Preliminary Engineering Report

Town of Howey-in-the-Hills, FL

Clean Water Facilities and Collection System

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0234624.04
Howey-in-the-Hills, FL
July 2025

CERTIFICATION BY ENGINEER

The information contained in this report is true and correct to the best of their knowledge, the report was prepared in accordance with sound engineering principles, and he discussed the recommendations, costs, and funding approach with the Town of Howey-in-the-Hills (Town) or the Town's delegated representative. This Clean Water Preliminary Engineering Report was prepared to meet the requirements of the Florida Clean Water State Revolving Fund (CWSRF) Program under Chapter 62-503, F.A.C. and the Supplemental Appropriation for Hurricanes Fiona and Ian (SAHFI), and this certification pertains only to the planning analysis presented in this report. Certification for design and construction of the proposed facilities will be completed under a separate CWSRF project.

_____

Date

_____

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EXECUTIVE SUMMARY

This Preliminary Engineering Report was prepared for the Town of Howey-in-the-Hills (Town) in a collaborative effort by Town staff and Woodard & Curran, Inc. to meet the needs of the Town and the requirements of the Florida Clean Water State Revolving Fund (SRF) program. This report is meant to evaluate utility needs to support growth and improve resiliency. This report is a planning-level document that defines project needs and estimated costs that will enable the Town to apply for grants and low-interest funds for the design and construction of essential wastewater infrastructure.

This planning document is based on a 20-year planning period from 2025 to 2045. The evaluation area includes the center of the Town of Howey-in-the-Hills, which is referred to as "Old Howey". The planning area is shown in **Figure 1-1**. Most of Old Howey relies on aging onsite septic systems for wastewater treatment and disposal. There are only a few properties in Old Howey served by a centralized wastewater treatment system, which sends flow to a privately-owned treatment facility. Transitioning the rest of the Town into a centralized wastewater treatment system will reduce the risk of future contamination to groundwater and local waterbodies, such as Little Lake Harris.

The Town's population projection over the planning period was evaluated based on population growth statistics from the Bureau of Economic and Business Research (BEBR) and the United States Census. The Town's population has steadily increased over the past decade; therefore, the Town requires an improved wastewater collection and conveyance system to support future demand.

Three alternatives were evaluated for constructing a wastewater collection and treatment system. The three alternatives are for the Town to 1) make no improvements, 2) connect to an existing treatment facility in the City of Groveland, and 3) purchase the Frozen Grove WWTF, which is currently owned by Sewer and Water Plants Investments LLC. The Central Lake Community Development District (CDD) partially owns and currently operates the facility. The Frozen Grove WWTF would then serve as a regional plant for Howey and the surrounding community. The recommended alternative is to purchase the Frozen Grove WWTF.

The associated opinion of probable cost of purchasing the Frozen Grove WWTF and constructing the collection system is shown in **Table ES-1-1.** The total capital cost of the recommended project is estimated to be $21.8 million in 2025 dollars. Details of the project costs are included in Appendix C.

TABLE ES-1-1: SELECTED PLAN PROPOSED COSTS

Item	Cost
Construction Base Cost (2025)	$13,077,000
Construction Contingency (10%)	$1,307,700
Engineering, Permitting and Design (10%)	$1,307,700
Engineering Service During Construction (5%)	$653,900
Fiscal, Legal and administrative (3%)	$392,400
Frozen Grove WWTF Capital Assets	$3,200,000
Frozen Grove WWTF Profit	$500,000
Total Opinion of Capital Costs	**$20,439,000**

1. PROJECT PLANNING

1.1 Location

The Town of Howey-in-the-Hills, Florida (Town) is located in the middle of Lake County, on the west shore of Little Lake Harris, an arm of Lake Harris which sits to the north. Yalaha, an unincorporated community, borders the Town to the northwest and the City of Groveland borders it to the south. It is located approximately five (5) miles north of the City of Groveland and approximately thirty (30) miles northwest of Orlando. The Town is made up of 3.16 square miles of land and is located within the St. John's River Water Management District (SJRWMD). Two (2) major roadways run through the Town, Florida State Road 19, also known as Palm Avenue, travels through the middle of Town and State Road 19 leads to Taveres to the north and Groveland to the south. A location plan of the Town can be seen in **Figure 1-1**.

1.2 Existing and Future Conditions

This section outlines the existing environmental conditions and details the potential growth of the Town of Howey-in-the-Hills.

1.2.1 Description of Planning Area

The planning area is the center of Town, which is referred to as "Old Howey." Old Howey is bound by Mission Lane in the north, Island Drive in the south, N Lakeshore Blvd in the east, and S Florida Ave and N Georgia Ave in the west. The Old Howey Planning Area is depicted in **Figure 1-2**. The Town currently provides potable water to most of its residents and limited wastewater service to specific areas of the Town. The areas with a wastewater collection system include Talichet, Venezia South and a few connections within Old Howey. All other areas of the Town rely on septic systems.

FIGURE 1-1: TOWN OF HOWEY-IN-THE-HILLS LOCATION PLAN

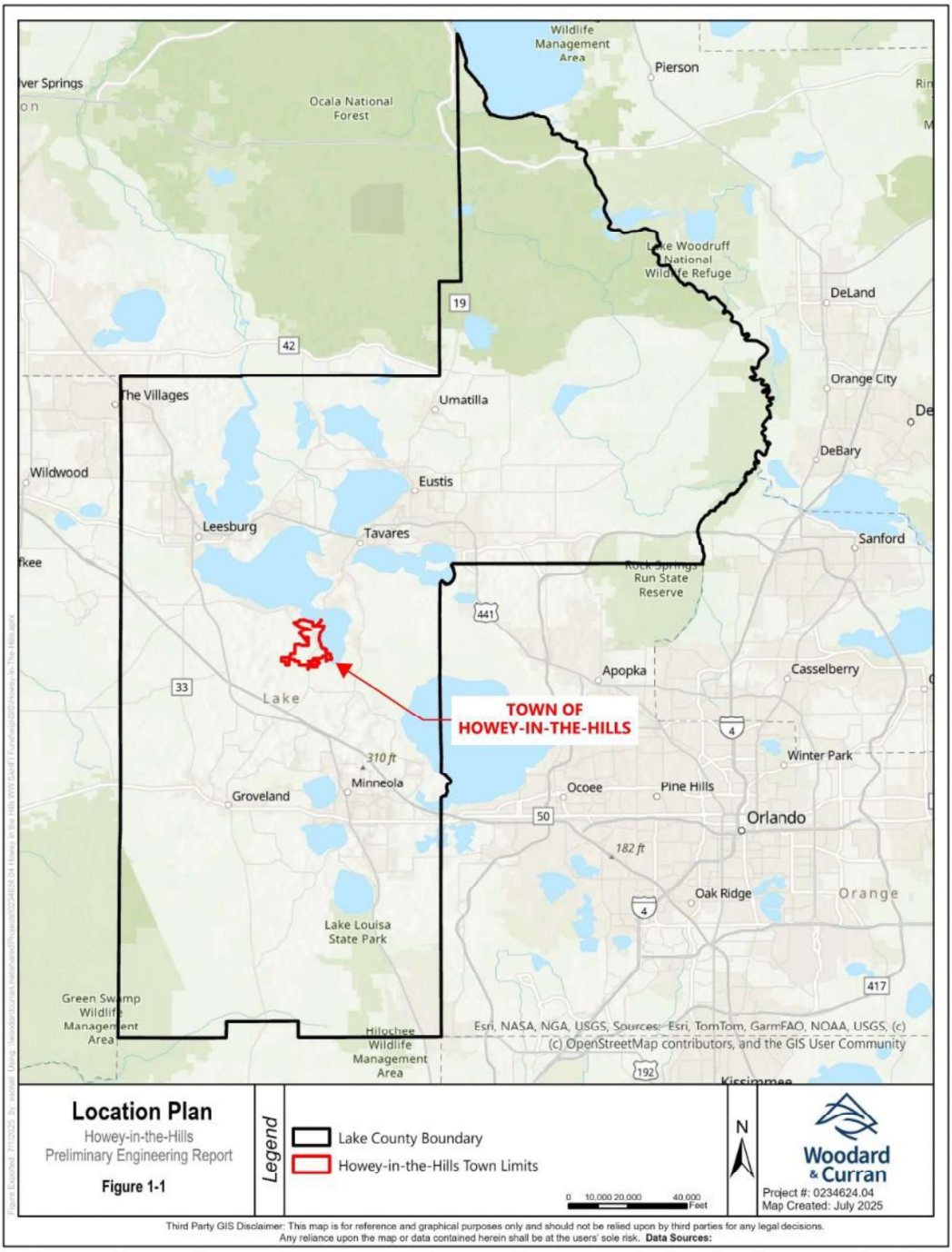


FIGURE 1-2: TOWN OF HOWEY-IN-THE-HILLS PLANNING AREA

1.2.2 Climate

Located in Central Florida, Howey-in-the-Hills's climate is characterized as hot and humid for the majority of the year. The Town's cold season is relatively short and dry and usually lasts from December to March. The average daily low temperature is 52 degrees Fahrenheit during winter. The Town has approximately six days when the temperature falls below freezing through the night hours. Rainfall averages approximately 40.9 inches with precipitation approximately 130.6 days out of the year, which is higher than the United States average of 106.2 days of precipitation a year. See **Table 1-1** below.

TABLE 1-1: CLIMATE AVERAGES

	Howey-in-the-Hills, FL	United States
Rainfall (in)	40.9	38.1
Snowfall (in)	0	27.8
Precipitation (days)	130.6	106.2
Sunny (days)	235	205
Average July High (deg (F)	90	85..8
Average January Low (deg F)	49	21.7
UV Index	5.85	4.3

1.2.3 Topography & Drainage

According to the United States Geological Survey Topographic Map and United States Fish and Wildlife Wetlands Inventory, the planning area is surrounded by a mix of wetlands, lakes, ponds, and riverines. The planning area has a large variation in elevation. A topographic map can be seen in **Figure 1-3** and a US FWS Wetlands Map can be seen in **Figure 1-4.**

FIGURE 1-3: TOPOGRAPHY

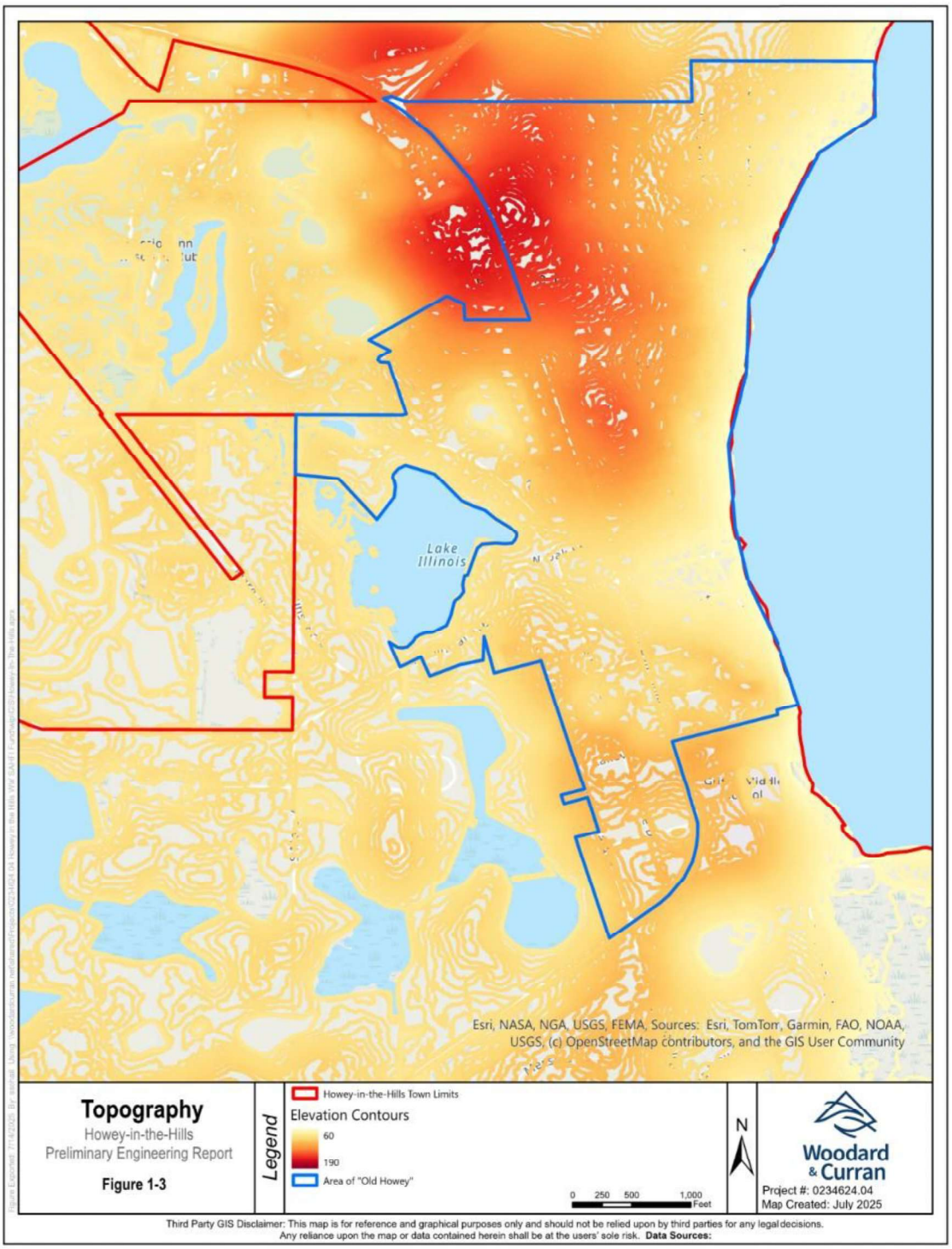
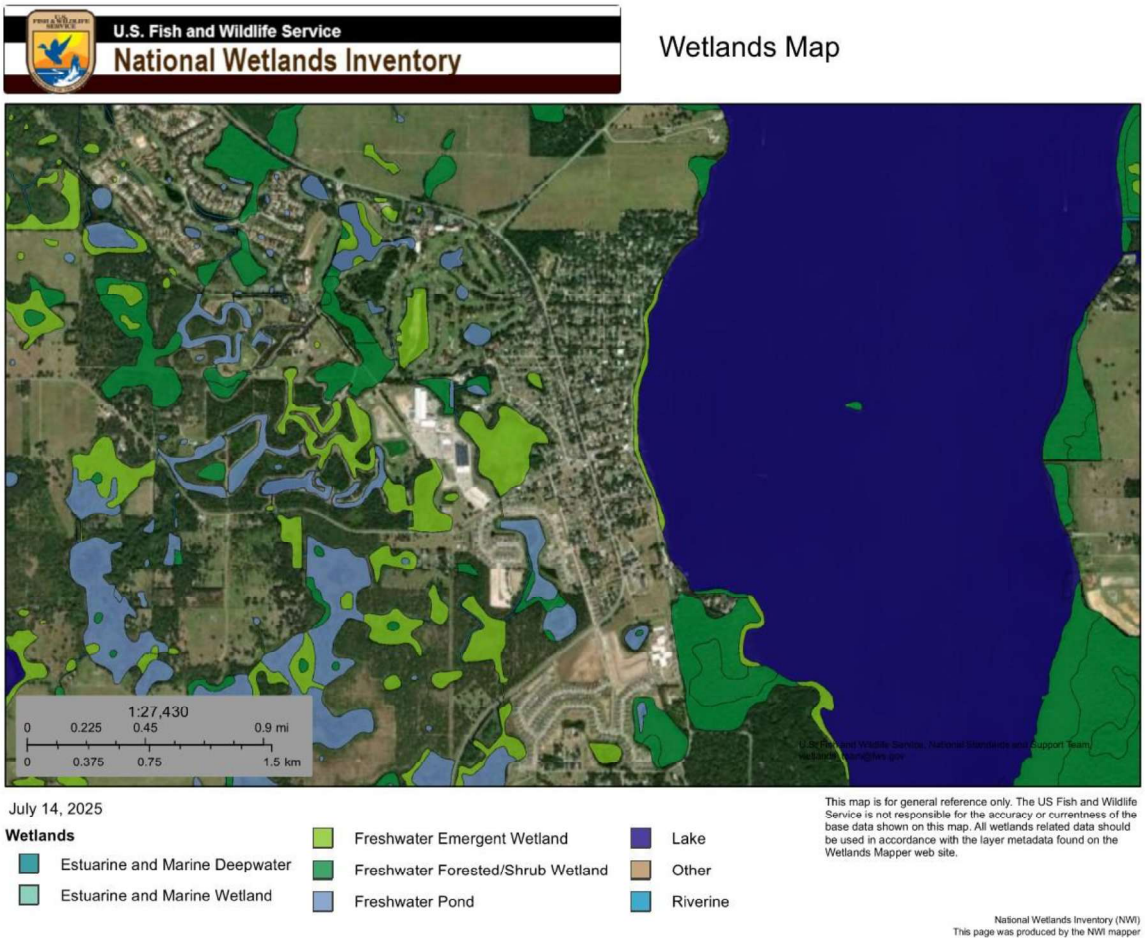


FIGURE 1-4: WETLANDS



The planning area is covered in 6 different types of soils as summarized in **Table 1-2** below.

TABLE 1-2: PLANNING AREA SOIL TYPES

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
8	Candler sand, 0 to 5 percent slopes	175.7	53.4%
9	Candler sand, 5 to 12 percent slopes	123.0	37.4%
17	Arents	0.5	0.1%
21	Lake sand, 0 to 5 percent slopes	23.2	7.0%
22	Lake sand, 5 to 12 percent slopes	0.6	0.2%
28	Myakka-Myakka, wet, sands, 0 to 2 percent slopes	2.6	0.8%
99	Water	3.8	1.2%
Totals for Area of Interest		**329.4**	**100.0%**

The planning area is covered in six different type of soils. 97.8% of soil is excessively drained, 1.0% of soil is very poorly drained, and 1.2% of the planning area is water. See Appendix A for a United States Department of Agriculture Natural Resources Conservation Service Custom Soil Report for the proposed area of interest.

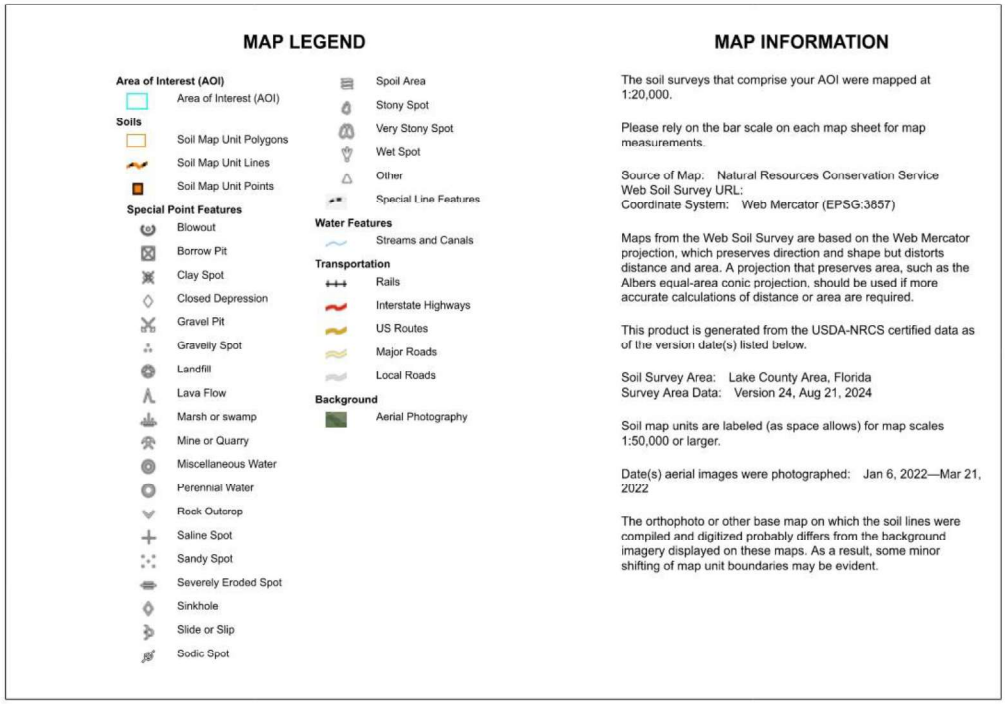
1.2.4 Geology, Soils, Physiography

According to the United States Department of Agriculture (USDA) Natural Resources Conservation Service Soil Survey denotes 98.8% of land within the planning area is composed of six different types of soils. All soils within the proposed land area are composed of soils that are classified as moderately high to high to very high to transmit water.

97.8% of soils within the area are classified as farmland of unique importance, and 1% are classified as not prime farmland according to the USDA Natural Resources Conservation Service. The most predominant soil type found in the planning area are characterized as sandy. See **Figure 1-5** for soil mapping within the planning area. See **Appendix A** for the full soil report.

FIGURE 1-5: CUSTOM SOILS RESOURCES MAP

Custom Soil Resource Report



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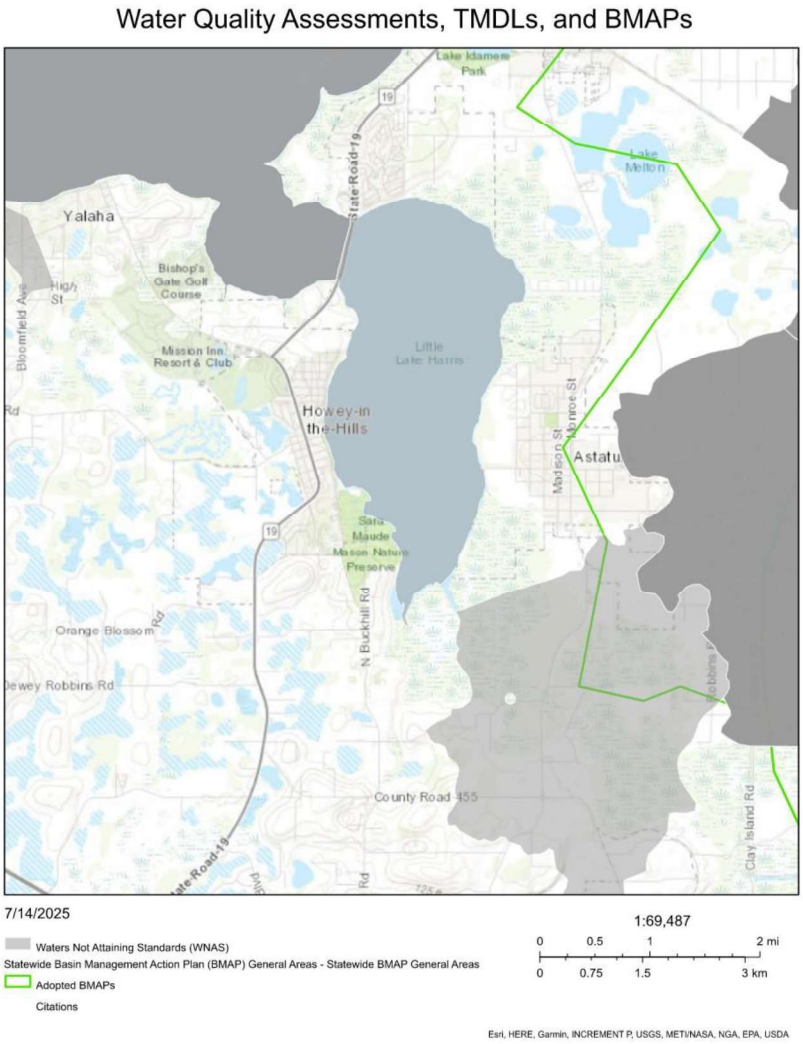
1.2.5 Surface & Ground Water Hydrology

There are no surface waters within the planning area but there are three waterbodies within one mile of the planning area which include Holland Lake, Lake Illinois, and Little Lake Harris. All surface waters are designated Class III waters, suitable for recreation and for propagation of fish and wildlife. The planning area is located within the St. Johns River Water Management District (SJRWMD) and the Upper Ocklawaha River Basin Management Action Plan Boundary (BMAP). The source of the drinking water for the planning area is the Upper Floridan Aquifer. The aquifer is composed of limestone and dolomite and has high flows near the center of the state where the planning area is located. There are no wild or scenic rivers in the planning area. **Figure 1-6** shows a map of the BMAP area relative to the planning area.

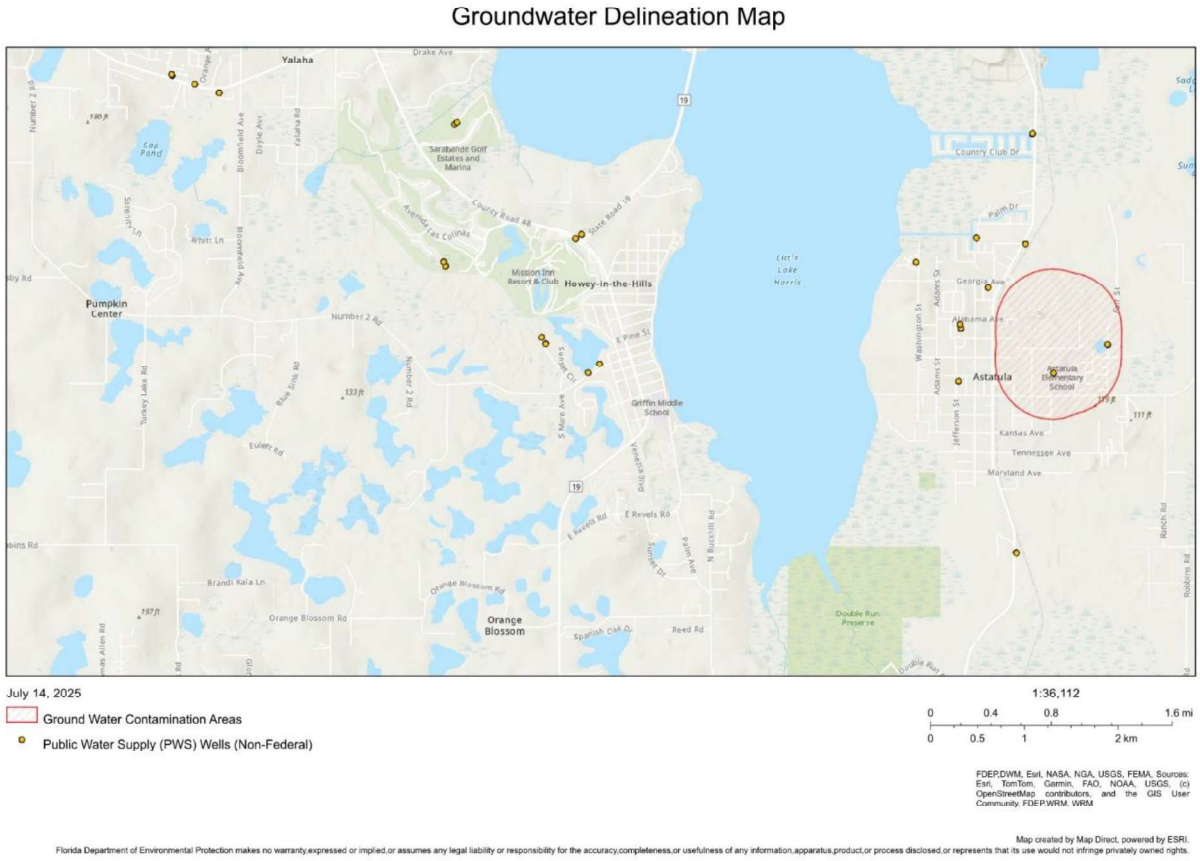
FIGURE 1-6: BMAP MAP



1.2.6 Surface & Ground Water Quality

From the Lake County Water Atlas, the water quality for Little Lake Harris has been determined as good. The other surface waters do not have data. All of the groundwaters in the planning area are designated class G-II (potable water use). **Figure 1-7** displays a map of the groundwater delineation.

FIGURE 1-7: GROUNDWATER DELINEATION



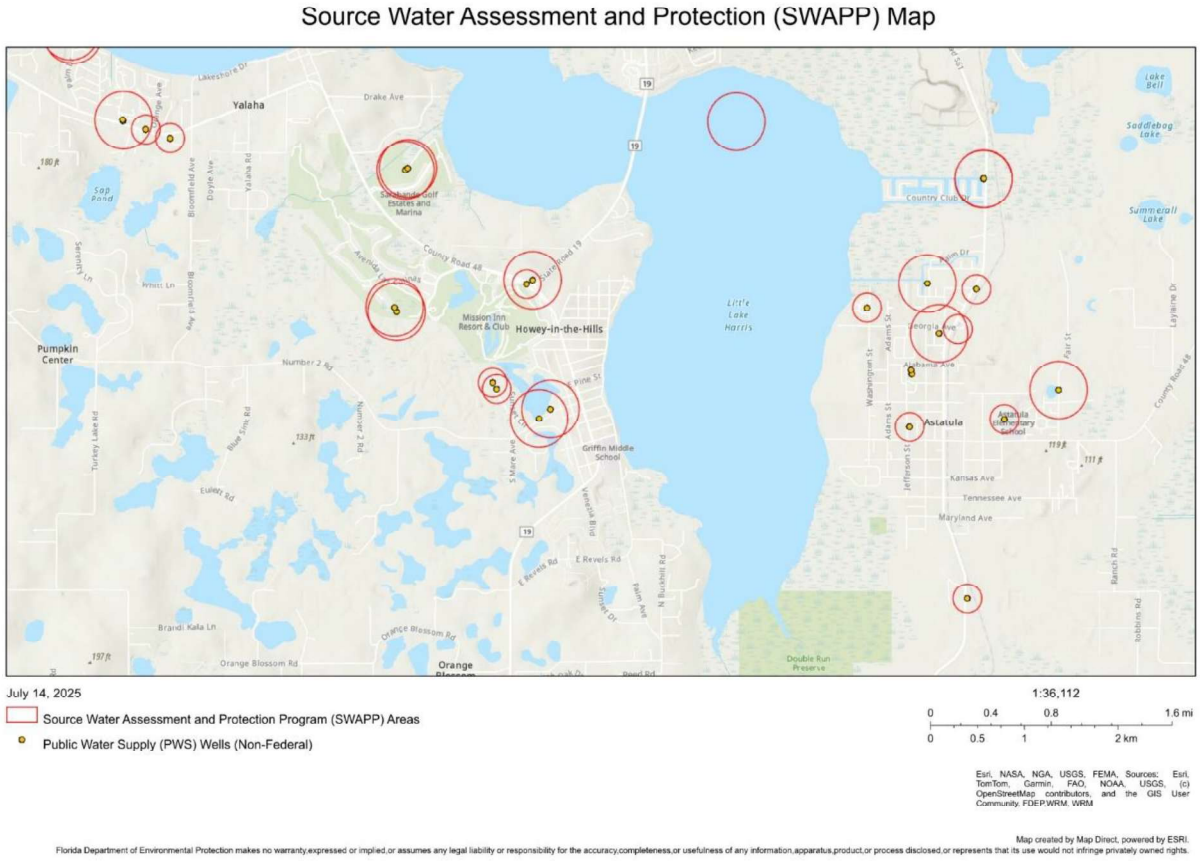
1.2.7 Water Uses

The Floridan aquifer is used as the source of drinking water for the utility service area served by the Town, as well as for supplemental reclaimed water for irrigation.

1.2.8 Source Water Protection

In 2024, an assessment of potential contamination to the source water was completed as part of the Source Water Assessment and Protection Program (SWAPP) under the Safe Drinking Water Act (SDWA). The source water protection area encompassed within a five-year groundwater travel time, defined as the area in which water will drain to a well pumping at the average daily permitted rate for a five-year period. In the planning area, all potential sources of contamination were identified, given a susceptibility score, and a concern level. There are three potential sources of contamination within the protection areas of the wells operated by the Town. All potential sources of contamination are of low concern. The SWAPP Area is shown in **Figure 1-8** and a full list of the sources within the Town's service area can be found in **Appendix B**.

FIGURE 1-8: SWAPP MAP



1.2.9 Wetlands

According to the United States Fish and Wildlife Service National Wetlands Inventory, the planning area is not composted of any wetlands but does contain an emergent wetland as seen in **Figure 1-4**. It is not anticipated that the proposed project will have any negative effect on wetlands because all proposed work will be done outside of any wetland boundaries.

1.2.10 Environmentally Sensitive Land

According to the USDA Natural Resources Conversation Service, 97.8% of soils within the area are classified as farmland of unique importance, and 1% are classified as not prime farmland. A USDA Natural Resources Conversation Service Custom Soil Resource Report can be found in **Appendix A**.

1.2.11 Plant & Animal Communities

The United States Fish and Wildlife Service IPac List includes 13 different species of mammals, birds, reptiles, insects, and flowering plants. The species are classified as threatened, proposed threatened, endangered, and experimental population non-essential (EXPN).

The table below summarizes the potential species located within the project area and the status of each one. No critical habitats were identified in the planning area.

TABLE 1-3: ENDANGERED SPECIES

Species	Status
Mammals	
West Indian Manatee	Threatened
Birds	
Eastern Black Rail	Proposed Threatened
Everglade Snail Kite	Endangered
Whooping Crane	EXPN
Reptiles	
Eastern Indigo Snake	Threatened
Short-tailed Snake	Proposed Threatened
Sand Skink	Threatened
Insects	
Monarch Butterfly	Proposed Threatened
Flowering Plants	
Britton's Beargrass	Endangered
Lewton's Polygala	Endangered
Paper Whitlow-wort	Threatened
Pigeon Wings	Threatened
Pygmy Fringe-tree	Endangered

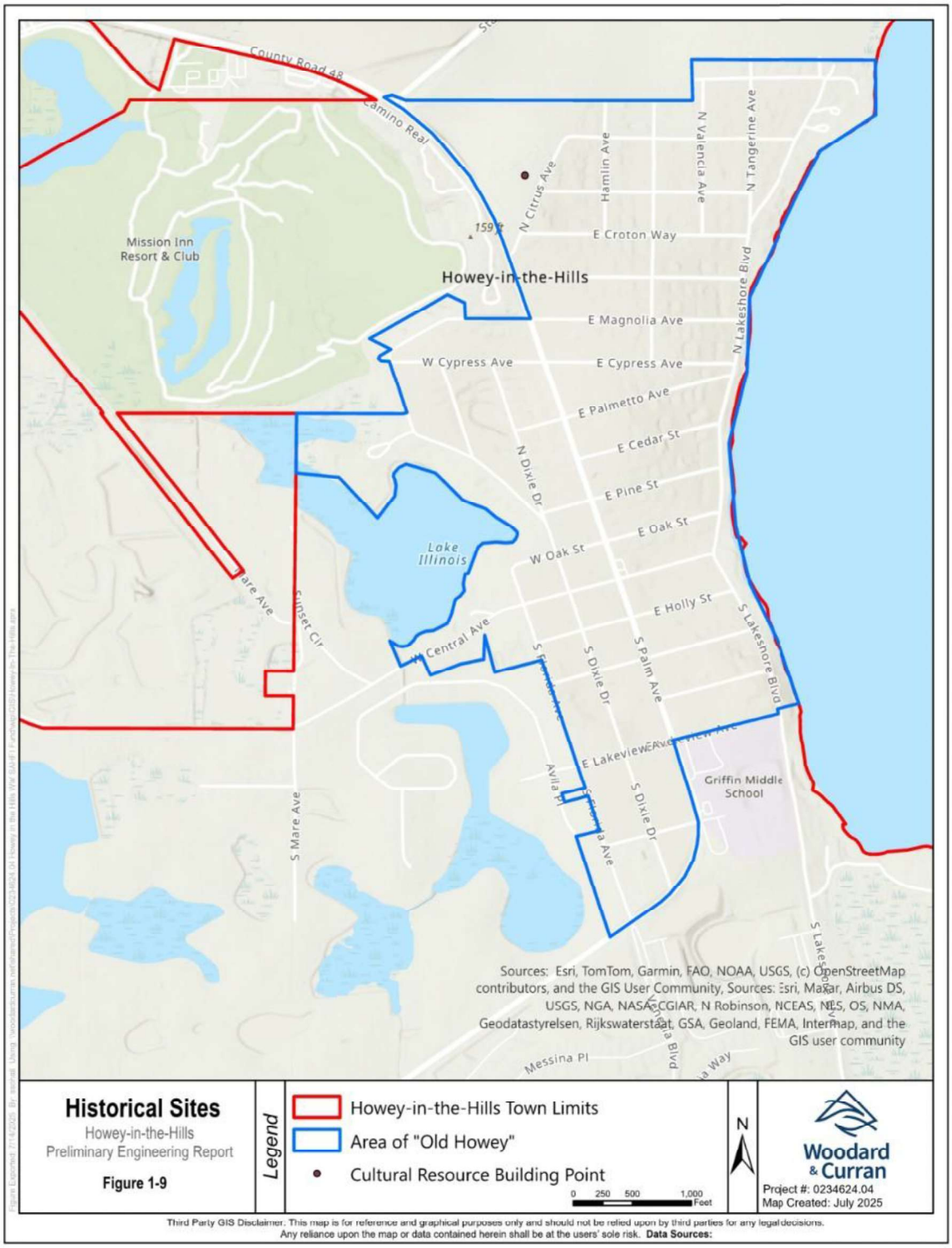
As part of the environmental review for the Facility Plan, consultation with the U.S. Fish and Wildlife Service (USFWS) has been initiated pursuant to the Endangered Species Act. This consultation is required to evaluate the potential impacts of the proposed project on federally listed species and their habitats.

At this time, the USFWS consultation process is ongoing and has not yet been completed. The project team is actively engaged in coordination with the USFWS and is providing any additional information requested to facilitate the review. The final outcomes of this consultation will be incorporated into the Facility Plan and environmental review documentation. Any recommended avoidance, minimization, or mitigation measures will be implemented to ensure compliance with federal and state environmental protection requirements.

1.2.12 Archeological & Historical Sites

Four Native American Tribes have interest in Lake County, Florida: Coushatta Tribe of Louisiana, Miccosukee Tribe of Indians, Muscogee (Creek) Nation, and Seminole Tribe of Florida. According to the Department of State Division of Historical Resources Master Site File, there is one historical standing structure, the Howey Mansion, within the planning area boundary as seen in **Figure 1-9.**

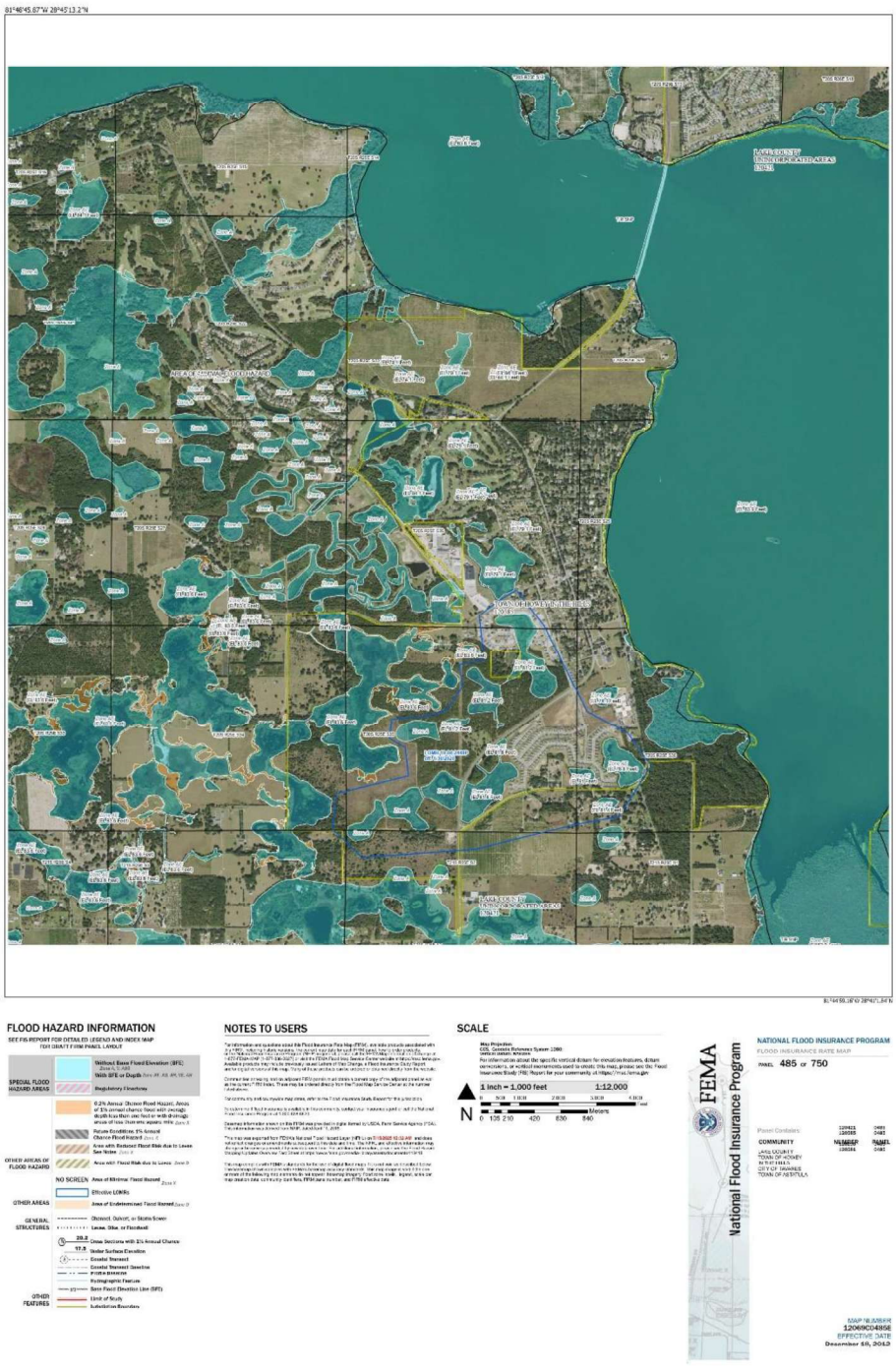
FIGURE 1-9: HISTORICAL SITES



1.2.13 Floodplains

All proposed upgrades will be designed and constructed within previously disturbed areas and outside of any critical floodplain area. A FEMA Flood Map of the planning area is shown in **Figure 1-10**.

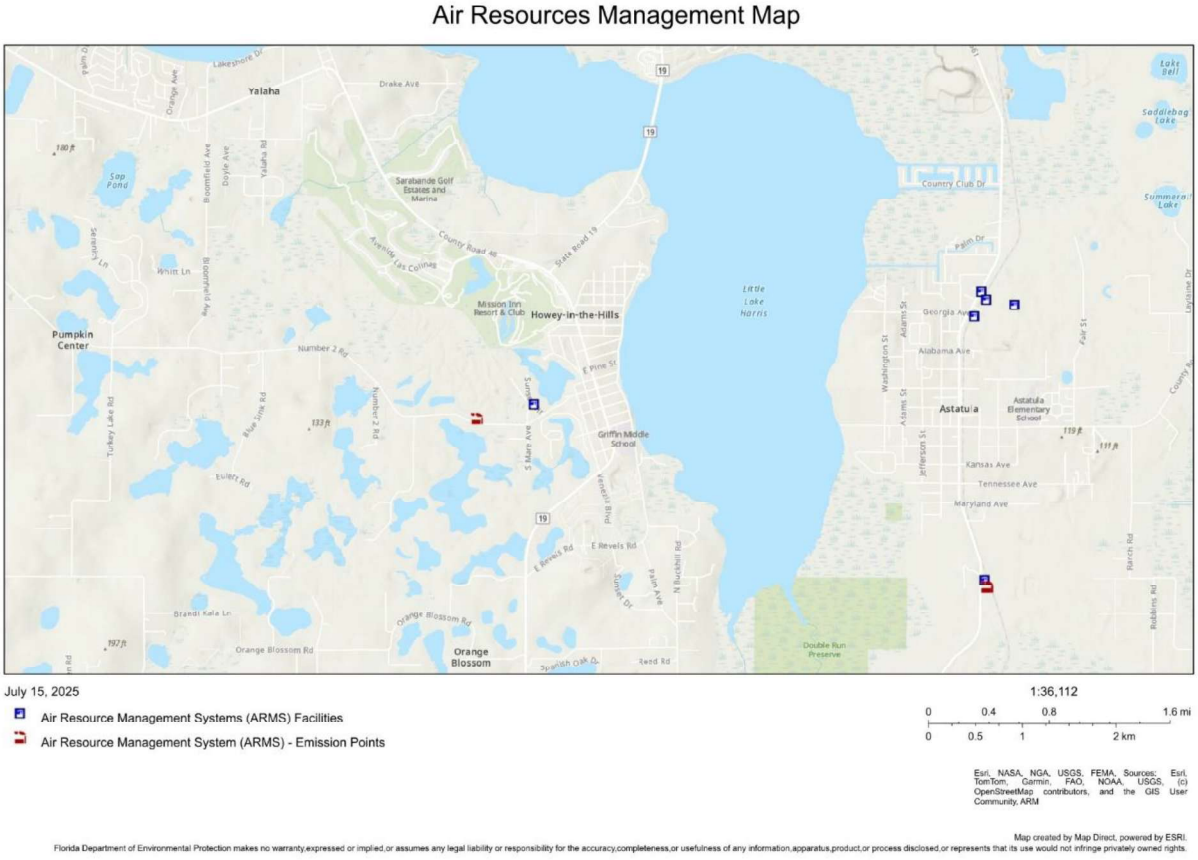
FIGURE 1-10: FLOODPLAINS MAP



1.2.14 Air Quality

According to the FDEP Air Resources Management, no emission points, ambient air monitoring sites, or air resource management facilities were found within the project area as seen in **Figure 1-11**. The Town of Howey-in-the-Hills plans to follow all Clear Air requirements set by the Florida Department of Environmental Protection. Project activities will be monitored by FDEP. Emissions from construction vehicles during construction are the only effect on air quality that is anticipated. Construction is anticipated to last 24 months. There are no long-term anticipated environmental consequences in regard to air quality.

FIGURE 1-11: AIR RESOURCES MANAGEMENT MAP



1.3 Population Trends and Proposed Developments

1.3.1 Population Trends

The Town has population estimates from the University of Florida's Bureau of Economic Business Research (BEBR) and the U.S. Census Bureau (USCB). The planning period for this Facility Plan is 20 years. The population projection for the 2025-2045 planning period is based on data sets from both population data sources. The BEBR population estimates listed in **Table 1-4** indicate that the Town's population increased by an average of 6.5% per year from 2015 to 2024.

TABLE 1-4: BUREAU OF ECONOMIC AND BUSINESS RESEARCH HOWEY IN THE HILLS POPULATION GROWTH

UF BEBR Data		
Year	**Population Estimate**	**% Growth**
2015	1,106	-
2016	1,260	13.92%
2017	1,355	7.54%
2018	1,499	10.63%
2019	1,611	7.47%
2020	1,702	5.65%
2021	1,680	-1.29%
2022	1,778	5.83%
2023	1,790	0.67%
2024	1,934	8.04%
Average Population Growth (per year)		6.50%

The USCB population estimates that are listed in **Table 1-5** indicate that the Town's population increased by an average of 3.22% for the years 2000, 2010, and 2020.

TABLE 1-5: USCB POPULATION ESTIMATES IN 2000, 2010, AND 2020

U.S. Census Data		
Year	**Population Estimate**	**% Growth**
2000	965	-
2010	1,098	14.85%
2020	1,643	49.64%
Average Population Growth (per year)		3.22%

An average population increase of 6.5% per year was applied to estimate future wastewater volumetric flow rates in the Town. The future housing developments projects are discussed in **Section 1.4**. For the purposes of this Preliminary Engineering Report, the population projection is 20 years past the completion of this report, therefore the planning period for this Preliminary Engineering Report ends in the year 2045. According to BEBR data, the Town had a population of approximately 1,934 people in 2024. A 6.5% per year population increase over the next 20 years will result in the Town's population increasing to approximately 7,258 people.

1.4 Proposed Development

There are multiple housing development projects planned in the Town over the next number of years. Many of these housing development projects were approved between 2005 and 2008 and were put on hold during the economic recession beginning in 2008. Due to recent population growth in Florida, these projects have recently moved through the approval process.

Currently, the Town is in the process of implementing new developments that will require a wastewater solution for treatment and disposal. The Central Lake CDD has 400,000 GPD (1,600 ERUs) of capacity to allocate towards new developments within the Town of Howey-in-the-Hills. Details on allocated capacity is discussed in **Section 2.2**. The current status of each development is outlined in **Table 1-5**. The 4 statuses are CDD Agreement, allocated to 1,600 ERU capacity, Need Capacity, and Outside of Howey Service Boundary.

TABLE 1-6: DEVELOPMENT FLOWS SUMMARY

Status	Developments	ERUs	Totals (ERUs)	Flow (GPD)
[1]CDD Agreement	Venezia North (Talichet) and South	428	**1,551**	**387,750**
	The Reserve/Hillside Groves	848		
	Other Businesses	65		
	Bishops Gate	210		
[2]Allocated to 1,600 ERU Capacity	Lake Hills	641	**1,457**	**364,250**
	Watermark	291		
	Drake Point	525		
[3]Need Capacity	Whispering Heights	156	**2,856**	**714,000**
	Water Treatment Plant	3		
	Old Howey	597		
	Westminster (Marina)	350		
	Juice Plant	1,100		
	Mission Rise	415		
	Cedar Creek	107		
	Thompson Grove	100		
[4]Outside of Howey Service Boundary	Westminster (Marina)	350	**1,600**	**400,000**
	Mission Inn / Las Colinas	350		
	Mission Inn	900		
		TOTAL	**7,464**	**1,866,000**

[1]The Central Lake CDD has committed to providing wastewater capacity to these developments under the Wholesale Agreement.
[2]Developments under this status have recently negotiated and confirmed wastewater capacity.
[3]Developments under this status are interested in developing in the Town but have not guaranteed capacity.
[4]These developments are within CDD's service boundary but will need to be considered given the solution provided in Alternative 3.

For the purposes of this report, flow projections will be based on population growth rather than flows projected from proposed developments to avoid uncertainties in calculations. Many of the developments outlined are not confirmed, and the ERUs presented within each development describe reserved/negotiated wastewater capacity. Existing developments that have already established wastewater capacity with the Central Lake CDD have not yet fully utilized all of the negotiated ERUs. Evaluating this condition and existing

wastewater flows, W&C has determined that the implementation of proposed developments will lead to an overrepresentation of projected flows.

1.5 Planning Period Population Growth

By the end of the planning period, 7,258 people will contribute municipal wastewater to the Town's collection, conveyance, and treatment system. This population was determined based on the 6.5% annual population growth rate discussed in **Section 1.3.1** and includes planned developments.

2. NEEDS FOR PROJECT

2.1 Health, Sanitation, and Security

Most properties within the Town currently rely on septic systems for onsite wastewater treatment and disposal. Only the Talichet and Venezia subdivisions, and a small portion of Old Howey, are connected to a centralized collection system. The Central Lake Community Development District (CDD) provides centralized wastewater collection and treatment to the Mission Inn and the select areas within the Town of Howey-in-the-Hills. The Town does not operate its own wastewater treatment facility. The Town sends flow to Frozen Grove Wastewater Treatment Facility (WWTF). Most components of the sewer collection system are underground where the likelihood of security concerns is minimal. Transitioning the rest of the Town off the existing septic systems and onto a centralized wastewater treatment system will reduce risk of future contamination of groundwater and local waterbodies due to failing septic systems. The Town is located on Little Lake Harris, which is a recreational lake used for fishing, boating, and other water related activities as well as a home to wildlife, making the environmental impact to the lake an important consideration for protecting the public from pollution and potential health hazards.

2.2 Existing Infrastructure

The Town's existing wastewater collection system consists of approximately 17,900 linear feet of gravity sewer pipes, 12,100 linear feet of sewer force main pipes, and 67 sewer manholes. Force main sizes range from 2"-12" and gravity main sizes are predominately 8". There are only five connections to the wastewater collection system in Old Howey. These existing connections consist of the Howey-in-the-Hills Townhall, police station, and library along with the Clark Clinic Howey and Boondocks Restaurant, in which most are located on or around the West Central Avenue and South Palm Avenue intersection.

There are two lift stations within Old Howey, one is located at Town Hall and another one is located at Griffin Park. Wastewater flows by gravity to the two lift stations, and the lift stations pump wastewater to the Frozen Grove WWTF, which is the Wastewater Treatment Facility partially owned and operated by the CDD. Both lift station details are outlined in the tables below.

TABLE 2-1: TOWN HALL LIFT STATION SUMMARY

Equipment	Design Value
Pump Station	
Number of Installed Pumps (Duty/Total)	1/2
Wet Well Diameter	4 ft
Wet Well Depth	10 ft
Level Control	Floats
Pump Station Inlet Diameter	8 in
Force Main Discharge Diameter	2 in
Pump Characteristics	
Pump Manufacturer	Barney's Pumps, Inc.
Pump Style	Submersible
Pump Model	HPG200
Rate Pump Capacity	26 GPM
Motor Size	2 HP
Electrical Rating (V/phase)	230 V / 3 PH

TABLE 2-2: GRIFFIN PARK LIFT STATION SUMMARY

Equipment	Design Value
Pump Station	
Number of Installed Pumps (Duty/Total)	1/2
Wet Well Diameter	4 ft
Wet Well Depth	10 ft
Level Control	Floats
Pump Station Inlet Diameter	8 in
Force Main Discharge Diameter	2 in
Pump Characteristics	
Pump Manufacturer	Barney's Pumps, Inc.
Pump Style	Submersible
Pump Model	HPGH-500
Rate Pump Capacity	59 GPM
Motor Size	5 HP
Electrical Rating (V/phase)	230 V / 1 PH

Additionally, the Talichet and Venezia subdivisions are also connected to the Frozen Grove WWTF. Both subdivisions have gravity sewers that send flow to a lift station. There is one (1) lift station at the Talichet subdivision and two (2) lift stations at the Venezia subdivision. The existing lift station characteristics servicing both the Venezia and Talichet subdivisions are not known at this time. The lift stations pump wastewater through a force main to the WWTF. The existing sanitary sewer system is shown in **Figure 2-1.**

FIGURE 2-1: EXISTING SANITARY SEWER SYSTEM

The Frozen Grove WWTF, owned by Sewer and Water Plants Investments LLC, currently treats and disposes of wastewater for residents in Venezia North (Talichet), Venezia South, and The Reserve (Hillside Groves) subdivisions with a few connections in the Town of Howey-in-the Hills. It is a Modified Ludzak Ettinger wastewater treatment plant with treatment processes of influent screening, clarification, filtration and disinfection with chlorine and ozone. In 2021, the Frozen Grove WWTF permit was expanded to increase wastewater treatment capacity to 0.87 MGD. The WWTF discharges to an existing rapid infiltration basin (RIB) with a permitted capacity of 0.095 MGD. An existing 4.4 MG lined wet weather storage pond is used for a slow-rate public access system allowing for an additional permit discharge capacity of 0.775 MGD. Based upon review of Frozen Grove WWTF's Discharge Monitoring Reports (DMRs) from May 2024 to May 2025, the Annual Average Daily Flow (AADF) is 0.075 MGD.

A wholesale wastewater service agreement between the Town of Howey-in-the-Hills and the CDD is in place to treat domestic wastewater for various portions of the Town. The CDD has reserved 1,600 unallocated equivalent residential units (ERUs) for the Town, with each ERU representing 250 gallons per day, resulting in a total capacity of 400,000 gallons of wastewater per day. The Town has the right to allocate these 1,600 ERUs to new developments on a first-come first-served basis. The 1,600 ERU capacity reserved for the Town is in addition to the contractual entitlements for the 2007 Developments which are The Reserve (Hillside Groves), Venezia North (Talichet), and Venezia South.

2.3 Reasonable Growth

With most properties in Old Howey relying on on-site septic systems for wastewater treatment, the Town is interested in connecting residents to a centralized wastewater treatment system to mitigate environmental impacts. With the projected population growth over the next 20 years, the Town is also exploring a centralized, regional treatment solution to accommodate existing and future residents. This means additional sewer collection infrastructure will be required to collect and transport sewage from Old Howey to a centralized WWTF. Treatment of wastewater from new developments will also need to be considered with respect to the existing Agreement between the Town and the CDD.

2.4 Flow Estimates

An Equivalent Residential Unit (ERU) is a standard unit of measure to calculate wastewater flows. It represents the average wastewater generated per single-family residence. Howey-in-the-Hills uses 250 gallons per day (GPD) as a baseline for calculating water and wastewater usage.

Per U.S. Census data, there are approximately 2.7 persons per household in the Town of Howey-in-the-Hills. Assuming the 2045 population of 7,258 people occupy single-family residences at 2.7 persons per household, it is estimated that there will be 2,688 single-family residences contributing to wastewater flow. Assuming 250 GPD for 2,688 single-family residences, the resulting projected 2045 wastewater flow for the Town is 672,040 GPD.

Currently there are 479 residential units, 22 commercial units, 85 vacant residential units, and 11 vacant commercial units in Old Howey. Residential units are expected to generate an average flow of 141,000 GPD based on 250 GPD per ERU. Commercial units are expected to generate an average flow of 14,440 GPD, based on a flow of 0.1 GPD per square foot. This results in a combined average day flow of 155,440 GPD.

Based on information provided by the Town, there are many developments interested in developing the Town of Howey-in-the-Hills. These projects can move through the development application process to initiate construction and will potentially be constructed during the planning period. However, if these developments require additional sanitary sewer infrastructure, this cost will be the responsibility of the developer. A summary of these developments was previously included in **Table 1-6.**

3. ALTERNATIVES CONSIDERED

3.1 Alternative Analysis

This section describes three (3) alternatives for addressing the Town's current and future wastewater needs. The alternatives evaluated are (1) No Action, (2) Connecting to regional facility, (3) Acquiring the Frozen Grove WWTF. Each alternative is described in more detail in the subsequent sections.

3.1.1 Alternative 1 – Do Nothing

The Do Nothing alternative would not construct a sanitary sewer collection system and existing onsite septic systems would continue to be used and maintained by individual property owners. There is a high number of septic systems located close to Little Lake Harris, which has the potential to impact water quality. There would be no cost for the No Action alternative, but there may be future negative environmental implications, influencing poor water quality. Aging and failing septic systems may cause nutrients such as nitrogen and phosphorus to travel through groundwater into the lake and degrade water quality. Additionally, failing septic systems can lead to public health issues when they fail and require regular maintenance by property owners.

3.1.2 Alternative 2 – Connection to Groveland Regional Facility

Collection System

The developed lots in Old Howey are currently using on-site septic systems to treat and dispose of wastewater. A regional centralized treatment alternative would connect these properties to a regional wastewater treatment plant for treatment and disposal. The Town needs to construct a collection system within Old Howey to be able to convey wastewater to the regional centralized treatment location.

There are approximately 597 parcels within the boundary of what the Town defines as Old Howey. There are 479 residential properties and 22 commercial properties that will be connected to the centralized sanitary sewer system. There are 85 vacant residential properties and 11 vacant commercial properties within Old Howey that may be connected to the centralized system in the future.

The Old Howey collection system will include approximately 37,000 linear feet of 8-inch gravity sewer, 600 linear feet of 4-inch force main, and 110 manholes. The collection system will also include 4 lift stations. This includes the upgrade of the existing Town Hall Lift Station and Griffin Park Lift Station. In addition to the 4 lift stations within the collection system, a master lift station will be installed at the southern edge of Town. This master lift station will pump all flow from Old Howey to the City of Groveland for treatment and disposal at their regional treatment facility.

Approximately 500 units need to be connected from an onsite septic system to the proposed sanitary sewer collection system. These properties will remain on the onsite septic system until construction of the collection system is complete. Service laterals will be placed at each property line for the connection to the proposed sanitary sewer collection system. The cost for abandoning the septic tanks and connecting to the proposed sanitary sewer collection system is not currently included in the project estimate.

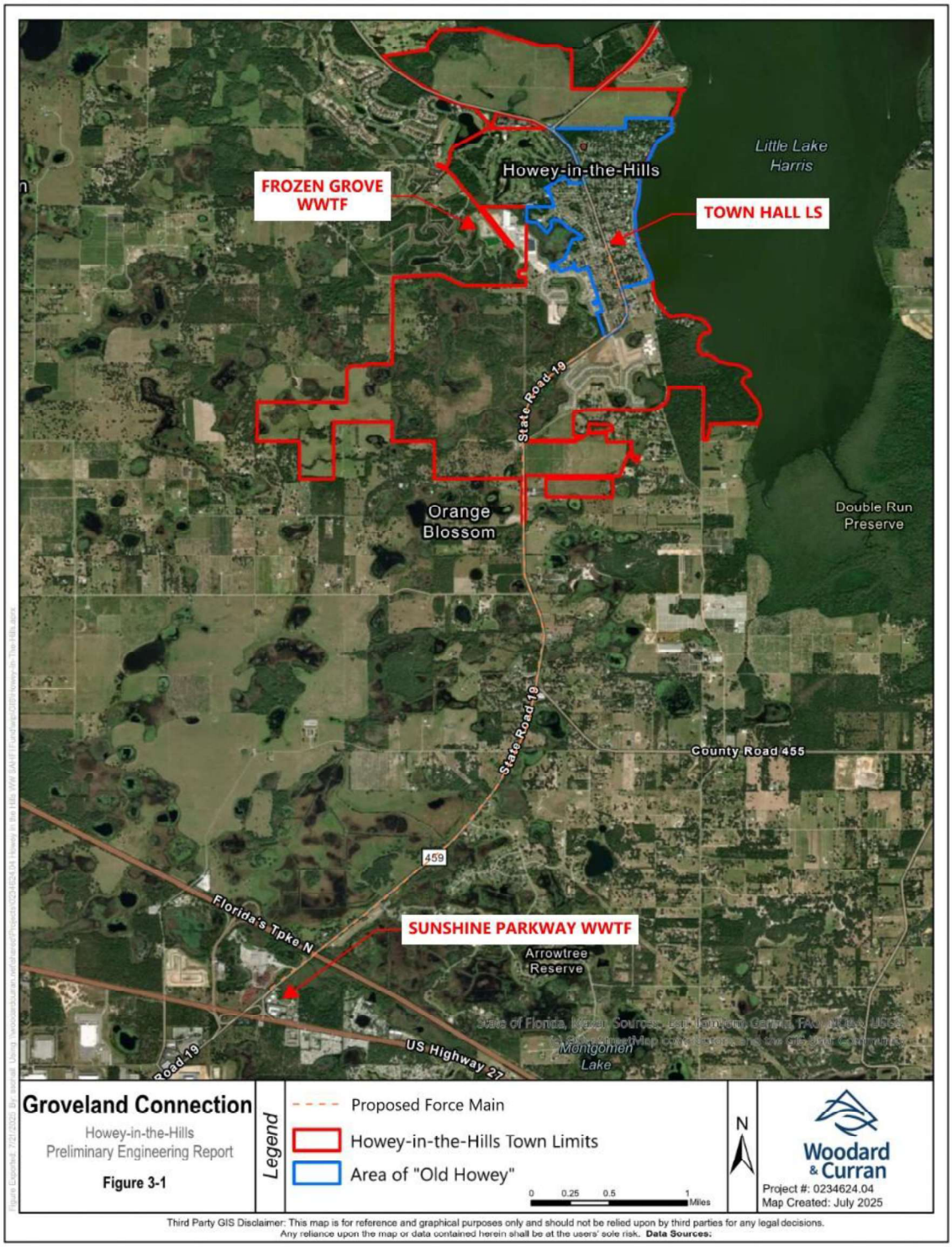
To prepare for a flood event or natural disaster, the new collection system may need to be equipped with flood protection to provide uninterrupted operations. This may include using submersible pumps, elevating

electrical components, waterproofing circuitry, floodproofing structures housing critical components, constructing wind-damage resistant structures, and installing back-up generators. Additionally, a new SCADA system will be implemented for all lift stations to allow for remote system operation. This improves overall monitoring and control over the new collection system, especially during flood events or natural disasters.

Treatment and Disposal

Alternative 2 describes locating a local regional facility that has the capacity to treat the Town's wastewater. The closest and most feasible option is sending wastewater flow to an existing WWTF in the City of Groveland. The Sampey WWTF, located in the southern portion of Groveland, is currently undergoing a significant upgrade. The City of Groveland is also planning to design and construct a new regional wastewater facility in the northern portion of the service area. The City of Groveland currently operates the Sunshine WWTF in the northern portion of the City. The Sunshine WWTF is approximately 4.5 miles away from the Town of Howey-in-the-Hills. It is assumed that the Town of Howey-in-the-Hills can connect to the Sunshine WWTF. The master lift station at the southern portion of Old Howey would connect to an 8-inch force main that will travel 4.5 miles to the Sunshine WWTF as seen in **Figure 3-1.**

FIGURE 3-1: PROPOSED CONNECTION TO GROVELAND



3.1.3 Alternative 3 – Town Acquires Frozen Grove WWTF

Collection System

The developed lots in Old Howey are currently using on-site septic systems to treat and dispose of wastewater. A centralized treatment alternative would connect these properties to a central wastewater treatment plant for treatment and disposal. The only available treatment location within the Town of Howey is the existing Frozen Grove WWTF. Town needs to construct a collection system within Old Howey to be able to convey wastewater to the centralized treatment location.

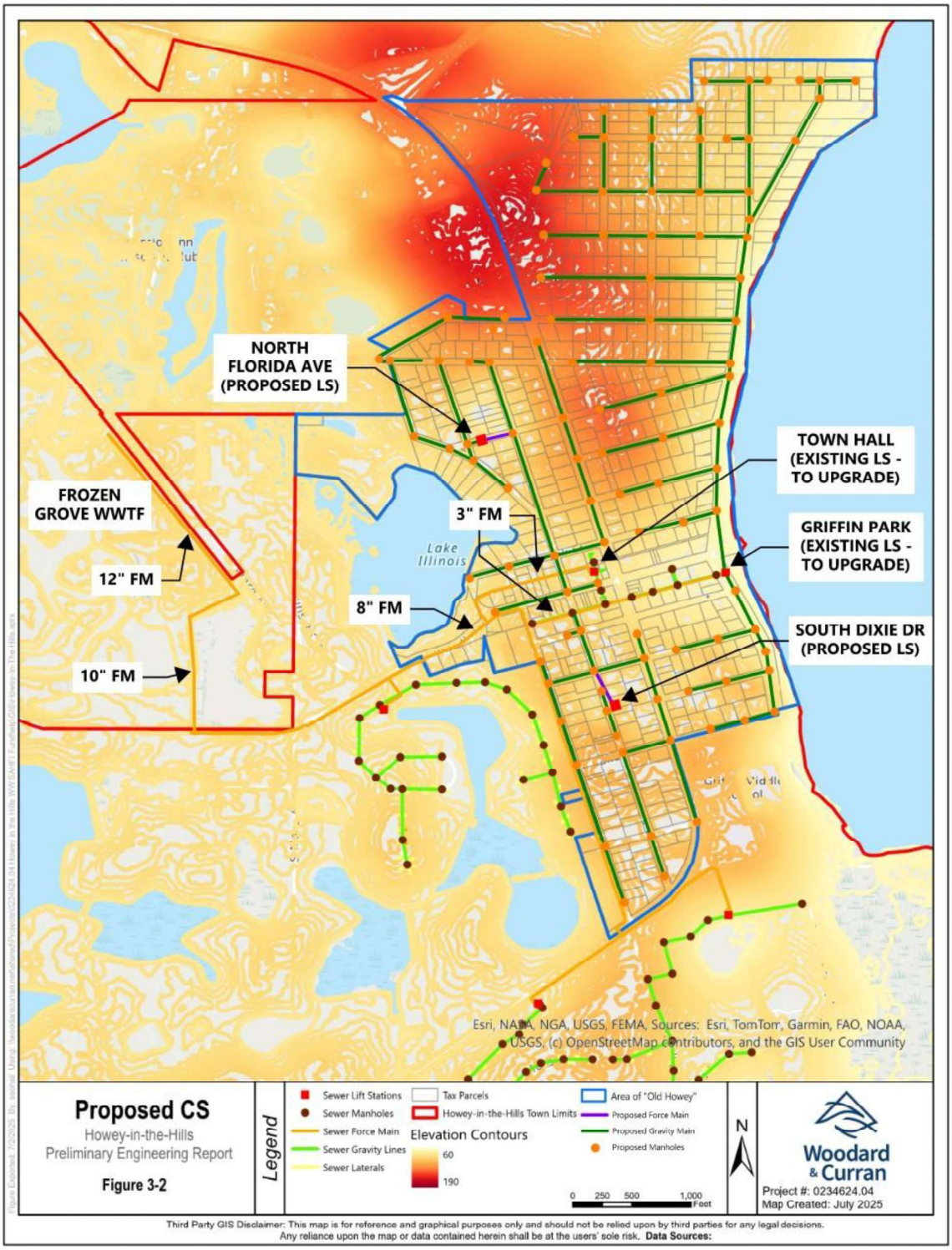
There are approximately 597 parcels within the boundary of what the Town defines as Old Howey. There are 479 residential properties and 22 commercial properties that will be connected to the centralized sanitary sewer system. There are 85 vacant residential properties and 11 vacant commercial properties within Old Howey that may be connected to the centralized system in the future.

A new sanitary sewer collection system will be installed in Old Howey to convey wastewater to the treatment facility. Due to the topography of the area, wastewater will need to flow by gravity to intermediate lift stations. Some lift stations will pump wastewater into the downstream gravity sewer to be combined with flow from other areas. The combined flow will ultimately be pumped into the existing 8-inch force main on West Central Avenue. The existing 8-inch force main transitions to a 10-inch force main on North Mare Avenue. It transitions to a 12-inch force main before entering the Frozen Grove WWTF. Based on preliminary sizing calculations, it appears that the existing 8-inch on West Central Avenue is adequately sized to handle the additional flow from Old Howey. However, if this needs to be upsized to handle flow from proposed developments, the developers will be responsible for the cost of upgrades.

The Old Howey collection system will include approximately 37,000 linear feet of 8-inch gravity sewer, 600 linear feet of 4-inch force main, and 110 manholes. The collection system will also include 4 lift stations. This includes the upgrade of the existing Town Hall Lift Station and Griffin Park Lift Station. A preliminary design of the collection system can be seen in **Figure 3-2**.

To prepare for a flood event or natural disaster, the new collection system may need to be equipped with flood protection to provide uninterrupted operations. This may include using submersible pumps, elevating electrical components, waterproofing circuitry, floodproofing structures housing critical components, constructing wind-damage resistant structures, and installing back-up generators. Additionally, a new SCADA system will be implemented for all lift stations to allow for remote system operation. This improves overall monitoring and control over the new collection system, especially during flood events or natural disasters.

FIGURE 3-2: PROPOSED SANITARY SEWER SYSTEM



Approximately 500 units need to be connected from an onsite septic system to the proposed sanitary sewer collection system. These properties will remain on the onsite septic system until construction of the collection system is complete. Service laterals will be placed at each property line for the connection to the proposed sanitary sewer collection system. The cost for abandoning the septic tanks and connecting to the proposed sanitary sewer collection system is not currently included in the project estimate.

Treatment and Disposal

Alternative 3 consists of the Town purchasing the existing Frozen Grove WWTF from Sewer and Water Plants Investments LLC. The Town will need to propose an enticing purchase price to the private owner that considers the capital assets, annual profit, and property value. Sewer and Water Plants Investments LLC has the right to refuse the purchase price provided by the Town. Once the Town has acquired the WWTF, it will need to consider existing and future flows beyond Howey's service boundary since many residents outside of Howey have existing connections to Frozen Grove WWTF.

Residents within Sewer and Water Plants Investments LLC's jurisdiction will assume the same growth rate as Howey since both entities are within the same vicinity. By the end of the 20-year planning period, it is projected that the WWTF will receive a flow of 0.93 MGD. This is 7% over the current design capacity of 0.87 MGD for Frozen Grove WWTF.

Wastewater treatment facility expansions are recommended once flows reach 75% of design capacity, meaning upgrades will be needed in 2039 given projected flows. Needing to upsize a WWTF will be largely dependent on many factors such as continued development, new industries, population growth, new activities, aging collection systems that result in inflow and infiltration, etc. The Town will need to closely monitor flows in order to determine when expansion is needed given present conditions. Projected flows are summarized in **Table 3-1.**

TABLE 3-1: PROJECTED FLOWS SUMMARY

Year	Howey Population	Howey ERUs	CDD Population	CDD ERUs	Total Equivalent Residential Units (ERUs)	Flow (MGD)	% of Design Capacity
2025	2,060	166[1]	791	293	459	0.115	13%
2026	2,194	216[1]	842	312	528	0.132	15%
2027	2,336	865	897	332	1,198	0.299	34%
2028	2,488	922	955	354	1,276	0.319	37%
2029	2,650	982	1,018	377	1,358	0.340	39%
2030	2,822	1,045	1,084	401	1,447	0.362	42%
2031	3,005	1,113	1,154	427	1,541	0.385	44%
2032	3,201	1,186	1,229	455	1,641	0.410	47%
2033	3,409	1,263	1,309	485	1,748	0.437	50%
2034	3,630	1,345	1,394	516	1,861	0.465	53%
2035	3,866	1,432	1,485	550	1,982	0.496	57%
2036	4,118	1,525	1,581	586	2,111	0.528	61%
2037	4,385	1,624	1,684	624	2,248	0.562	65%
2038	4,670	1,730	1,794	664	2,394	0.599	69%
2039	4,974	1,842	1,910	707	2,550	0.637	73%
2040	5,297	1,962	2,034	753	2,716	0.679	78%
2041	5,642	2,090	2,167	802	2,892	0.723	83%
2042	6,008	2,226	2,307	855	3,080	0.770	89%
2043	6,399	2,370	2,457	910	3,280	0.820	94%
2044	6,815	2,524	2,617	969	3,494	0.873	100%
2045	7,258	2,688	2,787	1,032	3,721	0.930	107%

3.2 Design Criteria

The assumptions and criteria defined in 10 States Standards – Recommended Standards for Wastewater Facilities and industry best practices were used for developing the conceptual design. The following design method standards and factors were applied to the sanitary sewer collection system design:

Gravity Sewer:

1. Less than 4 feet of bury or greater than 16 feet: For sewer pipes installed in shallow or deep areas, the pipe material shall be SDR-21 PVC with push-on bell and spigot joints.

2. 4-16 feet of bury: For sewer pipes installed at depths between 4 and 16 feet, the pipe material shall be SDR-35 PVC with push-on bell and spigot joints.

3. 16 feet or greater of bury: For sewer pipes installed at depths greater than 16 feet, the pipe materials shall be SDR-26 PVC with push-on bell and spigot joints.

Sewer Services:

1. Laterals shall be 6-inch diameter PVC, SDR 35.
2. Services shall be run from the sewer main to the property line.
3. Minimum slope: 0.02 feet per foot
4. Services will enter laterally into the sewer main where possible. Sewer chimney connections will be used where elevation does not allow for standard wye connections. Sewer services shall not discharge directly into manholes.
5. One service will be provided per parcel.

Manholes:

1. Manholes are to be typically located at approximately 300 feet apart.
2. Manholes shall be located within the roadway right-of-way whenever possible.
3. Drop manholes will be used where sewer invert difference is 2-feet or greater or where required to reduce excessive slopes or cuts.
4. Sizing:
    a. Regular manholes: 4-foot inside diameter, precast concrete
    b. Drop manholes: 5-foot inside diameter, precast concrete

3.3 Environmental Impacts

Providing the Town with a collection system to convey wastewater to an existing treatment facility will benefit the environment by eliminating the aging onsite septic systems. The biggest concern related to environmental impacts is associated with Alternative 1 (Do Nothing). If the Town chooses to do nothing, there will continue to be a threat to public health related to the wastewater potentially leaching into Little Lake Harris as discussed in Section 2.

3.4 Land Requirements (Sites and Easements)

3.4.1 Alternative 1 – No Action

No additional land acquisition would be required for this alternative.

3.4.2 Alternative 2 – Connection to Regional Facility

No additional land acquisition would be required for this alternative. However, the Town would need to come to an agreement with the City of Groveland regarding the use of their facility. The City of Groveland may limit the Town of Howey to certain flow constraints.

However, the Town will need to install lift stations within the collection system in Old Howey. It is assumed the Town will install lift stations on Town-owned property or within a public right-of-way.

3.4.3 Alternative 3 – Town Acquires Frozen Grove WWTF

If the Town acquires the existing Central Lake CDD facility, they will need to purchase the land where the facility is located. The existing facility is on a large parcel owned by Sewer and Water Plants Investments LLC, so the Town of Howey would likely need to subdivide the land and take ownership of the portion occupied by the CDD facility.

Additionally, the Town will need to install lift stations within the collection system in Old Howey. It is assumed the Town will install lift stations on Town-owned property or within a public right-of-way.

3.5 Potential Construction Requirements

3.5.1 Alternative 1 – No Action

Since there is no construction needed for this alternative, there are no potential construction requirements.

3.5.2 Alternative 2 – Connection to Regional Facility

Bypass pumping is not anticipated to be required as part of this project since the existing properties use onsite septic systems. The new sewer collection system will be installed and tested prior to decommissioning the existing onsite septic systems. A 4.5-mile-long connection to the Sunshine WWTP will require coordination with FDOT for a FDOT construction permit and the use of FDOT standards, with SR 19 being the main connection point to Groveland.

3.5.3 Alternative 3 – Town Acquires Frozen Grove WWTF

Bypass pumping is not anticipated to be required as part of this project since the existing properties use onsite septic systems. The new sewer collection system will be installed and tested prior to decommissioning the existing onsite septic systems. Additionally, a portion of the work will take place on SR-19, therefore the work will require an FDOT construction permit and the use of FDOT standards.

3.6 Sustainability Considerations

All alternatives will incorporate sustainability considerations to give the Town the most cost effective and robust infrastructure. A proper functioning centralized wastewater system contributes to less septic system failures, therefore reducing public health risks of possible exposure to sewerage.

3.7 Water and Energy Efficiency

Gravity sewers do not require any electrical power to operate. However, some energy will be required to operate lift stations that will collect wastewater from gravity pipes and pump to the WWTF.

3.8 Green Infrastructure

There are currently no design aspects that are applicable to stormwater design and green infrastructure.

3.9 Capital Cost Estimates

This section describes the associated costs for the three (3) wastewater infrastructure improvement alternatives based on the projected wastewater needs of the Town.

3.9.1 Alternative 1 – No Action

There is no capital cost associated with Alternative 1, as properties will continue to rely on onsite septic systems for wastewater treatment and disposal.

3.9.2 Alternative 2 – Connection to Regional Facility

Alternative 2 proposes treatment and disposal to be handled by an existing local facility within the City of Groveland. This alternative will cost a total of $28,305,000. See **Table 3-2** below for a cost estimate. The full detailed cost estimated is included in **Appendix C.**

TABLE 3-2: ALTERNATIVE 2, CONNECTION TO REGIONAL FACILITY CAPITAL COSTS

Item	Cost
Construction Base Cost (2025)	$18,163,000
Construction Contingency (10%)	$1,816,300
Engineering, Permitting and Design (10%)	$1,816,300
Engineering Service During Construction (5%)	$908,200
Fiscal, Legal and administrative (3%)	$544,900
Groveland Connection Fee	$5,056,000
Total Opinion of Capital Costs	**$28,305,000**

3.9.3 Alternative 3 – Town Acquires Frozen Grove WWTF

Alternative 3 proposes the Town of Howey-in-the-Hills purchase the WWTF from the Central Lake CDD and make necessary upgrades in preparation for future growth. This alternative will cost a total of $20,439,000. See **Table 3-3** below for a project cost estimate. The full detailed cost estimated is included in **Appendix C.**

TABLE 3-3: ALTERNATIVE 3, TOWN ACQUIRES FROZEN GROVE WWTF CAPITAL COSTS

Item	Cost
Construction Base Cost (2025)	$13,077,000
Construction Contingency (10%)	$1,307,700
Engineering, Permitting and Design (10%)	$1,307,700
Engineering Service During Construction (5%)	$653,900
Fiscal, Legal and administrative (3%)	$392,400
Frozen Grove WWTF Capital Assets	$3,200,000
Frozen Grove WWTF Profit	$500,000
Total Opinion of Capital Costs	**$20,439,000**

3.10 O&M Estimates

Analyzing the life-cycle costs of each alternative provides a more in-depth comparison of costs that may be associated with each alternative. The life-cycle cost analysis (LCCA) considers capital cost and operational costs over the design life for each alternative. In addition, the salvage value of the remaining assets at the end of the project's 20-year period were subtracted from the initial investment and replacement cost. The net present value (NPV) of operational and maintenance costs were then added to the capital investment to arrive at a total "life-cycle cost." The table below provides a summary of the common factors used for evaluation of all the alternatives considered.

TABLE 3-4: COMMON LIFE CYCLE COST ANALYSIS CRITERIA

Common Life Cycle Cost Criteria	Value
Electricity Cost ($/Kwh)	$0.12
Interest Rate (i)	1.5%
Planning Period in Years (n)	20

The capital, operation, and maintenance costs for each alternative are presented in the following tables. All costs have been converted to present day dollars.

TABLE 3-5: ALTERNATIVE O&M COMPARISON

Sanitary Sewer System Alternatives					
Alternative	**Design Life (Years)**	**Capital Cost**	**Annual O&M Cost**	**Lifetime O&M Cost**	**Total Life Cycle Cost (2025 Dollars)**
Alt 1: Do Nothing	20	-	-	-	-
Alt 2: Regional Consolidation	20	$28,305,000	$306,231	$6,124,620	$37,520,000
Alt 3: Acquire Frozen Grove WWTF	20	$20,439,000	$220,831	$4,416,620	$30,780,000

4. SELECTED ALTERNATIVE

This section of the report presents the recommended alternative. An investigation into environmental impacts and cost estimates of the recommended project is also included in this section. All recommended infrastructure is to be located on existing properties owned by the Town, with the exception of individual sewer service laterals.

4.1 Selected Alternative

The selected alternative is Alternative 3, which includes the Town acquiring the Frozen Grove WWTF. This alternative has the lowest total life cycle cost over the planning horizon and the greatest long-term benefit for the Town. The acquisition of the WWTF grants broader access to funding options as it transitions from a privately owned facility to a publicly owned facility. The Town will have more flexibility and control when providing future residents with needed wastewater services.

In order to implement the selected alternative, the Town will be required to negotiate with Sewer and Water Plants Investments LLC for the purchase of the Frozen Grove WWTF. The CDD, however, is not obligated to sell or negotiate the sale of the WWTF with the Town of Howey-in-the-Hills as stated in section 13.2 of the Wholesale Wastewater Treatment Agreement. The Town will need to provide an appealing purchase price in order to acquire the facility. It was estimated that the capital assets of Frozen Grove WWTF is $3,200,000 based on the 2023 Audit of the Central Lake CDD. Accounting for accumulated profit over a 20-year period equates to about $500,000, assuming a profit of 3% per ERU based on a monthly fee of $51.48 per ERU. Woodard and Curran has determined that $3,700,000 is an appropriate purchase price for Frozen Grove WWTF. Sewer and Water Plants Investments LLC has the right to refuse the estimated purchase price.

The selected alternative will require an FDEP construction permit. Additionally, portions of the work will take place on North Palm Ave (US-19); therefore, an FDOT permit will also be required.

4.2 Environmental Impacts of Selected Alternative

Based on the selective alternative, there are no expected negative environmental impacts. The proposed collection system within Old Howey will be on already developed land and all proposed work will be done outside of any wetland boundaries. No critical habitats were identified within the planning area and appropriate coordination with the EPA and the USFWS will be conducted during construction. Furthermore, providing the Town with a collection system to convey wastewater to an existing treatment facility will benefit the environment by eliminating the aging onsite septic systems.

4.3 Cost Analysis for Selected Alternative

The conceptual level opinion of probable cost for the overall recommended plan is $21.8M in 2025 dollars. This cost is summarized in **Table 4-1**. Additional cost details are provided in **Appendix C**.

TABLE 4-1: COST ESTIMATE SUMMARY – RECOMMENDED PLAN

Item	Cost
Construction Base Cost (2025)	$13,077,000
Construction Contingency (10%)	$1,307,700
Engineering, Permitting and Design (10%)	$1,307,700
Engineering Service During Construction (5%)	$653,900
Fiscal, Legal and Administrative (3%)	$392,400
Frozen Grove WWTF	$3,700,000
Total Opinion of Capital Costs	**$20,439,000**
Annual O&M Cost Summary	
Annual O&M Cost	$220,831

5. IMPLEMENTATION AND COMPLIANCE

5.1 Public Meeting

A public meeting was held XXXXX after advertising in XXXXX. Resolution XXX to approve this Clean Water Preliminary Engineering Report and submit to the FDEP passed at the public meeting. A copy of Resolution XXX, the legal advertisement affidavit, and certified meeting minutes and provided in **Appendix E.**

5.2 Regulatory Agency Review

To qualify for a subsidized loan from the SRF, various government agencies must be satisfied with the way that the Town of Howey-in-the-Hills is proposing to address their wastewater system challenges. Copies of the Preliminary Engineering Report adopted by the Town are being sent to the FDEP-SRF for review and comments. The FDEP-SRF staff will distribute this Preliminary Engineering Report to Local, State and Federal Agencies via the "State Clearing House Process" for their review and comment.

5.3 Financial Planning

The FDEP-SRF program is expected to be the financing source for the project. A capital financing plan (CFP) is included with this Preliminary Engineering Report, which provides the financial impact on the users of the system. The CFP is shown in **Appendix D** and demonstrates that water and sewer operating expenses; existing debt service obligations; and proposed project debt service associated with the selected plan. The CFP also evaluates the current utility rates, existing approved annual increases, and water and sewer impact fees. The CFP is based on the current utility rates and the rate ordinance that the City adopted with a consumer price index (CPI) increase annually, as well as water and sewer impact fees.

5.4 SAHFI Compliance

The Town of Howey-in-the-Hills is slated to receive Supplemental Appropriation for Hurricane's Fiona and Ian (SAHFI Funding). The project elements outlined herein have been determined to be eligible by SRF staff as they satisfy goals described within SAHFI Funding guidance. Specific project elements that meet the CWSRF program and SAHFI supplemental planning requirements are listed below (in blue):

1. **Projects that prevent interruption of collection system operation in the event of a flood or natural disaster, including but not limited to:**

    a. Installation of back-up generators (including portable generators) or alternative energy sources (e.g., solar panels, wind turbines, batteries, switch boxes) that service pump stations or other distribution system facilities.

    The project will include installation of new emergency power generators, portable generator connections, and/or backup diesel pumps for lift stations.

    b. Replacement of damaged equipment with more energy-efficient equipment.

    N/A

c. Physical "hardening" or waterproofing of pumps and electrical equipment at pump stations and other components of collection systems (including storage facilities and associated equipment) through upgrade or replacement, including:

- Installation of submersible pumps
- Waterproofing electrical components (e.g., pump motors)
- Waterproofing circuitry
- Dry floodproofing/sealing of structure to prevent floodwater penetration
- Installation/construction of wind resistant features (e.g., wind resistant roofing materials, wind-damage resistant windows, storm shutters)

Electrical equipment will be installed above the 100-year flood elevation and/or a floodproof structure will be implemented. Lift stations will include submersible pumps.

d. Relocation of pump stations or other collection system facilities to less flood prone areas.

The project will include elevating existing lift stations as required to better protect them from storm damage.

e. Installation of physical barriers around pump stations or other collection system facilities (e.g., levees or dykes).

Physical barriers will be installed around lift stations are required.

f. Correction of significant infiltration and inflow problems that increase the likelihood of sewer backups or flooding of treatment works.

N/A

g. Separation of combined sewers that will result in a reduced risk of flooding of the collections system and/or treatment works.

N/A

h. Installation/construction of redundant collection system components and equipment.

Collection system will have redundant components installed.

i. Regionalization project that enables diversion of wastewater flows to an alternate system for emergency wastewater collection and treatment services.

N/A

j. SCADA system projects to allow remote or multiple system operation locations. Construction or installation of flood attenuation, diversion, and retention infrastructure within or beyond the boundaries of a treatment works that protects the collection system.

Lift station upgrades will include a new SCADA system with updated technology and better supervision and controls installed in 316 stainless steel NEMA 4 panels and moved to safe locations. Improved SCADA control will enhance operations for uninterrupted service during a natural disaster.

k. Green infrastructure that reduces flood risk by reducing stormwater runoff, including permeable pavement, green roofs, and walls, bioretention infrastructure (e.g., constructed wetlands, detention basins, riparian buffers, or stormwater tree trenches/pits/boxes), stream daylighting, and downspout disconnection.

N/A

l. Natural systems, and features thereof, capable of mitigating a storm surge, such as barrier beach and dune systems, tidal wetlands, living shorelines, and natural berms/levees.

- Floodwater pumping systems
- Flood water channels/culverts, physical barriers, and retention infrastructure

N/A

2. Projects that prevent floodwaters from entering a treatment works, including but not limited to:

a. Installation of physical barriers around a facility (e.g., levees or dykes around the facility to prevent flooding).

Upon the acquisition of the Frozen Grove WWTP, the Town will install barriers and take measures to protect the facility from flooding.

b. Relocation of facilities to less flood prone areas.

N/A

c. Construction or installation of flood attenuation, diversion, and retention infrastructure within or beyond the boundaries of a treatment works that protects the treatment works.

Upon the acquisition of the Frozen Grove WWTP, the Town will install barriers and take measures to protect the facility from flooding.

d. Green infrastructure that reduces the risk of flooding by reducing stormwater runoff, including permeable pavement, green roofs, and walls, bioretention infrastructure (e.g., constructed wetlands, detention basins, riparian buffers, or stormwater tree trenches/pits/boxes), stream daylighting, and downspout disconnection.

N/A

e. Natural systems, and features thereof, capable of mitigating a storm surge, such as barrier beach and dune systems, tidal wetlands, living shorelines, and natural berms/levees.

- Floodwater pumping systems
- Flood water channels/culverts, physical barriers, and retention infrastructure

N/A

3. Projects that maintain the operation of a treatment works and the integrity of the treatment train in the event of a flood or natural disaster, including but not limited to:

a. Installation of back-up generators (including portable generators) or alternative energy sources (e.g., solar panels, wind turbines, batteries, switch boxes) that service pump stations or other distribution system facilities.

Upon the acquisition of the Frozen Grove WWTP, the Town will ensure emergency backup power is available at the site. All lift stations will be equipped with an emergency backup power source.

b. Replacement of damaged equipment with more energy-efficient equipment.

   N/A

c. Physical "hardening" or waterproofing of pumps and electrical equipment at treatment works through upgrade or replacement, including:

   - Installation of submersible pumps
   - Waterproofing electrical components (e.g., pump motors)
   - Waterproofing circuitry
   - Dry floodproofing/sealing of structure to prevent floodwater penetration
   - Installation/construction of wind resistant features (e.g., wind resistant roofing materials, wind-damage resistant windows, storm shutters)

   Upon acquisition of the Frozen Grove WWTP, the Town will ensure that all equipment is waterproofed and protected from flood damage.

d. Relocation of critical equipment to less flood prone areas of a facility and/or elevation of critical structures.

   Upon acquisition of the Frozen Grove WWTP, the Town will review location/elevation of critical equipment and relocate as needed.

e. Installation of physical barriers around individual treatment processes.

   - Flood walls around treatment tanks
   - Elevated walls or capping of treatment tanks

   Upon acquisition of the Frozen Grove WWTP, the Town will review location/elevation of critical equipment and install physical barriers as needed.

f. Installation of larger capacity storage tanks.

   - Installation of larger capacity chemical storage tanks for continued treatment in absence of delivery service
   - Installation of larger capacity fuel storage tanks for back-up generators
   - Construction of storage tanks at treatment works to store overflows for future treatment

   Upon acquisition of the Frozen Grove WWTP, the Town will review storage tank capacity and make upgrades as necessary.

g. Installation/construction of redundant components and equipment.

   Upon acquisition of the Frozen Grove WWTP, the Town will review redundancy of critical components and make upgrades if necessary.

h. SCADA system projects to allow remote or multiple system operation locations.

   N/A

4. **Projects that preserve and protect treatment works equipment in the event of a flood or natural disaster:**
   N/A
5. **Planning projects that assess a treatment works' vulnerability to flood damage or that analyze the best approach to integrate system and community sustainability/resiliency priorities in the face of a variety of uncertain futures including natural disasters and more frequent and intense extreme weather events, provided the planning work is reasonably expected to result in a capital project:**
   N/A

5.4.1 Previous Impacts from Hurricanes

The effects of previous hurricanes in Howey, Florida include:

Hurricane Milton caused disruptions such as no recycling pickup on October 9, 2024, due to its impact on local services.

The area has experienced significant impacts from historic hurricanes, which are crucial for understanding community resilience and preparedness.

Historical data shows that hurricanes have shaped local infrastructure and community responses, highlighting the need for ongoing adaptation strategies..

5.5 500 Year Floodplain

The proposed project site is located outside the 500-year floodplain, providing enhanced redundancy and resiliency of the system during major flood events and natural disasters. Figure 1-10 shows the existing and proposed project site locations with relation to the 0.2% Annual Chance Flood Hazard (500-Year Floodplain).

5.6 Project Implementation Schedule

The implementation schedule is estimated to follow the timeline below:

- Planning Approval September 2025
- Design Begins October 2025
- Design Documents to FDEP October 2027
- Design Approval January 2028
- Construction Begins January 2029
- Construction Ends December 2031

5.7 Compliance

1. Wastewater treatment and disposal will be the full responsibility of Howey-in-the-Hills

2. Selected alternative will meet the reliability requirements as per Chapter 62-600, F.A.C.

3. Residual disposal will meet the requirements of Chapter 62-701, F.A.C. and 40 CFR Part 503.

4. Effluent disposal will meet the requirements of Chapter 62-600.540 underground injection.

5. Effluent disposal will meet the requirements of Chapter 62-610.

6. The environmental aspects of the proposed facilities are satisfactory.

7. All projects identified herein comply with the goals described with Hurricane Ian Special Appropriation Florida Requirements guidance. Specific elements of the projects meet program goals within Attachment 2 of the Memorandum dated September 7, 2023, *Award and Implementation of the 2023 State Revolving Fund Supplement Appropriation for Hurricanes Fiona and Ian (SAHFI)* from the United States Environmental Protection Agency (EPA).

6. REFERENCES

Town of Howey-in-the-Hills and Central Lake Community Development District, "Amended and Restated Wholesale Wastewater Treatment Agreement." January 13, 2025.

APPENDIX A: CUSTOM SOIL RESOURCE REPORT

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Lake County Area, Florida

July 14, 2025

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

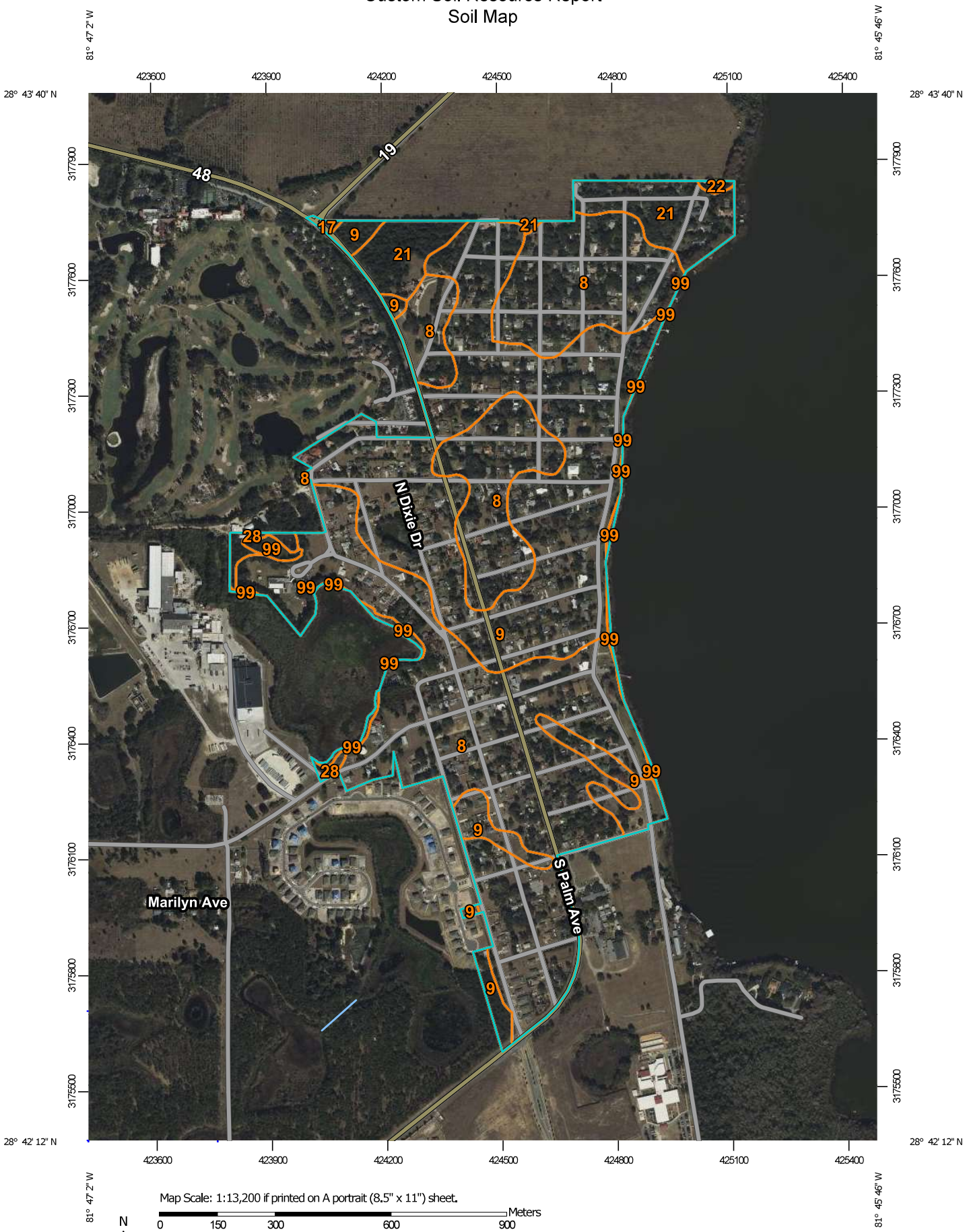
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:13,200 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 150 300 600 900

Feet
0 500 1000 2000 3000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lake County Area, Florida
Survey Area Data: Version 24, Aug 21, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jan 6, 2022—Mar 21, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
8	Candler sand, 0 to 5 percent slopes	175.7	53.4%
9	Candler sand, 5 to 12 percent slopes	123.0	37.4%
17	Arents	0.5	0.1%
21	Lake sand, 0 to 5 percent slopes	23.2	7.0%
22	Lake sand, 5 to 12 percent slopes	0.6	0.2%
28	Myakka-Myakka, wet, sands, 0 to 2 percent slopes	2.6	0.8%
99	Water	3.8	1.2%
Totals for Area of Interest		**329.4**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not

mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Lake County Area, Florida

8—Candler sand, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2t3z1
Elevation: 10 to 260 feet
Mean annual precipitation: 47 to 56 inches
Mean annual air temperature: 68 to 77 degrees F
Frost-free period: 280 to 365 days
Farmland classification: Farmland of unique importance

Map Unit Composition

Candler and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Candler

Setting

Landform: Ridges on marine terraces, knolls on marine terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Interfluve, side slope, tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Eolian deposits and/or sandy and loamy marine deposits

Typical profile

A - 0 to 6 inches: sand
E - 6 to 63 inches: sand
E and Bt - 63 to 80 inches: sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Very low (about 2.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: A
Ecological site: R154XX001FL - Yellow Sands Xeric Uplands
Forage suitability group: Sandy soils on ridges and dunes of xeric uplands (G154XB111FL), Sandy soils on ridges and dunes of xeric uplands (G155XB111FL)

Other vegetative classification: Sandy soils on ridges and dunes of xeric uplands (G154XB111FL), Longleaf Pine-Turkey Oak Hills (R154XY002FL), Sandy soils on ridges and dunes of xeric uplands (G155XB111FL), Longleaf Pine-Turkey Oak Hills (R155XY002FL)
Hydric soil rating: No

Minor Components

Tavares
Percent of map unit: 5 percent
Landform: Ridges on marine terraces
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex, concave
Across-slope shape: Linear
Ecological site: F154XA004FL - Moist Sandy Pine-Hardwood Woodlands
Other vegetative classification: Sandy soils on rises, knolls, and ridges of mesic uplands (G154XB121FL), Longleaf Pine-Turkey Oak Hills (R154XY002FL)
Hydric soil rating: No

Millhopper
Percent of map unit: 5 percent
Landform: Ridges on marine terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F154XA004FL - Moist Sandy Pine-Hardwood Woodlands
Other vegetative classification: Sandy soils on rises, knolls, and ridges of mesic uplands (G154XB121FL), Longleaf Pine-Turkey Oak Hills (R154XY002FL)
Hydric soil rating: No

9—Candler sand, 5 to 12 percent slopes

Map Unit Setting
National map unit symbol: 2w0q4
Elevation: 30 to 160 feet
Mean annual precipitation: 44 to 56 inches
Mean annual air temperature: 68 to 75 degrees F
Frost-free period: 290 to 365 days
Farmland classification: Farmland of unique importance

Map Unit Composition
Candler and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Candler

Setting

Landform: Ridges on marine terraces, knolls on marine terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Interfluve, side slope, tread
Down-slope shape: Convex, linear
Across-slope shape: Convex
Parent material: Eolian deposits and/or sandy and loamy marine deposits

Typical profile

A - 0 to 5 inches: sand
E - 5 to 67 inches: sand
E and Bt - 67 to 80 inches: sand

Properties and qualities

Slope: 5 to 12 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Very low (about 2.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A
Ecological site: R154XX001FL - Yellow Sands Xeric Uplands
Forage suitability group: Sandy soils on strongly sloping to steep side slopes of xeric uplands (G154XB113FL)
Other vegetative classification: Sandy soils on strongly sloping to steep side slopes of xeric uplands (G154XB113FL), Sand Pine Scrub (R154XY001FL), Longleaf Pine-Turkey Oak Hills (R154XY002FL)
Hydric soil rating: No

Minor Components

Apopka

Percent of map unit: 6 percent
Landform: Ridges on marine terraces, knolls on marine terraces
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Convex, linear
Across-slope shape: Linear, convex
Ecological site: F154XA004FL - Moist Sandy Pine-Hardwood Woodlands
Other vegetative classification: Sandy soils on strongly sloping to steep side slopes of xeric uplands (G154XB113FL)
Hydric soil rating: No

Kendrick

Percent of map unit: 5 percent

Landform: Ridges on marine terraces
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Convex, linear
Across-slope shape: Linear, convex
Ecological site: F154XA004FL - Moist Sandy Pine-Hardwood Woodlands
Other vegetative classification: Sandy over loamy soils on knolls and ridges of mesic uplands (G154XB211FL), Longleaf Pine-Turkey Oak Hills (R154XY002FL)
Hydric soil rating: No

Adamsville

Percent of map unit: 3 percent
Landform: Rises on marine terraces, knolls on marine terraces
Landform position (three-dimensional): Interfluve, talf
Down-slope shape: Convex, linear
Across-slope shape: Linear, convex
Ecological site: F154XA004FL - Moist Sandy Pine-Hardwood Woodlands
Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G154XB131FL)
Hydric soil rating: No

Pompano

Percent of map unit: 1 percent
Landform: Flats on marine terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear, convex
Ecological site: F154XA007FL - Moist Sandy Wet-Mesic Flatwoods
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G154XB141FL)
Hydric soil rating: Yes

17—Arents

Map Unit Setting

National map unit symbol: 1qt6b
Elevation: 0 to 250 feet
Mean annual precipitation: 46 to 54 inches
Mean annual air temperature: 68 to 75 degrees F
Frost-free period: 340 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Arents and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Arents

Setting

Landform: Flats on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Altered marine deposits

Typical profile

C - 0 to 80 inches: sandy clay loam

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 1.98 in/hr)
Depth to water table: About 30 to 60 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Hydrologic Soil Group: B
Forage suitability group: Forage suitability group not assigned (G154XB999FL)
Other vegetative classification: Forage suitability group not assigned (G154XB999FL)
Hydric soil rating: No

21—Lake sand, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 1qt6g
Elevation: 30 to 300 feet
Mean annual precipitation: 46 to 54 inches
Mean annual air temperature: 68 to 75 degrees F
Frost-free period: 340 to 365 days
Farmland classification: Farmland of unique importance

Map Unit Composition

Lake and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lake

Setting

Landform: Ridges, hills, marine terraces
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Eolian deposits or sandy fluvial or marine deposits

Typical profile

A - 0 to 7 inches: sand
C - 7 to 80 inches: sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Very high (19.98 to 50.02 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: A
Ecological site: F154XA003FL - Dry Yellow Sands Pine Woodland
Forage suitability group: Sandy soils on ridges and dunes of xeric uplands (G154XB111FL)
Other vegetative classification: Sandy soils on ridges and dunes of xeric uplands (G154XB111FL), Longleaf Pine-Turkey Oak Hills (R154XY002FL)
Hydric soil rating: No

Minor Components

Apopka

Percent of map unit: 10 percent
Landform: Ridges on marine terraces, knolls on marine terraces
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F154XA004FL - Moist Sandy Pine-Hardwood Woodlands
Other vegetative classification: Sandy soils on ridges and dunes of xeric uplands (G154XB111FL), Longleaf Pine-Turkey Oak Hills (R154XY002FL)
Hydric soil rating: No

Astatula

Percent of map unit: 10 percent
Landform: Ridges on marine terraces, hills on marine terraces
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Convex

Across-slope shape: Convex
Ecological site: R154XX001FL - Yellow Sands Xeric Uplands
Other vegetative classification: Sandy soils on ridges and dunes of xeric uplands (G154XB111FL), Sand Pine Scrub (R154XY001FL)
Hydric soil rating: No

22—Lake sand, 5 to 12 percent slopes

Map Unit Setting

National map unit symbol: 1nrvv
Elevation: 40 to 300 feet
Mean annual precipitation: 46 to 54 inches
Mean annual air temperature: 68 to 75 degrees F
Frost-free period: 340 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Lake and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lake

Setting

Landform: Ridges, hills, marine terraces
Landform position (three-dimensional): Side slope, interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Eolian deposits or sandy fluvial or marine deposits

Typical profile

A - 0 to 5 inches: sand
C - 5 to 80 inches: sand

Properties and qualities

Slope: 5 to 12 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Very high (19.98 to 50.02 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s

Hydrologic Soil Group: A
Ecological site: F154XA003FL - Dry Yellow Sands Pine Woodland
Forage suitability group: Sandy soils on strongly sloping to steep side slopes of xeric uplands (G154XB113FL)
Other vegetative classification: Sandy soils on strongly sloping to steep side slopes of xeric uplands (G154XB113FL), Longleaf Pine-Turkey Oak Hills (R154XY002FL)
Hydric soil rating: No

Minor Components

Lake, 0 to 5 percent
Percent of map unit: 5 percent
Landform: Ridges, hills, marine terraces
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F154XA003FL - Dry Yellow Sands Pine Woodland
Other vegetative classification: Sandy soils on ridges and dunes of xeric uplands (G154XB111FL), Longleaf Pine-Turkey Oak Hills (R154XY002FL)
Hydric soil rating: No

Apopka
Percent of map unit: 5 percent
Landform: Ridges on marine terraces, knolls on marine terraces
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F154XA004FL - Moist Sandy Pine-Hardwood Woodlands
Other vegetative classification: Sandy soils on strongly sloping to steep side slopes of xeric uplands (G154XB113FL), Longleaf Pine-Turkey Oak Hills (R154XY002FL)
Hydric soil rating: No

28—Myakka-Myakka, wet, sands, 0 to 2 percent slopes

Map Unit Setting
National map unit symbol: 2twt1
Elevation: 10 to 130 feet
Mean annual precipitation: 43 to 62 inches
Mean annual air temperature: 64 to 75 degrees F
Frost-free period: 280 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition
Myakka and similar soils: 75 percent
Myakka, wet, and similar soils: 15 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Myakka

Setting

Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy marine deposits

Typical profile

A - 0 to 6 inches: sand
E - 6 to 20 inches: sand
Bh - 20 to 36 inches: sand
C - 36 to 80 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 5.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Forage suitability group: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: No

Description of Myakka, Wet

Setting

Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy marine deposits

Typical profile

A - 0 to 6 inches: sand
E - 6 to 20 inches: sand
Bh - 20 to 36 inches: sand
C - 36 to 80 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 5.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Forage suitability group: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL), South Florida Flatwoods (R155XY003FL)
Hydric soil rating: Yes

Minor Components

Basinger

Percent of map unit: 5 percent
Landform: Drainageways on marine terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Linear, convex
Across-slope shape: Concave, linear
Hydric soil rating: Yes

Eaugallie

Percent of map unit: 4 percent
Landform: Flatwoods on marine terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Placid, depressional

Percent of map unit: 1 percent
Landform: Depressions on marine terraces
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Convex, concave
Across-slope shape: Linear, concave
Hydric soil rating: Yes

99—Water

Map Unit Composition

Water: 100 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Water

Interpretive groups

Land capability classification (irrigated): None specified

Forage suitability group: Forage suitability group not assigned (G154XB999FL)

Other vegetative classification: Forage suitability group not assigned (G154XB999FL)

Hydric soil rating: Unranked

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APPENDIX B: SWAPP REPORT

SWAPP Quick Links

- Home (/swapp/)
- Search By County (https://prodapps.dep.state.fl.us/swapp/Welcome/links/search_county_v)
- Search by PWS Name or Number (https://prodapps.dep.state.fl.us/swapp/Welcome/links/search_pws_v)
- How to Help? (https://prodapps.dep.state.fl.us/swapp/Welcome/links/help_v)

Definitions

- Aquifers (https://prodapps.dep.state.fl.us/swapp/Welcome/links/aquifers_v)
- Public Water Systems (https://prodapps.dep.state.fl.us/swapp/Welcome/links/public_water_systems_v)
- Assessment (https://prodapps.dep.state.fl.us/swapp/Welcome/links/assessment_v)
- Potential Contaminants (https://prodapps.dep.state.fl.us/swapp/Welcome/links/potential_contaminants_v)
- Susceptibility (https://prodapps.dep.state.fl.us/swapp/Welcome/links/susceptibility_v)
- Prevention (https://prodapps.dep.state.fl.us/swapp/Welcome/links/prevention_v)

Contact Us

- Email (mailto:Marian.Fugitt@floridadep.gov?subject=SWAPP Question)
- Mailing Address (https://prodapps.dep.state.fl.us/swapp/Welcome/links/contact_v)

EPA Source Water Protection Website

(https://www.epa.gov/sourcewaterprotection)

Source Water Assessment & Protection Program

Results For: 2024

HOWEY IN THE HILLS (2 WPS)
PO BOX 128
HOWEY IN THE HILLS, FL 34737

Public Water System ID: 3350573
Previously Known As:
HOWEY IN THE HILLS - WTPS 2 + 3

County Name: LAKE
DEP Regulatory Office: DEP Central District
3319 Maguire Blvd, Suite 232
Orlando, FL 32803
407-897-4100
Public Water System Type: COMMUNITY
Public Water System Source: GROUND
Primary Use: MUNICIPAL/CITY

Population Served: 2027
Size of Assessment Area:
GROUND: For this system, a 1000-foot radius circle around each well was used to define the assessment area.
Number of Wells: 3

Well ID	Owner ID	FLUWID	Status	Well Depth (ft)	Aquifer
4833	WELL #2	AAH7492 (//floridadep.gov/water/source-drinking-water/content/florida-unique-well-identification-program)	ACTIVE	334	Floridan Aquifer
67363	WELL #4	N/A (//floridadep.gov/water/source-drinking-water/content/florida-unique-well-identification-program)	ACTIVE	450	Floridan Aquifer
4834	WELL #3	AAE0875 (//floridadep.gov/water/source-drinking-water/content/florida-unique-well-identification-program)	ACTIVE	350	Floridan Aquifer

Results:

GROUND WATER:

Number of Unique Potential Contaminant Sources: 2*
*Note: This number represents the total of **unique** potential contaminant sources at this system which commonly is a subset of all of the records (rows) shown in the table below. When these unique potential contaminant sources affect more than one well at this system, they will appear more than once in the following table. Map Direct is a visual tool that can be accessed at Map Direct: Source Water Assessment and Protection (SWAPP) Map (state.fl.us) (https://ca.dep.state.fl.us/mapdirect/?webmap=3733594f71034be2a1b3a84e1e17a221) for more details.

Facility Type	Facility Class	Status	Name	Affected Well	Susceptibility Score	Concern Level
(/swapp/Welcome/links/potential_contaminants_v)		Inactive	PUBLIC WORKS FACILITY DISASTER DEBRIS MANAGEMENT SITE	4833	3.33 (/swapp/Welcome/links/susceptibility_v)	LOW (/swapp/Welcome/links/susceptibility
(/swapp/Welcome/links/potential_contaminants_v)		Inactive	PUBLIC WORKS FACILITY DISASTER DEBRIS MANAGEMENT SITE	67363	3.33 (/swapp/Welcome/links/susceptibility_v)	LOW (/swapp/Welcome/links/susceptibility
INDUSTRIAL WASTEWATER (/swapp/Welcome/links/potential_contaminants_v)	WASTEWATER FACILITY	A	Silver Springs Citrus	67363	.03 (/swapp/Welcome/links/susceptibility_v)	LOW (/swapp/Welcome/links/susceptibility

APPENDIX C: ALTERNATIVE COST ESTIMATES

Alternative 2 - Regional Consolidation											
ITEM NO.	DESCRIPTION	UNITS	UNIT COST	QTY	CONSTRUCTION CAPITAL COST	EXPECTED LIFE	YEARS REMAINING	SALVAGE VALUE (S)	REPLACEMENT COST (R)	ANNUAL O&M	LIFE CYCLE COST (LCCA)
CONSTRUCTION COSTS											
1	Force Main to Groveland WWTF	LF	$ 150	23800	$ 3,570,000	35	15	$ 1,530,000	$ -	$ 71,400	$ 3,660,000
2	Master Lift Station to Groveland	EA	$ 700,000	1	$ 700,000	35	15	$ 300,000	$ -	$ 14,000	$ 718,000
3	Lift Stations	EA	$ 400,000	4	$ 1,600,000	35	15	$ 686,000	$ -	$ 32,000	$ 1,640,000
4	8-inch PVC SDR-26 Gravity Sewer (Open Cut)	LF	$ 130	37000	$ 4,810,000	35	15	$ 2,061,000	$ -	$ 96,200	$ 4,931,000
5	4-inch Force Main	LF	$ 60	600	$ 36,000	35	15	$ 15,000	$ -	$ 720	$ 37,000
6	Sanitary Sewer Manhole	EA	$ 8,000	110	$ 880,000	30	10	$ 293,000	$ -	$ 17,600	$ 965,000
7	Sewer Service Lateral Connections (Sewer Main to ROW)	EA	$ 1,200	590	$ 708,000	45	25	$ 393,000	$ -	$ 14,160	$ 659,000
8	Miscellaneous Concrete	CY	$ 185	100	$ 18,540	20	0	$ -	$ -	$ 371	$ 25,000
9	Permanent Pavement	SY	$ 22	97000	$ 2,134,000	20	0	$ -	$ -	$ 42,680	$ 2,867,000
10	Grading, Restoration, and Sodding	SY	$ 45	19000	$ 855,000	30	10	$ 285,000	$ -	$ 17,100	$ 937,000
11	Maintenance and Protection of Traffic	LS	$ 80,000	1	$ 80,000	20	0	$ -	$ -	$ -	$ 80,000
12	Mobilization/Demobilization	5%	$ 769,577	1	$ 769,577					$ -	$ 770,000
13	Insurance and Bonds	3%	$ 461,746	1	$ 461,746					$ -	$ 462,000
14	Overhead & Profit	10%	$ 1,539,154	1	$ 1,539,154					$ -	$ 1,539,000
				SUBTOTAL	**$ 18,163,000**					**$ 306,231**	**$ 19,290,000**
NON-CONSTRUCTION COSTS											
15	Contingency	10%	$ 1,816,300	1	$ 1,816,300						$ 1,816,000
16	Engineering, Permitting, and Design	10%	$ 1,816,300	1	$ 1,816,300						$ 1,816,000
17	Engineering Services During Construction	5%	$ 908,150	1	$ 908,200						$ 908,000
18	Legal and Administration	3%	$ 544,890	1	$ 544,900						$ 545,000
					$ 23,249,000					**Total LCCA**	**$ 24,375,000**
GROVELAND IMPACT FEE COSTS											
19	Groveland Connection Fee	LS	$ 5,056,000	1	$ 5,056,000					$ 333,606	$ 10,784,000
	Opinion of Capital Cost				**$ 28,305,000**					**Total LCCA**	**$ 37,520,000**

Alternative 3 - Town Acquires Frozen Grove WWTF											
ITEM NO.	DESCRIPTION	UNITS	UNIT COST	QTY	CONSTRUCTION CAPITAL COST	EXPECTED LIFE	YEARS REMAINING	SALVAGE VALUE (S)	REPLACEMENT COST (R)	ANNUAL O&M	LIFE CYCLE COST (LCCA)
CONSTRUCTION COSTS											
1	Lift Stations	EA	$ 400,000	4	$ 1,600,000	35	15	$ 686,000	$ -	$ 32,000	$ 1,640,000
2	8-inch PVC SDR-26 Gravity Sewer (Open Cut)	LF	$ 130	37000	$ 4,810,000	35	15	$ 2,061,000	$ -	$ 96,200	$ 4,931,000
3	4-inch Force Main	LF	$ 60	600	$ 36,000	35	15	$ 15,000	$ -	$ 720	$ 37,000
4	Sanitary Sewer Manhole	EA	$ 8,000	110	$ 880,000	30	10	$ 293,000	$ -	$ 17,600	$ 965,000
5	Sewer Service Lateral Connections (Sewer Main to ROW)	EA	$ 1,200	590	$ 708,000	45	25	$ 393,000	$ -	$ 14,160	$ 659,000
6	Miscellaneous Concrete	CY	$ 185	100	$ 18,540	20	0	$ -	$ -	$ 371	$ 25,000
7	Permanent Pavement	SY	$ 22	97000	$ 2,134,000	20	0	$ -	$ -	$ 42,680	$ 2,867,000
8	Grading, Restoration, and Sodding	SY	$ 45	19000	$ 855,000	30	10	$ 285,000	$ -	$ 17,100	$ 937,000
9	Maintenance and Protection of Traffic	LS	$ 40,000	1	$ 40,000	20	0	$ -	$ -	$ -	$ 40,000
10	Mobilization/Demobilization	5%	$ 554,077	1	$ 554,077					$ -	$ 554,000
11	Insurance and Bonds	3%	$ 332,446	1	$ 332,446					$ -	$ 332,000
12	Overhead & Profit	10%	$ 1,108,154	1	$ 1,108,154					$ -	$ 1,108,000
				SUBTOTAL	**$ 13,077,000**					**$ 220,831**	**$ 14,095,000**
NON-CONSTRUCTION COSTS											
13	Contingency	10%	$ 1,307,700	1	$ 1,307,700						$ 1,308,000
14	Engineering, Permitting, and Design	10%	$ 1,307,700	1	$ 1,307,700						$ 1,308,000
15	Engineering Services During Construction	5%	$ 653,850	1	$ 653,900						$ 654,000
16	Legal and Administration	3%	$ 392,310	1	$ 392,400						$ 392,000
					$ 16,739,000						**$ 17,757,000**
WWTF PURCHASE COSTS											
17	Frozen Grove WWTF Capital Assets	LS	$ 3,200,000	1	$ 3,200,000	15	-5	$ -	$ 4,001,000	$ 370,000	$ 12,523,000
18	Frozen Grove WWTF Profit	LS	$ 500,000	1	$ 500,000						$ 500,000
	Opinion of Capital Cost				**$ 20,439,000**					**Total LCCA**	**$ 30,780,000**

APPENDIX D: CAPITAL FINANCING PLAN

CAPITAL FINANCING PLAN

Howey-In-The-Hills, Florida
(Project Sponsor)
Sean O'Keefe, Town Manager
(Authorized Representative and Title)
Howey-In-The-Hills, Florida, 34737
(City, State, and Zip Code)

(Capital Financing Plan Contact, Title and Telephone Number)

(Mailing Address)

(City, State, and Zip Code)

The Department needs to know about the financial capabilities of potential State Revolving Fund (SRF) loan applicants. Therefore, a financial capability demonstration (and certification) is required well before the evaluation of the actual loan application.

The sources of revenues being dedicated to repayment of the SRF loan are Water/WW/Sanitation rate revenues and fees

(Note: Projects pledging utility operating revenues should attach a copy of the existing/proposed rate ordinance)

Estimate of Proposed SRF Loan Debt Service

Capital Cost*	**$21,800,000**
Loan Service Fee (2% of capital cost)	**$436,000**
Subtotal	**$22,336,000**
Capitalized Interest**	**$215,689**
Total Cost to be Amortized	**$22,451,689**
Interest Rate***	**0.97%**
Annual Debt Service	**$1,237,705**
Annual Debt Service Including Coverage Factor****	**$1,423,361**

* Capital Cost = Allowance + Construction Cost (including a 10% contingency) + Technical Services after Bid Opening.
** Estimated Capitalized Interest = Subtotal times Interest Rate times construction time in years divided by two.
***20 GO Bond Rate times Affordability Index divided by 200.
**** Coverage Factor is generally 15%. However, it may be higher if other than utility operating revenues are pledged.

SCHEDULE OF PRIOR AND PARITY LIENS

List annual debt service beginning two years before the anticipated loan agreement date and continuing at least fifteen fiscal years. Use additional pages as necessary.

IDENTIFY EACH OBLIGATION

#1 SRF Loan **Coverage %** **Insured (Yes/No) Yes**	**#2** **Coverage %** **Insured (Yes/No)**	**#3** **Coverage %** **Insured (Yes/No)**
#4 **Coverage %** **Insured (Yes/No)**	**#5** **Coverage %** **Insured (Yes/No)**	**#6** **Coverage %** **Insured (Yes/No)**

Fiscal Year	Annual Debt Service (Principal + Interest)						Total Non-SRF Debt Service w/coverage	Total SRF Debt Service w/coverage
	#1	#2	#3	#4	#5	#6		
2025	**$144,629**							
2026	**$144,630**							
2027	**$144,629**							
2028	**$144,629**							
2029	**$144,629**							
2030	**$144,629**							
2031	**$144,629**							
2032	**$144,629**							
2033	**$72,316**							

SCHEDULE OF ACTUAL REVENUES AND DEBT COVERAGE FOR PLEDGED REVENUE

(Provide information for the two fiscal years preceding the anticipated date of the SRF loan agreement)

		FY2024	FY2025
(a)	Operating Revenues (Identify)		
	User fees	$1,308,196	$1,825,177
	Sanitation Revenue	$336,131	$376,225
(b)	Interest Income	$30,781	$10,000
(c)	Other Incomes or Revenues (Identify)		
	Miscellaneous	$18,882	$12,000
(d)	Total Revenues	**$1,693,990**	**$2,223,402**
(e)	Operating Expenses (excluding interest on debt, depreciation, and other non-cash items)	$1,534,807	$1,600,315
(f)	**Net Revenues (f = d – e)**	**$159,183**	**$623,087**
(g)	Debt Service (including coverage) Excluding SRF Loans	$0	$0
(h)	Debt Service (including coverage) for Outstanding SRF Loans	$144,629	$144,629
(i)	**Net Revenues After Debt Service (i = f – g – h)**	**$14,554**	**$478,458**

Source: FY24 Annual Report, FY25 Budget

Notes:

SCHEDULE OF PROJECTED REVENUES AND DEBT COVERAGE
FOR PLEDGED REVENUE
(Begin with the fiscal year preceding first anticipated semiannual loan payment)

		FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
(a)	Operating Revenues (Identify)					
	User Fees	$2,107,204	$2,417,734	$2,774,844	$2,856,980	$2,941,579
	Sanitation Revenue	$432,659	$497,558	$572,191	$589,357	$607,038
(b)	Interest Income	$10,000	$10,000	$10,000	$10,000	$10,000
(c)	Other Incomes or Revenues (Identify)					
(d)	Total Revenues	**$2,549,862**	**$2,925,292**	**$3,357,035**	**$3,456,336**	**$3,558,617**
(e)	Operating Expenses[1]	$1,648,324	$1,697,774	$1,748,707	$1,801,169	$1,855,204
(f)	**Net Revenues (f = d - e)**	**$901,538**	**$1,227,517**	**$1,608,328**	**$1,655,168**	**$1,703,413**
(g)	Existing Debt Service on Non-SRF Projects (including coverage)					
(h)	Existing SRF Loan Debt Service (including coverage)	$144,630	$144,629	$144,629	$144,629	$144,629
(i)	**Total Existing Debt Service (i = g + h)**	**$144,630**	**$144,629**	**$144,629**	**$144,629**	**$144,629**
(j)	Projected Debt Service on Non-SRF Future Projects (including coverage)					
(k)	Projected SRF Loan Debt Service (including coverage)		$1,423,361	$1,423,361	$1,423,361	$1,423,361
(l)	**Total Debt Service (Existing and Projected) (l = i + j + k)**	**$144,630**	**$1,567,990**	**$1,567,990**	**$1,567,990**	**$1,567,990**
(m)	**Net Revenues After Debt Service (m = f – l)**	**$756,908**	**$(340,473)**	**$40,338**	**$87,178**	**$135,423**

Source: FY2024 Annual Report, FY2025 Budget

Notes: (i.e. rate increases, explanations, etc.)
1. For existing and proposed facilities, excluding interest on debt, depreciation, and other non-cash items.
2. Revenue numbers assume annual rate/fee increases of 15% from 2026 - 2028, and 3% increases in FY2029-2030.
3. Expense numbers include a 3% annual esculation.

CERTIFICATION

I, _____ , certify that I have reviewed the information
Chief Financial Officer (please print)

included in the preceding capital financing plan worksheets, and to the best of my knowledge, this information accurately reflects the financial capability of _____
Project Sponsor

I further certify that _____ has the financial capability to ensure
Project Sponsor

adequate construction, operation, and maintenance of the system, including this SRF project.

_____ _____
Signature Date

APPENDIX E: TOWN OF HOWEY-IN-THE-HILLS PUBLIC HEARING DOCUMENTS

Woodard & Curran

woodardcurran.com