	39.0	528,261.34	Facilities		
83	164913	164913	Sewer	435	Oyster Bay Transfer Line (Talquin)	2013	39.0	1,088,415.57	Facilities		
84	164914	164914	Sewer	435	Magnolia Gardens Sewer Retrofit Phase I	9/30/2019	39.0	4,305,181.39	Facilities		
85	164914	164914	Sewer	435	Magnolia Gardens Sewer Retrofit Phase II	9/30/2019	39.0	635,360.95	Facilities		
86	164914	164914	Sewer	435	Magnolia Gardens Sewer Retrofit Phase I	9/30/2019	39.0	702,068.32	Facilities		
87	164914	164914	Sewer	435	Magnolia Gardens Sewer Retrofit Phase II	9/30/2019	39.0	402,253.25	Facilities		
88	Total							$36,882,257.46		$9,838,945.83	$495,811.12

Table 2-2
Wakulla County
Wastewater Access Fee Study

Equipment Assets

Line No	Department Code	Asset Tag	Purchase Cost	Purchase Date	Manufacturer	Model	Serial No	Asset Description	Custodian	Site	Location	Asset Type	Paid From
1	WW	622	$100.00					Table	ESG Operations	Wastewater Treatment Plant	Office	Furniture	
2	WW	WC2771	46,209.40	1/1/1999	CAT	416C	4ZN16310	1999 Backhoe WW-4	ESG Operations	Wastewater Treatment Plant	Yard	Heavy Equipment 7	
3	WW	WC4615	7,524.80	1/1/2008	John Deere	HPX	M0HX0PA036838	Gator 4 X 4 utility vehicle	ESG Operations	Wastewater Treatment Plant	Yard	Utility Vehicle 5	
4	WW	WC4670	97,996.25	1/1/2008	Mack	CHU Series 613	1M1AN09YX8N002075	2009 sludge hauling	ESG Operations	Wastewater Treatment Plant	Yard	Mack Truck	
5	WW	WC4672	56,642.00	1/1/2008	Chevrolet		1GBE4C1G78F410363	2008 boom truck	ESG Operations	Public Works Facility	Yard	Chevy Truck 5	
6	WW	WC4709	49,503.25	1/1/2008	Travis	T-96 Powerlite	48X1F392091006543	39' Dump Trailer - Sludge Hauler Trailer	ESG Operations	Wastewater Treatment Plant	Yard	Trailer 7	
7	WW	WC5169	985.00	1/1/2009			5THBU10168L002168	6 X 10 utility trailer		Wastewater Treatment Plant	Yard	Trailer 7	
8	WW	WC5179	1,070.00	1/1/2009	Schrader Bridgeport	NAC82-4256-VAT	140063	Nitro Air Compressor 5HP	ESG Operations	Wastewater Treatment Plant	Plant	Miscellaneous	
9	WW	WC5305	4,353.00	1/1/2010	Radiodetection	7KDL-275	TX10-374	Locater	ESG Operations	Wastewater Treatment Plant	Plant	Miscellaneous	
10	WW	WC5354	3,140.00	1/1/2010	Honda	EU6500	EASJ1033191	Emergency generator	ESG Operations	Mobile	Truck	Generator 5	
11	WW	WC5440	54,060.00	12/1/2010	CAT	D175-2	CAT00C66CN6D01934	Emergency generator	ESG Operations	Lift Station	Portable	Generator 5	435-ACC.8000-07.535.5640
12	WW	WC5687	319.95	4/3/2012	Stihl	FS90R	287933115	Weed trimmer	ESG Operations	Wastewater Treatment Plant	Office	Trimmer	
13	WW	WC5699	3,001.32	2/19/2013	Algae X	FPS-FX-LD-12	B-19-0042-FFX	Smart fuel polishing system	ESG Operations	Lift Station	Generator	Miscellaneous	
14	WW	WC5700	3,001.32	2/19/2013	Algae X	FPS-FX-LD-12	B-13-0043-FFX	Smart fuel polishing system	ESG Operations	Lift Station	Generator	Miscellaneous	
15	WW	WC5701	3,001.32	2/19/2013	Algae X	FPS-FX-LD-12	B-13-0044-FFX	Smart fuel polishing system	ESG Operations	Lift Station	Generator	Miscellaneous	
16	WW	WC5827	15,566.00	7/18/2013	Ford	F-150	1FTMF1CM3DFC95912	2013 Ford F-150 truck	ESG Operations	Wastewater Treatment Plant	Yard	Ford Truck 5	435.8000.535.5645
17	WW	WC6081	875.00	1/1/1994	Allegro	9505	170245	Manhole blower	ESG Operations	Wastewater Treatment Plant	Yard	Blower	
18	WW	WC6083	10,000.00	1/1/2009	CAT		G5A03585	Emergency generator	ESG Operations	Lift Station	Portable	Generator 5	
19	WW	WC6084	20,000.00	1/1/2009	CAT		CAT00000GBE00342	Emergency generator	ESG Operations	Lift Station	Portable	Generator 5	
20	WW	WC6085	20,000.00	1/1/2009	CAT		CAT00000HGBE000344	Emergency generator	ESG Operations	Lift Station	Portable	Generator 5	
21	WW	WC6086	20,000.00	1/1/2010	CAT	D30-10	CAT00000LGBE00343	Emergency generator	ESG Operations	Lift Station	Portable	Generator 5	
22	WW	WC6087	20,000.00	1/1/2012	CAT	D100-6	CAT00C44CD4B02320	Emergency generator	ESG Operations	Lift Station	Portable	Generator 5	
23	WW	WC6088	25,000.00	1/1/1996	CAT	3208	30A02736	Emergency generator	ESG Operations	Wastewater Treatment Plant	Plant	Generator 5	
24	WW	WC6386	40,505.53	12/23/2013	Godwin	CD150M	13617820-1	Dri-prime bypass pump with trailer - WW-19	ESG Operations	Wastewater Treatment Plant	Portable	Pump 7	435.8000.535.5645 & 160-2CT
25	WW	WC6538	8,068.83	6/29/2015	John Deere	Z930M	TC960MCHFT033102	2015 Zero Turn Riding Mower - WW-20	ESG Operations	Wastewater Treatment Plant	Yard	Riding Mower 5	435.8000.535.5645
26	WW	WC6543	24,999.99	8/11/2015	Chevrolet	1500 4WD	1GCVKPEC3FZ379771	2015 double cab 4X4 truck - white	ESG Operations	Wastewater Treatment Plant	Yard	Chevy Truck 5	
27	WW	WC6550	12,350.00	8/28/2015	Mala	22-005010	14591005	Ground penetrating radar system with rough terrain cart - WW-21	ESG Operations	Wastewater Treatment Plant	Portable	Miscellaneous	435.8000.535.5645
28	WW	WC6591	41,050.40	12/31/2015	Godwin	CD150M	M15631272-01	Silenced Dri-Primed Bypass Pump - WW-22	ESG Operations	Wastewater Treatment Plant	Portable	Pump 7	435.8000.535.5645
29	WW	WC6592	41,050.40	12/31/2015	Godwin	CD150M	M15631272-3	Bypass pump - RB-59	ESG Operations	Wastewater Treatment Plant	Portable	Pump 7	160-2CT.7000.541.5645
30	WW	WC6769	21,610.45	3/6/2017	Chevrolet	Silverado 1500	1GCNCNEC3HZ248103	2017 2WD regular cab truck - white	ESG Operations	Wastewater Treatment Plant	Yard	Chevy Truck 5	435.8000.535.5645
31	WW	WC6770	21,610.45	3/6/2017	Chevrolet	Silverado 1500	1GCNCNEC9HZ246078	2017 2WD regular cab truck - white	ESG Operations	Wastewater Treatment Plant	Yard	Chevy Truck 5	435.8000.535.5645
32	WW	WC6808	995.00	12/10/2015	Godwin	GWP-100HX	140301267	4" Wet Prime Dewatering Pump w/ Honda GX240 Motor		Wastewater Treatment Plant	Portable	Pump 7	
33	WW	WC6837	359.95	8/22/2017	Stihl	FS94R	512611750	Weedeater Trimmer	ESG Operations	Wastewater Treatment Plant	Portable	Trimmer	160.7000.541.5640
34	WW	WC6863	323,981.84	10/30/2017	Freightliner/Vac Con	M2-112/V390LHA	1FVAG3FE8JHJS1161	2018 4 x 6 Tandem Axle Truck w/ Mounted Vac-Con Sewer Cleaner (VAC Truck)	ESG Operations	Wastewater Treatment Plant	Yard	Heavy Equipment 7	
35	WW	WC6870	799.00	3/8/2017	Pressure Pro	PPS2533HCI	16-10685	2.5 GPM Pressure Washer	ESG	Wastewater Treatment Plant	Portable	Miscellaneous	435.8000.545.5640
36	WW	WC6871	269.00	3/8/2017	Stihl	FS90R	506539153	Loop Hole Trimmer - Weedeater	ESG	Wastewater Treatment Plant	Portable	Trimmer	
37	WW	WC6906	1,066.46	5/23/2018	Stihl	TS-500i	182747045	Concrete Saw - COS-4	ESG Operations	Wastewater Treatment Plant	Portable	Saw	435.8000.535.5640
38	WW	WC6920	47,630.35	1/23/2018	Ford	F-350	1FDRF3HT6JEC64488	White Ford Super Duty F-350 4x4 Reg. Cab. Diesel Engine	ESG Operations	Public Works Facility	Yard	Ford Truck 5	435.8000.535.5645
39	WW	WC6923	5,429.00	8/24/2018	Bobcat	LT313	45414902	2018 BobcatGray Trenching Attachment	ESG Operations	Public Works Facility	Yard	Heavy Equipment 7	435.8000.535.5645
40	WW	WC6952	2,812.00	10/24/2018	Manitowoc	KDT-0300A-161	1120450874, 1120435535	Manitowoc Koolaire Cuber Ice Machine and 300 lb Ice Storage Bin	ESG Operations	Wastewater Treatment Plant	Office	Appliance 5	435.8000.535.5640
41	WW	WC6986	3,758.51	3/25/2019	Hach	HQ40d	1.901E+11	Hach Metter with 3 Probes	ESG Operations	Wastewater Treatment Plant	Plant	Miscellaneous	435.8000.535.5640
42	WW	WC6997	1,771.00	4/11/2019	TIG	K5126-1	M1390312553	TIG 200 Wave TIG Welder	ESG Operations	Wastewater Treatment Plant	Plant	Miscellaneous	435.800.535.5640
43	WW	WC7016	1,347.16	4/17/2019	JET	JDP-20MF	19045978	20" Jet Drill Press	ESG Operations	Wastewater Treatment Plant	Portable	Miscellaneous	435.8000.535.5640
44	WW	WC7036	1,285.29	9/23/2019	Hach	2100Q	19010c073810	Turbity Meter Kit	ESG Operations	Wastewater Treatment Plant	Lab	Miscellaneous	435.8000.535.5640
45	WW	WC7048	52,824.15	10/29/2019	John Deere	5090E	1LV5090ECKK402604	John Deere 5 Series Tractor	ESG Operations	Wastewater Treatment Plant	Yard	Heavy Equipment 7	435.8000.535.5645
46	WW	WC7051	1,550.00	10/17/2019	Superior	IOS	H1627	Manhole Air/Smoke Blower	ESG Operations	Wastewater Treatment Plant	Yard	Miscellaneous	435.8000.535.5640
47	WW	WC7052	1,161.20	11/1/2019	Raven	F-10300	100259	Laboratory Centrifuge	ESG Operations	Wastewater Treatment Plant	Plant	Miscellaneous	435.8000.535.5640
48	WW	WC7053	762.20	11/4/2019	Schonstedt	67SCMAGGIE	374887	Schonstedt Maggie Mag Locator	ESG Operations	Wastewater Treatment Plant	Plant	Miscellaneous	435.8000.535.5640
49	WW	WC7056	1,800.00	11/1/2019	Ohaus	MB23		Moisture Analyzer Machine	ESG Operations	Wastewater Treatment Plant	Lab	Miscellaneous	435.8000.535.5640
50	WW	WC7076	7,965.77	1/20/2020	VEMSI/HTV	Pro Ultra 89686	21-1219ABCFNS1ACCA	Pro Ultra Push Sewer Camera with 150' Cable	ESG Operations	Wastewater Treatment Plant	Portable	Camera 7	435.8000.535.5645
51	WW	WC7181	429.99	4/21/2020	Stihl	HL91K	520225490	Hedge Trimmer	ESG Operations	Wastewater Treatment Plant	Portable	Trimmer	435.8000.535.5640
52	Total		$1,131,592.53										

Table 2-3
Wakulla County
Wastewater Access Fee Study

Detailed Capital Improvement Program [1]

Line No.	Description	Amount
	Wastewater System:	
	Collection System Phase 1 - Loan Funded	
1	*22,200 ft of 16" FM From US319 down Floyd Gray to WWTP*	$1,554,000
2	*20 Inch Valves*	47,000
3	*Conversion of 12" FM to Reuse Main*	100,000
4	*8,700 ft of 2"-inch low pressure main on US319/98*	108,750
5	*Jack & Bore Under 319 20"*	40,000
6	*LS#86 & #29 Conversion/Upgrade*	400,000
7	*Restoration*	93,000
8	*10% Bonds, Insurance, Mobilization, etc.*	234,000
9	*10% Contingency*	234,000
10	*Survey*	78,000
11	*Engineering Design (10%)*	65,400
12	*Construction Services (10 Months)*	50,000
	Collection System Phase 1 - RESTORE	
13	*7000 ft of 16" FM From LS 76 to Rewhinkle Road*	$420,000
14	*Rewhinkle Road to US 319 20" FM 15,000*	1,125,000
15	*Bores*	100,000
16	*LS#76 Conversion/Upgrade*	500,000
17	*Conversion of 8-inch forcemain to reuse main*	65,000
18	*ARV's*	32,500
19	*20" Valves*	33,750
20	*16" Valves*	12,600
21	*Restoration*	69,000
22	*10% Bonds, Insurance, Mobilization, etc.*	235,785
23	*10% Contingency*	235,785
24	*Survey*	0
25	*Engineering Design (10%)*	271,100
26	*Construction Services (10 Months)*	0
	Collection System Phase 2 - Loan Funded	
27	*Alexander Lift Station, complete*	$500,000
28	*16-inch Forcemain From Alexader LS to US98*	882,000
29	*16-Inch Directional Bore*	90,000
30	*16-inch Valves and Fittings*	27,000
31	*Air Release Valves*	19,500
32	*Master Lift Station SCADA*	100,000
33	*Restoration (sod, seed and mulch, driveway repair, etc.)*	46,000
34	*10% Bonds, Insurance, Mobilization, etc.*	167,000
35	*10% Contingency*	167,000
36	*Engineering Design (10%)*	85,719
37	*Construction Services (10 Months)*	50,000
38	*12-inch Forcemain from Palmetto LS to Alexander LS*	588,000
39	*12-Inch Directional Bore*	90,000
40	*12-inch Valves and Fittings*	21,000
41	*6-inch Forcemain From Fox Run to Palmetto LS*	237,500
42	*6-inch Valves and Fittings*	8,000
43	*Air Release Valves*	32,500

Table 2-3
Wakulla County
Wastewater Access Fee Study

Detailed Capital Improvement Program [1]

Line No.	Description	Amount
44	*Restoration (sod, seed and mulch, driveway repair, etc.)*	73,000
45	*10% Bonds, Insurance, Mobilization, etc.*	105,000
46	*10% Contingency*	105,000
47	Engineering Design (10%)	85,719
48	*Construction Services (10 Months)*	50,000
	Treatment System	
49	*Sitework*	$100,000
50	*Master Influent Lift Station Screening*	340,000
51	*EQ Basin 500k Gallon*	300,000
52	*Master Lift Station 4.0MGD*	750,000
53	*0.6 MG AeroMod Train*	3,500,000
54	*R-AWT2 Reuse Pump Station*	280,000
55	*Yard Piping/Valves*	100,000
56	*Maintenance and Admin Building*	750,000
57	*Misc. Paving at WWTP*	125,000
58	*10% Bonds, Insurance, Mobilization, etc.*	624,500
59	*10% Contingency*	624,500
60	*Permitting Fees*	12,500
61	*Survey*	45,000
62	*Engineering Design EQ Basin and Master Influent Lift Station*	200,500
63	*Engineering Design 0.6MGD Aeromod Train 3*	397,700
64	*Environmental Services*	10,000
65	*Geotechnical Services*	15,000
66	*Construction Services*	180,000
	Discharge System - Sewer Fund	
67	*Land Appraisal*	$3,500
68	*Geo-Tech and Agronomy Due Diligence Study*	25,000
69	*Spray Irrigation system Evaluation*	25,000
70	*10% Bonds, Insurance, Mobilization, etc.*	0
71	*10% Contingency*	5,350
72	*Survey*	15,000
73	*Golf Course Land Purchase*	1,700,000
74	*Golf Course Irrigation Renovation*	250,000
75	*Insecticide and Herbicide Spraying of GC*	75,000
76	*Pond Construction*	100,000
77	*10% Bonds, Insurance, Mobilization, etc.*	0
78	*10% Contingency*	212,500
79	*Irrigation System as-Built Survey*	25,000
80	*Recharge System Design and Permitting Services*	100,000
81	*Construction Services*	25,000
82	*Site Grading Entire Site*	250,000
83	*Land Purchase*	0
84	*Recharge Influent Piping*	100,000
85	*Wetland Construction for 0.4MGD*	600,000
86	*RIB construction*	400,000
87	*Recharge pumping station at WWTP*	350,000
88	*10% Bonds, Insurance, Mobilization, etc.*	170,000

Table 2-3
Wakulla County
Wastewater Access Fee Study

Detailed Capital Improvement Program [1]

Line No.	Description	Amount
89	*10% Contingency*	170,000
90	*Survey*	90,000
91	*Engineering Design Wetland and RIB System only*	330,000
92	*Environmental Services*	25,000
93	*Geotechnical Services*	25,000
94	*Construction Services*	150,000
95	*12-inch Reuse Main (22,800ft)*	912,000
96	*12-inch Valves and Fittings*	28,000
97	*12-Inch Directional Bore*	90,000
98	*Remove/Abandon Existing 8-inch Reuse Main*	228,000
99	*Restoration (sod, seed and mulch, driveway repair, etc.)*	69,000
100	*10% Bonds, Insurance, Mobilization, etc.*	133,000
101	*10% Contingency*	133,000
102	*Survey*	57,000
103	*Engineering Design (10%)*	160,000
104	*Construction Services*	50,000
105	Planning Costs	119,992
106	Land Purchase - Wetland RIB System	490,037
107	Lift Station Rehab (1 or 2 per year)	990,000
108	Manhole Rehab/Lining Program	90,000
109	Additional Lift Station Rehab	1,600,000
110	Ongoing Capital Outlay	240,000
111	Project Cost Inflation Adjustment	1,373,589
112	**Total System CIP**	$29,974,276

Footnotes:

[1] Project costs and inflationary adjustments shown were based on information provided by and discussions with County Staff.

Table 2-4
Wakulla County
Wastewater Access Fee Study

Wastewater Access Fee Calculation

Line No.	Description	Amount
	Existing Investment in System [1]	
1	Land	$402,317
2	Facilities / Infrastructure - Treatment / Transmission	36,479,940
3	Equipment	1,131,593
4	Subtotal Existing Assets	$38,013,850
	Less	
5	Equipment	($1,131,593)
6	Contributed and Grant Funded Assets [1]	(9,838,946)
7	R&R Funded Projects [1]	(495,811)
8	Collection Assets [2]	(6,543,398)
9	Total Deducted Assets	($18,009,748)
10	Net Existing Assets Included in Access Fee Calculation	$20,004,102
11	Existing Capacity of Plant Facilities (MGD) (ADF)	1.20
12	Planned Expansion of Plant Capacity (MGD) (ADF)	0.60
13	Total Expanded Capacity of Plant Facilities (MGD) (ADF)	1.80
14	Existing Average Daily Flow for FY 2020 (MGD) (ADF)	0.69
15	Current Level of Service per Account (GPD) (ADF)	250.00
16	Percent Remaining Capacity of Existing Facilities	61.89%
17	Cost of Existing Assets per Gallon	$11.11
	Future Investment in System	
18	Total Planned Capital Improvements [3]	$29,974,276
19	Less R&R Projects [4]	(3,184,078)
20	Less Grants [5]	(17,632,849)
21	Total Capital Utilized for Impact Fee Calculation	$9,157,350
22	Existing Capacity of Plant Facilities (MGD) (ADF)	1.20
23	Planned Expansion of Plant Capacity (MGD) (ADF)	0.60
24	Total Expanded Capacity of Plant Facilities (MGD) (ADF)	1.80
25	Cost of Planned Capital per Gallon	$5.09
26	Total Charge per Gallon	$16.20
27	Current Level of Service per Account (GPD) (ADF)	250.00
28	**Calculated Acces Fee (Rounded)**	**$4,050.00**

GPD = Gallons Per Day
MGD = Million Gallons per Day
ADF = Average Daily Flow

Footnotes:

[1] Amounts shown obtained from Tables 2-1 and 2-2.
[2] Adjustment for estimated local collection related assets excluded from fee calculation based on discussions with County Staff.
[3] Capital amounts shown obtained from Table 2-3.
[4] Adjustments for R&R projects obtained from Table 1-8 and include the Lift Station Rehab, and Manhole Rehab /Lining Program, and Additional Lift Station Rehab Project line items.
[5] Adjustments for grant funded projects obtained from Table 1-8. Amounts are anticipated to be funded from RESTORE and USDA grants.

Table 2-5
Wakulla County, Florida
Wastewater Access Fee Study

Comparison of Access (Impact) Fees Per ERC For Wastewater Service [1]

Line No.	Description	Wastewater
	Wakulla County	
1	Existing Fee	$3,850
2	Proposed Fee	$4,050
	Other Florida Utilities:	
3	Regional Utilities - Walton County	$4,825
4	Bay County	2,103
5	Okaloosa County	3,200
6	City of DeFuniak Springs	1,354
7	City of Fort Walton Beach	1,000
8	City of Gulf Breeze	5,200
9	City of Lynn Haven	3,591
10	City of Marianna	1,300
11	City of Mexico Beach	2,125
12	City of Niceville	2,830
13	City of Panama City	1,250
14	City of Panama City Beach	2,989
15	City of Parker	1,400
16	City of Tallahassee	3,000
17	E.C.U.A. (Escambia County) - Pensacola Beach	1,602
18	Destin Water Users	2,168
19	E.C.U.A. (Escambia County) - Mainland	1,602
20	City of Port St. Joe	2,765
21	South Walton Utility Company, Inc.	4,269
22	Other Florida Utilities' Average	$2,556
23	Other Florida Utilities' Minimum	$1,000
24	Other Florida Utilities' Maximum	$5,200

[1] Unless otherwise noted, amounts shown reflect residential rates in effect April 2021 and are exclusive of taxes or franchise fees, if any, and reflect rates charged for inside the city service. All rates are as reported by the respective utility. This comparison is intended to show comparable charges for similar service for comparison purposes only and is not intended to be a complete listing of all rates and charges offered by each listed utility.

APPENDIX A:

Wastewater System Financial Dashboards and Performance Metrics

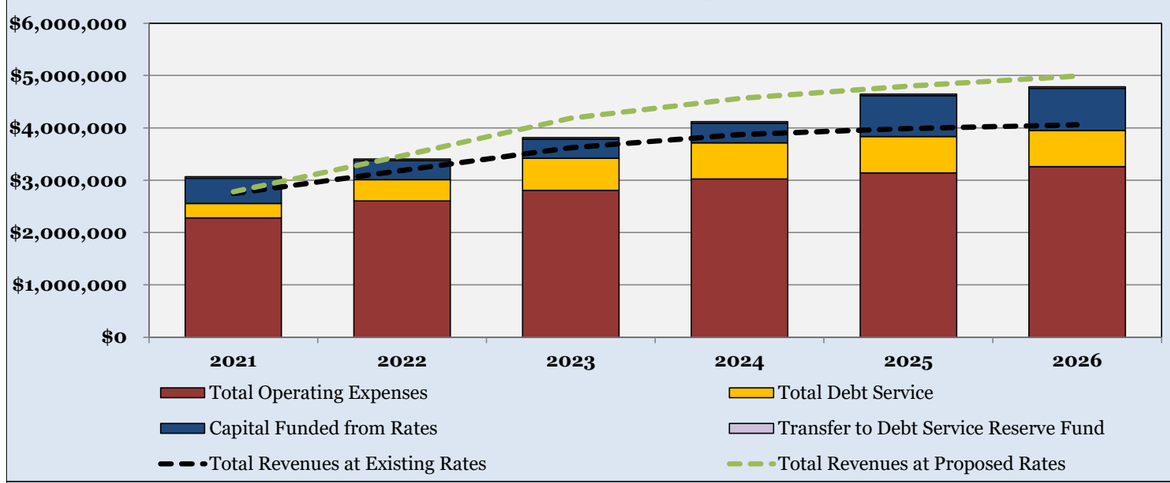
Appendix 1
Wakulla County
Wastewater Utility Revenue Sufficiency Study

Wastewater System Financial Dashboards and Performance Metrics

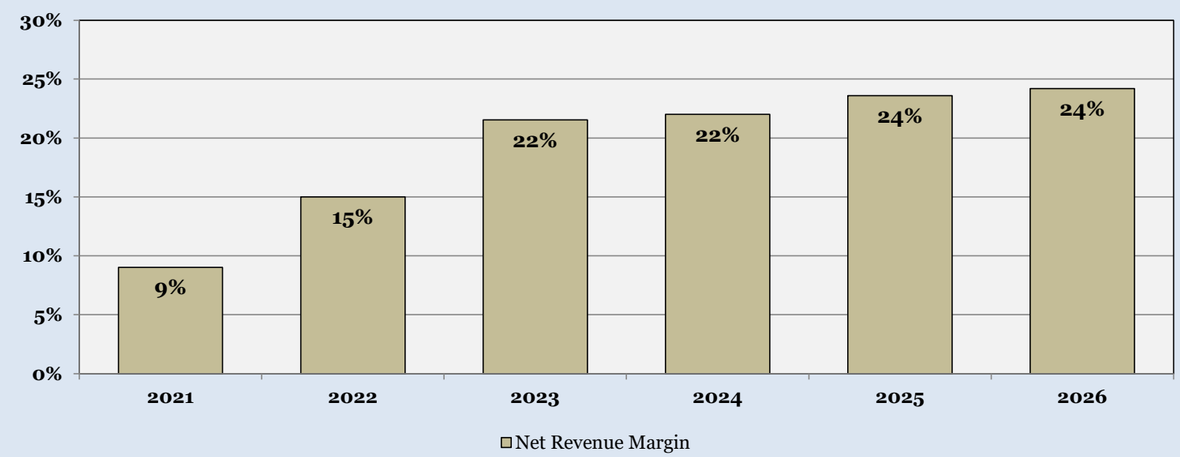
Description	Fiscal Year Ending September 30th, 2020	2021	2022	2023	2024	2025	2026
Recognized Revenue Adjustments:							
Wastewater Revenue Adj.	0.00%	2.90%	15.00%	2.50%	2.50%	2.50%	2.50%
Effective Month of Increase	Oct.	Apr.	Apr.	Apr.	Apr.	Apr.	Apr.
Average Residential Bill:							
Average Wastewater Bill @ 4,000 gallons	$41.84	$43.05	$49.51	$50.75	$52.02	$53.32	$54.65

Description	Fiscal Year Ending September 30th, 2020	2021	2022	2023	2024	2025	2026
System Surplus / (Deficiency):							
System Surplus / (Deficiency):	($180,020)	($286,917)	$65,732	$375,079	$446,796	$158,997	$205,569
Percent of Rate Revenues	-8.26%	-12.18%	2.25%	10.95%	12.01%	4.02%	4.97%
Monthly Increase - Total	N/A	$1.21	$6.46	$1.24	$1.27	$1.30	$1.33
Monthly Increase - Cost Per Gallon	N/A	$0.0003	$0.0015	$0.0003	$0.0003	$0.0003	$0.0003
Cumulative Adjustment	N/A	2.90%	18.34%	21.29%	24.33%	27.43%	30.62%

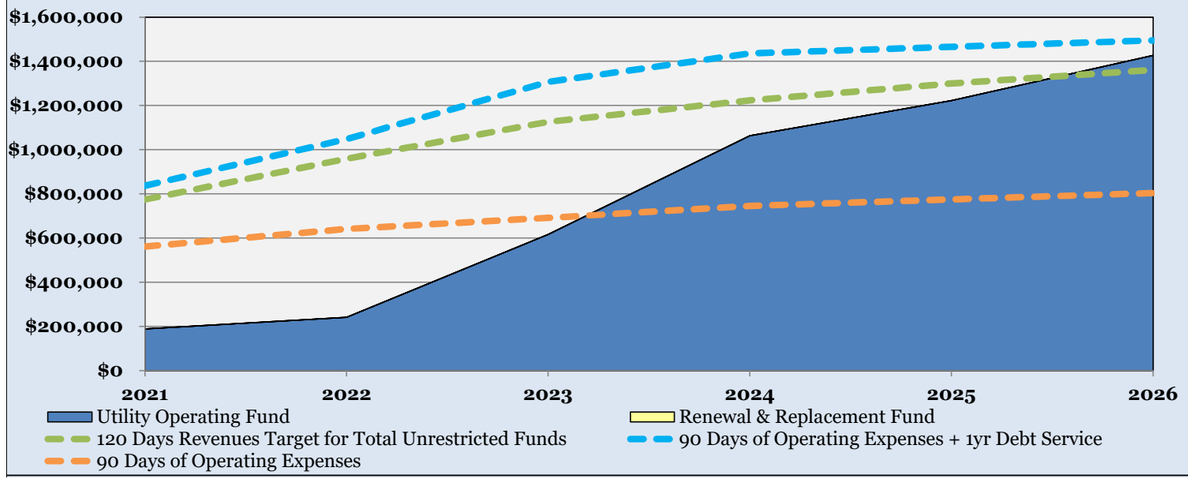
1) Projected Revenue Requirements



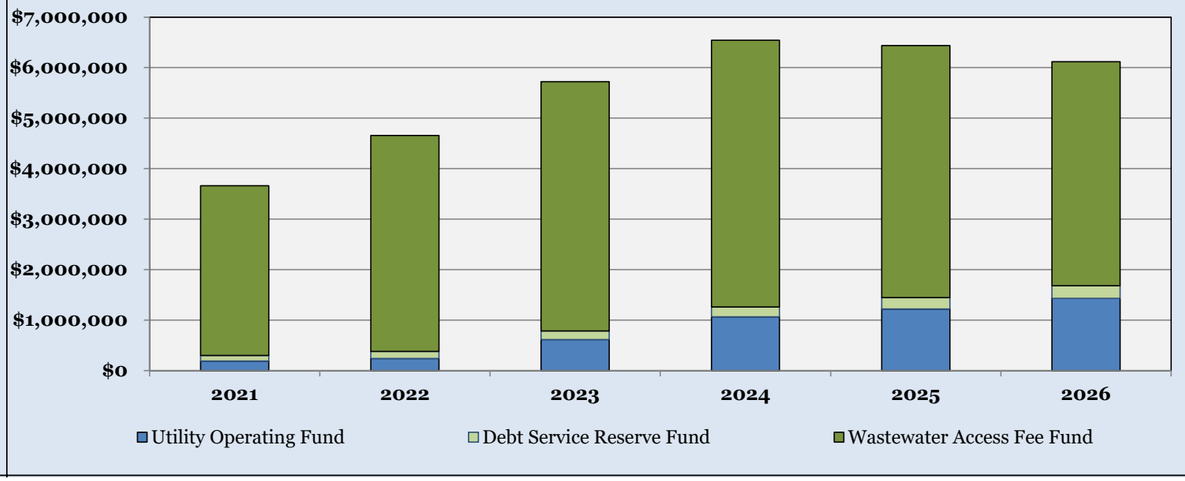
2) Net Revenue Margin



3) Unrestricted Cash Balances



4) Unrestricted & Restricted Cash Balances (Excluding Deposits)



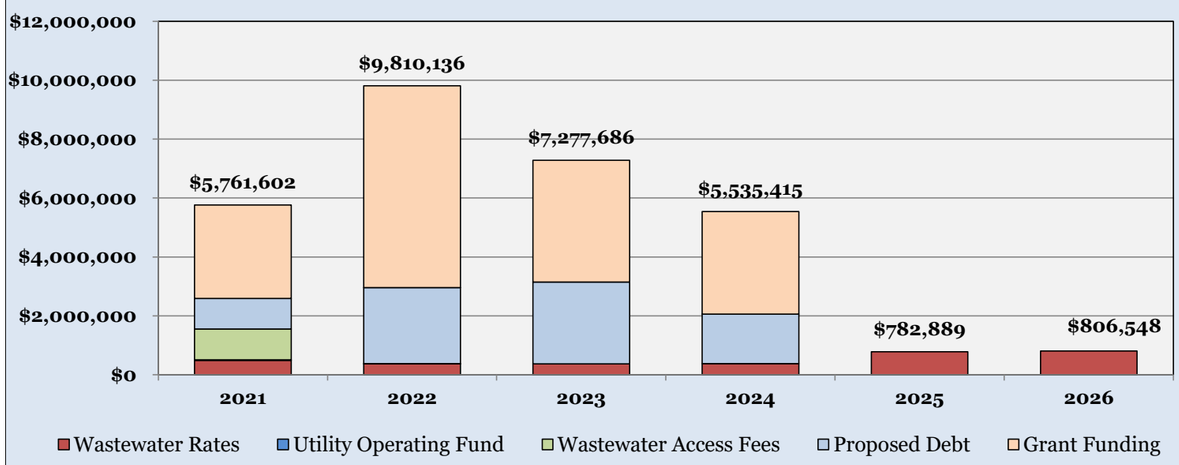
Appendix 1
Wakulla County
Wastewater Utility Revenue Sufficiency Study

Wastewater System Financial Dashboards and Performance Metrics

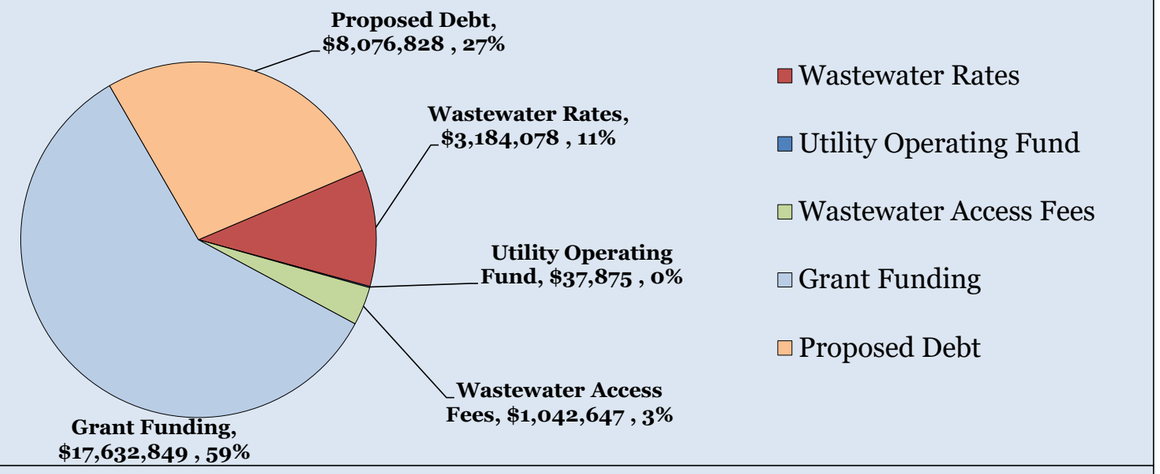
Description	Fiscal Year Ending September 30th, 2020	2021	2022	2023	2024	2025	2026
Recognized Revenue Adjustments:							
Wastewater Revenue Adj.	0.00%	2.90%	15.00%	2.50%	2.50%	2.50%	2.50%
Effective Month of Increase	Oct.	Apr.	Apr.	Apr.	Apr.	Apr.	Apr.
Average Residential Bill:							
Average Wastewater Bill @ 4,000 gallons	$41.84	$43.05	$49.51	$50.75	$52.02	$53.32	$54.65

Description	Fiscal Year Ending September 30th, 2020	2021	2022	2023	2024	2025	2026
System Surplus / (Deficiency):							
System Surplus / (Deficiency):	($180,020)	($286,917)	$65,732	$375,079	$446,796	$158,997	$205,569
Percent of Rate Revenues	-8.26%	-12.18%	2.25%	10.95%	12.01%	4.02%	4.97%
Monthly Increase - Total	N/A	$1.21	$6.46	$1.24	$1.27	$1.30	$1.33
Monthly Increase - Cost Per Gallon	N/A	$0.0003	$0.0015	$0.0003	$0.0003	$0.0003	$0.0003
Cumulative Adjustment	N/A	2.90%	18.34%	21.29%	24.33%	27.43%	30.62%

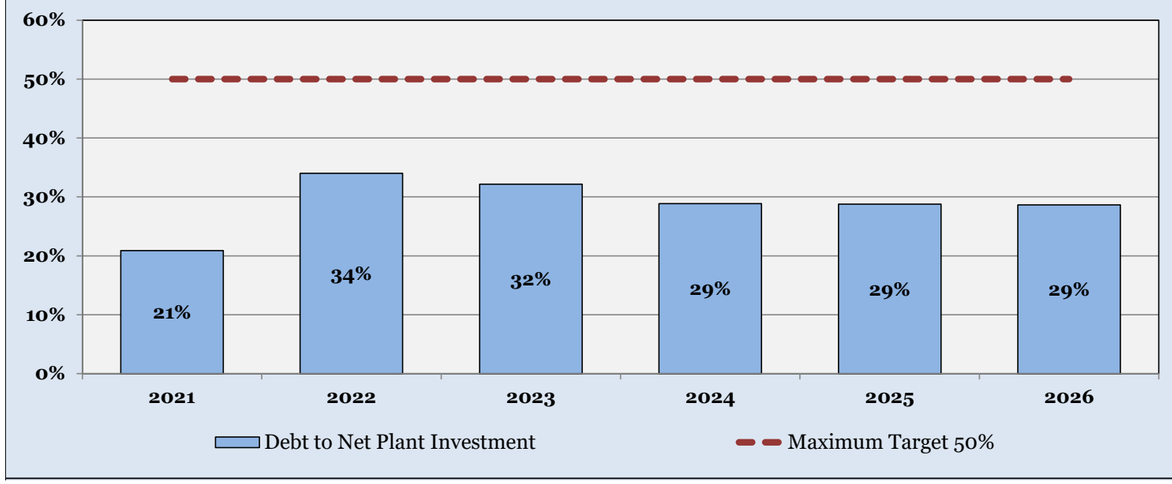
5) Capital Improvement Program Funding Plan



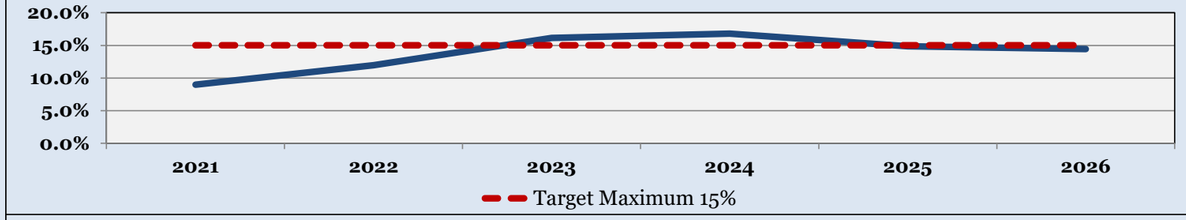
6) Capital Improvement Funding Allocations



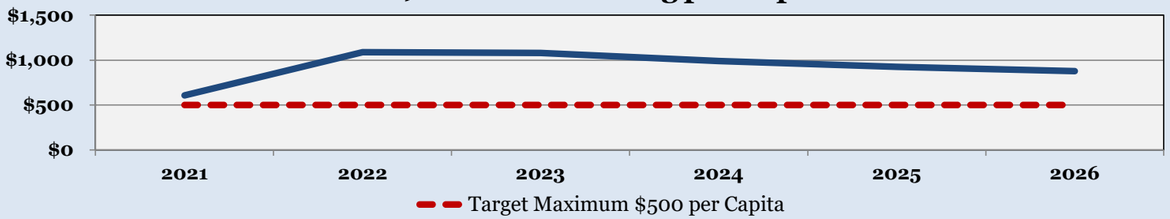
7) Debt to Net Plant Investment



8a) Debt to Total Expenditure Ratio



8b) Debt Outstanding per Capita



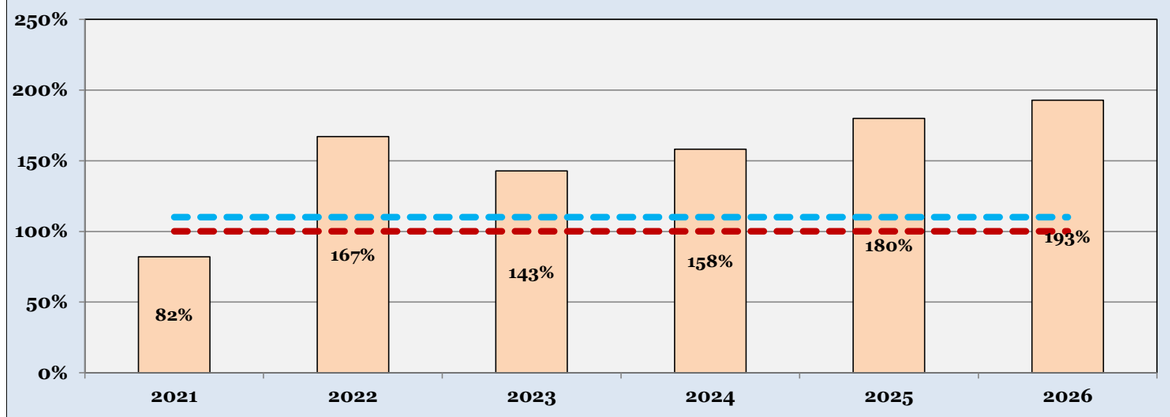
Appendix 1
Wakulla County
Wastewater Utility Revenue Sufficiency Study

Wastewater System Financial Dashboards and Performance Metrics

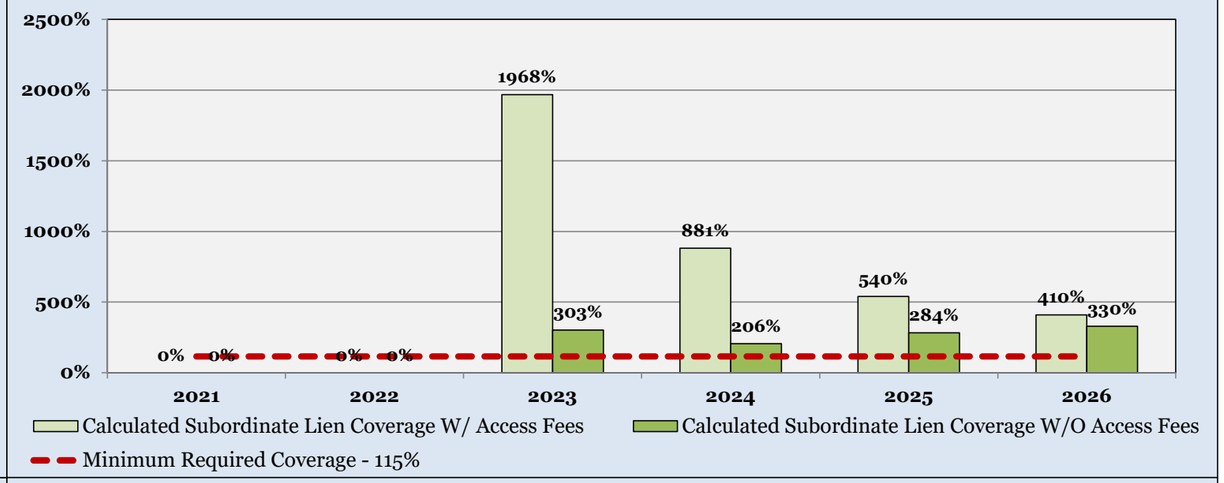
Description	Fiscal Year Ending September 30th, 2020	2021	2022	2023	2024	2025	2026
Recognized Revenue Adjustments:							
Wastewater Revenue Adj.	0.00%	2.90%	15.00%	2.50%	2.50%	2.50%	2.50%
Effective Month of Increase	Oct.	Apr.	Apr.	Apr.	Apr.	Apr.	Apr.
Average Residential Bill:							
Average Wastewater Bill @ 4,000 gallons	$41.84	$43.05	$49.51	$50.75	$52.02	$53.32	$54.65

Description	Fiscal Year Ending September 30th, 2020	2021	2022	2023	2024	2025	2026
System Surplus / (Deficiency):							
System Surplus / (Deficiency):	($180,020)	($286,917)	$65,732	$375,079	$446,796	$158,997	$205,569
Percent of Rate Revenues	-8.26%	-12.18%	2.25%	10.95%	12.01%	4.02%	4.97%
Monthly Increase - Total	N/A	$1.21	$6.46	$1.24	$1.27	$1.30	$1.33
Monthly Increase - Cost Per Gallon	N/A	$0.0003	$0.0015	$0.0003	$0.0003	$0.0003	$0.0003
Cumulative Adjustment	N/A	2.90%	18.34%	21.29%	24.33%	27.43%	30.62%

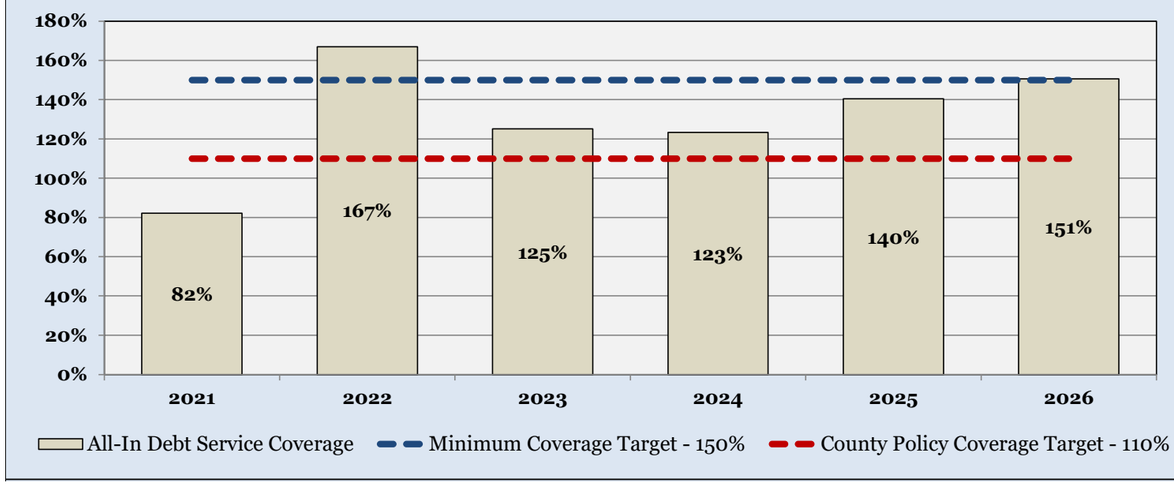
9) Senior Lien Debt Service Coverage



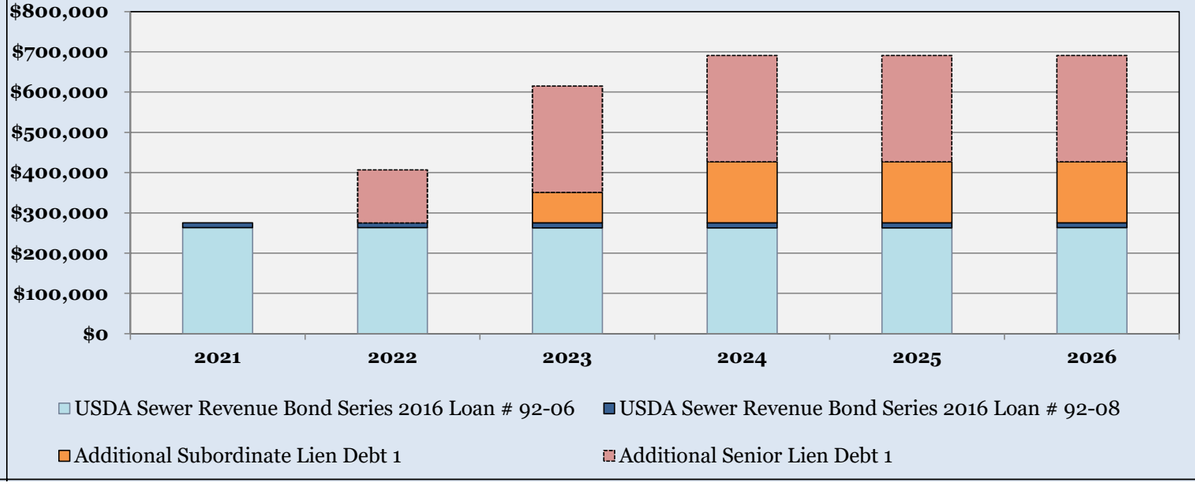
10) Subordinate Lien Debt Service Coverage



11) All-In Debt Service Coverage



12) Total Annual Debt Service Payments



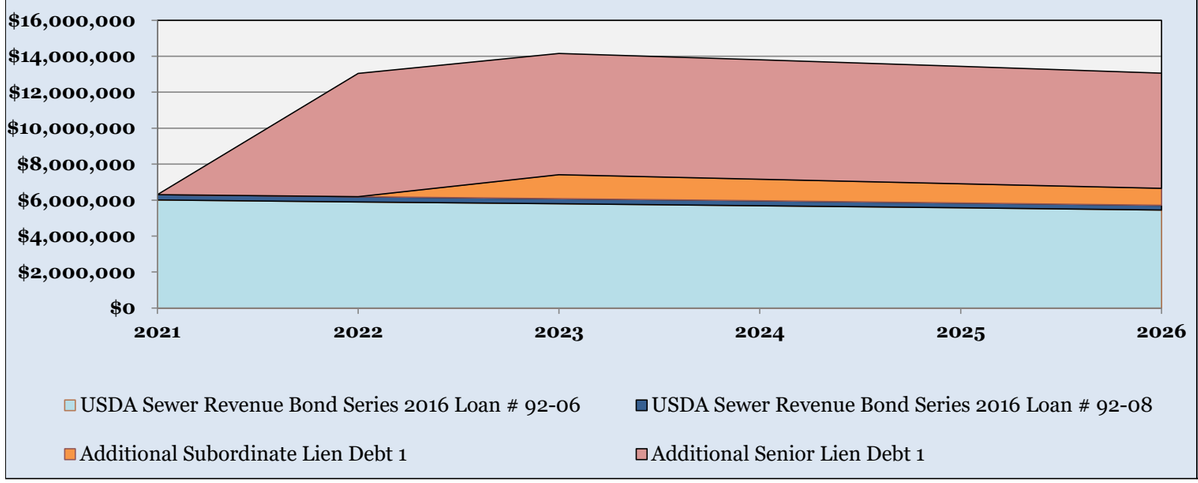
Appendix 1
Wakulla County
Wastewater Utility Revenue Sufficiency Study

Wastewater System Financial Dashboards and Performance Metrics

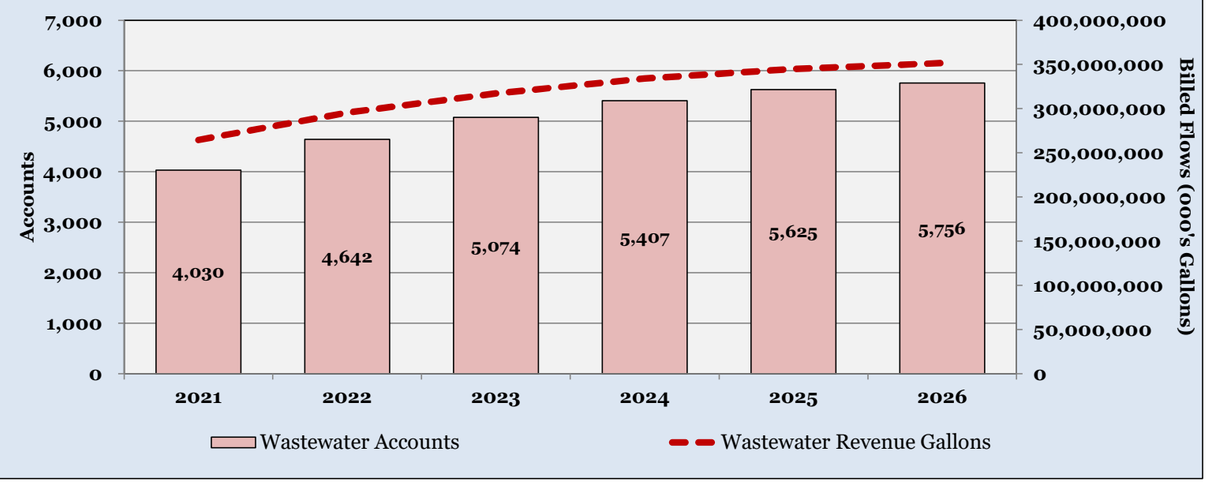
Description	Fiscal Year Ending September 30th, 2020	2021	2022	2023	2024	2025	2026
Recognized Revenue Adjustments:							
Wastewater Revenue Adj.	0.00%	2.90%	15.00%	2.50%	2.50%	2.50%	2.50%
Effective Month of Increase	Oct.	Apr.	Apr.	Apr.	Apr.	Apr.	Apr.
Average Residential Bill:							
Average Wastewater Bill @ 4,000 gallons	$41.84	$43.05	$49.51	$50.75	$52.02	$53.32	$54.65

Description	Fiscal Year Ending September 30th, 2020	2021	2022	2023	2024	2025	2026
System Surplus / (Deficiency):							
System Surplus / (Deficiency):	($180,020)	($286,917)	$65,732	$375,079	$446,796	$158,997	$205,569
Percent of Rate Revenues	-8.26%	-12.18%	2.25%	10.95%	12.01%	4.02%	4.97%
Monthly Increase - Total	N/A	$1.21	$6.46	$1.24	$1.27	$1.30	$1.33
Monthly Increase - Cost Per Gallon	N/A	$0.0003	$0.0015	$0.0003	$0.0003	$0.0003	$0.0003
Cumulative Adjustment	N/A	2.90%	18.34%	21.29%	24.33%	27.43%	30.62%

13) Ending Principal Balance Outstanding



14) Projected Wastewater Customers & Sales



APPENDIX B:

Analysis of Miscellaneous Fees and Charges

APPENDIX B
Wakulla County
Wastewater Revenue Sufficiency Study
Analysis of Miscellaneous Fees & Charges

List of Tables

Table B-1
Wakulla County
Wastewater Revenue Sufficiency Study

Summary of Existing and Proposed Customer Deposits and Miscellaneous Service Charges

Line No.	Description	Existing Fees	Proposed Fees
	Customer Deposits:		
	Wastewater		
1	Residential	$100.00	2x Avg. Bill or $110 min.
2	Commercial	200.00	2x Avg. Bill or $370 min.
	Miscellaneous Service Charges:		
3	Account Set up Fee	$0.00	$25.00
	Tap Fee - Inside County		
	Gravity Meter On a Paved Road		
4	5/8" x 3/4" Meter	$1,000.00	$1,450.00
	Additional Charge for Every 1/4" Increment Above 3/4"	$100.00	$145.00
	Gravity Meter On an Unpaved Road		
5	5/8" x 3/4" Meter	$750.00	$950.00
	Additional Charge for Every 1/4" Increment Above 3/4"	$100.00	$125.00
	Pressure Meter On a Paved Road		
6	5/8" x 3/4" Meter	$1,000.00	$1,550.00
	Additional Charge for Every 1/4" Increment Above 3/4"	$100.00	$155.00
	Pressure Meter On an Unpaved Road		
7	5/8" x 3/4" Meter	$750.00	$1,050.00
	Additional Charge for Every 1/4" Increment Above 3/4"	$100.00	$140.00
8	Late Fee	$5.00	$5.00
9	Grease Trap Inspection	$10 per Month	$10 per Month
10	Reinstatement Fee	$50.00	$50.00

Table B-2
Wakulla County
Wastewater Revenue Sufficiency Study

Development of Customer New Account Setup Fee

Line No.		All Meter Sizes
	Billing Personnel	
	Admin / Customer Service Representative	
1	Cost Per Hour (Including Benefits)	$17.24
2	Total Number of Employees Required	1.00
3	Number of Hours Worked By Each Employee	0.50
4	Estimated Cost	$8.62
5	Subtotal	$8.62
6	Overhead and Contingency (10%)	1.00
7	Total Calculated	$9.62
8	Rounded Calculated Fee	$10.00
9	Recommended Fee	$25.00
10	Existing Fee	$0.00

Table B-3
Wakulla County
Wastewater Revenue Sufficiency Study

Development of Tap Fee

Line No.	Description	Gravity Meter On a Paved Road Meter Sizes 5/8" and 3/4"	Gravity Meter On an Unpaved Road Meter Sizes 5/8" and 3/4"	Pressure Meter On a Paved Road Meter Sizes 5/8" and 3/4"	Pressure Meter On an Unpaved Road Meter Sizes 5/8" and 3/4"
	Tap Service				
	Operating Personnel				
	Utility Technicians				
1	Cost Per Hour (Including Benefits)	$19.50	$19.50	$19.50	$19.50
2	Total Number of Employees Required (Crew)	2.00	2.00	2.00	2.00
3	Number of Hours Worked By Each Employee	4.38	2.38	4.38	2.38
4	Subtotal Base Salaries	$170.63	$92.63	$170.63	$92.63
	Equipment Operator				
5	Cost Per Hour (Including Benefits)	$22.10	$22.10	$22.10	$22.10
6	Total Number of Employees Required	1.00	1.00	1.00	1.00
7	Number of Hours Worked By Each Employee	4.00	2.00	4.00	2.00
8	Subtotal Base Salaries	$88.40	$44.20	$88.40	$44.20
	Admin / Customer Service Representative				
9	Cost Per Hour (Including Benefits)	$17.24	$17.24	$17.24	$17.24
10	Total Number of Employees Required	1.00	1.00	1.00	1.00
11	Number of Hours Worked By Each Employee	0.25	0.25	0.25	0.25
12	Subtotal Base Salaries	$4.31	$4.31	$4.31	$4.31
13	Total Base Salaries - Tap Service	$263.33	$141.13	$263.33	$141.13
	Materials, Parts, and Supplies				
14	PVC Sewer Pipe	$50.12	$50.12	$50.12	$50.12
15	Saddle	$41.39	$41.39	$41.39	$41.39
16	Solvent Weld	$9.78	$9.78	$9.78	$9.78
	Miscellaneous	$298.71	$298.71	$398.71	$398.71
17	Total Materials, Parts, and Supplies	$400.00	$400.00	$500.00	$500.00
	Vehicle Expense				
	Mini-excavator				
18	Number of Trucks	1.00	1.00	1.00	1.00
19	Cost Per Hour	$18.00	$18.00	$18.00	$18.00
20	Number of Hours Worked by Each Employee (Crew)	2.00	1.00	2.00	1.00
21	Total Truck Expense	$36.00	$18.00	$36.00	$18.00
	Wheeled Excavator				
22	Number of Trucks	1.00	1.00	1.00	1.00
23	Cost Per Hour	$153.00	$153.00	$153.00	$153.00
24	Number of Hours Worked by Each Employee (Crew)	2.00	1.00	2.00	1.00
25	Total Truck Expense	$306.00	$153.00	$306.00	$153.00
	Vac-Truck				
26	Number of Trucks	1.00	1.00	1.00	1.00
27	Cost Per Hour	$74.20	$74.20	$74.20	$74.20
28	Number of Hours Worked by Each Employee (Crew)	4.00	2.00	4.00	2.00
29	Total Truck Expense	$296.80	$148.40	$296.80	$148.40
30	Total Vehicle Expense	$638.80	$319.40	$638.80	$319.40

Table B-3
Wakulla County
Wastewater Revenue Sufficiency Study

Development of Tap Fee

Line No.	Description	Gravity Meter On a Paved Road Meter Sizes 5/8" and 3/4"	Gravity Meter On an Unpaved Road Meter Sizes 5/8" and 3/4"	Pressure Meter On a Paved Road Meter Sizes 5/8" and 3/4"	Pressure Meter On an Unpaved Road Meter Sizes 5/8" and 3/4"
31	**Subtotal Tap per service cost**	**$1,302.13**	**$860.53**	**$1,402.13**	**$960.53**
32	Subtotal	$1,302.13	$860.53	$1,402.13	$960.53
33	Overhead and Contingency (10%)	130.00	86.00	140.00	96.00
34	Total Meter Installation Cost	$1,432.13	$946.53	$1,542.13	$1,056.53
35	Recommended Water Connection Fee	$1,450.00	$950.00	$1,550.00	$1,050.00
36	Existing Water Connection Fee	1,000.00	750.00	$1,000.00	$750.00

Table B-4
Wakulla County
Wastewater Revenue Sufficiency Study

Development of Grease Trap Fee

Line No.		All Meter Sizes
	Operating Personnel	
	Utility Maintenance Worker	
1	Cost Per Hour (Including Benefits)	$18.20
2	Total Number of Employees Required	1.00
3	Number of Hours Worked By Each Employee	0.25
4	Total Base Salaries - Operating Personnel	$4.55
	Billing Personnel	
	Admin / Customer Service Representative	
5	Cost Per Hour (Including Benefits)	$17.24
6	Total Number of Employees Required	1.00
7	Number of Hours Worked By Each Employee	0.00
8	Total Base Salaries - Billing Personnel	$0.00
9	Total Base Salaries	$4.55
	Vehicle Expense	
	Service Pickup Truck (1/2 ton)	
10	Number of Trucks	1.00
11	Cost Per Hour	$12.78
12	Number of Hours Worked By Each Employee	0.25
13	Total Truck Cost	$3.20
14	Subtotal	$7.75
15	Overhead and Contingency (10%)	1.00
16	Total Calculated	$8.75
17	Calculated Fee (Rounded)	$9.00
18	Existing Fee	$10 per Month

Table B-5
Wakulla County
Wastewater Revenue Sufficiency Study

Development of Reinstatement Fee

Line No.		All Meter Sizes
	Operating Personnel	
	Utility Maintenance Worker	
1	Cost Per Hour (Including Benefits)	$18.20
2	Total Number of Employees Required	1.00
3	Number of Hours Worked By Each Employee	1.25
4	Total Base Salaries - Operating Personnel	$22.75
	Billing Personnel	
	Customer Service Representative	
5	Cost Per Hour (Including Benefits)	$17.24
6	Total Number of Employees Required	1.00
7	Number of Hours Worked By Each Employee	0.25
8	Total Base Salaries - Billing Personnel	$4.31
9	Total Base Salaries	$27.06
	Vehicle Expense	
	Service Pickup Truck (1/2 ton)	
10	Number of Trucks	1.00
11	Cost Per Hour	$12.78
12	Number of Hours Worked By Each Employee	1.25
13	Total Truck Cost	$15.98
14	Subtotal	$43.03
15	Overhead and Contingency (10%)	4.00
16	Total Calculated	$47.03
17	Calculated Fee (Rounded)	$47.00
18	Existing Fee	$50.00

Attachment C

Draft Rate Structure

Exhibit A
Wakulla County
Wastewater Utility Revenue Sufficiency Study

Summary of Existing and Proposed Monthly Wastewater Rates

Line No.	Description	Existing Rate 2021	Proposed Rates for Fiscal Years 2022	2023	2024	2025	2026
1	Proposed Rate Increase	N/A	15.00%	2.50%	2.50%	2.50%	2.50%
2	Effective Date		Apr. 2022	Apr. 2023	Apr. 2024	Apr. 2025	Apr. 2026
	Residential						
3	Base Facility Charge (Includes first 2,000 Gallons)	$33.12	$38.09	$39.04	$40.02	$41.02	$42.05
4	Usage Charge (Per 1,000 Gallons over 2,000)[*]	$4.97	$5.72	$5.86	$6.01	$6.16	$6.31
	[*] Billed residential wastewater flows capped at the three month winter quarter (December, January, and February) average water use.						
	Commercial I						
5	Base Facility Charge	$49.68	$57.13	$58.56	$60.02	$61.52	$63.06
6	Usage Charge (Per 1,000 Gallons - All Usage)	$4.97	$5.72	$5.86	$6.01	$6.16	$6.31
	Commercial II						
7	Base Facility Charge	$99.33	$114.23	$117.09	$120.02	$123.02	$126.10
8	Usage Charge (Per 1,000 Gallons - All Usage)	$4.97	$5.72	$5.86	$6.01	$6.16	$6.31

Exhibit B
Wakulla County
Wastewater Revenue Sufficiency Study

Summary of Existing and Proposed Customer Deposits and Miscellaneous Service Charges

Line No.	Description	Existing Fees	Proposed Fees
	Customer Deposits:		
	Wastewater		
1	Residential	$100.00	2x Avg. Bill or $110 min.
2	Commercial	200.00	2x Avg. Bill or $370 min.
	Miscellaneous Service Charges:		
3	Account Set up Fee	$0.00	$25.00
	Tap Fee - Inside City		
	Gravity Meter On a Paved Road		
4	5/8" x 3/4" Meter	$1,000.00	$1,450.00
	Additional Charge for Every 1/4" Increment Above 3/4"	$100.00	$145.00
	Gravity Meter On an Unpaved Road		
5	5/8" x 3/4" Meter	$750.00	$950.00
	Additional Charge for Every 1/4" Increment Above 3/4"	$100.00	$125.00
	Pressure Meter On a Paved Road		
6	5/8" x 3/4" Meter	$1,000.00	$1,550.00
	Additional Charge for Every 1/4" Increment Above 3/4"	$100.00	$155.00
	Pressure Meter On an Unpaved Road		
7	5/8" x 3/4" Meter	$750.00	$1,050.00
	Additional Charge for Every 1/4" Increment Above 3/4"	$100.00	$140.00
8	Late Fee	$5.00	$5.00
9	Grease Trap Inspection	$10 per Month	$10 per Month
10	Reinstatement Fee	$50.00	$50.00

Exhibit C
Wakulla County
Wastewater Utility Revenue Sufficiency Study

Summary of Existing and Proposed Access (Connection) Fees

Line No.	Water Meter Size	Water Meter Type	Equivalent Residential Connection (ERC)	Existing Fee	Proposed Fee
1	5/8 x 3/4" Meter	Positive Displacement	1.0	$3,850	$4,050
2	1" Meter	Positive Displacement	2.5	9,625	10,125
3	1 1/2" Meter	Positive Displacement	5.0	19,250	20,250
4	2" Meter	Positive Displacement	8.0	30,800	32,400
5	3" Meter	Compound	16.0	61,600	64,800
6	3" Meter	Turbine	35.0	134,750	141,750
7	4" Meter	Compound	25.0	96,250	101,250
8	4" Meter	Turbine	100.0	385,000	405,000
9	6" Meter	Compound	50.0	192,500	202,500
10	6" Meter	Turbine	200.0	770,000	810,000

Attachment D

Projected Monthly Bill Calculations

	"n"	"i" = 7/12	"F"	"P"
Jan-22	1	0.00583	$ 61.65	$ 61.29
Feb-22	2	0.00583	$ 61.65	$ 60.94
Mar-22	3	0.00583	$ 61.65	$ 60.58
Apr-22	4	0.00583	$ 70.92	$ 69.29
May-22	5	0.00583	$ 70.92	$ 68.89
Jun-22	6	0.00583	$ 70.92	$ 68.49
Jul-22	7	0.00583	$ 70.92	$ 68.09
Aug-22	8	0.00583	$ 70.92	$ 67.70
Sep-22	9	0.00583	$ 70.92	$ 67.30
Oct-22	10	0.00583	$ 70.92	$ 66.91
Nov-22	11	0.00583	$ 70.92	$ 66.52
Dec-22	12	0.00583	$ 70.92	$ 66.14
Jan-23	13	0.00583	$ 70.92	$ 65.76
Feb-23	14	0.00583	$ 70.92	$ 65.37
Mar-23	15	0.00583	$ 70.92	$ 64.99
Apr-23	16	0.00583	$ 72.68	$ 66.22
May-23	17	0.00583	$ 72.68	$ 65.84
Jun-23	18	0.00583	$ 72.68	$ 65.46
Jul-23	19	0.00583	$ 72.68	$ 65.08
Aug-23	20	0.00583	$ 72.68	$ 64.70
Sep-23	21	0.00583	$ 72.68	$ 64.32
Oct-23	22	0.00583	$ 72.68	$ 63.95
Nov-23	23	0.00583	$ 72.68	$ 63.58
Dec-23	24	0.00583	$ 72.68	$ 63.21
Jan-24	25	0.00583	$ 72.68	$ 62.84
Feb-24	26	0.00583	$ 72.68	$ 62.48
Mar-24	27	0.00583	$ 72.68	$ 62.12
Apr-24	28	0.00583	$ 74.52	$ 63.32
May-24	29	0.00583	$ 74.52	$ 62.95
Jun-24	30	0.00583	$ 74.52	$ 62.59
Jul-24	31	0.00583	$ 74.52	$ 62.23
Aug-24	32	0.00583	$ 74.52	$ 61.86
Sep-24	33	0.00583	$ 74.52	$ 61.51
Oct-24	34	0.00583	$ 74.52	$ 61.15
Nov-24	35	0.00583	$ 74.52	$ 60.79
Dec-24	36	0.00583	$ 74.52	$ 60.44
Jan-25	37	0.00583	$ 74.52	$ 60.09
Feb-25	38	0.00583	$ 74.52	$ 59.74
Mar-25	39	0.00583	$ 74.52	$ 59.40
Apr-25	40	0.00583	$ 76.38	$ 60.53
May-25	41	0.00583	$ 76.38	$ 60.17
Jun-25	42	0.00583	$ 76.38	$ 59.83
Jul-25	43	0.00583	$ 76.38	$ 59.48
Aug-25	44	0.00583	$ 76.38	$ 59.13
Sep-25	45	0.00583	$ 76.38	$ 58.79
Oct-25	46	0.00583	$ 76.38	$ 58.45
Nov-25	47	0.00583	$ 76.38	$ 58.11
Dec-25	48	0.00583	$ 76.38	$ 57.77
Jan-26	49	0.00583	$ 76.38	$ 57.44
Feb-26	50	0.00583	$ 76.38	$ 57.11
Mar-26	51	0.00583	$ 76.38	$ 56.77
Apr-26	52	0.00583	$ 78.27	$ 57.84

	"n"	"i" = 7/12	"F"	"P"
May-26	53	0.00583	$ 78.27	$ 57.51
Jun-26	54	0.00583	$ 78.27	$ 57.17
Jul-26	55	0.00583	$ 78.27	$ 56.84
Aug-26	56	0.00583	$ 78.27	$ 56.51
Sep-26	57	0.00583	$ 78.27	$ 56.18
Oct-26	58	0.00583	$ 78.27	$ 55.86
Nov-26	59	0.00583	$ 78.27	$ 55.53
Dec-26	60	0.00583	$ 78.27	$ 55.21
Jan-27	61	0.00583	$ 78.27	$ 54.89
Feb-27	62	0.00583	$ 78.27	$ 54.57
Mar-27	63	0.00583	$ 78.27	$ 54.26
Apr-27	64	0.00583	$ 80.24	$ 55.30
May-27	65	0.00583	$ 80.24	$ 54.98
Jun-27	66	0.00583	$ 80.24	$ 54.66
Jul-27	67	0.00583	$ 80.24	$ 54.34
Aug-27	68	0.00583	$ 80.24	$ 54.03
Sep-27	69	0.00583	$ 80.24	$ 53.71
Oct-27	70	0.00583	$ 80.24	$ 53.40
Nov-27	71	0.00583	$ 80.24	$ 53.09
Dec-27	72	0.00583	$ 80.24	$ 52.79
Jan-28	73	0.00583	$ 80.24	$ 52.48
Feb-28	74	0.00583	$ 80.24	$ 52.18
Mar-28	75	0.00583	$ 80.24	$ 51.87
Apr-28	76	0.00583	$ 82.24	$ 52.86
May-28	77	0.00583	$ 82.24	$ 52.55
Jun-28	78	0.00583	$ 82.24	$ 52.25
Jul-28	79	0.00583	$ 82.24	$ 51.94
Aug-28	80	0.00583	$ 82.24	$ 51.64
Sep-28	81	0.00583	$ 82.24	$ 51.34
Oct-28	82	0.00583	$ 82.24	$ 51.04
Nov-28	83	0.00583	$ 82.24	$ 50.75
Dec-28	84	0.00583	$ 82.24	$ 50.45
Jan-29	85	0.00583	$ 82.24	$ 50.16
Feb-29	86	0.00583	$ 82.24	$ 49.87
Mar-29	87	0.00583	$ 82.24	$ 49.58
Apr-29	88	0.00583	$ 84.31	$ 50.53
May-29	89	0.00583	$ 84.31	$ 50.24
Jun-29	90	0.00583	$ 84.31	$ 49.95
Jul-29	91	0.00583	$ 84.31	$ 49.66
Aug-29	92	0.00583	$ 84.31	$ 49.37
Sep-29	93	0.00583	$ 84.31	$ 49.09
Oct-29	94	0.00583	$ 84.31	$ 48.80
Nov-29	95	0.00583	$ 84.31	$ 48.52
Dec-29	96	0.00583	$ 84.31	$ 48.24
Jan-30	97	0.00583	$ 84.31	$ 47.96
Feb-30	98	0.00583	$ 84.31	$ 47.68
Mar-30	99	0.00583	$ 84.31	$ 47.40
Apr-30	100	0.00583	$ 86.42	$ 48.31
May-30	101	0.00583	$ 86.42	$ 48.03
Jun-30	102	0.00583	$ 86.42	$ 47.75
Jul-30	103	0.00583	$ 86.42	$ 47.47
Aug-30	104	0.00583	$ 86.42	$ 47.20

	"n"	"i" = 7/12	"F"	"P"
Sep-30	105	0.00583	$ 86.42	$ 46.92
Oct-30	106	0.00583	$ 86.42	$ 46.65
Nov-30	107	0.00583	$ 86.42	$ 46.38
Dec-30	108	0.00583	$ 86.42	$ 46.11
Jan-31	109	0.00583	$ 86.42	$ 45.84
Feb-31	110	0.00583	$ 86.42	$ 45.58
Mar-31	111	0.00583	$ 86.42	$ 45.31
Apr-31	112	0.00583	$ 88.55	$ 46.16
May-31	113	0.00583	$ 88.55	$ 45.89
Jun-31	114	0.00583	$ 88.55	$ 45.63
Jul-31	115	0.00583	$ 88.55	$ 45.36
Aug-31	116	0.00583	$ 88.55	$ 45.10
Sep-31	117	0.00583	$ 88.55	$ 44.84
Oct-31	118	0.00583	$ 88.55	$ 44.58
Nov-31	119	0.00583	$ 88.55	$ 44.32
Dec-31	120	0.00583	$ 88.55	$ 44.06
Jan-32	121	0.00583	$ 88.55	$ 43.81
Feb-32	122	0.00583	$ 88.55	$ 43.55
Mar-32	123	0.00583	$ 88.55	$ 43.30
Apr-32	124	0.00583	$ 90.78	$ 44.13
May-32	125	0.00583	$ 90.78	$ 43.88
Jun-32	126	0.00583	$ 90.78	$ 43.62
Jul-32	127	0.00583	$ 90.78	$ 43.37
Aug-32	128	0.00583	$ 90.78	$ 43.12
Sep-32	129	0.00583	$ 90.78	$ 42.87
Oct-32	130	0.00583	$ 90.78	$ 42.62
Nov-32	131	0.00583	$ 90.78	$ 42.37
Dec-32	132	0.00583	$ 90.78	$ 42.13
Jan-33	133	0.00583	$ 90.78	$ 41.88
Feb-33	134	0.00583	$ 90.78	$ 41.64
Mar-33	135	0.00583	$ 90.78	$ 41.40
Apr-33	136	0.00583	$ 93.03	$ 42.18
May-33	137	0.00583	$ 93.03	$ 41.93
Jun-33	138	0.00583	$ 93.03	$ 41.69
Jul-33	139	0.00583	$ 93.03	$ 41.45
Aug-33	140	0.00583	$ 93.03	$ 41.21
Sep-33	141	0.00583	$ 93.03	$ 40.97
Oct-33	142	0.00583	$ 93.03	$ 40.73
Nov-33	143	0.00583	$ 93.03	$ 40.50
Dec-33	144	0.00583	$ 93.03	$ 40.26
Jan-34	145	0.00583	$ 93.03	$ 40.03
Feb-34	146	0.00583	$ 93.03	$ 39.79
Mar-34	147	0.00583	$ 93.03	$ 39.56
Apr-34	148	0.00583	$ 95.37	$ 40.32
May-34	149	0.00583	$ 95.37	$ 40.09
Jun-34	150	0.00583	$ 95.37	$ 39.86
Jul-34	151	0.00583	$ 95.37	$ 39.63
Aug-34	152	0.00583	$ 95.37	$ 39.40
Sep-34	153	0.00583	$ 95.37	$ 39.17
Oct-34	154	0.00583	$ 95.37	$ 38.94
Nov-34	155	0.00583	$ 95.37	$ 38.71
Dec-34	156	0.00583	$ 95.37	$ 38.49

	"n"	"i" = 7/12	"F"	"P"
Jan-35	157	0.00583	$ 95.37	$ 38.27
Feb-35	158	0.00583	$ 95.37	$ 38.05
Mar-35	159	0.00583	$ 95.37	$ 37.82
Apr-35	160	0.00583	$ 97.74	$ 38.54
May-35	161	0.00583	$ 97.74	$ 38.32
Jun-35	162	0.00583	$ 97.74	$ 38.09
Jul-35	163	0.00583	$ 97.74	$ 37.87
Aug-35	164	0.00583	$ 97.74	$ 37.65
Sep-35	165	0.00583	$ 97.74	$ 37.44
Oct-35	166	0.00583	$ 97.74	$ 37.22
Nov-35	167	0.00583	$ 97.74	$ 37.00
Dec-35	168	0.00583	$ 97.74	$ 36.79
Jan-36	169	0.00583	$ 97.74	$ 36.57
Feb-36	170	0.00583	$ 97.74	$ 36.36
Mar-36	171	0.00583	$ 97.74	$ 36.15
Apr-36	172	0.00583	$ 100.20	$ 36.85
May-36	173	0.00583	$ 100.20	$ 36.63
Jun-36	174	0.00583	$ 100.20	$ 36.42
Jul-36	175	0.00583	$ 100.20	$ 36.21
Aug-36	176	0.00583	$ 100.20	$ 36.00
Sep-36	177	0.00583	$ 100.20	$ 35.79
Oct-36	178	0.00583	$ 100.20	$ 35.58
Nov-36	179	0.00583	$ 100.20	$ 35.38
Dec-36	180	0.00583	$ 100.20	$ 35.17
Jan-37	181	0.00583	$ 100.20	$ 34.97
Feb-37	182	0.00583	$ 100.20	$ 34.76
Mar-37	183	0.00583	$ 100.20	$ 34.56
Apr-37	184	0.00583	$ 102.70	$ 35.22
May-37	185	0.00583	$ 102.70	$ 35.02
Jun-37	186	0.00583	$ 102.70	$ 34.81
Jul-37	187	0.00583	$ 102.70	$ 34.61
Aug-37	188	0.00583	$ 102.70	$ 34.41
Sep-37	189	0.00583	$ 102.70	$ 34.21
Oct-37	190	0.00583	$ 102.70	$ 34.01
Nov-37	191	0.00583	$ 102.70	$ 33.81
Dec-37	192	0.00583	$ 102.70	$ 33.62
Jan-38	193	0.00583	$ 102.70	$ 33.42
Feb-38	194	0.00583	$ 102.70	$ 33.23
Mar-38	195	0.00583	$ 102.70	$ 33.04
Apr-38	196	0.00583	$ 105.28	$ 33.67
May-38	197	0.00583	$ 105.28	$ 33.47
Jun-38	198	0.00583	$ 105.28	$ 33.28
Jul-38	199	0.00583	$ 105.28	$ 33.09
Aug-38	200	0.00583	$ 105.28	$ 32.90
Sep-38	201	0.00583	$ 105.28	$ 32.71
Oct-38	202	0.00583	$ 105.28	$ 32.52
Nov-38	203	0.00583	$ 105.28	$ 32.33
Dec-38	204	0.00583	$ 105.28	$ 32.14
Jan-39	205	0.00583	$ 105.28	$ 31.95
Feb-39	206	0.00583	$ 105.28	$ 31.77
Mar-39	207	0.00583	$ 105.28	$ 31.58
Apr-39	208	0.00583	$ 107.90	$ 32.18

	"n"	"i" = 7/12	"F"	"P"
May-39	209	0.00583	$ 107.90	$ 32.00
Jun-39	210	0.00583	$ 107.90	$ 31.81
Jul-39	211	0.00583	$ 107.90	$ 31.62
Aug-39	212	0.00583	$ 107.90	$ 31.44
Sep-39	213	0.00583	$ 107.90	$ 31.26
Oct-39	214	0.00583	$ 107.90	$ 31.08
Nov-39	215	0.00583	$ 107.90	$ 30.90
Dec-39	216	0.00583	$ 107.90	$ 30.72
Jan-40	217	0.00583	$ 107.90	$ 30.54
Feb-40	218	0.00583	$ 107.90	$ 30.36
Mar-40	219	0.00583	$ 107.90	$ 30.19
Apr-40	220	0.00583	$ 110.61	$ 30.77
May-40	221	0.00583	$ 110.61	$ 30.59
Jun-40	222	0.00583	$ 110.61	$ 30.41
Jul-40	223	0.00583	$ 110.61	$ 30.23
Aug-40	224	0.00583	$ 110.61	$ 30.06
Sep-40	225	0.00583	$ 110.61	$ 29.88
Oct-40	226	0.00583	$ 110.61	$ 29.71
Nov-40	227	0.00583	$ 110.61	$ 29.54
Dec-40	228	0.00583	$ 110.61	$ 29.37
Jan-41	229	0.00583	$ 110.61	$ 29.20
Feb-41	230	0.00583	$ 110.61	$ 29.03
Mar-41	231	0.00583	$ 110.61	$ 28.86
Apr-41	232	0.00583	$ 113.36	$ 29.41
May-41	233	0.00583	$ 113.36	$ 29.23
Jun-41	234	0.00583	$ 113.36	$ 29.06
Jul-41	235	0.00583	$ 113.36	$ 28.90
Aug-41	236	0.00583	$ 113.36	$ 28.73
Sep-41	237	0.00583	$ 113.36	$ 28.56
Oct-41	238	0.00583	$ 113.36	$ 28.40
Nov-41	239	0.00583	$ 113.36	$ 28.23
Dec-41	240	0.00583	$ 113.36	$ 28.07
			TOTAL:	$ 10,952.49

Appendix H

Summary of Proposed Upgrades

SUMMARY OF PROPOSED UPGRADES

Wakulla County Wastewater Feasibility Analysis

December 15, 2021

Dewberry

PREPARED FOR
Wakulla County
3093 Crawfordville Highway
Crawfordville, FL 32327
Phone: 850.926.0919

PREPARED BY
Dewberry
20684 Central Avenue East
Blountstown, FL 32424
Phone: 850.674.3300
Contact: Justin Ford, P.E.

TABLE OF CONTENTS

SECTION 1 – INTRODUCTION

In order to meet remediation requirements set forth in the *Upper Wakulla River and Wakulla Spring Basin Management Action Plan* (BMAP), upgrades to existing facilities will be required. These upgrades include the conversion of existing septic systems to the County's sewer collection system, upgrades to the transmission system, additional treatment capacity at Otter Creek WWTP, and additional capacity for effluent disposal and reuse. With current market volatility, the cost opinions are provided for planning purposes only and should be updated regularly prior to any action on the project.

SECTION 2 – PROPOSED IMPROVEMENTS TO COUNTY OWNED FACILITIES

Septic-to-Sewer

The County has successfully completed projects totaling $12,750,134.66 to abandon approximately 526 existing septic systems and connect them to the County's collection system. An estimated additional 1,880 septic systems within the BMAP have been identified to be connected to the sewer system with an anticipated cost of $101,231,810.50 of which $49,469,751.50 have currently been listed for funding. The table below shows the projects and their current status. The map in **Attachment 1** shows the general location of these projects.

Table 2.1 – Septic-to-Sewer Projects

Project Name	General Area	Number of Connections	Total Probable Cost	Project Status
Crawfordville East - Phase I	Eagle's Ridge Phase 2	41	$ 1,785,903.00	Planned
Crawfordville East - Phase II	Eagle's Ridge Phase 1	18	$ 586,673.00	Planned
Crawfordville East - Phase III	The Park	120	$ 5,548,419.00	Planned
Crawfordville East - Phase IV	Eastgate	43	$ 2,025,943.00	Planned
Crawfordville East Phase V	Ameliawood	76	$ 3,512,599.00	Funded
Crawfordville East Phase VI	Ridgeland Place & Highland Place	93	$ 4,724,225.00	Funded
Crawfordville East - Phase VII	Highwoods Place Unit 2 and Coral Way	29	$ 1,303,997.00	Planned
Crawfordville East - Phase VIII	Wildwood	89	$ 5,806,725.00	Planned
Crawfordville East - Phase IX	Meadow Acres	17	$ 999,595.00	Planned
Crawfordville West - Phase I	Old Arran Trace	58	$ 2,248,011.00	Planned
Crawfordville West - Phase II	Magnolia Ridge	73	$ 2,574,607.00	Planned
Crawfordville West - Phase III	Oak Street Sewer	75	$ 7,070,200.00	Planned
Magnolia Gardens - Phases I & II	South & West of Rehwinkel Road	251	$ 6,125,672.73	Complete
Magnolia Gardens - Phase III	Greiner's Addition	172	$ 6,789,429.50	Construction
Magnolia Gardens Phase IV	East of Rehwinkel Road	35	$ 2,944,922.00	Funded
Mysterious Waters	Mysterious Waters	80	$ 7,109,063.00	Planned
PFA 1 Sewer Phase I	Golden Gate	81	$ 3,980,707.00	Funded
PFA 1 Sewer Phase II	Edgewood	44	$ 2,584,437.00	Funded
River Plantation Estates System	River Plantation Estates	TBD	TBD	Planned
Wakulla Gardens - Phase I & II	Wakulla Gardens - Units 2, 3 (NE), & 4	275	$ 6,624,461.93	Complete
Wakulla Gardens - Phase III	Wakulla Gardens - Unit 1 (west)	216	$ 5,726,604.00	Design
Wakulla Gardens - Phase IV	Wakulla Gardens - Unit 5	195	$ 6,960,606.00	Design
Wakulla Gardens Phase V	Wakulla Gardens - Unit 3 (southeast)	87	$ 5,499,834.00	Funded
Wakulla Gardens Phase VI	Wakulla Gardens - Unit 3 (west)	76	$ 4,137,281.00	Funded
Wakulla Gardens Phase VII	Wakulla Gardens - Unit 6	40	$ 2,609,107.00	Funded
Wakulla Gardens Phase VIII	Wakulla Gardens - Unit 1 (east)	122	$ 14,702,923.00	Planned

Transmission System

The main priorities of the transmission system project are to reduce pressure within the forcemain leading to the WWTP while preparing for reasonable system growth and upgrade intermediate lift stations to ensure capacity is available. To determine the necessary improvements needed, a hydraulic model of the County's sewer system was generated using Bentley's SewerCAD software. Site inspections and interviews with County staff and system operators were also conducted to further analyze the components and challenges of the existing system.

Multiple options were considered for the proposed transmission system improvement project. After evaluation, the selected alternative included the following phased approach:

Phase I

Increase forcemain diameter to 16-inch and 20-inch between LS 76 to the WWTP and construct a new route to avoid utility congestion along Sopchoppy Highway. Convert the existing 12-inch and 8-inch forcemains proposed for replacement along US 319 and Highway 98 to effluent transmission lines. Construct a small diameter forcemain to reconnect grinder stations isolated by conversion of existing 12-inch forcemain to effluent transmission main between Sopchoppy Highway and Floyd Gray Road. Replace pumps at select stations located along upgraded forcemain route to include upgrades to lift stations #76 (Jerry Moore), #86 (High School), and #29 (Eden Springs).

Phase II

Construct a new lift station along Alexander Road which will allow for flows to be rerouted from an existing overburdened lift station (Hickory Park Lift Station) and provide additional system capacity for additional sewer service and septic conversions. Construct new forcemain to connect the proposed Alexander Lift Station (LS) to the Phase I line along Highway 98 as well as forcemain upstream allowing for the connections and reroutes to the Alexander LS. Implement communication equipment between master lift stations. Construct upgrades to existing Palmetto LS to redirect flow to the Alexander LS.

Phase III

Construct approximately 3,900 LF of 16-inch forcemain between Hickory Park LS and intersection of US 319 and High Drive to replace an undersized section of 8-inch existing forcemain and upgrade Hickory Park LS.

Phase IV

Construct approximately 25,000 LF of 16-inch forcemain along US 319 from High Drive to Floyd Gray Road to replace existing 12-inch forcemain. Furthermore, construct approximately 21,000 LF of 16-inch forcemain to create parallel transmission mains along Floyd Gray Road, Friendship Church Road, and Lawhon Mill Road (Phase I forcemain route) between US 319 and the WWTP effectively splitting the northern and eastern collection and transmission basins. Construct upgrades to LS #25 to ensure it operates with the new system conditions.

Effluent Discharge

Per the *Wastewater Treatment Facility Flow and Capacity* report included as part of the Wakulla County Wastewater Feasibility Analysis, the County is anticipated to need approximately 1.775 MGD of effluent discharge capacity per the projected 20-year maximum three-month average daily flow. The current discharge sites include a sprayfield adjacent to the Otter Creek WWTP permitted at 0.600 MGD and the Wildwood Country Club, recently acquired by the County, which is also permitted to receive 0.600 MGD of effluent from the Otter Creek WWTP once the treatment facility is capable of producing effluent meeting advanced wastewater treatment (AWT) and public access reuse (PAR) standards. This leaves a deficit in discharge capacity of 0.575 MGD at the end of the 20-year planning period. The County desires to continue discharging the permitted amount to the sprayfield and send the remainder of the flow to the country club. The country club, however, is in dire need of upgrades in order to receive and ultimately discharge the effluent. The upgrades are currently in the planning stages and cost opinions are still being developed. It is anticipated that this site will include an upgraded irrigation system with holding ponds and rapid infiltration basins to be utilized when discharge via irrigation needs to be paused or diverted.

Wastewater Treatment (Otter Creek WWTP)

The current upgrade proposed considers the addition of a 0.6 MGD treatment train at the existing WWTP site to increase the total capacity to 1.8 MGD. This would mirror the efforts currently underway at the WWTP. It is proposed that the new treatment train would utilize AeroMod technology to conform to the process at the existing facility. Also included in this upgrade are necessary site improvements including a master influent lift station with screening capabilities, site paving, an administration and maintenance building, and an effluent pump station. The influent equalization basin and lift station with screening capabilities is important as it will allow the WWTP to control the influent flow rate to the treatment trains as well as reduce transmission system pressures by lowering the elevation for the point of entry of influent flows at the facility. This could result in a reduction of transmission system static head by approximately 10 feet, depending on final design conditions. Providing the additional treatment capacity at the existing facility will provide ease of maintenance and operation as staff will not be required to travel to remote treatment facilities.

It should be noted that these improvements do not include additional filtration equipment at this time. Per Baskerville-Donovan, Inc., designers of the previous and ongoing improvements, the current filter system utilizes two basins with 5 filter discs each for a total of 10 filter discs. In previous projects, FDEP has permitted each disc as an individual filter system as each has the ability to be taken offline and isolated without impacts to the other filters. Should FDEP not allow this to be permitted as anticipated, an additional filtration basin will be required to maintain Class I Reliability at the facility. The improvements included will increase the reliability and safety of the existing treatment system through the next 20 years. The project cost opinion is estimated at $7,344,500.00 and includes construction, administration, permitting, engineering, and other technical services. With current market volatility, the cost opinions are provided for planning purposes only and should be updated regularly prior to any action on the project.

SECTION 3 – POTENTIAL WWTP ACQUISITIONS IN BMAP

Wakulla Middle School WWTP

This facility solely serves the Middle School and growth other than that experienced by school attendance is not anticipated. The past 12 months of flow data show that the WWTP is at 16% capacity with regard to annual average daily flow (AADF). Wakulla County has advised that they support an option to work with the School to decommission the facility and construct a lift station to send sewage to the Otter Creek WWTP which treats to AWT and PAR standards. If this is not accomplished, the Middle School facility will be required to meet effluent nitrogen standards complying with the BMAP (6 mg/L). If this cannot be met with the existing infrastructure, upgrades will be required. It should be noted that the Otter Creek facility treats wastewater to AWT and PAR standards with effluent nitrogen concentrations no greater than 3 mg/L.

River Plantation Estates WWTP

The River Plantation Estates WWTP is not anticipated to grow significantly within the next 20 years as it currently serves nearly all the connections for which it was designed. The past 12 months of flow data show that the WWTP is at 36% capacity with regard to AADF. It is possible that the County could acquire this facility in order to decommission it and send wastewater to the Otter Creek WWTP for treatment. If this is not accomplished, the River Plantation facility will be required to meet the same standards as the Otter Creek facility with regards to effluent nitrogen concentration to comply with the BMAP. If this cannot be met with existing infrastructure, upgrades will be required.

Winco Utilities, Inc. WWTP

The service area for this WWTP consists of the Wakulla Correctional Facility and Opportunity Park which is an industrial park near the facility. The past 12 months of flow data show that the WWTP is at 61% capacity with regard to AADF. Based on conversations with County staff and the facility operator, it is not anticipated that the Winco Utilities, Inc. WWTP would expand outside its current service area although growth via additional businesses at Opportunity Park or additional inmates at the correctional institute may occur. Wakulla County has discussed acquisition and upgrades of this WWTP in order to expand sewer service into northeastern Wakulla County; however, no agreements have been made at the time of this report.

SECTION 4 – SEPTIC SYSTEM UPGRADES IN BMAP

Based on data acquired by the Florida Department of Health (FDOH), Northwest Florida Water Management District (NWFWMD), Florida Department of Environmental Protection (FDEP), and County, the approximate number of existing septic systems (otherwise known as onsite treatment and disposal systems (OSTDS)) located within the BMAP in Wakulla County that require upgrades to meet BMAP requirements is 4,004. Approximately 1,880 systems are planned to be connected to sewer as described in Section 2 of this report. 2,502 other septic systems not in the proposed project areas for connection to central sewer were evaluated for upgrades per the following standards. The BMAP requires all septic systems on lots less than 1 acre within the priority focus areas (PFA) to include nitrogen reducing technology as allowed by the FDOH and Florida Administrative Code (FAC). In addition to the BMAP requirements, Wakulla County has additional septic system rules codified in the Infrastructure Element of the Comprehensive Plan Objective 1.3 that became effective October 1, 2012. This requires all

properties within the County less than 0.229 acres to utilize a performance-based septic system and requires all properties less than 5 acres within the Wakulla Springs Special Planning Area (WSSPA) to utilize performance-based systems. Furthermore, the Future Land Use Element (FLUE) section Objective 7, Policy 7.5, requires performance-based treatment systems (PBTS) to produce a treatment standard of 10 mg/L or less of nitrogen. The *Cost Comparison of Alternative Strategies* report included in the Wakulla County Wastewater Feasibility Analysis provides further information regarding these upgrades. In summary, PBTS were considered as the method utilized for upgrades where required by the County's more stringent standards and in-ground nitrogen reducing biofilters (INRB) were considered as the utilized method for areas meeting requirements between the BMAP and County standards due to current interest observed by the septic upgrade program for these systems/technology within Wakulla County. Estimated present worth costs to implement the upgrades to qualifying septic systems are explained in the accompanying *Cost Comparison of Alternative Strategies* report. This cost was estimated to be $171,790,042.60 and includes construction, design, and operation and maintenance costs/fees. With current market volatility, the cost opinions are provided for planning purposes only and should be updated regularly prior to any action on the project.

SECTION 5 – SUMMARY AND CONCLUSION

As detailed in the previous sections, upgrades and improvements to meet BMAP standards include the following:

- Upgrades to Wakulla County's wastewater collection and transmission system
- Expansion of the Otter Creek WWTP
- Upgrades to Wildwood Country Club for effluent discharge
- Acquisition of wastewater treatment facilities located within the BMAP
- Replacement of qualifying conventional septic systems with approved nitrogen-reducing systems

It should be understood that due to current market volatility, the cost opinions provided in these reports are for planning purposes only and should be updated regularly prior to any action on the projects. The proposed improvements included in this report should allow the County to continue their ongoing efforts for the remainder of the 20-year planning period to connect homes served by septic tanks to the County-operated sewer treatment facility where the wastewater can be treated to immensely higher standards prior to discharge, as well as continue to make service connections available for new construction in the service area.

SECTION 6 – REFERENCES

Florida Department of Environmental Protection. (2010, December 29). Wakulla County Middle School WWTP Domestic Wastewater Facility Permit. Florida Department of Environmental Protection.

Florida Department of Environmental Protection. (2012, July 10). Winco Utilities, Inc. WWTP Domestic Wastewater Facility Permit. Florida Department of Environmental Protection.

Florida Department of Environmental Protection. (2014, June 13). River Plantation Estates WWTP Domestic Wastewater Facility Permit. Florida Department of Environmental Protection.

Florida Department of Environmental Protection. (2016). *Wakulla County WWTF Domestic Wastewater Facility Permit*. Florida Department of Environmental Protection.

Florida Department of Environmental Protection. (2018). *Upper Wakulla River and Wakulla Spring Basin Management Action Plan*. Florida Department of Environmental Protection.

Florida Department of Environmental Protection. (2021, December 1). *Springs Grant Program Fiscal Year 2021-22*. Retrieved from Protecting Florida Together: https://protectingfloridatogether.gov/sites/default/files/documents/FY2021-22_SpringsGrantsSelected_2.pdf

Florida Department of Environmental Protection. (2021, December 1). *Wastewater Grant Program Fiscal Year 2021-22*. Retrieved from Protecting Florida Together: https://protectingfloridatogether.gov/sites/default/files/documents/FY2021-22_WastewaterGrantsSelected_0.pdf

McDonald Group International, Inc. (2021). *Preliminary Engineering Report for Treatment Process Modifications: Winco Utilities Water Reclamation Plant*.

Wakulla County. (2021, May 20). Retrieved from Wakulla County Comprehensive Plan: Goals, Objectives, and Policies: https://files4.1.revize.com/wakullacountyfl/Comprehensive%20Plan_20210520.Remediated.pdf

Attachment A

Proposed Project Locations

River Plantation

Mysterious Waters

Wakulla Gardens
Phases I - VIII

The Park

Eastgate

Eagle's Ridge Unit 1

Ameliawood

Ridgeland Place &
Highland Place

Highwoods Place
& Coral Way

Magnolia Gardens
Phases I - IV

Wildwood

Golden Gate

Edgewood

Eagle's Ridge Unit 2

Meadow Acres

Old Arran Trace

Magnolia Ridge

Oak Street

GRAPHIC SCALE

4000 0 2000 4000 8000

(IN FEET)

1 inch = 4000 ft.

LEGEND

- Existing Forcemain
- Magnolia Gardens
- Wakulla Gardens
- Crawfordville East
- Crawfordville West
- Priority Focus Area 1

EB# 0008794

NO.	DATE:	APPR.	REVISION:
1			
2			
3			
4			
5			

SEPTIC-TO-SEWER PROJECT LOCATIONS

Dewberry®
Dewberry Engineers Inc.
20684 Central Ave East, Blountstown, FL 32424
850.674.3300, www.dewberry.com

WAKULLA COUNTY SEPTIC-TO-SEWER
PROJECT MAP
WAKULLA COUNTY, FL

DATE: NOV 2020	PROJECT NO. 203.000
SCALE: As Shown	
DRAWN: TLB	SHEET 1
CHECKED: TLB	

June 8, 2021 (19:59:07 EST)
C:\USERS\TBURCH\DESKTOP\PROJECTS\WAKULLA PROJECTS\WAKULLA SEPTIC-TO-SEWER PHASES 2021 - 06.08.2021.DWG