



SPRING LAKE IMPROVEMENT DISTRICT

WATER FACILITIES PLAN

POTABLE WATER SYSTEM IMPROVEMENT PROJECTS

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WATER FACILITIES PLAN
for
SPRING LAKE IMPROVEMENT DISTRICT

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Chapter 1.0 Summary of Findings and Recommendations

1.1 Executive Summary

On behalf of the Spring lake Improvement District (SLID), Craig A. Smith & Associates (CAS) has prepared this potable water Facilities Plan detailing proposed improvements to both of SLID's Water Treatment Plants (WTP) and expansions to SLID's existing potable water conveyance system. SLID is an improvement district located in Highlands County boarding along US Highway 98 (US-98) at the northern tip of Lake Istokpoga. A General Location map has been provided as Exhibit A. SLID's boundary stretches along US-98 starting at Haywood Taylor Blvd (to the west) and approximately 1.11 miles east of Arbuckle Creek. A Boundary Map has been provided as Exhibit B.

This Facilities Plan addresses four (4) potable water improvement projects as follows: (1) rehabilitation/commissioning of SLID's Water Treatment Plant No. 2 (WTP-2), (2) electrical controls/emergency power improvements at SLID's Water Treatment Plant No. 1 (WTP-1), (3) watermain (WM) expansion servicing the entire Pinedale Estates Subdivision located in the southwest corner (just outside the District's boundary) and (4) US-98 potable WM expansion extending SLID's service area east of Arbuckle Creek (including a WM loop a Thunder Rd or increase quality on one of SLID's existing service areas). The Service Area & Proposed Improvements Maps are provided as Exhibit C.

1.2 Water Treatment Plant No. 2 (WTP-2)

SLID recently purchased an abandoned groundwater well which was used in process with a nearby power plant located in the District's northwest region previously owned by Tampa Electric Company. The purchased portion of the old power plant site currently has a 2,000-gpm production well, 400,000-gallon above ground storage tank, small miscellaneous buildings, fire pumps, fuel tanks and other miscellaneous equipment. SLID plans to rehabilitate and commission the old facility into their second WTP (WTP-2).

SLID plans to upgrade and expand the facility by installing a new high service triplex pump station and new structure to serve as a field office and electrical controls building and a

separate room for the chemical storage of the hyperchlorination facility to treat the potable water. The site's existing 400,000-gallon above ground storage tank and 2,000-gpm well will be rehabilitated and brought up to FDEP potable water drinking standards. After completion of these proposed improvements, the facility will be placed into operation and connected to SLID's existing system to the south with a new 10-inch diameter transmission WM. The connection will take place approximately 1,400-LF to the south on the northern border of Village 4 at the intersection of Castile Road and Madrid Drive.

The proposed WTP-2 will include the installation of three (3) new high service pumps that will be installed adjacent to the existing above ground storage tank. Each pump will be rated at 500-gpm at 130-ft TDH with variable frequency drives (VFD's). The proposed electrical controls will be installed inside a proposed precast concrete building measuring approximately 12-ft wide by 30-ft long. It will consist of two (2) air-conditioned rooms. One large room for the electrical controls, instrumentation, and office space. The second room will be for the hypo chlorination metering pump skid with room for a few chemical storage tanks for the sodium hypochlorite storage. The existing well pumps are in disrepair and will be replaced with 60 HP submersible pumps and have all the discharge piping (fittings, valves, etc.) reworked and brought up to standard.

The plant will require a 200-kw emergency generator to back up the proposed three (3) 30 HP high service pumps, 60 HP potable water well, electrical chemical building, and all other miscellaneous electrical mechanical components.

The project will include the construction of a 10-ft wide asphalt road that will extend from the intersection of Castile Road and Madrid Drive north approximately 275 feet to the existing asphalt surface on Madrid Drive. The district has obtained a utility easement for this proposed route in order to access the property with the proposed potable WM. A security fence will be installed to secure the entire WTP-2 site.

The projected project cost for the proposed SLID WTP-2 improvements is estimated at \$2,116,820.00.

1.3 Water Treatment Plant No. 1 (WTP-1)

The purpose of this project is to upgrade the electrical power system at the existing WTP-1 by replacing the original electrical controls at the plant, installing variable frequency drives (VFD's) to the existing four (4) high service pumps, replacing the existing 100 KW emergency generator with a larger 150 KW generator and replacing the existing automatic transfer switch (ATS) with a larger unit for the larger 150 KW emergency generator.

The proposed improvements will include the installation of a small block building to house the proposed electrical control panels and proposed ATS for the larger emergency generator.

The projected project cost for the proposed SLID WTP-1 improvements is estimated at \$839,270.00.

1.4 Pinedale Estates Watermain

The purpose of this project is to install approximately \pm 6,200-LF of 8-inch potable WM including fire hydrants and water service laterals to serve the existing 50 single family homes in the Pinedale Estates Subdivision.

SLID's existing WM now extends to the intersection of Revson Avenue and US-98 to the southside of US-98. This subdivision is located due south of this intersection on the south side of US-98.

The projected project cost for the proposed SLID Pinedale Estates improvements is estimated at \$802,989.00.

1.5 US-98 WM Expansion and Loop

The scope of work for these proposed improvements includes a 10-inch potable WM loop to the south side of US-98 and an expansion of SLID's service area to the east side of

Arbuckle Creek. A proposed 10-inch WM will connect into the existing 10-inch diameter WM located at the intersection of Duane Palmer Boulevard and Garden Terrace. A 10-inch diameter directional bore under Duane Palmer Blvd will extend the WM south on the east side of Garden Terrace past the Pike Power Inc. transformer to US-98.

The WM along US-98 is proposed to be installed on the north side and continue east approximately 1,330-ft where it will then cross under US-98 at the intersection of Thunder Road. The WM will be installed on the east side of Thunder Road for approximately 840-LF until it connects into the existing 8-inch diameter WM located at the intersection of Longbow Drive and Thunder Road.

At the US-98/Thunder Road crossing, the proposed WM will reduce down to an 8-inch WM and continue east on the north side of US-98 approximately 3,300-LF, under Arbuckle Creek, to the entrance of a proposed RV Park in order to bring potable water and fire protection to the site.

The projected project cost for the proposed Us-98 WM expansion and loop improvements is estimated at \$600,808.00.

Please refer to the Service Area & Proposed Improvements Maps provided as Exhibit C for more details on all the above proposed improvements.

Chapter 2.0 Introduction

2.1 Background

SLID's WTP-1 is over 40 years old and is suffering with very old electrical controls and an old emergency generator that are all in need of replacement. The existing water distribution system is in need of expansion into unserved areas that are currently relying on individual wells to serve each residence. These improvements also address current plans for development and commercial growth occurring along US-98 and the District's boundary.

SLID is a developing community centered around an existing golf course and club house located within Highlands County adjacent to Sebring Regional Airport, Sebring International Raceway, Lake Istokpoga and surrounding campgrounds and agriculture. The proposed potable WM will provide services for existing commercial owners, as well as invite new industry, hospitality, fire protection and other development to occur along the US-98/County Road 700 (CR-700) corridor. The improvements will include potable WM extensions into SLID's new and existing water service areas, to the proposed WTP-2, Pinedale Estates Subdivision for a combination of existing and future development, wholesale, manufacturing, warehousing, office and residential customers. SLID has a history of seasonal visitors which includes aviation, raceway, golfing, fishing, and camping enthusiasts. However, the District lacks the "backbone" WM needed to serve existing parcels and to attract growth within the communities and along US-98 which the proposed project (and its future expansion phases) will provide.

The proposed public infrastructure projects will promote economic recovery in Highlands County, the City of Sebring, SLID, Lake Istokpoga and the surrounding golf course community which will allow for new economic growth by providing a potable water transmission line for existing/future residents/commercial owners along US-98. This will attract local industries, businesses, and residents to expand along the highway. According to Highlands County's website: more than 86% of Florida's population is

located within a 150-mile radius of the county and is currently home to more than 100,000 people (with population spikes of 20% in seasonal month). The total population is projected to increase 11% by 2022.

The build-out of SLID's residential communities is nowhere near 50%, thus the potential for growth exists, however, the water and sewer infrastructure is inadequate. This project, along with future project phases, will continue to address the lack of infrastructure issues with plans of one day servicing the entire District. The current residents will bear the costs of the improvements over time which is why the District is seeking financial assistance to help alleviate this burden. The route along US-98 is open for development passing through a variety of zoning ranging from agriculture, industrial, commercial, industrial/commercial mix, mixed use, public and low to high density residential and fish camps. The addition of centralized potable water will open up a wide range of potential light industrial and commercial improvements which will help increase economic diversification along US-98. The proposed project's level of success, from an economic standpoint, can be measured on the amount of new businesses constructed along the US-98 route once the required infrastructure is fully functional.

2.2 Purpose and Scope

2.2.1 SLID's WTP-1

SLID's WTP-1 was built in 1984 and the last major upgrade was completed in 1994 with the installation of their second ground storage tank at 400,000 gallons. In 2001 their original 10,000-gallon hydropneumatic tank was replaced with a new 10,000-gallon hydropneumatic tank. The plant is rated at 999,999 gallons per day (GPD).

The electrical power is being served by Duke Energy at 240/120-volt, 3-phase 400-amperes. The main service is protected by a 400-ampere diesel driven emergency generator. A 1,000-gallon diesel storage tank separate from the generator provides approximately 6.5 days running time at 100% load and approximately 8.0 days running time at 75% load. The load side of the automatic transfer switch serves the plant's pump

control panel. The panel contains all the controls and starters for high service pumps 1 thru 3 and the plant's air compressor including the branch circuit panelboard. The plant's approximate connected electrical load is 457-amperes at 240/120-volts, 3-phase.

The scope will include replacing the generator from 100 KW to 150 KW, the automatic transfer switch, the power panel, field instruments, miscellaneous electrical gear, and all appurtenances. The existing electrical controls will have to remain in service as the proposed electrical improvements are being made. A small concrete block building will be installed adjacent to the existing office controls building where all the proposed electrical control panels and the ATS will be installed.

2.2.2 SLID's WTP-2

The proposed SLID WTP-2 was purchased by SLID to supplement their three (3) existing wells and to enhance the western extremities of the District with fire protection, higher water distribution line pressure, and as a back up to the District's WTP-1 in case it was to be taken out of service.

The scope will include site improvements to place this facility into service as a community water supply and distribution system. Security fencing shall be installed, demolition and removal of small buildings on site, and the rehabilitation of the existing Crom ground storage tank will be required. The proposed plant expansion will include the installation of three high service pumps, piping, electrical controls, finished water disinfection system, a 200 KW emergency generator including the ATS, and a concrete block office building to house the electrical controls. The building will have a larger electrical – office room and a separate smaller room for the disinfection metering pump skid and chemical storage tanks. The existing 60-HP potable water well pump and motor will be refurbished, and its discharge piping, fittings, and valves will all be replaced.

The scope will include 1,400-LF of 10-inch diameter WM that will connect into the SLID existing 10-inch diameter WM located at the intersection of Castile Road and Madrid

Drive. The plant construction will include the installation of a 10-ft wide by 275-ft long asphalt road that will extend from the intersection of Castile Road and Madrid Drive north to connect into Madrid Drives existing asphalt road. The plant site will have a small asphalt parking lot in front of the electrical controls building.

2.2.3 Pinedale Estates WM Extension

The proposed installation of portable water mains into the Pinedale Estates Subdivision will include the installation of approximately \pm 6,800-LF of 8-inch diameter WM, fire hydrants, gate valves including water service laterals for the 50 residential homes. These improvements will allow this subdivision to connect into the SLID's potable water system with its better-quality drinking water than is typical with residential wells and residential water treatment systems. The improvement also provides needed fire protection.

2.2.4 US-98 WM Expansion and Loop

The proposed watermain loop is an extension of the District's potable WM to extend their 10-inch diameter WM to service the US-98 corridor and to tie into the District's existing water distribution system south of US-98 to create a second water main loop south of the highway. Prior to this proposed water line extension there is only a single water line extending south of US-98 to provide service, so this not only will supply a second connection to the District's system but also allow for additional system pressure south of the highway. The scope of work includes the construction of the proposed 10-inch potable WM to service the south side of US-98.

The proposed 10-inch WM which will connect into the existing 10inch diameter WM located at the intersection of Duane Palmer Boulevard and Garden Terrace and will run south along the west side of Garden Terrace past the Pike Power Inc. transformer to US-98. The water line will be installed on the north side of US-98, east approximately 1,330 feet to the intersection with Thunder Road. A 10-inch WM will be installed under US-98 to the south side at Thunder Road. The proposed 10"-inch WM will be installed along the east side of Thunder Road for approximately 840-ft south until it connects into the existing 8-inch diameter WM located at the intersection of Longbow Drive and Thunder Road. The

10-inch WM installed on the north side of US-98 will reduce to an 8-inch diameter WM after the Thunder Road crossing where it will extend east past the connection at Thunder Road an additional 3,300 feet under Arbuckle Creek with a 500-LF 8-inch diameter directional bore. The water line will extend east along the north right-of-way of US-98 to the proposed RV park located at Cypress Road and US-98.

2.2.5 The Service Area

SLID is located in north central Highlands County, Florida approximately 10 miles southeast of the City of Sebring, Florida in between Lake Istokpoga to the south and the Sebring airport to the north. The District is divided into 10 Villages with Villages 2 through 7 located north of US-98 and the remaining Villages are located south of US 98.

SLID includes Villages 1 through Village 10. The District's boundary extends along US-98 approximately 5 miles east to west. The majority of SLID is located on the north side of US-98, which includes Villages 2, 3, 4, 5 and 7. Villages 1, 6, 8, 9 and 10 are located south of US-98 with Village 10 on the east side of Arbuckle Creek. The western extremities begin at Madrid Road and US-98 and the eastern boundary ends at Village 10.

A Location Map, Boundary Map and Service Area/Proposed Improvements Maps are provided as Exhibits A, B and C, respectively.

Chapter 3 Environmental Impacts

3.1 Existing Conditions

The proposed WTP-2 is located on the existing 35 acre developed site previously owned by the Tampa Electric Company. The proposed electrical improvements at WTP-1 are all contained within the existing developed WTP site. Therefore, no effects on the environment are anticipated with either of these improvements since both sites are already developed.

The two WM installation projects will both be constructed within the right-of-way of either existing neighborhood or FDOT roadways. No impacts to the local environment are anticipated.

Arbuckle Creek is not designated as an “Outstanding Florida Water”, nor does it have any designated special water or protected natural area. Water quality has been an ongoing concern. The Florida Department of Environmental Protection (FDEP) lists Arbuckle Creek as not meeting preliminary water quality parameters for Total Phosphorus and Total Nitrogen.

A preliminary environmental assessment was performed by CAS in early 2010 as background information for the WCP. The natural vegetative cover of the District consists generally of native grasses, some scattered palmetto bushes, and scattered pine trees. The portion of the District located north of US-98 has already been developed and/or cleared of most vegetation years ago when the District was established as a community. The neighboring areas south along US-98 have also been cleared and have been used in the past as cattle pasture (with the exception of the Arbuckle Creek floodplain). A cluster of trees mostly White Bay and Carolina Ash are located along the north side of the highway in Village 6.

In the low swampy areas east of the levee and in the immediate vicinity of Arbuckle Creek, there are thick tree growths of Carolina Ash, White Bay, Live Oak, Florida Maple, Wax

Myrtle bushes, Cypress, and Willow trees. These areas have been allowed to remain in their native state and remain undisturbed by the District. The objective is to keep these areas in their natural state. The District constructed a ± 70-acre storm water treatment (STA) wetland area for water quality treatment.

Numerous species of animal life inhabit the District, including raccoon, possum, fox, squirrel, rabbit, deer and alligators. Turkey, quail, crane, ducks and songbirds of many varieties are also found. Protected species such as gopher tortoise and indigo snake are also likely to inhabit the undeveloped portions of the District though none were formally observed during the environmental assessments. Arbuckle Creek and Lake Istokpoga are known for their excellent freshwater fishing.

Most of the western part of the District consists of single-family home lots with a series of roads and storm water improvements. The east side consists of larger lots, many of which are vacant, intermingled with multifamily developments which border two 18-hole golf courses. The northeast area was originally platted for large single-family homes but is now slated to contain a significant portion of the water quality improvements including in their WCP.

In 2010, SFWMD staff visited SLID and performed an informal wetland determination which revealed some possible wetland areas which are not within the vicinity of these improvements. These possible wetland areas were considered in the last few pieces of “request for additional information” (RAI) correspondence between CAS and SFWMD prior to gaining conceptual approval of the WCP. This plan includes a WMA that will enhance the existing wetland areas.

One of the comments received from the SFWMD noted the presence of a Crested Caracara nest in the Sebring Airport property just north of SLID property. This comment required coordination with U.S. Fish and Wildlife Services (USFWS), who in turn required the preparation of a Crested Caracara Management Plan. CAS has prepared said plan

and received e-mails from the USFWS confirming that they do not suspect that the proposed activity in the area of the nest will be an issue.

3.2 Wetlands

Executive Order 11990, "Protection of Wetlands" states that it is federal policy to avoid to the extent possible the land and short-term adverse impacts associated with the destruction or modifications of wetlands and to a void direct or indirect support of new construction in wetlands wherever there is a practicable alternative. Regulatory oversight of wetland issues falls under Section 404 of the Clean Water Act and is administered by the USACE. For the state of Florida, SFWMD regulates wetlands within residential development with the exception of the single-family resident which is regulated by the FDEP.

SLID, as a special residential district, is regulated for wetlands by the SFWMD and the USACE. SLID received its first Surface Water Management (SWM) Permit in 1978 for the construction of the existing water control system and residences. A conceptual Environmental Resource Permit (ERP) Number 28-00127-S has been approved by SFWMD.

The SLID project does not conflict with the National Food Security act or the Consolidated Farm and Rural Development Act (CONACT) regarding wetland impairment. Historical aerials indicate the SLID development was converted to urban or housing use prior to 1984, with smaller isolated areas still utilized for agricultural use. A wetland study was prepared for the area in and around the site of the recently installed Spring Lake Improvement Districts wastewater treatment plant and the studies wetlands map is attached as Exhibit E. The proposed 10-inch diameter water main loop will be installed adjacent to the recently completed SLID wastewater treatment plant located at the intersection of Garden Terrace and US-98.

SLID mostly consists of a developed area inside the levee consisting of single family home lots, villa's, golf course, commercial and public facilities. The natural site conditions

throughout most of the District developed village boundaries have not been altered due to past development of the District.

3.3 Wetlands Information

Wetlands are defined by the presence of hydric soils, a prevalence of plants adapted to anaerobic conditions under normal circumstances, and inundation by surface water or ground water within the top 12 inches of the surface for sufficient time to support plant growth during the growing season. Prior to visiting the wastewater treatment plant site area, biologists reviewed soils mapping from the “Soil Survey of Highlands County” prepared by U.S. Department of Agriculture Soil Conservation Service, 1989, to assess site and surrounding conditions. General soil conditions were observed in the field concurrent with other site investigations.

Biologists reviewed historical and recent aerial photographs to assess site and surrounding conditions. Biologists then visited the area to mark preliminary wetland limits (non-binding) in the area of the new wastewater treatment plant site based on soil conditions, presence of vegetation typically occurring in wetlands, and evidence of hydrology or signs of hydrology indicative of wetland conditions. The proposed site does not impact wetlands. The areas wetland map is found in Exhibit E.

Approximate limits of wetlands under regulatory jurisdiction of the federal U.S. Army Corps of Engineers (USACE) were determined in accordance with the 1987 U.S. Army Corps of Engineers “Wetland Delineation Manual.”

Approximate limits of wetlands under regulatory jurisdiction of the state of Florida were estimated in accordance with Florida Administrative Code 62-340.300 (Delineation of Wetlands). SFWMD has informally confirmed the wetland boundaries in and around the proposed wastewater treatment plant site and assessed no wetland impacts to this site.

Any proposed impact to wetlands would require permits from SFWMD and USACE, including compensatory mitigation. Wetland impact mitigation may consist of preserving,

enhancing, or creating wetlands on site or off site, purchasing credits from a permitted mitigation bank, and/or contribution to an applicable mitigation fund. Amount and type of mitigation required/accepted by agencies will vary based on the acreage and habitat quality of the wetlands proposed to be impacted. SFWMD and USACE would require that the applicant demonstrate that all reasonable measures have been employed to avoid and minimize impacts to wetlands with emphasis on avoiding impacts to higher quality wetlands. Since no wetlands will be impacted by the proposed water main extensions, water distribution mains and water treatment plants, no mitigation is required. All areas of this project have been developed fully.

3.4 Hydric Soils

According to the U.S. Department of Agriculture, Soil Conservation Service (NRCS) Soil Survey of Highlands County, Florida, two surficial soil units are present on the project site (SCS, 1989). Please refer to Exhibit D (Soils Map).

3.5 Vegetation

The vegetative species found on site confirm that no wetlands are located with its boundaries. The parcel is a general mix of open areas containing scattered myrtle, wild grape, cactus and saw palmetto transitioning to a medium to heavy cover of oak and pine. Vegetative species are mostly determined by soils and hydrology. The soils identified on site were derived from quartz, slightly to strongly acidic, very low in nutrients and moderately to excessively well-drained (entisols). Entisols have little to no horizon development and are practically devoid of silt, clay and organic matter.

3.6 Hydrologic Conditions

No wetlands or other surface waters were found within the confines of the existing water treatment plant sites. Soil types present on site are well-drained sands which preclude ponding (standing water) and can be found four to five feet in elevation above the wet season water table. The Water Main Loop project location is in close proximity to Arbuckle

Creek and its floodplain allows for dryer soil conditions and better surface water infiltration.

3.7 Wetland Functions and Value

No wetlands will be affected by the construction of the proposed water treatment plants improvements nor the two proposed water main installations that will be constructed within the District rights-of-way. Indirect and cumulative impacts are not anticipated to occur.

3.8 Wetlands Affected by Proposed Construction

No wetlands will be affected by the construction of the proposed 10-inch diameter water loop adjacent to the wastewater treatment plant sites eastern property line. All the proposed watermains will be installed in developed rights-of-way or in the FDOT right-of-way. This is verified in the wetland map, Exhibit E. Exhibit E shows the existing SLID District site with respect to surrounding wetlands. Indirect and cumulative impacts are not anticipated to occur with the proposed 10-inch diameter water main loop extension project.

Additionally, the two water treatment plant sites are established and developed sites that have been occupied for over 40 years, one site was a regional power plant the other as the SLID potable water treatment plant site. The Pinedale Estates subdivision has been a residential subdivision for over 20 years the proposed water main improvements will be installed within the roads right-of-way and will not have any adverse effect on the local environment.

No wetlands will be affected by the construction of the proposed four SLID water improvement projects.

Historically, the Districts land was settled in 1930 by Duane Palmer who later sold the land to Westinghouse Electric. Coral Ridge Properties, a subsidiary of Westinghouse,

proposed the development of Spring Lake as a residential community. In 1971 the Spring Lake Improvement District was created by a special act of the Florida Legislature. There are 14 historic places listed in the National Register of Historic Properties for Highlands County, Florida. There are no historic properties located in SLID.

3.9 Growth Areas and Population Trends

Being one of the originally platted subdivisions developed in Highlands County, from the 1950s through the 1970s, SLID was always envisioned as a future growth area. Some of the maps that the Central Florida Regional Planning Council prepared show the history and anticipated future development of Highlands County and include SLID.

Historically, urban growth in the county has taken place in the Avon Park/Sebring, Lake Placid, and Airport/Spring Lake corridor. The latest data from the Bureau of Economic and Business Research shows a slight decline in population, from over 100,000 to just over 99,000 residents during the recent recession years, while “2010 Profile for Highlands County” obtained from the Highlands County Economic Development Commission, shows a steady increase in population from 100,111 in 2009 to a projected 109,400 in 2015. The intensification of the existing urban areas is predicted to continue and result in the Spring Lake area expanding all the way west to Rt. 27 and becoming a “sustainable community”. The three anticipated urban growth areas from the Highlands County Comprehensive Plan clearly show and describe this Airport/Spring Lake corridor.

4.0 Existing Facilities

4.1 SLID WTP-1

The existing SLID water treatment plant number one is experiencing electrical problems with its 40-year-old electrical controls and it is under sized 100 KW emergency generator. The existing electrical controls need to be replaced as does the 100 KW emergency generator with a new 150 KW emergency generator and ATS. The purpose of this project is to upgrade the plants electrical control panels, replace all the original switches, starters, elapse time meters, the automatic transfer switch, the power panel, and some field instruments.

4.2 SLID WTP-2

The existing SLID water treatment plant number two was part of the recently demolished Tampa Power Plant site. The power plant had a fire protection system consisting of a 2,000 gpm well, a 400,00-gallon ground storage tank, a hydropneumatic tank, a few small buildings with both diesel and electric fire pumps. The system was certified for potable water service for the staff that worked in the power plant.

4.3 Pinedale Estates WM Addition

The Pinedale Estates subdivision is a 50-home residential subdivision which is currently using residential wells and residential water treatment systems for their potable water and residential septic tanks for their wastewater treatment and on-site disposal. The District recently extended their potable water to the entrance of this subdivision at the intersection of Revson Avenue and US 98. The residents have requested connecting into the Spring Lake Improvement Districts potable water system for better quality water and fire protection. The proposed Pinedale water improvements will include installing 8-inch diameter water mains, fire hydrants, and control valves.

4.4 US 98 WM Expansion & Loop

The watermain loop and extension is proposed to extend the District's water service south of US-98 to connect to water mains in the south villages 1, 6, 7, 8, 9, 10 of the District and

extend along US 98 east across Arbuckle Creek to Village 10 to service an R/V park currently under design.

The proposed 10-inch diameter water main will also create a loop with this proposed water expansion with a connection into the existing residential water system into Village 6 located on the south side of US 98 that is currently supplied water through a single line extending under US 98.

Chapter 5.0 Development of Alternatives Considered

5.1 General

The following four alternatives were evaluated and considered for each of the Spring Lake Improvement Districts four proposed water improvements projects.

1. The first project is the water treatment plant number one replacement of all the existing electrical controls and replacement of the emergency generator.
2. The second project is the expansion of the Spring Lake Improvement Districts water treatment plant number two.
3. The third project is the installation of potable water services into the Pinedale Estates subdivision.
4. The fourth project is the proposed water main loop system to expand and extend the Districts water service area and improve the water distribution system pressures south of US 98 in SLID Village 6.

In addition, the District needs to extend their water service area east of Arbuckle Creek along US 98 into Village 10 to serve an R/V Park with potable water and fire protection.

The options for the SLID WTP # One are as follows:

1. No Action
2. Replace all the original electrical controls and not the emergency generator
3. Replace all the electrical controls, install in a proposed block building, and replace the 100KW emergency generator with a larger 150 KW generator and ATS.

The options for the SLID WTP # Two are as follows:

1. No Action
2. Rehab the existing deep well, add new high service pumps, electrical controls, three high service pumps, emergency generator, ATS, electrical - office building addition, disinfection system, installation of water mains to connect into Districts distribution system, construction of entrance road to WTP site from Districts boundary.

3. Rehabilitate the deep well and its turbine pump and the Crom ground storage tank for future District water storage and water supply.

The options for the SLID water service into Pinedale Estates are as follows:

1. No action
2. Install 8" water mains and service laterals to the existing 50 homes, include fire hydrants, and control valves.
3. Install smaller 4" diameter water mains into subdivision without fire protection.

The options for the 10" diameter water main loop to the south of US 98 are as follows:

1. No action
2. Install 10" water main to south side of US 98 to increase system line pressure in Village 6 by installing a looped water line down Thunder Road from US 98 and extend water service area to the east under Arbuckle Creek with a directional bore then another 700 feet to service Village 10's proposed R/V Park developments entrance at Cypress Road.
3. Install a smaller 6" diameter water main to the south side of US 98 and install the 6" water line into Village 6 and extend the Districts service area east under Arbuckle Creek to service Village 10 R/V Park

5.2 Water Treatment Plant Number One

5.2.1 No Action

Under this alternative the existing water treatment plant will continue to operate with its original 1980's electrical controls, and it's under sized emergency generator and ATS.

This alternative is not valid and hence was rejected.

5.2.2 Installing the Replacement Electrical Controls and Not the Generator

Under this alternative the water treatment plant would only replace the Electrical controls and not the emergency generator and ATS. This alternative would make the District continue to suffer when the site experiences a power outage and since the on site generator is old and

needs replacement with a larger 150 KW generator not all of the plants electrical – mechanical components would be back up by the on-site 100 KW emergency generator. This alternative is not valid and hence was rejected.

5.2.3 Replace All the Original Electrical Controls and Install a 150 KW Generator & ATS

Under this alternative all the original electrical controls and the 100 KW generator and ATS will be replaced with new electrical control panels and a 150- KW generator and ATS.

There are no adverse environmental impacts expected as a result of the implementation of this alternative. This alternative is cost -effective and therefore was selected.

5.3 Water Treatment Plant Number Two

5.31 No Action

Under this alternative the site will remain as is and the District would not be able to use the site as a water treatment plant. This alternative is not valid and hence was rejected.

5.32 Expansion of the SLID WTP Number Two into an FDEP Approved Potable Water Treatment Plant

The District recently purchased this facility, which was previously owned by the Tampa Electric Company, the site was known as the J.H. Phillips Station. The power plant utilized onsite well water from the Floridan aquifer for potable water and plant process water uses. Water utilized for fire protection was obtained from the deep well and stored in the existing Crom ground storage tank.

This alternative will include rehabilitating the existing 400,000-gallon CROM ground storage tank, yard piping modifications, demolition and/or removal of all unusable yard piping and hydropneumatic tanks, and the abandonment of all of the existing buildings on site, or which may be renovated for future usage.

The proposed water treatment plant will include the installation of three (3) new high service pumps that will be installed adjacent to the ground storage tank. Each pump will be rated at 500 gpm at 130 feet TDH with VFD (variable frequency drives). The proposed electrical controls will be installed inside a proposed precast concrete building measuring approximately 12-feet wide by 30-feet long. It will consist of two (2) air-conditioned rooms. One large room for the electrical controls, instrumentation, and office space. The second room will be for the hypo chlorination metering pump skid and day tanks for the chemical storage.

The existing 60 HP well will need its discharge pipe, fittings, and valves replaced. This discharge piping from this well is in disrepair. The turbine well pump and 60 HP motor will be refurbished as required. The plant will require a new 200-kw emergency generator to back up the proposed three (3) 30 hp high service pumps, the 60 hp potable water well, the electrical chemical building, and the other miscellaneous electrical mechanical components.

The scope of work for this alternative includes the addition of approximately 1,400 feet of a 10-inch watermain that will connect the SLID WTP #2 site to the District's existing 10" diameter water main located at the intersection of Castile Road and Madrid Drive. This new water 10" water main will not cause any adverse impacts on the environment nor will it require any additional land acquisition.

This alternative will include the construction of a 10-foot wide asphalt road that will extend from the intersection of Castile Road and Madrid Drive north approximately 275 feet to the existing asphalt surface on Madrid Drive. The district has obtained an easement for this proposed route to access the property. A security fence will be installed to secure the entire WTP #2 site. This alternative is cost - effective and therefore was selected.

5.33 Rehabilitate Only the Deep Well and Ground Storage Tank for Future Use of the Proposed SLID WTP # Two

This alternative involves only rehabilitating the existing Crom ground storage tank and existing deep well today in order to preserve the two main components which are badly deteriorated for the Districts future water treatment plant.

This alternative is not valid and hence was rejected.

5.4 Pinedale Estates Watermain Addition

5.4.1 No Service

This alternative involves leaving this 50-home residential subdivision As it is today where the area is not served with water nor sanitary sewer service.

This alternative is not valid and hence was rejected.

5.4.2 8-Inch diameter Water Service to the Pinedale Subdivision

This alternative involves installing an 8" potable watermain, fire hydrants, including gate valves, 50 water services and water meters to serve the existing 50 single family homes in the Pinedale Estates subdivision.

The district's existing watermains now extend to the intersection of Revson Avenue and US 98 to the southside of US 98. This subdivision is located due south of this intersection on the south side of US 98 so it is able to connect into the Districts potable water system which numerous residents have asked to connect into the SLID service area for their better water quality and available fire protection which this area currently doesn't have.

This alternative is cost - effective and therefore was selected.

5.4.3 Smaller 4-inch Diameter Water Main to Service Pinedale Estates Subdivision

This Alternative would allow the subdivision to access the Districts potable water system with its better-quality water. However, with the smaller 4-inch diameter water main the system flow rates, and pipeline pressures will be less than an 8-inch diameter water main would experience. This subdivision spans to the south approximately 4000 feet so the head loss will be too high with the small 4-inch diameter water main to supply sufficient water pressures. A 4-inch water main would not allow the installation of fire hydrants, the area would not be able to have adequate water pressure or water capacity to fight a fire.

This alternative is not in the interest of public health, safety and welfare and therefore was rejected.

6.0 The Selected Plans

6.1 Water Treatment Plant Number One Electrical Improvements

Description of selected Improvements at the SLID WTP # One. The selected plan for this existing water treatment plant is to replace the existing electrical control panels, and replace the existing 100 KW generator with a new 150 KW generator including a new ATS (automatic transfer switch). The existing electrical controls will have to continue operating while the new replacement electrical controls are being constructed in a small block building near to the plants existing controls building. The proposed air-conditioned block building will be large enough to install the electrical controls and a small desk for the plant operators.

6.2 Water Treatment Plant Number Two Improvements

The selected SLID WTP #2 project will include rehabilitating the existing 400,000-gallon Crom ground storage tank, yard piping modifications, demolition and/or removal of all unusable yard piping, hydropneumatic tanks, and the abandonment of all of the existing buildings on site, or which may be renovated for future usage.

The proposed water treatment plant will include the installation of three (3) new high service pumps that will be installed adjacent to the proposed electrical operations building. Each pump will be rated at 500 gpm at 130 feet TDH with VFD (variable frequency drives). The proposed electrical controls will be installed inside a proposed precast concrete building measuring approximately 12-feet wide by 30-feet long. It will consist of two (2) air-conditioned rooms. One large room for the electrical controls, instrumentation, and office space. The second room will be for the hypo chlorination metering pump skid and a few day tanks for the chemical storage.

The existing 60 HP well will need its discharge pipe, fittings, and valves replaced. This discharge piping from this well is in disrepair. The well pump and motor will be inspected for deficiencies, if any.

The plant will require a 200-kw emergency generator to back up the proposed three (3) 30 hp high service pumps, the 60 hp potable water well, the electrical chemical building, and the other miscellaneous electrical mechanical components.

The district will prepare all the necessary permit applications with supporting construction drawings sufficient for bidding and permitting by the Florida Department of Environmental Protection Agency, SFWMD ERP and any other applicable permits. An opinion of probable construction cost estimate based on the conceptual design is provided herein.

The scope of work for this project includes the addition of approximately 1,400 feet of a 10-inch watermain that will connect the SLID WTP #2 site to the district's existing 10" diameter water main located at the intersection of Castile Road and Madrid Drive.

The project will include the construction of a 10-foot wide asphalt road that will extend from the intersection of Castile Road and Madrid Drive north approximately 275 feet to the existing paved road surface of Madrid Drive. The district has obtained an easement for this proposed route in order to access the property. A security fence will be installed to secure the entire WTP #2 site.

6.3 Pinedale Estates Watermain

The selected watermain improvements project for this subdivision will be to install approximately 6,200 feet of 8-inch PVC C-900 water mains, 13 fire hydrants, installation of single and double water services to the 50 homes at their property lines, water meters, gate valves, fittings, and all appurtenances required to connect this subdivision into the Spring Lake Improvement District's potable water distribution system.

6.4 Watermain Loop South US-98

The selected 10" watermain loop project shall consist of a connection into the existing 10" diameter watermain located at the intersection of Duane Palmer Boulevard and Garden Terrace and will run south along the west side of Garden Terrace past the Pike Power Inc. transformer to US 98. The 10-inch diameter water main will be installed on

the north side of US-98 and extend east approximately 1,330 LF across from the intersection of Thunder Road. A 10" diameter watermain will be installed under US-98 south to Thunder Road. The proposed 10" watermain will be installed south along the east side of Thunder Road for approximately 840 feet until it connects into the existing 8-inch diameter water main located at the intersection of Longbow Drive and Thunder Road. The 10" water main along US Hwy # 98 will reduce to an 8-inch diameter water main after Thunder Road where it will extend along the north shoulder of US 98 east past the proposed connection at Thunder Road an additional 3,300 feet under Arbuckle Creek with a 500 foot long 8-inch diameter directional bore to the east side of the Creek. The water line will extend east along the north right-of-way of US- 98 another 700 feet where the line will go under US -98 with a directional bore to the south side where it will end at the entrance to the proposed R/V park development located at Cypress Road and US 98.

6.5 Environmental Impacts of Proposed Facilities

The short-term impacts during construction include increased noise levels, increased airborne particulates and surface run-off during rainfall on the various sites. Control measures will be implemented to minimize these temporary effects. The long-term impacts of the project are beneficial. The District will have a second water treatment plant with the expansion of the previously owned Tampa Power Plant sites existing deep well and ground storage tank site. The second water treatment plant will have the capability to back up the Districts only water treatment plant number one and help service the western extremities of the District. The Spring Lake Improvement Districts existing water treatment plant number one is over 30 years old and the replacement of all its original electrical controls with new state of the art electrical panels will improve the operation and efficiency of the existing water treatment plant.

The water main expansions into the Pinedale Subdivision, and into the Districts Village # 6 and Village # 10 will expand the Districts potable water service area and by looping the water distribution system the overall system hydraulics and fire protection capabilities are greatly improved.

The four selected water improvement projects will not have significant adverse effects on the flora, fauna, threatened or endangered plant or animal species, prime agricultural lands, wetlands, undisturbed natural areas, or the socio-economic character of the area.

6.6 Cost to Construct Facilities

The details of the estimated construction costs for the four selected projects are presented in Appendix A.

Chapter 7 Implementation and Compliance

7.1 Public Hearing / Dedicated Revenue Hearing

A public hearing / dedicated revenue hearing will be held in SLID District office to discuss these issues. A newspaper advertisement will be issued to the public notifying them of the scheduled meeting for anyone that would like to attend in addition invitations will be sent out to specific individuals. Specifics of the facilities plan, and the financial management plan will be presented. The attendees will be afforded every opportunity to provide input and be a part of the public record.

An official summary of the meeting minutes will be appended to the facilities plan along with official affidavits of publication.

7.2 Regulatory Agency Review

The appropriate number of copies of the facilities plan will be forwarded to the appropriate governmental agencies who have compliance review authority. Such procedures are necessary in order for the District to obtain funding from the SRF source.

Agencies that will review the proposed facilities Plan include:

1. The Florida Department of Environmental Protection
2. Florida Department of Community Affairs, State Clearinghouse
3. Highlands County Planning Department
4. South Florida Water Management District
5. U.S. Fish & Wildlife Department

7.3 Financial Planning

The Department of Environmental Protection State Revolving Fund is expected to be the financing source for the project. A business plan has been prepared to explain to the public and to the state agency what the final impact on the users of the potable water system will be. A copy of the Spring Lake Improvement Districts potable water user rates and fee schedule located in Exhibit F.

Implementation of this project assuming a loan of total project cost of \$5,213,883 is anticipated to result in the District incurring this new debt. The annual repayment of the new debt at an annual interest rate of 0% and thirty (30) year term will be approximately \$173,796 per year or approximately \$14,483 per month. The District will need to pass a new debt service charge to their current rates to pay for the debt. The District is currently updating the rate schedule including a capacity fee for new connections. The capacity fee may be used in addition to a debt service charge to pay for the loan.

The currently month increase per connection based on total projected connections of 888 connections, would be approximately \$16.31 per month, not including connection fees collected. The District's existing and future customers will need to pay the debt service through a combination of user rates and capacity charges for new development.

7.4 Implementation

The Spring Lake Improvement District has the sole responsibility and authority to implement the recommended facilities. Under the current and projected future situation, the District does not have or need any inter-local agreements to provide potable water distribution or treatment with their jurisdictional properties.

7.5 Implementation Schedule

<u>Dates</u>	<u>Action Required</u>
June 2020	Submit facilities plan to FDEP and other governmental agencies.
July 2020	Submit plans & specifications and permitting applications to governmental agencies for construction permits.
August 2020	Notice of intent to permit construction of project issued and project added to the priority list.
August 2020	Full bid documents to FDEP for review.

August 2020	Publication of the Departments environmental information document In the Florida Administrative Weekly.
September 2020	End of the 30-day comment period for the environmental information documents and approval of planning documents.
September 2020	Hold public hearing on facilities plan and business plan.
September 2020	Submit design/ bid documents to SRF
November 2020	Advertise for Construction in Newspaper
December 2020	Open bids award contract to low bidder
January 2021	Start construction
October 2021	Complete construction
November 2021	Certify construction, operational performance, and closeout of projects
December 2021	Begin SRF loan repayment to the FDEP

7.6 Compliance

1. The selected potable water alternative projects will be in compliance with FDEP potable water standards.
2. The selected alternatives will meet the US EPA class one reliability requirements.
3. The environmental aspects of the proposed facilities are satisfactory.

Appendix A

Cost Information of the Selected Alternative

**WTP #2 Improvements
Preliminary Construction Cost Estimate**

<u>Water Treatment Plant No. 2 Equipment</u>	<u>Estimated Construction Costs</u>
Miscellaneous	\$167,338
Site Civil Work and Yard Piping	\$85,000
Crom Tank Rehab, painting plugging internal outlet pipes	\$150,000
Abandonment or grout in place tank discharge piping	\$65,000
Install proposed high service pumps inlet/discharge piping	\$150,000
Electrical Control / Office building	\$175,000
Potable water well 12" discharge pipe & fittings to Crom tank	\$50,000
Install tank altitude valve assembly & DIP piping	\$55,000
Hypochlorite metering pump skid, controls, and piping	\$68,000
1,440 Foot Access paved road includes parking area on WTP #2 site	\$125,000
Fence around site including double gates	\$65,000
	\$1,155,383
 <u>Water Treatment Plant Electrical & Instrumentation</u>	
Power Distribution	
Duke Energy Electrical service transformer	\$11,500
400-amp Automatic Transfer switch	\$11,845
400-amp Main Braker	\$35,000
400-amp Power Panel	\$22,540
Miscellaneous Electrical Gear	\$26,220
Generator @ 200 kw w/ Base Mounted Fuel Tank	\$175,000
Conduit and wire Lump Sum	\$74,290
Field instruments	\$37,260
Process Control Panel	\$60,260
RTU	\$34,960
Miscellaneous Instrumentation	\$55,000
Data Flow SCADA System	\$51,500
 <u>Distribution Piping</u>	
10-inch PVC pipe to existing water line in District @1400 feet	\$70,000
10-inch valves and fittings	\$20,000
	\$685,375
 Subtotal	 \$1,840,713
 Contingency @ 15%	 \$276,107
 Total Installed Construction Cost	 \$2,116,820

**WTP #1 Improvements
Preliminary Construction Cost Estimate
Electrical & Instrumentation**

<u>Bid Items</u>	<u>Units</u>	<u>Qty</u>	<u>Estimated Construction Cost</u>
Mobilization	LS	1	\$180,000
Electrical Demolition	LS	1	\$23,500
Power Distribution Main Breaker	EA.	1	\$9,700
Electrical Building	EA.	1	\$85,000
Automatic Transfer Switch	EA	1	\$16,200
Power Panel	EA	1	\$19,200
Miscellaneous Electrical Gear	EA	1	\$30,000
Generator @ 150 kw	EA	1	\$125,000
Conduit and Wire	LS	1	\$170,000
Instrumentation Field Instruments	EA	1	\$25,000
Process Control Panel	EA	1	<u>\$ 46,200</u>
Subtotal			\$729,800
Contingency @ 15%			\$109,470
Total installed Construction Cost			\$839,270

**Pinedale Estates Water System
Preliminary Construction Cost Estimate**

	<u>Qty</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Total</u>
<u>Miscellaneous</u>				
Mobilization	1	LS	4.00%	\$25,230
Maintenance of Traffic	1	LS	1.50%	\$9461
Survey, Stake-out & As-Builts	1	LS	2.00%	\$12,600
Density Testing	1	LS	1.00%	\$6,305
Preconstruction Video	1	LS	0.50%	\$3,150
Trench Safety	1	LS	0.25%	\$1,577
Erosion Control	1	LS	1.50%	\$9,461
			Subtotal:	\$67,787
<u>Watermain System & Appurtenances</u>				
8" C900 PVC WM	6800	LF	\$40	\$272,000
8" MJ RGV	8	EA	\$2,600	\$20,800
MJ Fittings	1.50	TN	\$24,000	\$36,000
Fire Hydrant, Full Assembly	13	EA	\$6,100	\$79,300
Temporary Sample Point on Fire Hydrant	7	EA	\$950	\$6,650
2" Blow off Assembly	2	EA	\$3000	\$6,000
Remove Plug & Connect to Existing WM	1	EA	\$3,000	\$3,000
Deflect 20'-8" DIP WM Under Drainage w/ Fittings	2	EA	\$3500	\$ 7,000
<u>Residential Water Service Laterals</u>				
Single Services Assy < 20' (WM to ROW)	26	EA	\$1,600	\$40,000
Single Services Assy > 50' (WM to ROW)	20	EA	\$3,100	\$58,900
Double Service Assy < 50' (WM to ROW)	4	EA	\$4,000	\$16,000
Double Service Assy > 50' (WM to ROW)	5	EA	\$4,500	\$13,500
to				
			Subtotal:	\$559,150
<u>Roadway Restoration & Appurtenances</u>				
1 1/2" SP-9.5 (S-III) Asphalt Pavement	444	SY	\$13	\$5,772
8" Compacted Shell Rock	532	SY	\$18.50	\$9,842
12" Compacted Subgrade	560	SY	\$5	\$2,800
Install New Stop Sign	1	EA	\$300	\$300
24" Stop Bar	20	LF	\$20	\$400
4" Dbl Yellow w/ RPM's, 50' @ EA Stop	100	LF	\$5	\$500
Seed & Mulch @ 8'-0" One Side of Roadway	5550	SY	\$2.00	\$11,000
Concrete Driveway Full Rest. (5' x 16' x 6")	32	EA	\$1,850	\$40,700
			Subtotal:	\$71,314
			Subtotal	\$698,251
Contingency Allowance @ 15%				\$104,738
Total Installed Construction Cost				\$802,989

**US 98 10" Water Main Loop
Preliminary Construction Cost Estimate**

	<u>Qty</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Total</u>
<u>Miscellaneous</u>				
Mobilization @ 3%	1	LS	\$14,245	\$14,251
Maintenance of Traffic @ 1.5%	1	LS	\$7,122	\$7,125
Survey, Stake-out & As-Builts @ 2%	1	LS	\$9,497	\$9,501
Density Testing @ 1.5%	1	LS	\$7,122	\$7,125
Preconstruction Video	1	LS	\$1,100	\$1,100
Trench Safety @ 0.25 %	1	LS	\$2374	\$7,122
Erosion Control @ 1.5 %	1	LS	\$7,122	<u>\$1,188</u>
				\$47,412
			Subtotal:	\$39,086
<u>Roadway Restoration & Appurtenances</u>				
1 1/2" SP-9.5 (S-III) Asphalt Pavement	100	SY	\$13.00	\$1300
8" Compacted Shell Rock	110	SY	\$18.00	\$1980
12" Compacted Subgrade	115	SY	\$5.00	\$575
4" Double Yellow (Thermo.), 50 LF at each	50	LF	\$5.00	\$250
Seed & Mulch areas outside US 98 R/W	2500	SY	\$1.50	\$3,750
Sod disturbed areas within US 98 R/W	6,500	SY	\$4.25	<u>\$27,625</u>
			Subtotal:	\$35,480
<u>Watermain System & Appurtenances</u>				
10" PVC C-900 Pipe	2985	LF	\$40.00	\$119,400
10" MJ Gate Valve	7	EA	\$4,000	\$28,000
10" HDPE Dir. Bore under US-98 @ 75 LF	75	LS	\$250	\$18,750
8" PVC C-900 Pipe	2590	LF	\$35	\$90,650
8" HDPE Dir. Bore under Arbuckle Creek.	734	LF	\$125	\$ 91,750
8" MJ Gate Valve	5	EA	\$ 3,000	\$15,000
10" & 8" MJ Fittings	1.5	TONS	\$24,000	\$36,000
2" Blow Off	3	EA	\$1,800	\$5,400
Remove Plug & Connect to existing 8" watermain on Thunder Rd.	1	EA	\$3,600	\$3,600
Air Release Valve Assembly in Vault	2	EA	\$9,500	\$19,000
Cut existing 10" WM & connect to 10" on Duane Palmer Blvd.	1	EA	\$5,000	\$5,000
Temporary sample points installed w/tapping saddle	5	EA	\$1400	<u>\$7,000</u>
			Subtotal:	\$439,550
			Subtotal:	\$522,442
Contingency Allowance		Contingency @15%		\$78,366
			Total Installed	\$600,808

**Summary
Estimated Project Cost**

Project Activity	Cost
Planning	\$50,000
Design	\$270,000
Technical Services	\$130,000
Administration before Bid Opening	\$21,000
Construction Estimate (4) Projects	\$4,359,883
Administration During Construction	\$38,000
Technical Services During Construction	\$240,000
Additional Design Fees	\$55,000
Asset Management Plan Per 62.552.700(7)	<u>\$50,000</u>
TOTAL PROJECT COST	\$5,213,883
Loan Amount Requested by Sponsor	\$5,213,883

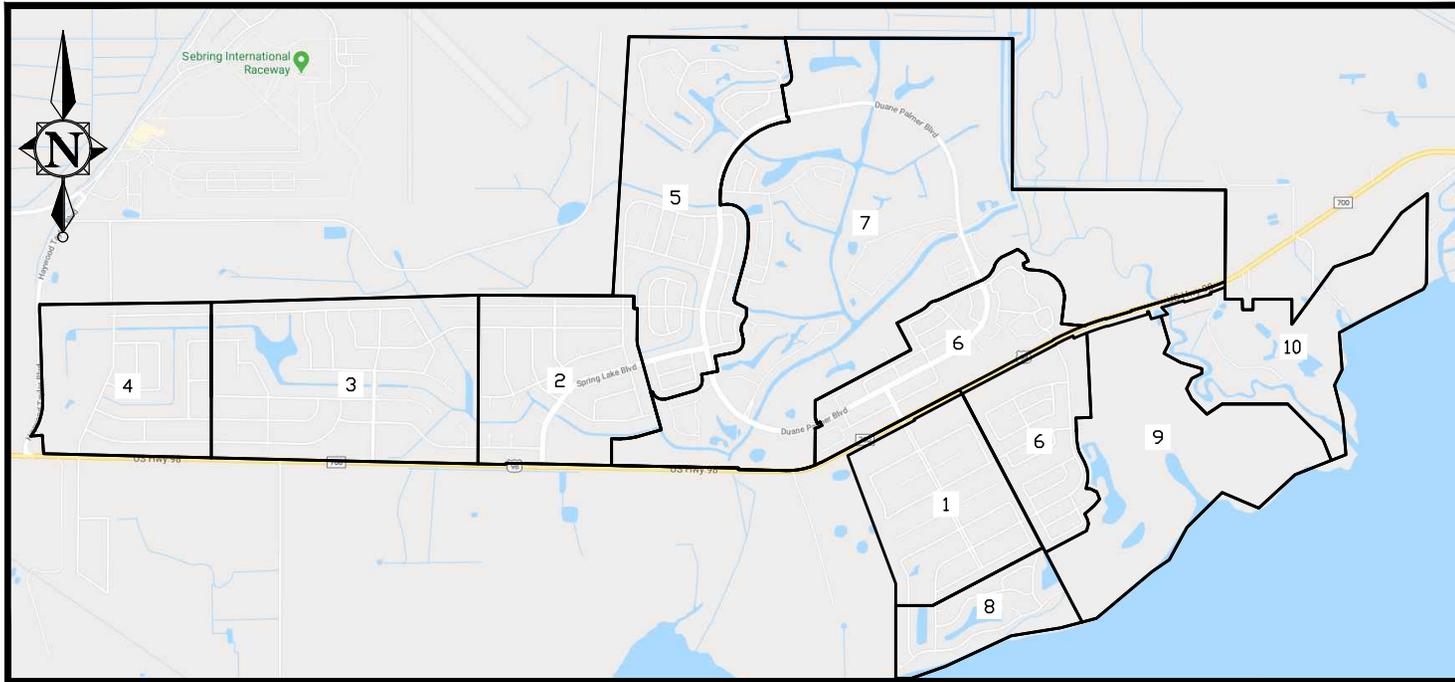
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**SPRING LAKE
IMPROVEMENT DISTRICT
WATER FACILITIES
PLAN**



**EXHIBIT - A
GENERAL LOCATION MAP**

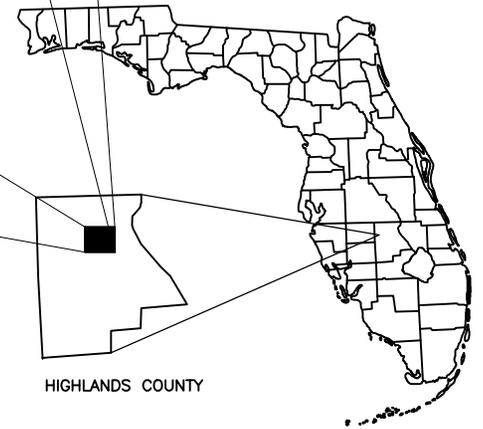
EXHIBIT A



LOCATION MAP
NOT TO SCALE

KEY:

- 1 = VILLAGE 1
- 2 = VILLAGE 2
- 3 = VILLAGE 3
- 4 = VILLAGE 4
- 5 = VILLAGE 5
- 6 = VILLAGE 6
- 7 = VILLAGE 7
- 8 = VILLAGE 8
- 9 = VILLAGE 9
- 10 = VILLAGE 10



HIGHLANDS COUNTY

VICINITY MAP
SCALE: N.T.S.

GENERAL LOCATION MAP

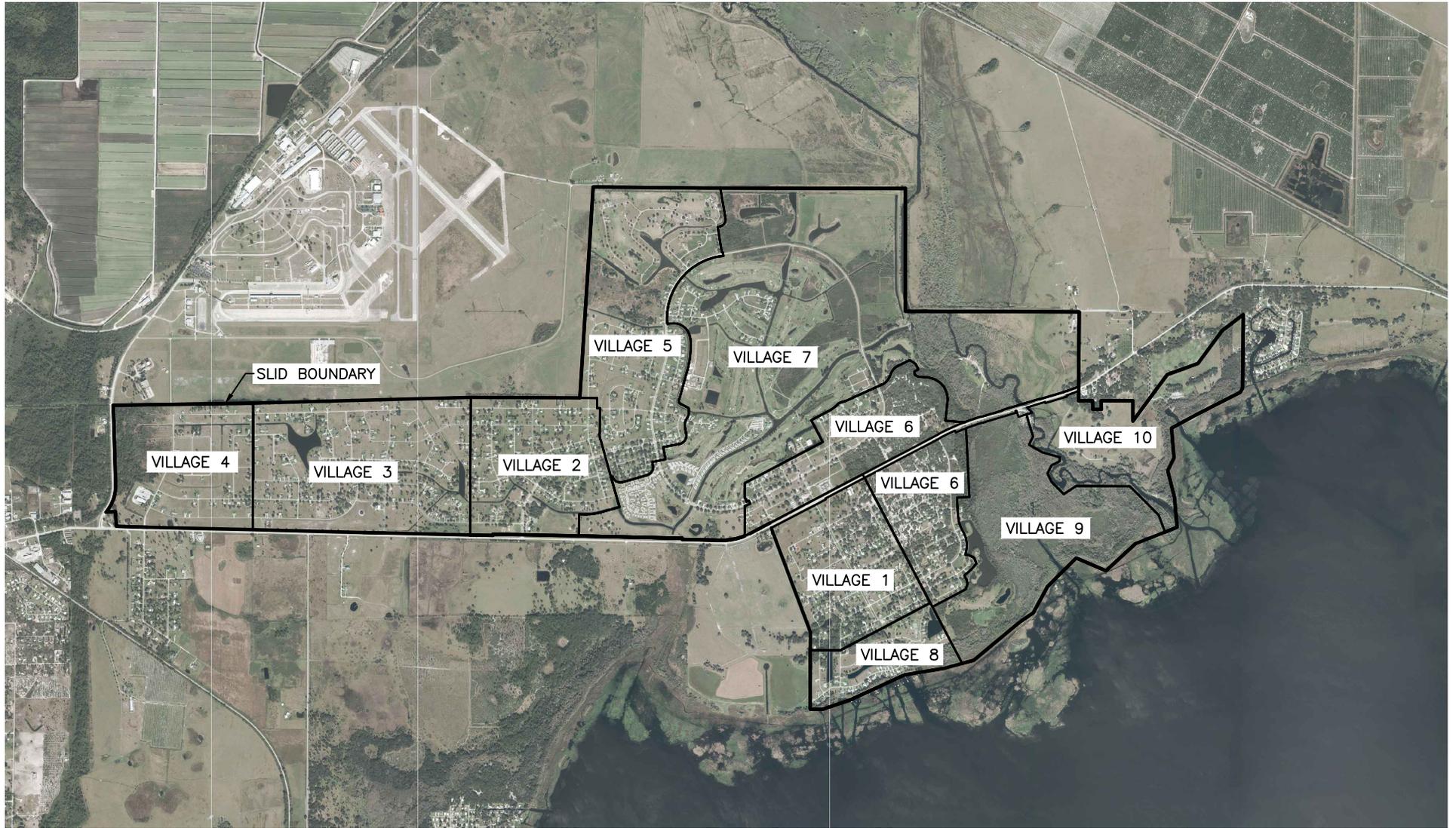


**SPRING LAKE
IMPROVEMENT DISTRICT
WATER FACILITIES
PLAN**



**EXHIBIT - B
PROJECT BOUNDARY MAP**

EXHIBIT B



SLID BOUNDARY MAP



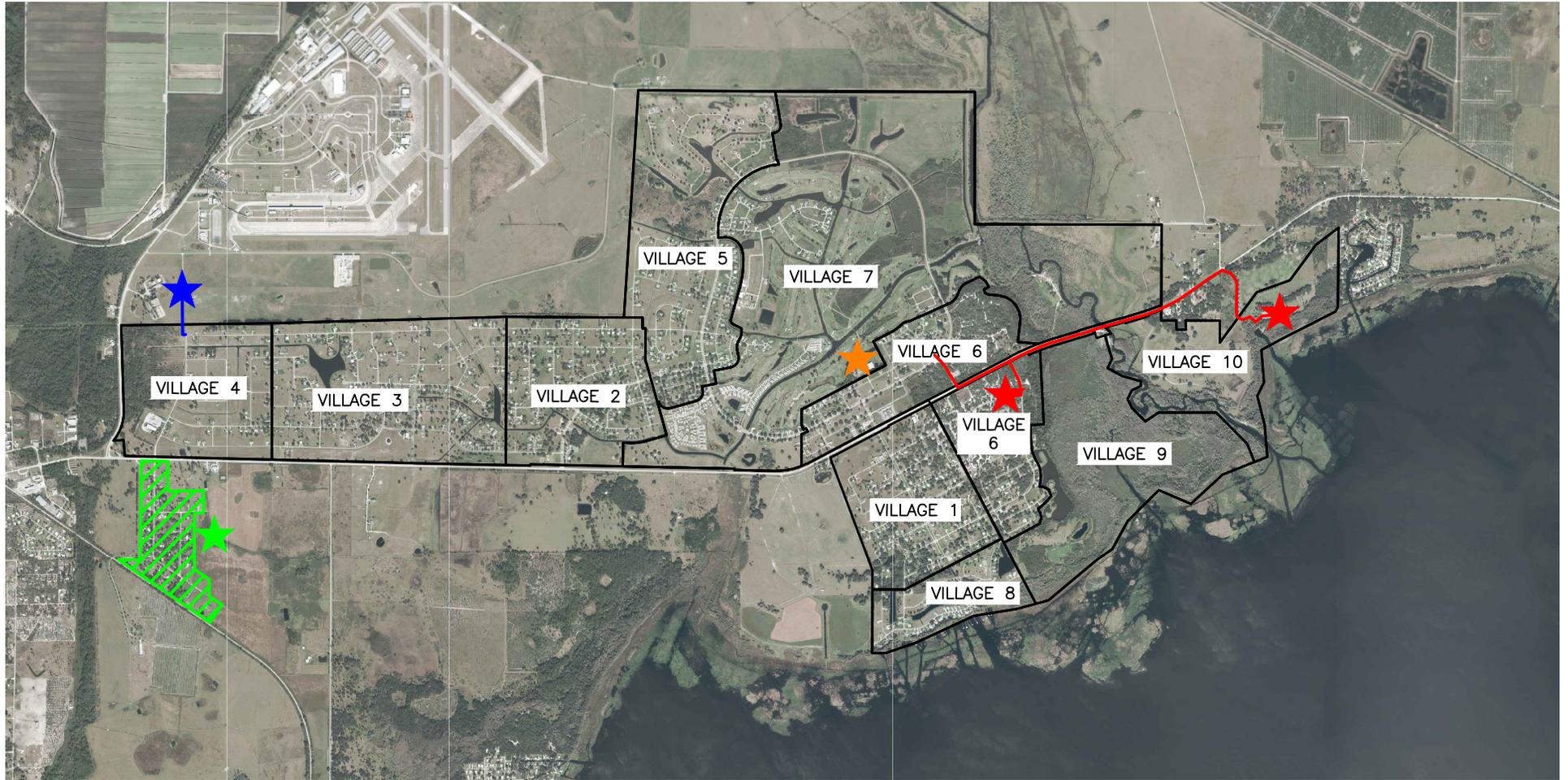
**SPRING LAKE
IMPROVEMENT DISTRICT
WATER FACILITIES
PLAN**



EXHIBIT - C

**SERVICE AREA &
PROPOSED IMPROVEMENTS MAPS**

EXHIBIT C



- ★ IMPROVEMENT NO. 1 – GENERATOR & CONTROL UPGRADES (EXISTING W.T.P.)
- ★ IMPROVEMENT NO. 2 – W.T.P. REHABILITATION (RECENTLY PURCHASED)
- ★ IMPROVEMENT NO. 3 – W.M. EXTENSION (PINEDALES ESTATES SERVICE AREA)
- ★ IMPROVEMENT NO. 4 – W.M. EXTENSION (W.M. LOOP SOUTH OF US-98)

SERVICE AREA & PROPOSED IMPROVEMENTS MAPS

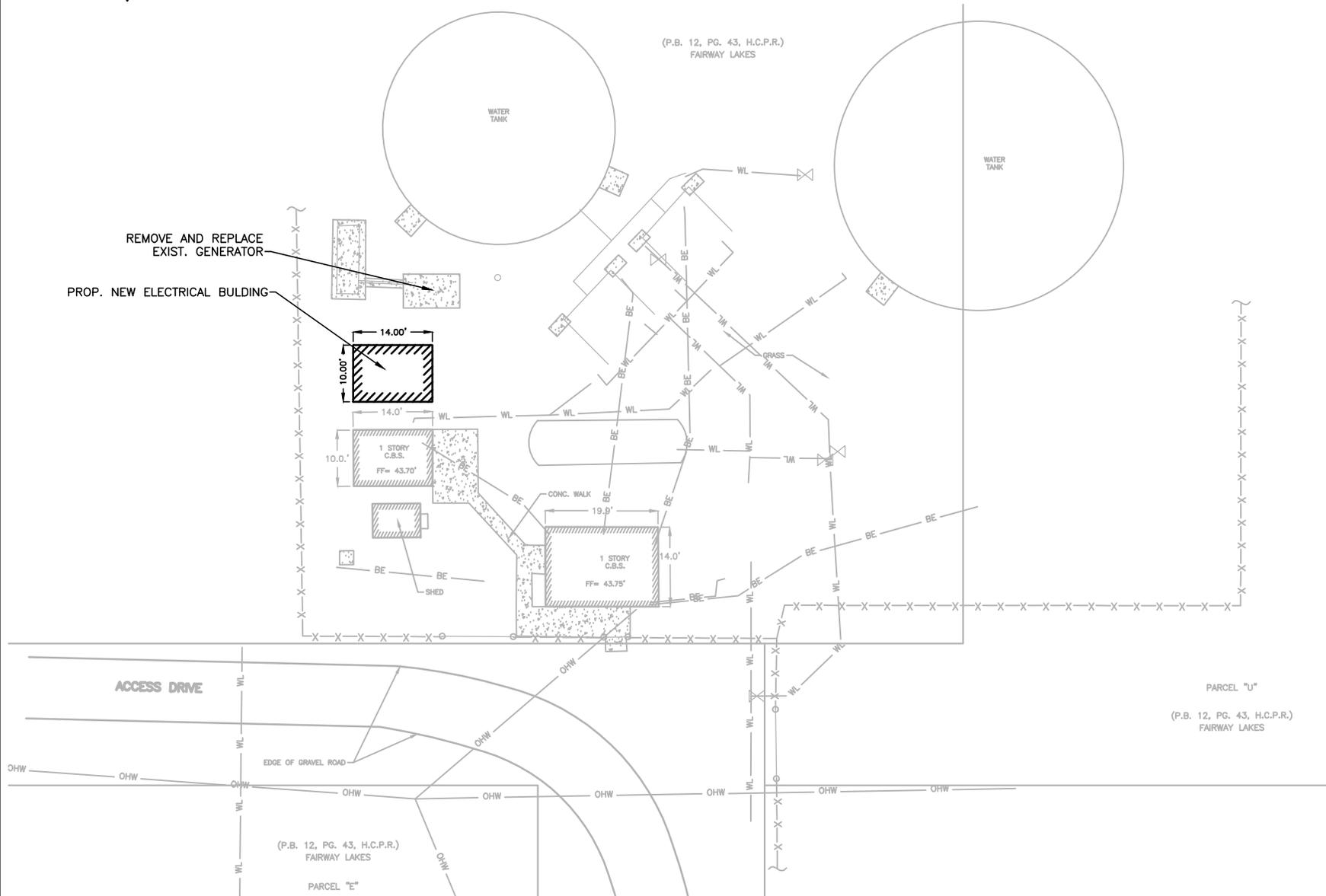
EXHIBIT C



(P.B. 12, PG. 43, H.C.P.R.)
FAIRWAY LAKES

REMOVE AND REPLACE
EXIST. GENERATOR

PROP. NEW ELECTRICAL BUILDING



PARCEL "U"
(P.B. 12, PG. 43, H.C.P.R.)
FAIRWAY LAKES

(P.B. 12, PG. 43, H.C.P.R.)
FAIRWAY LAKES
PARCEL "E"



EXHIBIT C

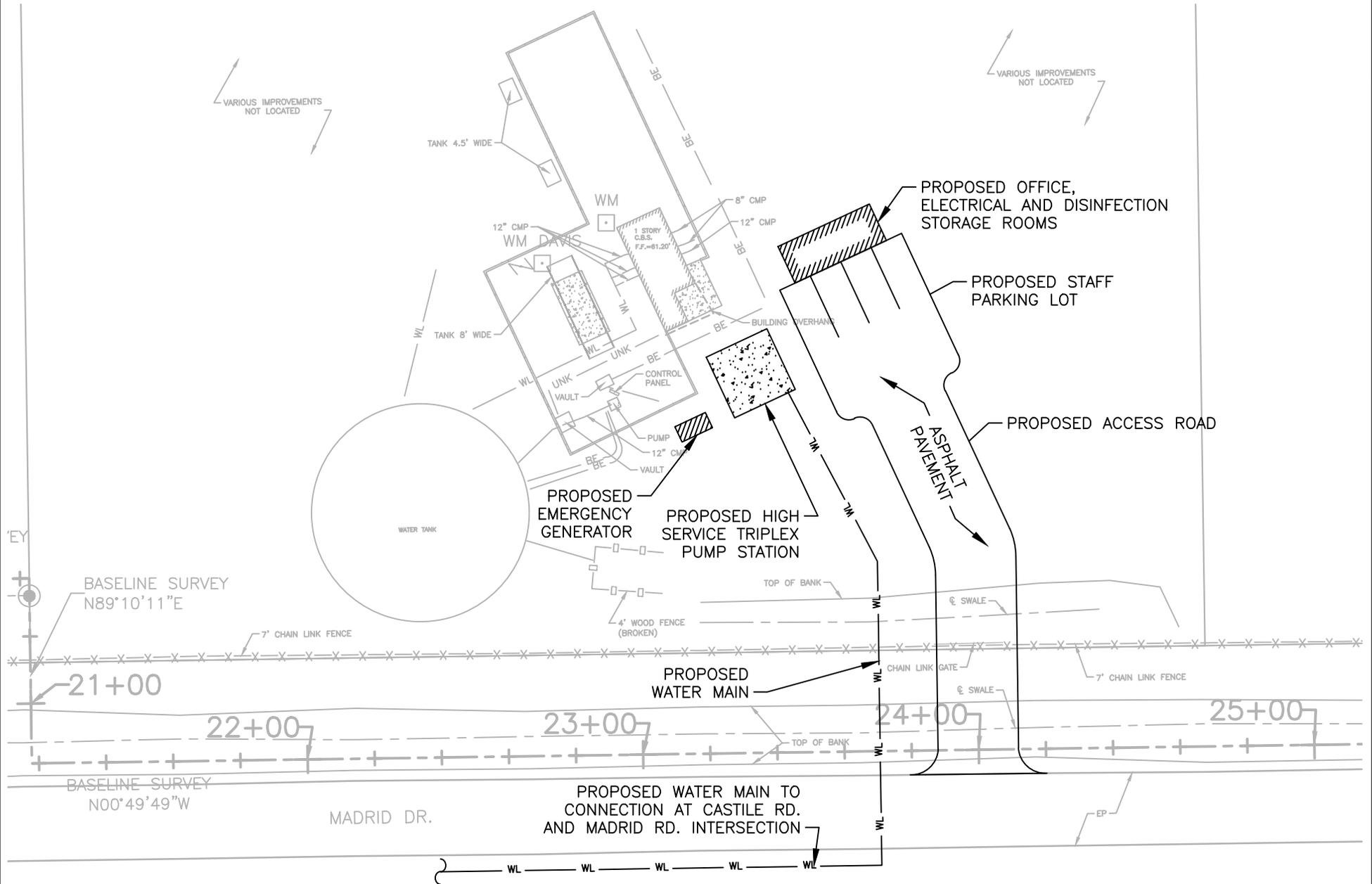
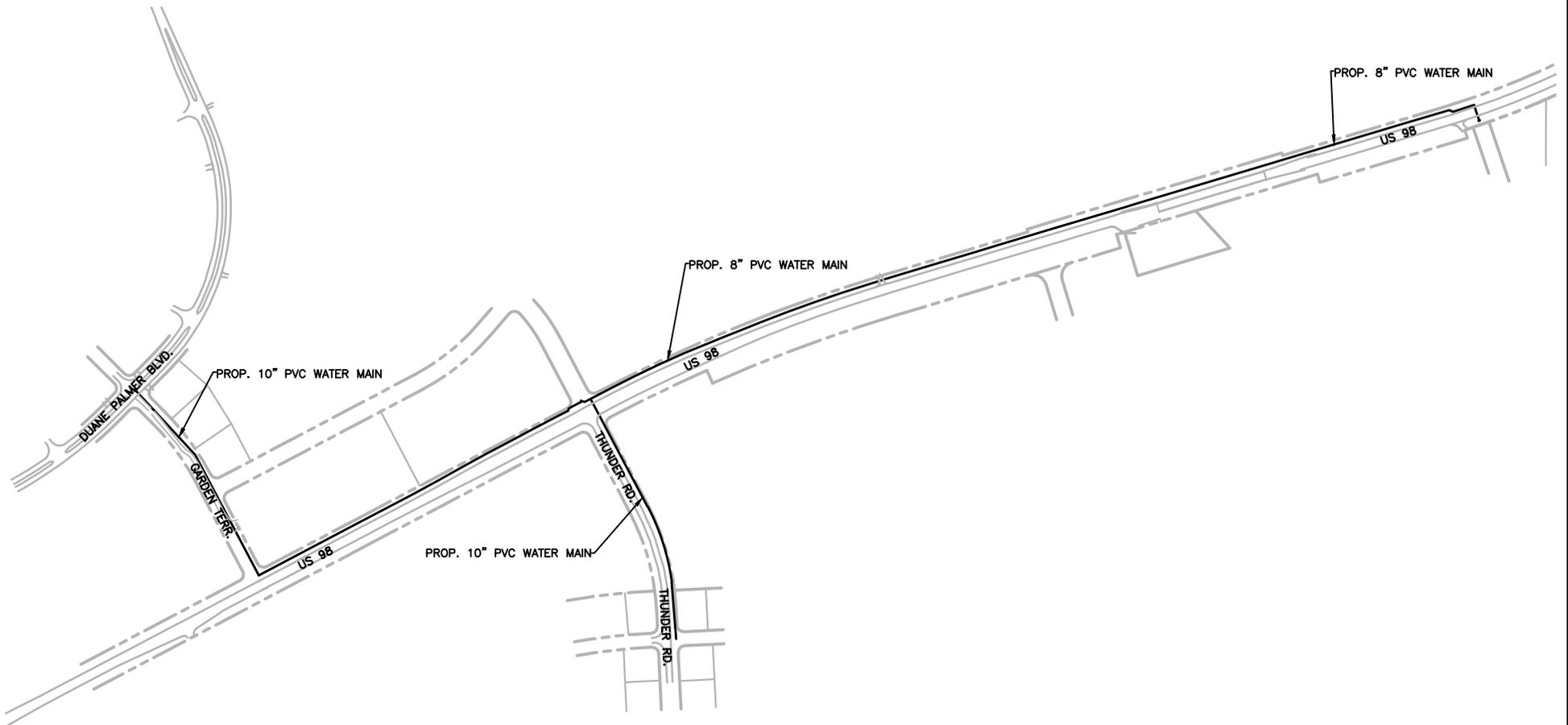


EXHIBIT C



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EXHIBIT C



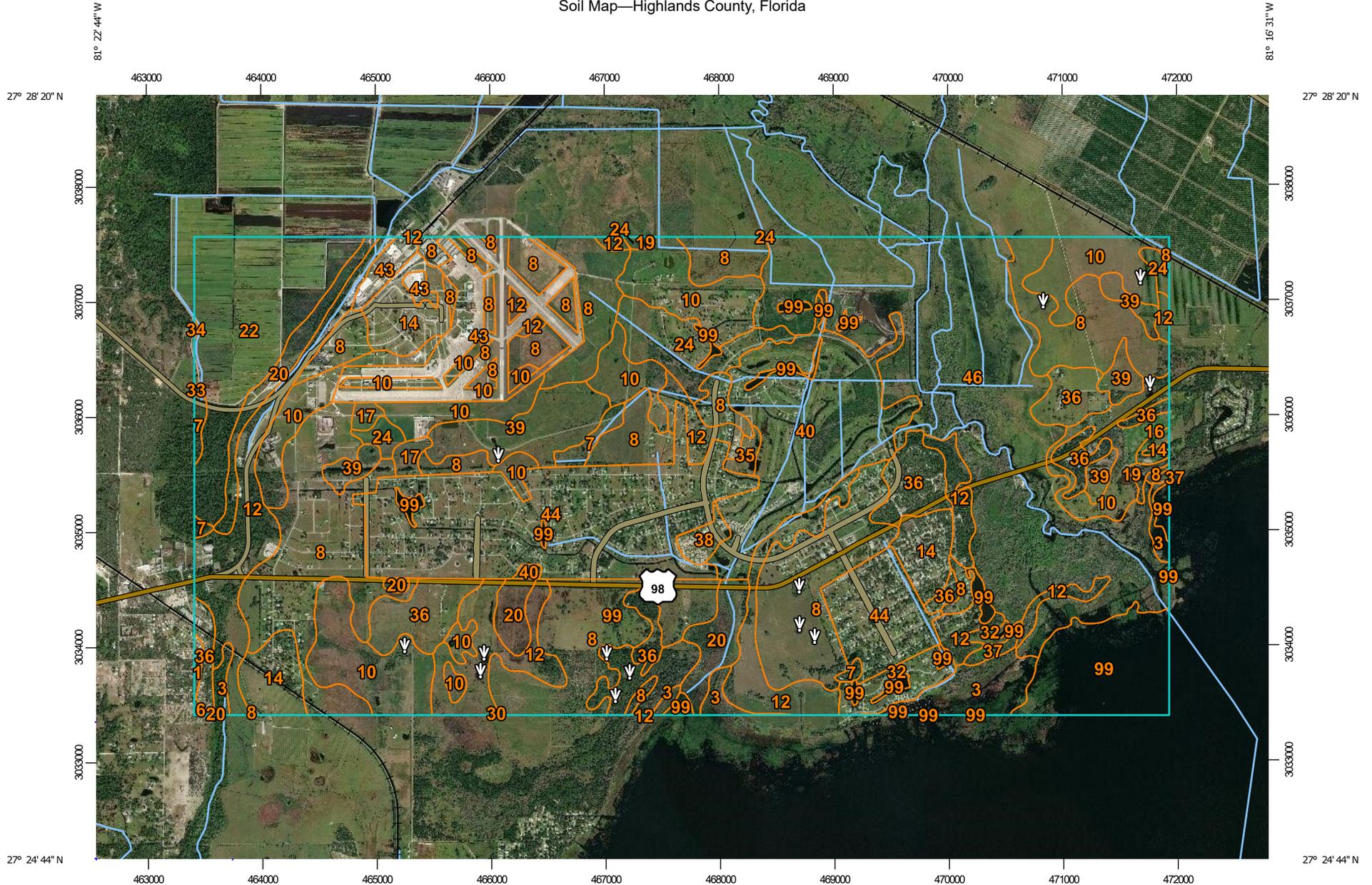
**SPRING LAKE
IMPROVEMENT DISTRICT
WATER FACILITIES
PLAN**



EXHIBIT - D

**USDA WEB SOIL SURVEY MAP
(NATIONAL COOPERATIVE SOIL SURVEY)**

Soil Map—Highlands County, Florida



Map Scale: 1:46,900 if printed on A landscape (11" x 8.5") sheet.



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 1:24,000.

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: Highlands County, Florida

Survey Area Data: Version 19, Feb 3, 2020

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

Date(s) aerial images were photographed: Oct 20, 2011—Dec 9, 2017

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
1	Paola sand, 0 to 8 percent slopes	7.2	0.1%
3	Basinger fine sand, frequently ponded, 0 to 1 percent slopes	165.5	1.9%
6	Tavares sand, 0 to 5 percent slopes	3.0	0.0%
7	Placid fine sand, frequently ponded, 0 to 1 percent slopes	48.4	0.6%
8	Immokalee sand, 0 to 2 percent slopes	1,718.7	19.6%
10	Myakka fine sand, 0 to 2 percent slopes	901.3	10.3%
12	Basinger fine sand, 0 to 2 percent slopes	798.9	9.1%
14	Satellite sand, 0 to 2 percent slopes	261.7	3.0%
16	Valkaria fine sand, 0 to 2 percent slopes	12.7	0.1%
17	Malabar fine sand, 0 to 2 percent slopes	32.0	0.4%
19	Hicoria mucky sand, depressional	13.0	0.1%
20	Samsula muck, frequently ponded, 0 to 1 percent slopes	210.9	2.4%
22	Brighton muck	414.5	4.7%
24	Pineda sand, 0 to 2 percent slopes	171.6	2.0%
30	Oldsmar fine sand, 0 to 2 percent slopes	0.4	0.0%
32	Arents, very steep	80.4	0.9%
33	Basinger, St. Johns, and Placid soils	0.9	0.0%
34	Tavares-Basinger-Sanibel complex, rolling	0.9	0.0%
35	Sanibel muck	16.9	0.2%
36	Pomello sand, 0 to 5 percent slopes	361.6	4.1%
37	Malabar sand, frequently ponded, 0 to 1 percent slopes	17.0	0.2%
38	EauGallie fine sand, 0 to 2 percent slopes	29.4	0.3%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
39	Smyrna sand, 0 to 2 percent slopes	254.2	2.9%
40	Arents, organic substratum	492.6	5.6%
43	Urban land, 0 to 2 percent slopes	317.8	3.6%
44	Satellite-Basinger-Urban land complex	889.7	10.1%
46	Kaliga muck, frequently flooded	1,230.5	14.0%
99	Water	329.5	3.8%
Totals for Area of Interest		8,781.0	100.0%

**SPRING LAKE
IMPROVEMENT DISTRICT
WATER FACILITIES
PLAN**



EXHIBIT - E

**U.S. FISH & WILDLIFE SERVICE NATIONAL
WETLANDS INVENTORY (NWI) MAP**



June 22, 2020

Wetlands

-  Estuarine and Marine Deepwater
-  Estuarine and Marine Wetland
-  Freshwater Emergent Wetland
-  Freshwater Pond
-  Freshwater Forested/Shrub Wetland
-  Lake
-  Riverine
-  Other

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

**SPRING LAKE
IMPROVEMENT DISTRICT
WATER FACILITIES
PLAN**



**EXHIBIT - F
POTABLE WATER
RATES & FEES**

Spring Lake Improvement District
 Schedule "A" Water Rates and Fees
 Effective October 1, 2019

Meter Size	Multiplication Factor ERU's	Monthly Base Rate
5/8 x 3/4	1	\$22.00
1.00	1.1	\$24.20
1.50	1.8	\$39.60
2.00	2.9	\$63.80
3.00	11	\$242.00
4.00	14	\$308.00
6.00	21	\$462.00

Monthly Billing Base Rate (+) Usage	Cost per 1,000 Gallons
0 to 5,999 gallons	\$3.10
6,000 to 8,999 gallons	\$3.60
9,000 to 24,999 gallons	\$4.20
25,000(+) gallons	\$4.80

Non Residential and Multi-Family Residential Master Meter

Master meter base rate is equal to number of units served by the meter, multiplied times facility base rate.

Example (6 units X \$20.00) = \$120.00

The term "unit", whether residential or nonresidential, shall be determined by the Water Superintendent based on the following factors, although these factors are not intended to be exclusive: occupational license(s); ownership; leases; family relationship(s); and separate utility and telephone services bills; separate and distinct businesses; or separate and distinct living quarters. A separate "unit" shall be found to exist if these and similar factors considered together make it appear that different and distinct businesses are using separate facilities or separate and distinct families or groups are occupying separate residential living quarters

Miscellaneous Charges	Costs
Backflow	\$75.00 for a Dual Check Valve RPZ, PVB or Dbl-check valve (actual cost of device)
Tap Fee's and Directional Jack & Bore	Actual Cost of Service (contracted costs, parts, and labor)
Secondary Water System Inspection (For Cross Connection)	\$35.00 Well/Canal Irrigation System
Replace damaged Meter Box and/or Lid **No charge for normal wear and tear	\$15.00 Meter Lid \$50.00 Meter Box
Tampering Fee	\$100.00
Meter Testing – At Customer's Request **To be credited if it is determined meter is defective	\$25.00
Water Leak Adjustment Application Fee **To be applied against any adjustment given	\$25.00
Returned Check Fees	\$25.00 Able to Re-Deposit \$50.00 Unable to Re-Deposit
Lien Charges	County Clerk Recording Fees + Administrative Costs Based on the greater of \$30.00 or 10% of Lien Amount
Account Activation Fee	\$25.00 (non-refundable)
Deposit	\$125.00 **waived for owner's only who sign up for ACH
Late Payment Fee	\$5.00 **added to all accounts not paid by the 15th of month
Service Call After Hours	\$40.00
Disconnect/Reconnect for Non-Payment	\$25.00 During Business Hours \$40.00 After Business Hours
Meter Conversion Fees	Meter **actual cost of meter \$26.00 Adaptors \$24.00 Labor

Meter Setting & System Development Charges

AWWA Meter size ERU ratio		
Meter Size	Meter Setting Charge (Single Service)	System Development Charge for New or Expanded Water Service
5/8 X 3/4	\$470.00	\$330.00
1.00	\$658.00	\$462.00
1.50	\$2,350.00	\$1,650.00
2.00	\$3,760.00	\$2,640.00
3.00	\$7,520.00	\$5,280.00
4.00	\$11,750.00	\$8,250.00
6.00	\$23,500.00	\$16,500.00