Wastewater Treatment Facility Plan

CITY OF BELLEVIEW UTILITIES DEPARTMENT

Prepared for:

The City of Belleview

Prepared by:

Kimley-Horn and Associates, Inc.

042223012
May 2019

101 E Silver Springs Boulevard, Suite 400
Ocala, FL 34470
352 438 3000

Kimley»Horn

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THIS IS TO CERTIFY THAT THE ENCLOSED ENGINEERING CALCULATIONS WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION.

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INTRODUCTION

Project Scope and Objectives

The City of Belleview (City) desires to develop a comprehensive water, wastewater and reclaimed water utility master plan for the purpose of identifying and prioritizing capital projects. The primary objectives of this WWTF facility plan are to:

1. Identify issues and deficiencies within the existing treatment facility from a condition assessment and discussions with operations staff.
2. Determine necessary capital improvements and facility modifications to accommodate future wastewater flows.
3. Create a final list of capital projects including project descriptions, capital improvement project implementation schedule, and construction opinions of probable cost for each improvement project.

This facility plan provides a basis for the City to develop preliminary project scopes, initial budgetary estimates, and schedules for the improvements identified herein. These improvements will enable the City to forecast capital needs based on facility condition, future treatment capacity, future treatment requirements, and system operation and reliability. The analyses presented in this report are based on current assumptions and parameters that should be updated as conditions change with time.

Background

The City owns and operates a wastewater reclamation facility (WRF) that treats the sanitary sewer collected within a service area that is approximately 3.5 miles wide (east to west) and 6.6 miles long (north to south). The WRF is a Fluidyne Sequencing Batch Reactor (SBR) activated sludge treatment facility with a permitted capacity of 0.76 million gallons per day (MGD) annual average daily flow (AADF). The WRF currently treats an AADF rate of 0.425 MGD, this is approximately 56% capacity. The City will receive increased sanitary sewer flows in the next 20 years as future developments and planned septic to sewer areas are served. To prepare for this anticipated growth, the City has asked Kimley-Horn to provide a master plan of the wastewater collection system and a facility expansion plan. This master plan has produces projected wastewater flows to the WRF for the next 5, 10, and 20 years. At the request of the City, these flow projections have been used to identify options for expanding the existing plant.

FACILITY DESCRIPTION

The City of Belleview WRF operates under FDEP permit number FLA010678 as shown in ***Appendix A*** and has a permitted capacity of 0.76 MGD AADF. The WRF is located at SE 116th Street at SE 58th Ave, Belleview, FL (see ***Figure 1*** for location map). The treatment facility is designed and operated to provide final effluent meeting public access reuse standards pursuant to Chapter 62-610, FAC.

Existing Conditions

The Belleview WRF is currently treating an AADF of 0.425 MGD which is approximately 56% of the annual average design flow of 0.76 MGD. Raw wastewater is pumped from the influent lift station to the headworks where it is screened with a rotary drum screen. The flow is then directed to one of two SBR tanks where it is treated through a biological process for biochemical oxygen demand (BOD) and total suspended solids (TSS) removal. In this same tank, the mixed liquor undergoes clarification for liquid/solids separation. The SBR decant is then directed to two disk filters for added solids removal before it is disinfected with sodium hypochlorite in the chlorine contact basin (CCB). Effluent from the CCB flows into the effluent lift station where is it pumped to one of two effluent reuse or disposal sites: R-001 or R-002. R-001 is an existing 0.3 MGD AADF permitted capacity slow-rate restricted access system (19.5-acre sprayfield). R-002 is an existing 1.3 MGD AADF permitted slow-rate public access system consisting of the 70-acre Baseline Golf Course (0.3 MGD AADF permitted capacity) and the 374-acre Spruce Creek Golf Course (1.0 MGD AADF permitted capacity). Effluent that does not meet regulatory requirements for public access reuse can be discharged to a 120,000 gallon on-site reject pond (to be retreated) or pumped to R-002 for disposal. Waste activated sludge (WAS) from the SBRs is pumped to a series of aerobic digester tanks. In the final digester tank, the sludge is thickened through decanting. The decant is pumped to the disk filters and disinfected before it flows to the effluent lift station. The remaining sludge solids are dewatered via centrifuge and transported to the Marion County Class 1 solid waste landfill (known as Baseline Landfill).

Figure 2 shows an aerial view of the Belleview WRF with the major treatment processes labeled.

CITY OF BELLEVIEW WWTF FACILITY PLAN

Legend

- Interstate
- US Highway
- State Road
- Utility Service Area

CITY OF BELLEVIEW EXISTING WWTF

LOCATION

Feet
0 50 100

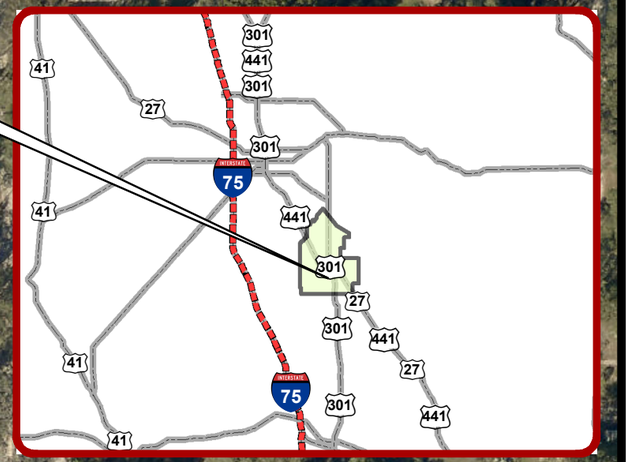


FIGURE 1
BELLEVIEW WWTF
LOCATION MAP

Kimley»Horn

CITY OF BELLEVIEW WWTF FACILITY PLAN

Components

Feet
0 25 50

Lab/Office
Centrifuge
Headworks
Influent Lift Station
Filter Feed Pumps
Filter Feed Tank
Emergency Overflow Pond
Digester
Sand Drying Bed
Filter Tanks
Unused Tank
Chlorine Contact
Blower and Control Building
Effluent Pump Station
Effluent Weird
SBR
SBR
Effluent Storage

FIGURE 2
WRF OVERVIEW

Kimley»Horn

Flow Rates and Loadings

The FDEP daily monitoring reports were reviewed for the period from September 2017 through August 2018 to determine the existing influent flow parameters. The influent flows are tabulated in ***Appendix B*** and summarized in ***Table 1***.

Table 1: Existing Influent Flows	
Existing Influent Flows	Current Flows (MGD)
Annual Average Daily Flow (AADF)	0.425
Maximum Month Daily Flow (MMDF)	0.877

Table 2 compares the design loadings to the annual average of the actual loadings observed over the past year (September 2017 to August 2018). The City of Belleview WRF monitors the influent 5-Day Carbonaceous Biochemical Oxygen Demand ($CBOD_5$) and TSS concentration but not the influent total nitrogen concentration. Therefore, the evaluation of influent quality is limited to $CBOD_5$ and TSS based on historical data. For the period of September 2017 to August 2018, the average influent $CBOD_5$ and TSS concentration was 240 mg/L and 226 mg/L respectively. During this period, the $CBOD_5$ ranged from 148 mg/L to 435 mg/L. The TSS range was 127 mg/L to 387 mg/L. These values are reasonably within the design parameters and the WRF has been able to provide the treatment such that the effluent concentrations are within permitted values.

Table 2: Influent and Effluent Loading							
Parameter	**Design Influent Loading (mg/L)**	**Current Influent Loadings (September 2017 to August 2018)**			**Current Effluent Loadings (September 2017 to August 2018)**		
		Average (mg/L)	Max (mg/L)	Min (mg/L)	Average (mg/L)	Max (mg/L)	Min (mg/L)
$CBOD_5$	280	240	435	148	1.7	2.9	1.0
TSS	250	226	387	127	3.4	7.6	0.7
Total Nitrogen	35 as TKN	-	-	-	3.5	6.9	1.7

FACILITY ASSESSMENT

Understanding that expansion of the WRF will be required in the future to treat the projected sanitary sewer flows, a facility condition assessment was completed to determine the status and capacity of all existing treatment units and their supporting components. The assessment was completed with a focus on the following treatment processes and infrastructure:

- Influent Lift Station
- Emergency Overflow Pond
- Headworks
- Sequencing Batch Reactors
- Pre-Filtration Equalization Basin
- Filtration
- Disinfection - Chlorine Contact Basin
- Effluent Flow Meter
- Effluent Lift Station
- Aerobic Digester
- Sludge Dewatering - Centrifuge
- Site Electrical

Influent Lift Station

Belleview's wastewater influent lift station is located on site at the WRF (***Figure 3***). It is a triplex submersible pump station that receives influent flow from the gravity main discharge to the plant from the collection system. Detailed information for the existing influent lift station pumps can be found in ***Table 3***. The station has a designed peak flow capacity of 2.73 MGD with two pumps operating. Drawdown test results from June 2016 provided a measured peak flow capacity of 2.14 MGD with two pumps operating. The third pump provides stand-by capacity, as required to meet Class 1 reliability criteria. The station wet well is concrete, cylindrical, and 8.6 ft deep with 10-foot diameter. The wet well has an operating volume of 2,940 gallons.

Figure 3. Influent lift station

Prior to entering the wet well, raw sewage previously passed through manually cleaned bar screens for removal of large debris prior to discharge to the lift station. These bar screens have been removed within the last year though influent continues to flow through the bar screen tank. The city wishes to remove the previous bar screen infrastructure as well as several surrounding in-ground boxes (***Figure 4***).

Figure 4. Influent manual bar screen tank and additional in ground boxes to be removed.

Table 3: Existing Influent Lift Station Pump Information			
Description	Pump 1	Pump 2	Pump 3
Manufacturer	Hydromatic	Hydromatic	Hydromatic
Model No.	S6L1500M4	S6L1500M4	S6L1500M4
Design Capacity	1,000 gpm	1,000 gpm	1,000 gpm
Design Head	32' TDH	32' TDH	32' TDH
Measured Capacity	767 gpm	719 gpm	881 gpm
Measured Head	NA	NA	NA
Motor	15 hp	15 hp	15 hp
Control	Level	Level	Level

The lift station capacity is currently limited to less that the permitted capacity of the WRF by the submersible pumps, as determined by the 2016 drawdown test results. In order to increase the lift station capacity to 0.76 MGD, it is recommended to replace existing worn impellers with new. A detailed inspection of the pumps will be required to determine the required rehab.

Emergency Overflow Pond

In the event of lift station failure or unexpectedly high influent flows (due to major storm events, etc.) the lift station has an emergency overflow to a 440,000-gallon, concrete lined holding pond. Flows from the filter feed tank can also be directed to the header at the east end of the pond (***Figure 6***). This pond was modified to include dividing walls to create two separate holding areas (120,000 gallons and 320,000 gallons). Each side, the north and south, is equipped with a sump and two pumps. The north sump pumps return flow to the influent lift station. The south sump pumps send flow to the onsite reject pond. As shown in ***Figure 5*** and ***Figure 6***, the dividing walls within the tank have failed. The City wishes to replace the center dividing wall with a new hydrostatic wall. The north side will be closed on the west end with a hydrostatic wall and sluice gate (to allow for divided or complete use of the overflow tank). The City would also like to replace one of the existing pumps in each of the sumps (requiring the purchase of two new pumps in total).

Figure 5. North side of emergency overflow tank with sump

Figure 6. South side of emergency overflow tank with sump

Headworks

Influent flows are pumped from the influent lift station to the headworks. The headworks originally included two static screens with 0.1-inch screen openings and a combined capacity of 3.4 MGD on a raised platform (***Figure 7***). It was upgraded in 2018 with the replacement of one of the static screens with rotary drum screen with 0.08-inch screen opening and a capacity of 3 MGD (***Figure 8***). The platform was also expanded at the time. The City is satisfied with the function of the rotary drum screen and wishes to replace the remaining static screen with a second rotary drum screen, as additional capacity is required. A summary of the design criteria for both screens is provided in ***Table 4***. The screens are mounted sufficiently high to provide gravity flow to the SBR basins. The screenings fall into a collection dumpster below the platform and are hauled to the Baseline Landfill. As Baseline Landfill will become a transfer station in the coming years, the City may need to identify an alternative disposal method for their solid wastes.

Table 4: Existing Screen Information

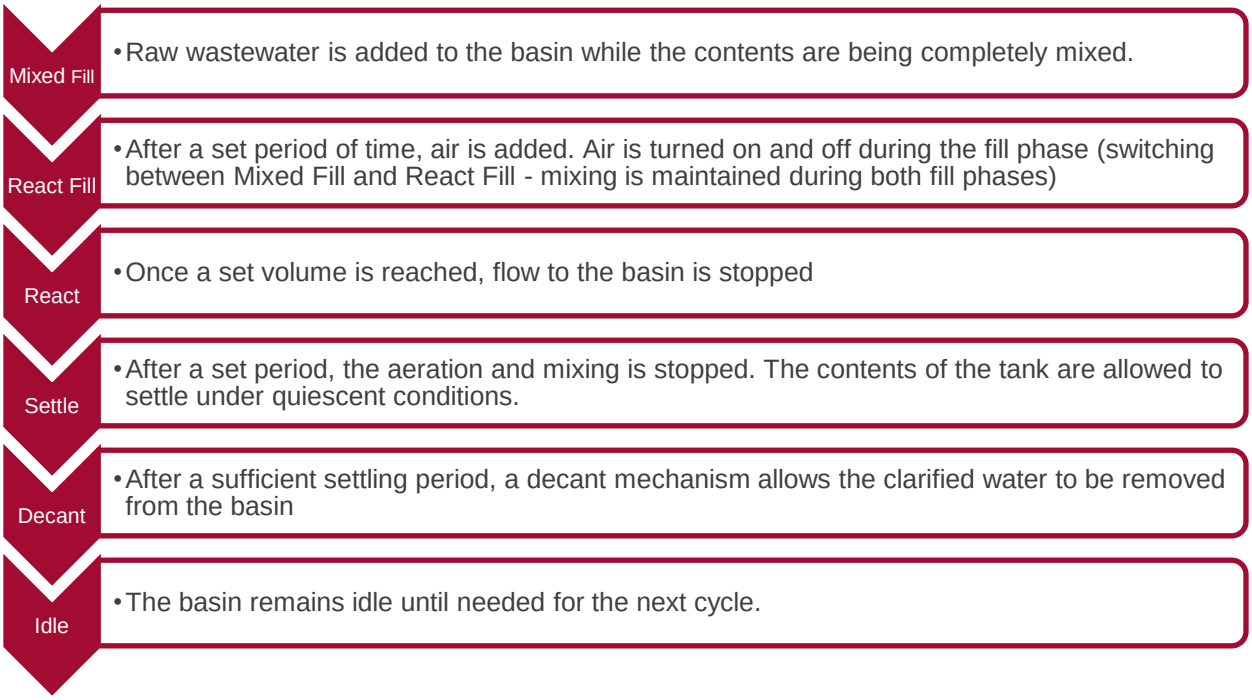
Description	Screen 1	Screen 2
Manufacturer	Parkson	Parkson
Type	Static	Rotary Drum
Hydraulic Loading	1,170 gpm	2,083 gpm
Opening Size	0.1 in	0.08 in
Width	70 in	NA

Figure 7. Existing Static Screen

Figure 8. Existing Drum Screen

Sequencing Batch Reactors

Raw wastewater flows from the elevated screens into one of the two SBRs. The SBR treatment process is a timed sequence of equalization, aeration, and clarification. Influent flow is received in a tank, treated in a batch mode and then discharged. As the wastewater enters the SBR, the SBR goes through the following processes successively:



After the basin is filled, each process is preset to run for a certain period of time. During each phase of the process above (depending on whether oxygen is present) aerobic or anoxic conditions are created within the wastewater such that carbonaceous BOD removal, nitrification, and denitrification reactions occur alternately or simultaneously. Mixing in the SBR is provided by submersible mixing pumps. Oxygen is supplied by blowers and distributed into the wastewater through a jet aeration system. The jet aeration system is effective at keeping the entire basin mixed and aerated such that there are no dead zones where mixing and oxygen supply is poor. The operation of the jet aeration system is controlled both by the process phases and the oxidation-reduction potential (ORP) in the SBR. A summary of the design conditions is provided in ***Table 5***.

Upon inspection of the physical condition, there is no evidence of hydraulic overloading. The mixed liquor was a medium brown, the aeration patterns were uniform, and the contents appeared to be well-mixed. Operators indicated that the jet aeration system is in good working order. As a possible upgrade, the City would like to replace their current decanters with floating decanters. As part of these upgrades, a catwalk would also be installed between both tanks (connecting the two with a single stairwell). To improve redundancy, the City also aims to purchase a stand-by jet pump motor. The City would also like to replace

their current blowers to improve efficiency and reduce noise. An upgrade of the Fluidyne PLC was recently completed.

Table 5: Existing Biological Process Information			
Component	Description	Component	Description
Manufacturer	Fluidyne	**Aeration System**	
Type	SBR	**Standard Oxygen Requirement (SOR)**	4,729 lb/day
Number of Basins	2	**Air Flow**	933 scfm
Basin Diameter	72 ft	**Blower**	
Side Water Depth (SWD)		**Manufacturer**	Gardner Denver
Minimum	14 ft	**Model No.**	GGDEADA
Maximum	18 ft	**Type**	Positive Displacement
Basin Volume		**Number**	3
Minimum	0.422 MG	**Capacity**	993 scfm/blower
Maximum	0.543 MG	**Pressure**	7.63 psi
Hydraulic Retention Time (HRT)	26 hours	**Horsepower**	60 hp
Mixed Liquor Suspended Solids (MLSS)	2,000 mg/l	**Mixers**	
Wasted Sludge Generation	1,162 lb/day	**Type**	Submersible
Average Decant Rate	2,560 gpm	**Number (per basin)**	1
Decant Duration	47 min	**Horsepower**	30 hp
# Cycles/Day/Time	4.14		
Cycle Time	327 min		

Pre-Filtration Equalization

SBR decant flows by gravity to the pre-filtration tank or filter feed tank (***Figure 9***). The decant rate of 2,560 gpm from the SBR process significantly exceeds the hydraulic loading rate of the plant's filtration system. Additionally, since decant phases are relatively short events, the hydraulic pulsing of the filters, even if sized to accept the decant flow rate, would not be conducive to reliable operation. Therefore, flow equalization of the SBR decant to provide a more uniform hydraulic loading to the filter is required. The use of the filter feed tank allows flows to the filters to regulated to 2-5 gpm/ft^2. The filter feed tank has a capacity of 120,000 gallons.

Flow from the equalization basin is pumped at a controlled rate to the filters with a duplex filter feed pump station (***Figure 10***). A description of these pumps is provided in ***Table 6***. Because the water level in the equalization basin is above the filter inlet, a flow control valve is used on the filter feed pipe line, downstream of the pump station, to prevent uncontrolled siphoning. The pump station is currently limited to on/off operation. The City wishes to replace one of these pumps to improve reliability and add VFDs to improve their efficiency. The City is satisfied with the condition of the tank itself.

Table 6: Filter Feed Pump Information

Description	Pump 1	Pump 2
Manufacturer	Fairbanks Morse	Fairbanks Morse
Model No.	6” D5433WD	6” D5433WD
Type	Centrifugal	Centrifugal
Design Capacity	695 gpm/pump	695 gpm/pump
Design Head	17’ TDH	17’ TDH
Motor	5 hp	5 hp

Figure 9. Pre-filter equalization tank

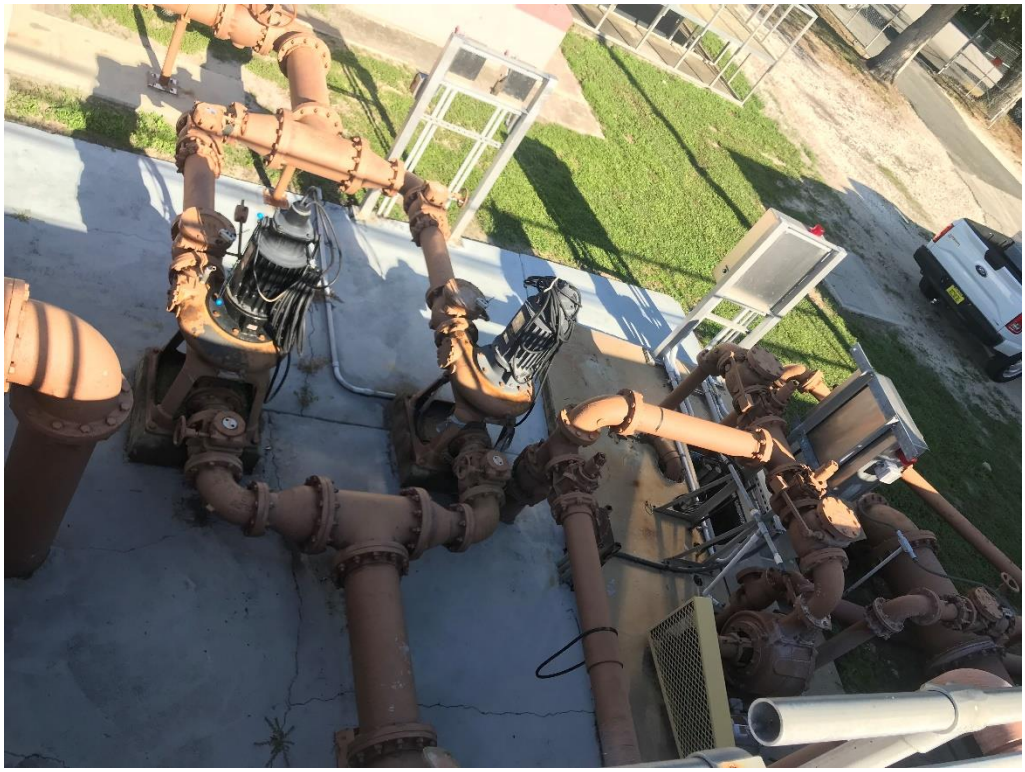


Figure 10. Filter feed transfer pumps

Filtration

The flow from the equalization basin is directed through two disk filters installed within the concrete structure of an abandoned traveling bridge sand filter (***Figure 11***). The flow can be split between the filters using adjustable rectangular weirs at the filter influent trough. Each of the fabric filters has a submerged surface area of 66 square feet and an average flow loading rate of 5.67 gpm/ft^2. An automatic backwash system operates on each of the disc filter assemblies and return the backwash to the headworks of the plant. Filtrate is discharges to the chlorine contact basin for disinfection.

The filters are currently not in use and will require a full rehab to be returned to operation. The City is considering rehabbing the existing filter however, replacement with new filters should be considered in order to meet future capacity requirements. See ***Table 7*** for a detailed description of the existing filters.

Table 7: Existing Filter Information

Description	Filter 1	Filter 2
Type	Kruger Hydrodisc	Kruger Hydrodisc
Model Number	HSF 2204-2F	HSF 2204-2F
Filter Media	Woven Polyester	Woven Polyester
Filter Power Size	10 um	10 um
Total Surface Area	242 ft^2	242 ft^2
Submerged Filter Surface Area	132 ft^2	132 ft^2
Average Hydraulic Loading	5.26 gpm/ ft^2	5.26 gpm/ ft^2
Backwash Rate	20 gpm	20 gpm
Backwash Pump Horsepower	3 hp	3 hp

Figure 11. Hydrodisc Filters

Disinfection - Chlorine Contact Basin

Filtered effluent flows to two chlorine contact chambers with a combined capacity of approximately 17,000 gallons (***Figure 12***). Sodium hypochlorite (NaOCl) is used for disinfection. The chlorine contact basin provides a minimum detention time of 30 minutes at average flow, a CT>25 at peak flow and a residual of 1.2 mg/l.

The chlorine feed system consists of two 800-gallon tanks equipped with two 80 gal/day feed pumps. The NaOCl solution feed rate is based on a solution concentration of 12.5% NaOCl to maintain a 1.2 mg/l target residual. At 0.76 MGD AADF, sodium hypochlorite usage will be 50.7 lb/day.

The chlorine feed system is in good working condition and the effluent is visibly clear. The City wishes to rehab/repaint the contact basin and add baffling to improve contact time.

Figure 12. Chlorine Contact Basin

Effluent Flow Meter

The WRF uses a 90-degree V-notch weir and ultrasonic water level monitor to record effluent flow (***Figure 13***). The flow measurement chamber dimensions upstream of the weir are 14' long by 6' wide and 4' deep. The V-notch weir is 15" high from notch to crest and the ultrasonic water level monitor is located +/- 3 feet upstream of the weir. The measured water level represents the head above the V-notch, which translates to the measured flow rate. The design maximum day flow rate of 1.22 MGD equates to a head of 0.9 feet (10.8 inches) above the V-notch which has a total available head of 1.2 feet (15 inches). There are currently no required improvements to the weir or level monitor.

Figure 13. Effluent V-Notch Weir and Level Indicator

Effluent Pump Station

From the chlorine contact tank and effluent weir, the flow is then directed to an effluent pump station. The purpose of the pump station is to transfer the treated effluent to either the sprayfield holding pond, the Baseline Golf Course holding pond, or the Spruce Creek Golf Course holding pond. The pump station is a duplex submersible station (see ***Table 8*** for pump information). The station has an 8 foot diameter wet well with an operating depth of 6 feet and an overall depth of 11 feet. Pumped flow can be measured using pump elapsed time (ET) meter readings. Flow meters have been installed on the Baseline Golf Course and Spruce Creek Golf Course transmission mains. These calibrated flow meters will serve as the primary measurement of reclaimed water to each disposal site while the ET meter readings remain a back-up.

When the effluent does not meet public access reuse standards for chlorine residual or TSS, the effluent pump station is automatically shut off and the flow is directed to an on-site lined holding pond with a capacity of 0.76 MG. This pond has an over flow to the emergency overflow pond where an additional 0.32 MG capacity is available. Non-public access stored effluent is then pumped to the spray field holding pond (3.48 MG capacity) if it meets spray field quality requirements. If the effluent water does not meet public or non-public access requirements, it cannot be pumped directly from the 0.76 MG holding pond to the headworks. However, if this water overflows to the emergency overflow pond, it can be pumped to the influent lift station for retreatment.

The City has concerns with grit in their effluent lift station and the wear that this may be causing to the current pumps. Solutions for this may include the cleaning/rehab of the 0.76 MG effluent storage pond, to prevent sediment or grit from flowing to the effluent lift station or replacing the current pumps with an alternative style.

Table 8: Effluent Pump Information

Description	Pump 1	Pump 2
Manufacturer	Hydromatic	Hydromatic
Model No.	S4L4000M4.4	S4L4000M4.4
Type	Submersible	Submersible
Design Capacity	900 gpm	900 gpm
Design Head	93’ TDH	93’ TDH
Motor	40 hp	40 hp
Control	Level	Level

Aerobic Digesters

Waste activated sludge (WAS) from the SBRs flows by gravity to a series of tanks for aerobic digestion (***Figure 14***). This series of tanks has a total capacity of 0.193 million gallons. The volume of WAS discharged from each SBR treatment cycle is metered and the WAS line electronic valve closes when the preset WAS discharge volume for the treatment sequence has been achieved. The existing aerobic digester is designed for mixed liquor suspended solids (MLSS) concentration of 15,000 mg/L and solids retention time (SRT) of 40 days. Air is introduced to the WAS mixture through course bubble diffusers. The sludge is aerobically and microbiologically decomposed and stabilized to Class B standards. The stabilized sludge is thickened and transferred to the centrifuge for dewatering with the pumps detailed in (***Table 9***). The decant is pumped to the plant lift station where it is returned to the head of the plant.

The City would like to replace one of their current digester blowers to improve efficiency and increase capacity. The City would also like the replace their WAS valves and actuators.

Table 9: Digested Sludge Pump Information (Centrifuge Feed)

Description	Pump 1	Pump 2
Type	Positive Displacement	Positive Displacement
Design Capacity	50 gpm	50 gpm
Design Head	10’ TDH	10’ TDH
Motor	5 hp	5 hp

Figure 14. Aerobic Digester Tanks

Sludge Dewatering – Centrifuge

Solids from the aerobic digester are transferred to a centrifuge with positive displacement pumps (***Table 9***). The WRF currently utilizes a Pieralisi Model FP 600 RS/M centrifuge with polymer addition (***Figure 15***) to dewater biosolids to a solids content of approximately 15%. The centrifuge has a feed rate capacity of 33 gpm and currently operates and average of 23 hours per week. The dewatered solids are transferred into an onsite dumpster and then hauled to the Marion County Baseline landfill. As this landfill will be closing within the next 3 years, alternative disposal methods will need to be consider.

The WRF currently includes sand drying beds as a back-up dewatering system (***Figure 16***). As improvements are made to the site, the City wishes to remove this infrastructure as well as adjacent unused tankage to prepare for future expansion (***Figure 17***).

Figure 15. Pieralisi Centrifuge

Figure 16. Existing Sand Drying Beds (to be demolished)

Figure 17. Existing Unused Tankage (to be demolished)

Miscellaneous Site and Electrical Improvements

During this evaluation, several miscellaneous projects were identified as being required or requested by the City. This includes the expansion of the on-site laboratory. Design for this project is complete and the City is proceeding with construction. In conjunction with the expansion of the laboratory, the City plans to demolish an existing circular concrete slab (previously a tank foundation). They would also like to coat all existing piping.

If financially feasible, the City would like to complete a full electrical rewiring of the plant. This is supported by safety concerns surrounding unidentified live wires. During this process the City would like to add electrical outlets to the digester walkways and move the existing high voltage breakers out of the WRF office.

Capital Improvement Summary

Following the condition assessment of the existing WRF, the improvements summarized in **Table 10** were identified. The improvements in **bold** are required to meet the current capacity of the WRF or class I reliability. All other improvements were requested by the City for improved operation and maintenance. **Figure 18** identifies each component with an identified improvement. It is expected that the required improvements will cost $970.000. The optional improvements will cost an additional $1,600,000. A detailed cost opinion is provided as ***Appendix D***.

Table 10: Improvements to Existing WRF

Component	Improvement
Manual Bar Screens	Remove all infrastructure associate with bar screens and replace with new influent piping to the Influent Lift Station
Influent Lift Station	**Rehab the existing pumps (currently not pumping at their rated capacity)**
Emergency Overflow Pond	**Repair hydrostatic walls and replace 2 of 4 sump pumps**
Static Screen	Do Nothing
Rotary Drum Screen	Do Nothing
Biological Process	
Sequencing Batch Reactor Tankage	Add Catwalk
SBR Blowers	Upgrade
SBR Mixers	**Purchase uninstalled backup motor**
PLC	Do Nothing
Pre-Filtration Equalization Basin	Upgrade filter feed pumps and add VFDs
Filters	Rehab existing filters or replace with new (recommended to size new filters for site build-out) – REHAB IN PROGRESS
Disinfection	
Chlorine Contact Basin	Repaint and add baffling
Chlorine Dosing System	Do Nothing
Aerobic Digester	Replace one of existing blowers and replace WAS valves and actuators.
Sludge Dewatering - Centrifuge	Do Nothing
Sludge Dewatering – Sand Drying Beds	Demolish
Plant Lift Station	Do Nothing
Effluent Pump Station	**Replace existing pumps**
Effluent Disposal	Do Nothing
Wet Weather Storage	Do Nothing
Reject Storage	**Clean and Rehab**
Electrical	Rewire WRF
Miscellaneous	Demolish circular concrete pad and tanks adjacent to lab/office building

CITY OF BELLEVIEW WRF FACILITY PLAN

Existing Condition

- Demo
- Modify/Upgrade
- New

Feet
0 25 50

FIGURE 18
EXISTING CONDITION IMPROVEMENTS

Kimley»Horn

FUTURE CONSIDERATIONS

Service Area

The City of Belleview, in accordance with State Statute Chapter 180, established a water and sanitary sewer service territory (by City Ordinance 96-10) that generally extends 5 miles beyond the City limits. The City limits comprise approximately 3.8 square miles. The City's service area comprises approximately 27 square miles. From north to south, the service area extends from the Baseline Landfill to SE 135th Street. From east to west, the service area extends from the Belleview Library to the Green Meadows subdivision. All future septic to sewer projects and developments are contained within the City's existing service area.

Methodology for Estimating Sewer Flows

A detailed explanation of the methodology for estimating sanitary sewer flows can be found in the City of Belleview Master Plan, prepared by Kimley-Horn. In summary, the increase in demands within the City's service area were classified as:

1. Existing and Infill Demands - growth within the areas currently served by the City where new connections will be made to the existing utility system. Infill demands were classified as *unoccupied* parcels located within 200 feet of existing utility infrastructure.
2. Expansion Demands - increased demands from the physical expansion of the utility system to bring currently non-served customers onto the network. This expansion can be driven by new development where customers along the expansion route may also be served.
3. Septic to Sewer Demands – selected regions of high population density, currently using septic tanks for sanitary sewer disposal, were identified as target areas for septic to sewer conversion projects. These areas are referred to as regions 1-11. The City has planned to seek funding for septic to sewer project in region 1-6 to further the initiatives set forth in the 2018 Silver Springs Basin Management Action Plan. These projects are predicated by the receipt of funding from the FDEP, SJRWMD, and others. Regions 7-11 were identified as areas of high-density within the utility service area that may be served as part of the build-out of the sanitary sewer collection system

A map identifying each demand type by parcel is provided as ***Figure 19***.

The projection of these demands was linked to population and land use. The service area was separated into four major land use categories: 1) residential and rural land, 2) commercial and industrial, 3) known future developments, and 4) septic to sewer. Where possible, billing data provided by the City was used to determine the sanitary sewer demand for parcels with a residential or commercial land use designation. When billing data was not available, population growth in residential and rural land areas was quantified by spatially allocating the estimated population per parcel in the existing or proposed service area for each planning period (5, 10, or 20 years). The population projections for the City's service area were based on the *Small-Area Population Projection Methodology provided by Southwest Florida Water Management District (SWFWMD)* (2014). Commercial and Industrial projections were calculated using the 2017 Marion County Comprehensive Plan max floor to area ratio (FAR) to determine the max building square footage available on each parcel. The max FAR was then multiplied by the area of the parcel and by the annual average commercial demand of 0.145 gpd per sqft (half of the commercial water demand). Future demands were based on development projections provided by the City of Belleview Public Works Department. The future demands were then calculated by multiplying the Marion County level of service by the projected development equivalent residential units (ERU), unless otherwise specified by the City. Septic to Sewer demands were based on the estimated number of parcels that are planned to be converted from septic to

sewer. These values were calculated as part of a Septic to Sewer Planning Study completed by Kimley-Horn. The projected number of parcels were then multiplied by the Marion County Land Development Code sanitary sewer level of service (200 gpd/ERU).

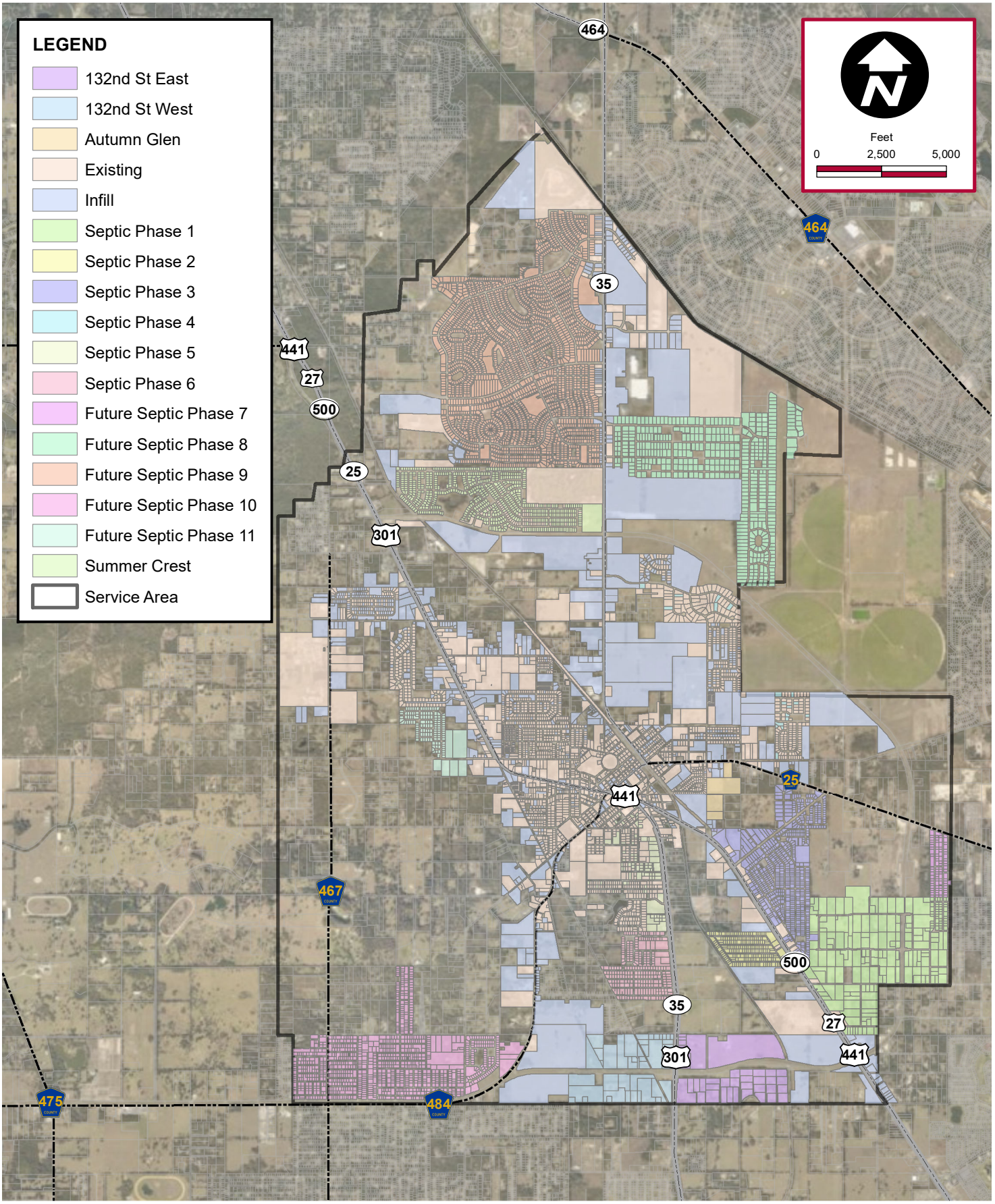
Projected Flows and Expansion Alternatives Analysis

Future sanitary sewer demands were estimated using the methodology previously discussed. A detailed description of these projected demands is provided in Kimley-Horn's City of Belleview Master Plan. For the purposes of planning the expansion of the City of Belleview's WRF, the projected demands were considered on an annual basis. A summary of these demand projections is provided as ***Appendix C.*** To better plan for future WRF expansion the projected demands were categorized into three different scenarios. Scenario A considers the projected flow to the WRF if the City *does not* proceed with any septic to sewer projects. Scenario B considers the projected flow to the WRF if the City proceeds with only the planned septic to sewer projects in regions 1-6. Scenario C considers the projected flow to the WRF if the City continues their septic to sewer initiative to include everything within regions 1-11.

The timing of the expansion of the WRF under each of these scenarios was established to comply with the requirements outlined in the Florida Administrative Code (FAC). FAC Section 62-600.405(8) Planning for Wastewater Facilities states that:

> (8) Documentation of timely planning, design, and construction of needed expansions shall be submitted according to the following schedule:
>
> (a) If the initial capacity analysis report or an update of the capacity analysis report documents that the permitted capacity will be equaled or exceeded within the next five years, the report shall include a statement, signed and sealed by a professional engineer registered in Florida, that planning and preliminary design of the necessary expansion have been initiated.
>
> (b) If the initial capacity analysis report or an update of the capacity analysis report documents that the permitted capacity will be equaled or exceeded within the next four years, the report shall include a statement, signed and sealed by an engineer registered in Florida, that plans and specifications for the necessary expansion are being prepared.
>
> (c) If the initial capacity analysis report or an update of the capacity analysis report documents that the permitted capacity will be equaled or exceeded within the next three years, the permittee shall submit a complete permit application for the necessary expansion to the Department within 30 days of submittal of the capacity analysis report.

When evaluating the capacity of each WRF component, a peak hour factor (PHF) of 4 was used for influent flows and an equalized flow factor of 2 was used for flows that have been equalized through the treatment process.



K:\OCA_Utilities\Belleview\Projects\042223012 - Utility System Master Plan\doc\Facility Plan\GIS\Figure 19 - DEMAND TYPES.mxd - 2/13/2019 2:12:33 PM - Cara.Keller

Kimley»Horn

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Phone: (352) 438-3000
www.kimley-horn.com CA 00000696

DEMAND SUMMARY

WRF FACILITY PLAN
CITY OF BELLEVIEW, FLORIDA

Scale: As Noted	Project No.: 042223012	February 2019	Figure 19

Scenario A – No Septic to Sewer

Scenario A evaluates the required expansion of the WRF if the City does not move forward with any septic to sewer projects. ***Figure 20*** provides the projected flow to the WRF under Scenario A and indicates that the WRF is not expected to exceed its permitted capacity (0.76 MGD AADF) until 2036. As described in FAC 62-600.405(8), the City will be required to initiate planning and preliminary design for expansion in 2031, begin design in 2032 and apply for an expansion permit in 2033.

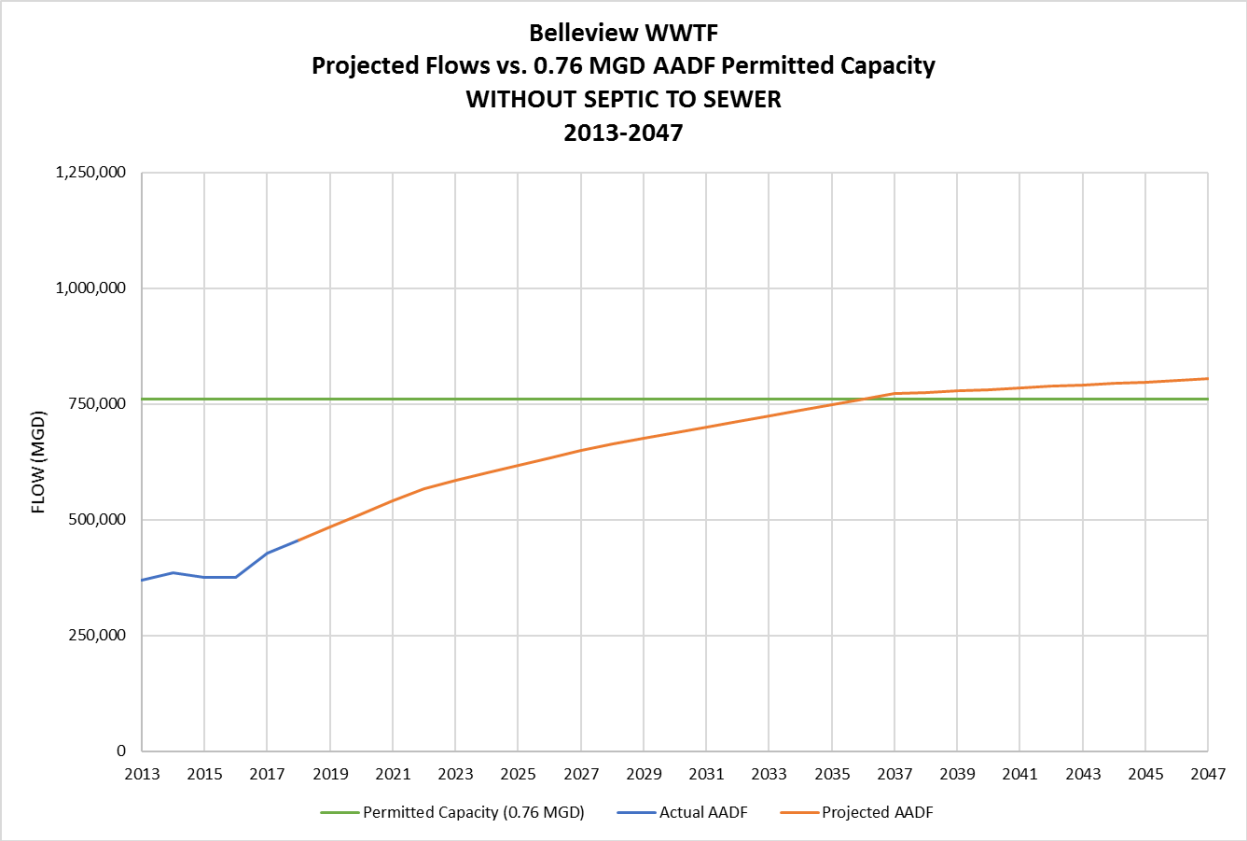

Figure 20. Scenario A 30-year demand projections without septic to sewer

To meet the projected sanitary sewer demands for the next 30 years, it is recommended that the City rerate the existing WRF to 0.8 MGD. When evaluating each components capacity, a peak hour flow of 2,233 gpm and an equalized flow of 1,117 gpm were considered. Rerating the WRF will require some capacity improvements to various components, as outlined in ***Table 11***. This summary assumes that all upgrades and improvements that are currently required, or requested, have been completed. Where "Do Nothing" is listed next to a component, this indicates that a preliminary evaluation suggests that the component will have sufficient capacity for rerating. A proposed layout of the plant, highlighting each improvement, is provided as ***Figure 21***.

It is expected that rerating the WRF to 0.8 MGD will cost $1,000,000. A detailed cost opinion is provided as ***Appendix E***.

Table 11: Required Improvements to Rerate to 0.8 MGD	
Component	Improvement
Influent Lift Station	Upgrade impellers to accommodate increase influent flow
Static Screen	Do Nothing
Rotary Drum Screen	Do Nothing
Biological Process	
Sequencing Batch Reactor Tankage	Rerate - capacity is sufficient though limited rehab of the existing SBR components will likely be required
SBR Blowers	Upgrade to increase capacity
SBR Mixers	Do Nothing
Pre-Filtration Equalization Basin	Do Nothing
Filter Feed Pumps	Replace both filter feed pumps. New pumps should have a capacity of 1200 gpm/pump
Filters	Rehab existing filters or replace with two 850 gpm filters – REHAB IN PROGRESS
Disinfection	
Chlorine Contact Basin	Rerate
Chlorine Dosing System	Do Nothing
Aerobic Digester	Do Nothing
Sludge Dewatering - Centrifuge	Do Nothing
Plant Lift Station	Replace or upgrade existing pumps
Effluent Pump Station	Upgrade existing pumps
Effluent Disposal	Do Nothing
Wet Weather Storage	Do Nothing
Reject Storage	Do Nothing

CITY OF BELLEVIEW WWTF FACILITY PLAN

Scenario A

- Demo
- Modify/Upgrade
- New

N

Feet

0 25 50

FIGURE 21
SCENARIO A
IMPROVEMENTS

Kimley»Horn

Scenario B – Septic to Sewer Regions 1-6

Should the City proceed with septic to sewer projects in regions 1-6, assuming that the current schedule of competition is maintained, the WRF is expected to exceed capacity in 2024 (***Figure 22***). As described in FAC 62-600.405(8), the City will be required to initiate planning and preliminary design in 2019, begin design in 2020 and apply for an expansion permit in 2021. The plant expansion will occur in two phases. The first phase will involve a rerate of the plant to accommodate the flows expected in 2024 (summarized under Scenario A). The second phase of expansion will increase capacity to 1.2 MGD. This phase will require planning to start in 2026 with design beginning in 2027, a permit application for expansion submitted in 2028, and the expansion completed by 2031. Using this two-phase approach will allow for the City to financially plan for the expansion over the next 13 years.

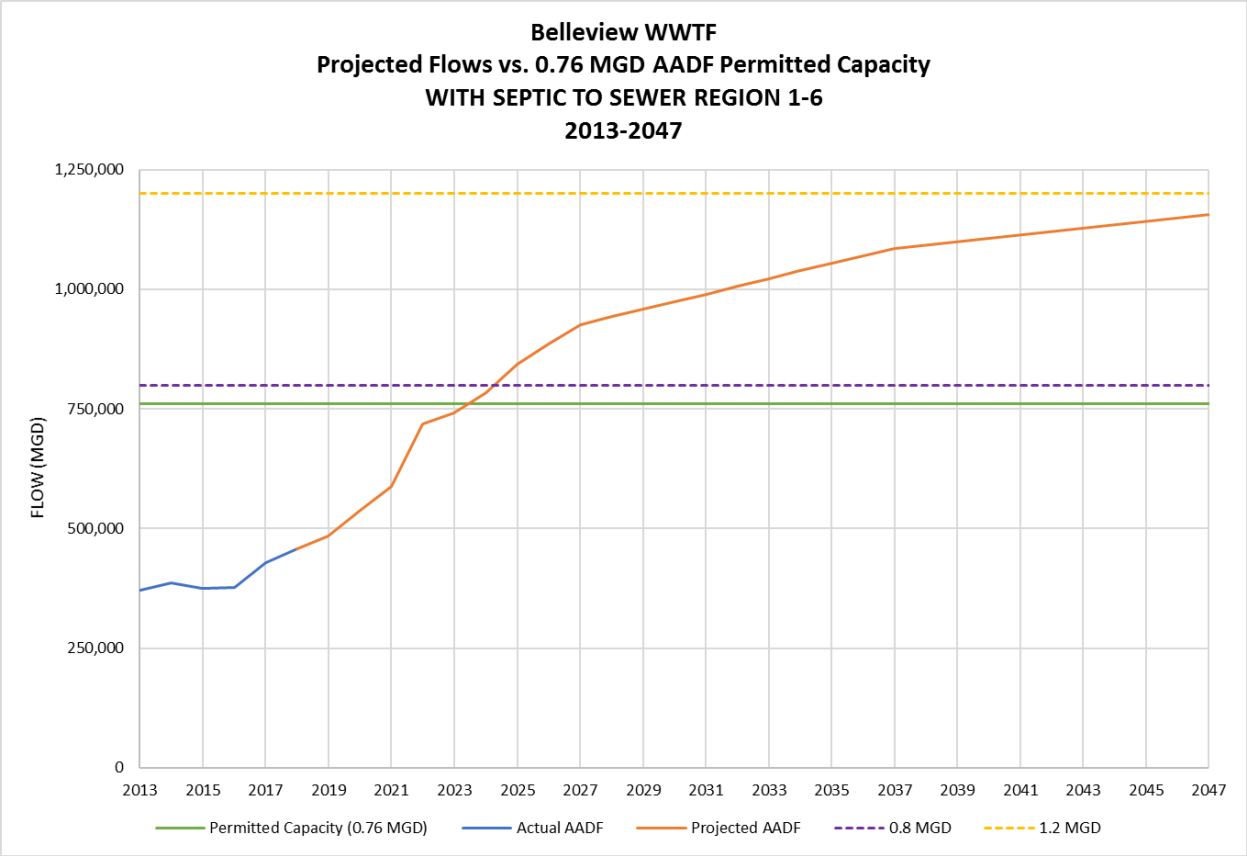

Figure 22. Scenario B 30-year demand projections with septic to sewer expansions to regions 1-6

As required by several funding agencies, three various expansion alternatives were considered. Alternative 1 focuses on the expansion of the plant through the addition of SBR tanks. Alternative 2 requires a conversion from the SBR treatment process to oxidation ditches with secondary clarifiers. Alternative 3 requires a conversion from the SBR treatment process to a membrane bioreactor (MBR) process.

Scenario B Alternative 1

While all three alternatives were considered, the City's preference is to move forward with the expansion of the plant using the existing SBR process. ***Table 12*** summarizes the required upgrades to each WRF component to increase the overall design capacity to 1.2 MGD assuming the WRF has been rerated to 0.8 MGD and improved as described under Scenario A. When evaluating each components capacity, a peak hour flow of 2,233 gpm and an equalized flow of 1,117 gpm were considered. The proposed layout of this expansion is provided as ***Figure 23***.

It is expected that expanding the plant to 1.2 MGD with an SBR process will cost $12,670,000. A detailed cost opinion is provided as ***Appendix F***.

Table 12: Required Improvements to Expand SBR Process to 1.2 MGD

Component	Improvement
Influent Lift Station	Replace all three pumps. Each new pump should have a minimum design capacity of 1,611 gpm.
Static Screen	Replace with second drum screen with 2,083 gpm hydraulic loading capacity
Rotary Drum Screen	Do Nothing
Biological Process	
Sequencing Batch Reactor Tankage	Add a new 0.4 MGD SBR Tank (resulting in 3 total)
SBR Blowers	Add 4th blower to meet class I reliability requirements
SBR Mixers	New mixer to be included with new SBR tank
Pre-Filtration Equalization Basin	Demolish and construct new 200,000-gallon tank
Filter Feed Pumps	Replace both filter feed pumps. New pumps should have a capacity of 1611 gpm/pump.
Filters	Replace with two 1,200 gpm filters
Disinfection	
Chlorine Contact Basin	Convert existing filter tanks to CCB when filters are replaced
Chlorine Dosing System	Expand storage and pumping capacity
Aerobic Digester	Demolish existing digester tankage and construct two new 200,000-gallon tanks
Sludge Dewatering - Centrifuge	Increase run time
Plant Lift Station	Demolish and install new station (increase capacity of wet well and pumps)
Effluent Pump Station	Demolish and install new station (increase capacity of wet well and pumps)
Effluent Disposal	
Wet Weather Storage	Construct onsite holding pond to serve as flex wet weather or reject storage
Reject Storage	

CITY OF BELLEVIEW WWTF FACILITY PLAN

Scenario B Alternative 1

- Demo
- Modify/Upgrade
- New

N

Feet

0 25 50

FIGURE 23
SCENARIO B ALT 1
IMPROVEMENTS

Kimley»Horn

Scenario B Alternative 2

The second alternative considered requires the conversation from an SBR process to an oxidation ditch with secondary clarifiers ***Table 13*** summarizes the required upgrades to each WRF component to increase the overall design capacity to 1.2 MGD assuming the WRF has been rerated to 0.8 MGD and improved as described under Scenario A. When evaluating each components capacity, a peak hour flow of 2,233 gpm and an equalized flow of 1,117 gpm were considered. The proposed layout of this expansion is provided as ***Figure 24***.

It is expected that expanding the plant to 1.2 MGD with an oxidation ditch process will cost $14,425,000. A detailed cost opinion is provided as ***Appendix G***.

Table 13: Required Improvements to Expand Oxidation Ditch Process to 1.2 MGD

Component	Improvement
Influent Lift Station	Replace all three pumps. Each new pump should have a minimum design capacity of 1,611 gpm.
Static Screen	Replace with second drum screen with 2,083 gpm hydraulic loading capacity
Rotary Drum Screen	Do Nothing
Biological Process	
Oxidation Ditch	Add one new 1.2 MGD Oxidation Ditch
Clarifiers	Add two new 60’ diameter clarifiers (0.9 MGD capacity each)
Pre-Filtration Equalization Basin	Do Nothing
Filter Feed Pumps	Replace both filter feed pumps. New pumps should have a capacity of 1,611 gpm/pump.
Filters	Replace with two 1,200 gpm filters
Disinfection	
Chlorine Contact Basin	Convert existing filter tanks to CCB when filters are replaced
Chlorine Dosing System	Expand storage and pumping capacity
Aerobic Digester	Convert previous SBR tanks to aerobic digesters
Sludge Dewatering - Centrifuge	Increase run time
Plant Lift Station	Demolish and install new station (increase capacity of wet well and pumps)
Effluent Pump Station	Demolish and install new station (increase capacity of wet well and pumps)
Effluent Disposal	
Wet Weather Storage	Construct onsite holding pond to serve as flex wet weather or reject storage
Reject Storage	

CITY OF BELLEVIEW WWTF FACILITY PLAN

Scenario B Alternative 2

- Demo
- Modify/Upgrade
- New

N

Feet

0 25 50

FIGURE 24
SCENARIO B ALT 2
IMPROVEMENTS

Kimley»Horn

Scenario B Alternative 3

The third alternative considered requires the conversation from an SBR process to a MBR process. ***Table 14*** summarizes the required upgrades to each WRF component to increase the overall design capacity to 1.2 MGD assuming the WRF has been rerated to 0.8 MGD and improved as described under Scenario A. When evaluating each components capacity, a peak hour flow of 2,233 gpm and an equalized flow of 1,117 gpm were considered. The proposed layout of this expansion is provided as ***Figure 25***.

It is expected that expanding the plant to 1.2 MGD with an MBR process will cost $13,420,000. A detailed cost opinion is provided as ***Appendix H***.

Table 14: Required Improvements to Expand Oxidation MBR to 1.2 MGD

Component	Improvement
Influent Lift Station	Replace all three pumps. Each new pump should have a minimum design capacity of 1,611 gpm.
Static Screen	Replace with second drum screen with 2,083 gpm hydraulic loading capacity
Rotary Drum Screen	Do Nothing
Biological Process	
4-Stage Bardenpho Process	Partition one existing SBR tank to include an anaerobic basin, pre-anoxic basin, pre-aeration basin, and post anoxic basin
Membrane Basin	Add two 30,000-gallon tanks with blowers
Pre-Filtration Equalization Basin	Demolish
Filter Feed Pumps	Remove (not needed with MBR process)
Filters	Remove (not needed with MBR process)
Disinfection	
Chlorine Contact Basin	Convert existing filter tanks to CCB when filters are removed
Chlorine Dosing System	Expand storage and pumping capacity
Aerobic Digester	Convert Filter Feed to Digester
Sludge Dewatering - Centrifuge	Increase run time
Plant Lift Station	Demolish and install new station (increase capacity of wet well and pumps)
Effluent Pump Station	Demolish and install new station (increase capacity of wet well and pumps)
Effluent Disposal	
Wet Weather Storage	Construct onsite holding pond to serve as flex wet weather or reject storage
Reject Storage	

CITY OF BELLEVIEW WWTF FACILITY PLAN

Scenario B Alternative 3

- Demo
- Modify/Upgrade
- New

N

Feet

0 25 50

FIGURE 25
SCENARIO B ALT 3
IMPROVEMENTS

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Scenario C – Septic to Sewer Regions 7-11

The City has identified five additional potential septic to sewer regions that are anticipated to be completed as part of the full build-out of the City's service area: regions 7-11. For planning purposes, these regions are assumed to be served by the City in 2047. It is assumed that septic to sewer projects in regions 1-6 will have been completed by 2025. The WRF is expected to exceed capacity in 2024 (***Figure 26***). The plant expansion will occur in three phases. The first phase will involve a rerate of the plant to accommodate the flows expected in 2024 (summarized under Scenario A). The second phase of expansion will increase capacity to 1.35 MGD. This phase will require planning to start in 2021 with design beginning in 2022, a permit application for expansion submitted in 2023 and the expansion completed by 2026. The third phase of expansion will increase capacity to 1.8 MGD. This phase will require planning to start in 2031 with design beginning in 2032, a permit application for expansion submitted in 2033, and the expansion completed by 2036. Using this three-phase approach will allow for the City to financially plan for the expansion over the next 18 years.

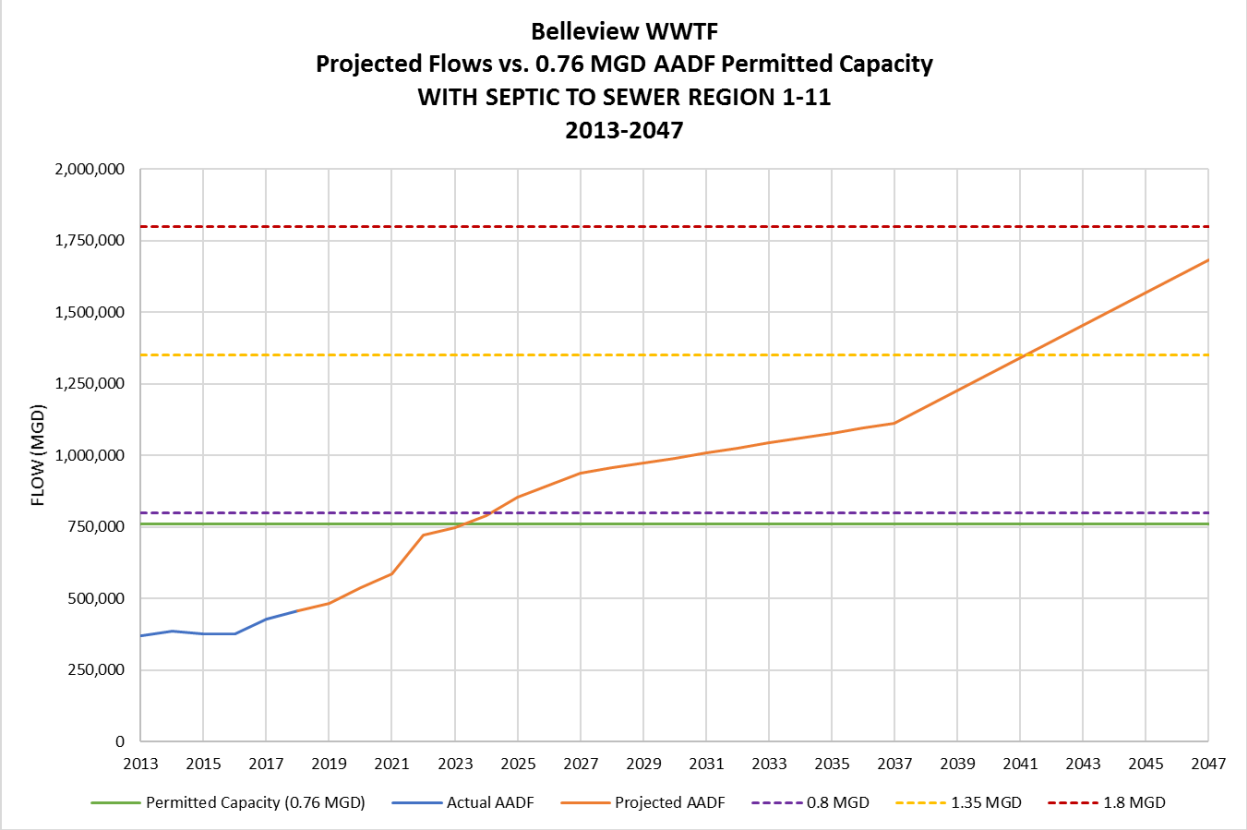

Figure 26. 30-year demand projections with septic to sewer expansions to regions 1 through 11

As required by several funding agencies, three various expansion alternatives were considered. Alternative 1 focuses on the expansion of the plant through the additional of additional SBR tanks. Alternative 2 requires a conversion from the SBR treatment process to oxidation ditches with secondary clarifiers. Alternative 3 requires a conversion from the SBR treatment process to a membrane bioreactor (MBR) process.

Scenario C Alternative 1

While all three alternatives were considered, the City's preference is to move forward with the expansion of the plant using the existing SBR process. ***Table 15*** summarizes the required upgrades to each WRF component to increase the overall design capacity to 1.35 MGD, and then 1.8 MGD, assuming the WRF has been rerated to 0.8 MGD and improved as described under Scenario A. It also assumed that these expansions will happen in sequence. When evaluating each component to treat a design capacity of 1.35 MGD, a peak hour flow of 3,750 gpm and an equalized flow of 1,875 gpm were considered. When evaluating each component to treat a design capacity of 1.8 MGD, a peak hour flow of 4,667 gpm and an equalized flow of 2,333 gpm were considered. The proposed layout of this expansion is provided as ***Figure 27***.

It is expected that expanding the plant to 1.35 MGD, and then 1.8 MGD with an SBR process will cost $17,030,000. A detailed cost opinion is provided as ***Appendix I***.

Table 15: Required Improvements to Expand SBR Process to 1.35 MGD and 1.8 MGD		
Component	Improvements for 1.35 MGD	Improvements for 1.8 MGD
Influent Lift Station	Replace all three pumps. Each new pump should have a minimum design capacity of 1,875 gpm.	Demolish and install new station (increase capacity of wet well and pumps). Each new pump should have a minimum design capacity of 2,333 gpm.
Static Screen	Replace with second drum screen with 2,583 gpm hydraulic loading capacity	Do Nothing
Rotary Drum Screen	Do Nothing	Do Nothing
Biological Process		
Sequencing Batch Reactor Tankage	Add a new 0.45 MGD SBR Tank (resulting in 3 total)	Add a new 0.45 MGD SBR Tank (resulting in 4 total)
SBR Blowers	Add 4th blower to meet class I reliability requirements	Add 5th blower to meet class I reliability requirements
SBR Mixers	New mixer to be included with new SBR tank	New mixer to be included with new SBR tank
Pre-Filtration Equalization Basin	Demolish and construct new 200,000-gallon tank	Do Nothing
Filter Feed Pumps	Replace both filter feed pumps. New pumps should have a capacity of 1,250 gpm/pump.	Add third filter feed pump. New pump should have a capacity of 1,250 gpm/pump.
Filters	Replace with two 1,750 gpm filters	Do Nothing
Disinfection		
Chlorine Contact Basin	Convert existing filter tanks to CCB when filters are replaced	Do Nothing
Chlorine Dosing System	Expand storage and pumping capacity	Do Nothing
Aerobic Digester	Demolish existing digester tankage and construct two new 200,000-gallon tanks	Add third 200,000-gallon tank
Sludge Dewatering - Centrifuge	Increase run time	Purchase new centrifuge
Plant Lift Station	Demolish and install new station (increase capacity of wet well and pumps)	Do Nothing
Effluent Pump Station	Demolish and install new station (increase capacity of wet well and pumps)	Do Nothing
Effluent Disposal		
Wet Weather Storage	Construct onsite holding pond to serve as flex wet weather or reject storage	Do Nothing
Reject Storage		

CITY OF BELLEVIEW WWTF FACILITY PLAN

Scenario C Alternative 1

- Demo
- Modify/Upgrade
- New

Feet
0 25 50

FIGURE 27
SCENARIO C ALT 1
IMPROVEMENTS

Kimley»Horn

Scenario C Alternative 2

The second alternative considered requires the conversation from an SBR process to an oxidation ditch with secondary clarifiers. This process technology does not facilitate a phased expansion as the schedule would require construction of each phase to directly follow each other. For this reason, a single expansion to 1.8 MGD was evaluated. ***Table 16*** summarizes the required upgrades to each WRF component to increase the overall design capacity to 1.8 MGD, assuming the WRF has been rerated to 0.8 MGD and improved as described under Scenario A. When evaluating each component to treat a design capacity of 1.8 MGD, a peak hour flow of 4,667 gpm and an equalized flow of 2,333 gpm were considered. The proposed layout of this expansion is provided as ***Figure 28***.

It is expected that expanding the plant to 1.35 MGD, and then 1.8 MGD with an oxidation ditch process will cost $20,230,000. A detailed cost opinion is provided as ***Appendix J***.

Table 16: Required Improvements to Expand Oxidation Ditch Process to 1.8 MGD

Component	Improvement
Influent Lift Station	Demolish and install new station (increase capacity of wet well and pumps). Each new pump should have a minimum design capacity of 2,333 gpm.
Static Screen	Replace with second drum screen with 2,583 gpm hydraulic loading capacity
Rotary Drum Screen	Do Nothing
Biological Process	
Oxidation Ditch	Add one new 1.8 MGD Oxidation Ditch
Clarifiers	Add two new 65’ diameter clarifiers (0.9 MGD capacity each)
Pre-Filtration Equalization Basin	Do Nothing
Filter Feed Pumps	Replace both filter feed pumps and add a third. New pumps should have a capacity of 1,250 gpm/pump.
Filters	Replace with two 1,750 gpm filters
Disinfection	
Chlorine Contact Basin	Convert existing filter tanks to CCB when filters are replaced
Chlorine Dosing System	Expand storage and pumping capacity
Aerobic Digester	Convert previous SBR tanks to aerobic digesters
Sludge Dewatering - Centrifuge	Purchase new centrifuge
Plant Lift Station	Demolish and install new station (increase capacity of wet well and pumps)
Effluent Pump Station	Demolish and install new station (increase capacity of wet well and pumps)
Effluent Disposal	
Wet Weather Storage	Construct onsite holding pond to serve as flex wet weather or reject storage
Reject Storage	

CITY OF BELLEVIEW WWTF FACILITY PLAN

Scenario C Alternative 2

- Demo
- Modify/Upgrade
- New

N

Feet

0 25 50

FIGURE 28
SCENARIO C ALT 2
IMPROVEMENTS

Kimley»Horn

Scenario C Alternative 3

The third alternative considered requires the conversation from an SBR process to a MBR process. ***Table 17*** summarizes the required upgrades to each WRF component to increase the overall design capacity to 1.35 MGD, and then 1.8 MGD, assuming the WRF has been rerated to 0.8 MGD and improved as described under Scenario A. When evaluating each components capacity, a peak hour flow of 2,233 gpm and an equalized flow of 1,117 gpm were considered. When evaluating each component to treat a design capacity of 1.35 MGD, a peak hour flow of 3,750 gpm and an equalized flow of 1,875 gpm were considered. When evaluating each component to treat a design capacity of 1.8 MGD, a peak hour flow of 4,667 gpm and an equalized flow of 2,333 gpm were considered. The proposed layout of this expansion is provided as ***Figure 29***.

It is expected that expanding the plant to 1.35 MGD, and then 1.8 MGD with an MBR process will cost $17,190,000. A detailed cost opinion is provided as ***Appendix K***.

Table 17: Required Improvements to Expand Oxidation MBR to 1.35 MGD and 1.8 MGD		
Component	Improvements for 1.35 MGD	Improvements for 1.8 MGD
Influent Lift Station	Replace all three pumps. Each new pump should have a minimum design capacity of 1,611 gpm.	Demolish and install new station (increase capacity of wet well and pumps). Each new pump should have a minimum design capacity of 2,333 gpm.
Static Screen	Replace with second drum screen with 2,583 gpm hydraulic loading capacity	Do Nothing
Rotary Drum Screen	Do Nothing	Do Nothing
Biological Process		
4-Stage Bardenpho Process	Partition both existing SBR tanks to include an anaerobic basin, pre-anoxic basin, pre-aeration basin, and post anoxic basin	Do Nothing
Membrane Basin	Add two 46,000-gallon tanks with blowers	Add additional membranes as needed
Pre-Filtration Equalization Basin	Demolish	Do Nothing
Filter Feed Pumps	Remove (not needed with MBR process)	Do Nothing
Filters	Remove (not needed with MBR process)	Do Nothing
Disinfection		
Chlorine Contact Basin	Convert existing filter tanks to CCB when filters are removed	Do Nothing
Chlorine Dosing System	Expand storage and pumping capacity	Do Nothing
Aerobic Digester	Convert Filter Feed to Digester	Do Nothing
Sludge Dewatering - Centrifuge	Increase run time	Purchase new centrifuge
Plant Lift Station	Demolish and install new station (increase capacity of wet well and pumps)	Do Nothing
Effluent Pump Station	Demolish and install new station (increase capacity of wet well and pumps)	Do Nothing
Effluent Disposal		
Wet Weather Storage	Construct onsite holding pond to serve as flex wet weather or reject storage	Do Nothing
Reject Storage		

CITY OF BELLEVIEW WWTF FACILITY PLAN

Scenario C Alternative 3

- Demo
- Modify/Upgrade
- New

Feet
0 25 50

FIGURE 29
SCENARIO C ALT 3
IMPROVEMENTS

Kimley»Horn

APPENDICES

APPENDIX A:
FDEP PERMIT FLA010678

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
CENTRAL DISTRICT
3319 MAGUIRE BOULEVARD, SUITE 232
ORLANDO, FLORIDA 32803

NOTICE OF PERMIT ISSUANCE

Bruce Phillips, Public Works Director
City of Belleview
5343 SE Abshier Blvd
Belleview FL 34420
bphillips@belleviewfl.org / smckamey@belleviewfl.org

Re: Marion County - DW
Belleview WWTF
Wastewater Permit
File Number: FLA010678-007-DW1P

Enclosed is Permit Number FLA010678 to operate a domestic wastewater facility issued under Section(s) 403.087 and 403.0885 of the Florida Statutes.

Monitoring requirements under this permit are effective on the first day of the second month following the effective date of the permit. Until such time, the permittee shall continue to monitor and report in accordance with previously effective permit requirements, if any.

The Department's proposed agency action shall become final unless a timely petition for an administrative hearing is filed under sections 120.569 and 120.57 of the Florida Statutes before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received by the clerk) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000.

Petitions by the applicant or any of the parties listed below must be filed within fourteen days of receipt of this written notice. Petitions filed by any persons other than those entitled to written notice under section 120.60(3) of the Florida Statutes must be filed within fourteen days of publication of the notice or within fourteen days of receipt of the written notice, whichever occurs first.

Under section 120.60(3) of the Florida Statutes, however, any person who has asked the Department for notice of agency action may file a petition within fourteen days of receipt of such notice, regardless of the date of publication.

The petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under sections 120.569 and 120.57 of the Florida Statutes. Any subsequent intervention (in a proceeding initiated by another party) will be only at the discretion of the presiding officer upon the filing of a motion in compliance with rule 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information:

(a) The name, address, and telephone number of each petitioner; the name, address, and telephone number of the petitioner's representative, if any; the Department permit identification number and the county in which the subject matter or activity is located;
(b) A statement of how and when each petitioner received notice of the Department action;
(c) A statement of how each petitioner's substantial interests are affected by the Department action;
(d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
(e) A statement of facts that the petitioner contends warrant reversal or modification of the Department action;
(f) A concise statement of the ultimate facts alleged, as well as the rules and statutes which entitle the petitioner to relief; and
(g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wants the Department to take.

A petition that does not dispute the material facts on which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by rule 28-106.301.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the Department have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation under section 120.573 of the Florida Statutes is not available for this proceeding.

This action is final on the date filed with the Clerk of the Department unless a petition is filed in accordance with the above. Upon the timely filing of a petition this order will not be effective until further order of the Department.

Any party to the order has the right to seek judicial review of the order under section 120.68 of the Florida Statutes, by the filing of a notice of appeal under rule 9.110 of the Florida Rules of Appellate Procedure with the Clerk of the Department in the Office of General Counsel, Mail Station 35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000; and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice of appeal must be filed within 30 days from the date when the final order is filed with the Clerk of the Department.

Executed in Orlando, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Christianne C. Ferraro, P.E.
Administrator
Water Permitting Program
3319 Maguire Boulevard, Suite 232
Orlando, FL 32803-3767

Filed, on this date, pursuant to Section 120.52, F.S., with the designated Department Clerk, receipt of which is hereby acknowledged.

Clerk September 10, 2014
Date

CCF/crl/cs

Enclosures: Permit, DMR, Pathogen Monitoring and SOB

Copies furnished to:
David Smicherko, DEP CAP (via email)
Anil Desai, DEP Groundwater (via email)
Shabbir Rizvi, DEP WW (via email)
Ed Abshier, PE (via email: ed@abshiereng.com)
Daniel Dooley, Marion County Health Dept (Daniel.Dooley@FlHealth.gov)
Charles LeGros, DEP WW (via email)

CERTIFICATE OF SERVICE

This is to certify that this NOTICE OF PERMIT ISSUANCE and all copies were emailed before close of business on September 10, 2014 to the listed persons, by _____.

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

CENTRAL DISTRICT
3319 MAGUIRE BOULEVARD, SUITE 232
ORLANDO, FLORIDA 32803

RICK SCOTT
GOVERNOR

CARLOS LOPEZ-CANTERA
LT. GOVERNOR

HERSCHEL T. VINYARD JR.
SECRETARY

STATE OF FLORIDA
DOMESTIC WASTEWATER FACILITY PERMIT

PERMITTEE:
Belleview, City of

RESPONSIBLE OFFICIAL:
Bruce Phillips, Public Works Director
5343 SE Abshier Blvd
Belleview, Florida 34420-3914
(352) 245-0124

PERMIT NUMBER: FLA010678
FILE NUMBER: FLA010678-007-DW1P
EFFECTIVE DATE: **October 22, 2014**
EXPIRATION DATE: **October 21, 2019**

FACILITY:

Belleview WWTF
SE 116th Street at S.E. 58th Ave.
Belleview, FL 34420
Marion County
Latitude: 29°3' 10.7079" N Longitude: 82°3' 11.1882" W

This permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and applicable rules of the Florida Administrative Code (F.A.C.). This permit does not constitute authorization to discharge wastewater other than as expressly stated in this permit. The above named permittee is hereby authorized to operate the facilities in accordance with the documents attached hereto and specifically described as follows:

WASTEWATER TREATMENT:

An existing 0.76 million gallon day (mgd) annual average daily flow (AADF) permitted capacity domestic wastewater treatment plant consisting of influent screening, sequence batch reactors (SBRs)providing aeration and settling, filtration, chlorination, a 662,000 gallon concrete holding pond, dewatering sludge, and aerobic digestion of biosolids.

REUSE OR DISPOSAL:

Land Application R-001: An existing 0.3 MGD annual average daily flow permitted capacity slow-rate restricted public access (subsurface) system. R-001 is a reuse system which consists of a 19.5 acre sprayfield with a three day wet weather (3.48 million gallon) lined holding pond having a capacity of 0.3 MGD located approximately at latitude 29°4' 32" N, longitude 82°3' 26" W.

Land Application R-002: An existing 1.3 MGD annual average daily flow permitted capacity slow-rate public access system. R-002 is a reuse system which consists of the 70 acre Baseline Golf Course with permitted capacity of 0.3 MGD AADF and 374 acre Spruce Creek Golf Course with permitted capacity of 1.0 MGD AADF. Land application system R-002 is located approximately at latitude 29 04 32 N, longitude 82 03 26 W.

Stormwater from the surface water pond may be introduced into the sanitary sewerage system to augment the supply of reclaimed water: The maximum average daily flow design flow from the proposed surface water augmentation system will be 98,000 gpd.

IN ACCORDANCE WITH: The limitations, monitoring requirements, and other conditions set forth in this cover sheet and Part I through Part IX on pages 1 through 22 of this permit.

I. RECLAIMED WATER AND EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

A. Reuse and Land Application Systems

1. During the period beginning on the effective date and lasting through the expiration date of this permit, the permittee is authorized to direct reclaimed water to Reuse System R-001. Such reclaimed water shall be limited and monitored by the permittee as specified below and reported in accordance with Permit Condition I.B.8.:

			Reclaimed Water Limitations		Monitoring Requirements			
Parameter	Units	Max./Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Flow (Sprayfield)	MGD	Max Max	0.3 Report	Annual Average Monthly Average	5 Days/Week	Elapsed Time Measurement on Pump (Pump Log)	FLW-1	See I.A.3
BOD, Carbonaceous 5 day, 20C	mg/L	Max Max Max Max	20.0 30.0 45.0 60.0	Annual Average Monthly Average Weekly Average Single Sample	Weekly	16-hr FPC	EFA-1	
Solids, Total Suspended	mg/L	Max Max Max Max	20 30 45 60	Annual Average Monthly Average Weekly Average Single Sample	Weekly	16-hr FPC	EFA-1	
Coliform, Fecal	#/100mL	Max	200 200 800	Monthly Geometric Mean Annual Average Single Sample	Weekly	Grab	EFA-1	
pH	s.u.	Min Max	6.0 8.5	Single Sample Single Sample	5 Days/Week	Meter	EFA-1	See I.A.**Error! Reference source not found.**
Chlorine, Total Residual (For Disinfection)	mg/L	Min	0.5	Single Sample	5 Days/Week	Meter	EFA-1	See I.A.5 and I.A.**Error! Reference source not found.**

2. Reclaimed water samples shall be taken at the monitoring site locations listed in Permit Condition I.A.1. and as described below:

Monitoring Site Number	Description of Monitoring Site
FLW-1	Elapsed time meters to sprayfield
EFA-1	Chlorine contact chamber (CCC) effluent

3. A recording flow meter with totalizer shall be utilized to measure flow and calibrated at least once every 12 months. *[62-601.200(17) and .500(6)]*

4. The effluent limitation for the monthly geometric mean for fecal coliform is only applicable if 10 or more values are reported. If fewer than 10 values are reported, the monthly geometric mean shall be calculated and reported on the Discharge Monitoring Report. *[62-600.440(4)(c)]*

5. Total residual chlorine must be maintained for a minimum contact time of 15 minutes based on peak hourly flow. *[62-610.410, 62-600.440(4)(b) and(5)(b)]*

6. During the period beginning on the effective date and lasting through the expiration date of this permit, the permittee is authorized to supplement reclaimed water with stormwater and direct reclaimed water to Reuse System R-002. Such reclaimed water shall be limited and monitored by the permittee as specified below and reported in accordance with Permit Condition I.B.8.:

			Reclaimed Water Limitations		Monitoring Requirements			
Parameter	Units	Max/Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Flow (Public Access Reuse)	MGD	Max Max	1.3 Report	Annual Average Monthly Average	5 Days/Week	Calculated	CAL-2	
Flow (Flow to Baseline G C)	MGD	Max Max	0.3 Report	Annual Average Monthly Average	5 Days/Week	Recording Flow Meter with Totalizer	FLW-2	
Flow (to Spruce Creek G C)	MGD	Max Max	1.0 Report	Annual Average Monthly Average	5 Days/Week	Recording Flow Meter with Totalizer	FLW-3	
Flow (Supplemental stormwater)	MGD	Max Max	Report Report	Annual Average Monthly Average	5 Days/Week	Recording Flow Meter with Totalizer	FLW-4	
BOD, Carbonaceous 5 day, 20C	mg/L	Max Max Max Max	20.0 30.0 45.0 60.0	Annual Average Monthly Average Weekly Average Single Sample	Weekly	16-hr FPC	EFA-1	
Solids, Total Suspended	mg/L	Max	5.0	Single Sample	4 Days/Week	Grab	EFB-1	
Coliform, Fecal	#/100mL	Max	25	Single Sample	4 Days/Week	Grab	EFA-1	
Coliform, Fecal, % less than detection	percent	Min	75	Monthly Total	4 Days/Week	Calculated	EFA-1	See I.A.8
pH	s.u.	Min Max	6.0 8.5	Single Sample Single Sample	5 Days/Week	Grab	EFA-1	
Chlorine, Total Residual (For Disinfection)	mg/L	Min	1.0	Single Sample	Continuous	Meter	EFA-1	See I.A.9 and I.A.12
Turbidity	NTU	Max	Report	Single Sample	Continuous	Meter	EFB-1	See I.A.10 and I.A.12
Giardia	cysts/100L	Max	Report	Single Sample	Every 5 years	Grab	EFA-1	See I.A.13
Cryptosporidium	oocysts/100L	Max	Report	Single Sample	Every 5 years	Grab	EFA-1	See I.A.13
Phosphorus, Total (as P)	mg/L	Max	Report	Single Sample	Monthly	16-hr FPC	EFA-1	
Nitrogen, Total	mg/L	Max	Report	Single Sample	Monthly	16-hr FPC	EFA-1	

7. Reclaimed water samples shall be taken at the monitoring site locations listed in Permit Condition I.A.6. and as described below:

Monitoring Site Number	Description of Monitoring Site
CAL-2	Total of FLW-2 and FLW-3
FLW-2	Flow to Baseline Golf Course
FLW-3	Flow to Spruce Creek Golf Course
FLW-4	Surface water flow to collection system to supplement public access reuse
EFA-1	Chlorine contact chamber (CCC) effluent
EFB-1	Filter effluent prior to chlorination (composited when running both CCCs)

8. To report the "% less than detection," count the number of fecal coliform observations that were less than detection, divide by the total number of fecal coliform observations in the month, and multiply by 100% (round to the nearest integer). *[62-600.440(5)(f)]*

9. The minimum total chlorine residual shall be limited as described in the approved operating protocol, such that the permit limitation for fecal coliform bacteria will be achieved. In no case shall the total chlorine residual be less than 1.0 mg/L. *[62-600.440(5)(b); 62-610.460(2); and 62-610.463(2)]*

10. The maximum turbidity shall be limited as described in the approved operating protocol, such that the permit limitations for total suspended solids and fecal coliforms will be achieved. *[62-610.463(2)]*

11. The treatment facilities shall be operated in accordance with all approved operating protocols. Only reclaimed water that meets the criteria established in the approved operating protocol(s) may be released to system storage or to the reuse system. Reclaimed water that fails to meet the criteria in the approved operating protocol(s) shall be directed to the following permitted alternate discharge system: R-001. *[62-610.320(6) and 62-610.463(2)]*

12. Instruments for continuous on-line monitoring of total residual chlorine and turbidity shall be equipped with an automated data logging or recording device. *[62-610.463(2)]*

13. Intervals between sampling for Giardia and Cryptosporidium shall not exceed five years. *[62-610.472(3)(d)]*

14. Monitoring for total nitrogen (TN) and total phosphorus (TP) are required as allowed by Rule 62-601.300(6), FAC, to evaluate impacts of reclaimed water to ground and surface waters in an impaired water basin. *[62-601.300(6)]*

B. Other Limitations and Monitoring and Reporting Requirements

1. During the period beginning on the effective date and lasting through the expiration date of this permit, the treatment facility shall be limited and monitored by the permittee as specified below and reported in accordance with condition I.B.8.:

			Limitations		Monitoring Requirements			
Parameter	Units	Max/Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Flow (through plant)	MGD	Max Max Max	0.76 Report Report	Annual Average Monthly Average Quarterly Average	5 Days/Week	Recording Flow Meter with Totalizer	CAL-1	See I.B.4
Percent Capacity, (TMADF/Permitted Capacity) x 100	percent	Max	Report	Monthly Total	Monthly	Calculated	CAL-1	
BOD, Carbonaceous 5 day, 20C (Influent)	mg/L	Max	Report	Single Sample	Weekly	16-hr FPC	INF-1	See I.B.3
Solids, Total Suspended (Influent)	mg/L	Max	Report	Single Sample	Weekly	16-hr FPC	INF-1	See I.B.3

2. Samples shall be taken at the monitoring site locations listed in Permit Condition I.B.1. and as described below:

Monitoring Site Number	Description of Monitoring Site
CAL-1	Calculated using v notch weir effluent meter
INF-1	Raw influent to SBRs

3. Influent samples shall be collected so that they do not contain digester supernatant or return activated sludge, or any other plant process recycled waters. *[62-601.500(4)]*

4. A recording flow meter with totalizer shall be utilized to measure flow and calibrated at least once every 12 months. *[62-601.200(17) and .500(6)]*

5. Sampling results for giardia and cryptosporidium shall be reported on DEP Form 62-610.300(4)(a)4, Pathogen Monitoring, which is attached to this permit. This form shall be submitted to the Department's Central District Office and to DEP's Reuse Coordinator in Tallahassee. *[62-610.300(4)(a)]*

6. The sample collection, analytical test methods and method detection limits (MDLs) applicable to this permit shall be conducted using a sufficiently sensitive method to ensure compliance with applicable water quality standards and effluent limitations and shall be in accordance with Rule 62-4.246, Chapters 62-160 and 62-601, F.A.C., and 40 CFR 136, as appropriate. The list of Department established analytical methods, and corresponding MDLs (method detection limits) and PQLs (practical quantitation limits), which is titled "FAC 62-4 MDL/PQL Table (April 26, 2006)" is available at http://www.dep.state.fl.us/labs/library/index.htm. The MDLs and PQLs as described in this list shall constitute the minimum acceptable MDL/PQL values and the Department shall not accept results for which the laboratory's MDLs or PQLs are greater than those described above unless alternate MDLs and/or PQLs have been specifically approved by the Department for this permit. Any method included in the list may be used for reporting as long as it meets the following requirements:

   a. The laboratory's reported MDL and PQL values for the particular method must be equal or less than the corresponding method values specified in the Department's approved MDL and PQL list;

   b. The laboratory reported MDL for the specific parameter is less than or equal to the permit limit or the applicable water quality criteria, if any, stated in Chapter 62-302, F.A.C. Parameters that are listed as "report only" in the permit shall use methods that provide an MDL, which is equal to or less than the applicable water quality criteria stated in 62-302, F.A.C.; and

   c. If the MDLs for all methods available in the approved list are above the stated permit limit or applicable water quality criteria for that parameter, then the method with the lowest stated MDL shall be used.

   When the analytical results are below method detection or practical quantitation limits, the permittee shall report the actual laboratory MDL and/or PQL values for the analyses that were performed following the instructions on the applicable discharge monitoring report.

   Where necessary, the permittee may request approval of alternate methods or for alternative MDLs or PQLs for any approved analytical method. Approval of alternate laboratory MDLs or PQLs are not necessary if the laboratory reported MDLs and PQLs are less than or equal to the permit limit or the applicable water quality criteria, if any, stated in Chapter 62-302, F.A.C. Approval of an analytical method not included in the above-referenced list is not necessary if the analytical method is approved in accordance with 40 CFR 136 or deemed acceptable by the Department. *[62-4.246, 62-160]*

7. The permittee shall provide safe access points for obtaining representative influent, reclaimed water, and effluent samples which are required by this permit. *[62-601.500(5)]*

8. Monitoring requirements under this permit are effective on the first day of the second month following the effective date of the permit. Until such time, the permittee shall continue to monitor and report in accordance with previously effective permit requirements, if any. During the period of operation authorized by this permit, the permittee shall complete and submit to the Department Discharge Monitoring Reports (DMRs) in

accordance with the frequencies specified by the REPORT type (i.e. monthly, quarterly, semiannual, annual, etc.) indicated on the DMR forms attached to this permit. Unless specified otherwise in this permit, monitoring results for each monitoring period shall be submitted in accordance with the associated DMR due dates below. DMRs shall be submitted for each required monitoring period including periods of no discharge.

REPORT Type on DMR	Monitoring Period	Mail or Electronically Submit by
Monthly	first day of month - last day of month	28th day of following month
Quarterly	January 1 - March 31 April 1 - June 30 July 1 - September 30 October 1 - December 31	April 28 July 28 October 28 January 28
Semiannual	January 1 - June 30 July 1 - December 31	July 28 January 28
Annual	January 1 - December 31	January 28

The permittee may submit either paper or electronic DMR forms. If submitting paper DMR forms, the permittee shall make copies of the attached DMR forms, without altering the original format or content unless approved by the Department, and shall mail the completed DMR forms to the Department's Central District Office at the address specified in Permit Condition I.B.13. by the twenty-eighth (28th) of the month following the month of operation.

If submitting electronic DMR forms, the permittee shall use the electronic DMR system(s) approved in writing by the Department and shall electronically submit the completed DMR forms to the Department by the twenty-eighth (28th) of the month following the month of operation. Data submitted in electronic format is equivalent to data submitted on signed and certified paper DMR forms.

[62-620.610(18)][62-601.300(1),(2), and (3)]

9. During the period of operation authorized by this permit, reclaimed water or effluent shall be monitored annually for the primary and secondary drinking water standards contained in Chapter 62-550, F.A.C., (except for asbestos, color, odor, and corrosivity). These monitoring results shall be reported to the Department annually on the DMR. During years when a permit is not renewed, a certification stating that no new non-domestic wastewater dischargers have been added to the collection system since the last reclaimed water or effluent analysis was conducted may be submitted in lieu of the report. The annual reclaimed water or effluent analysis report or the certification shall be completed and submitted in a timely manner so as to be received by the Department at the address identified on the DMR by June 28 of each year. Approved analytical methods identified in Rule 62-620.100(3)(j), F.A.C., shall be used for the analysis. If no method is included for a parameter, methods specified in Chapter 62-550, F.A.C., shall be used. *[62-601.300(4)][62-601.500(3)][62-610.300(4)]*

10. The permittee shall submit an Annual Reuse Report using DEP Form 62-610.300(4)(a)2. on or before January 1 of each year. *[62-610.870(3)]*

11. Operating protocol(s) shall be reviewed and updated periodically to ensure continuous compliance with the minimum treatment and disinfection requirements. Updated operating protocols shall be submitted to the Department's Central District Office for review and approval upon revision of the operating protocol(s) and with each permit application. *[62-610.320(6)][62-610.463(2)]*

12. The permittee shall maintain an inventory of storage systems. The inventory shall be submitted to the Department's Central District Office at least 30 days before reclaimed water will be introduced into any new storage system. The inventory of storage systems shall be attached to the annual submittal of the Annual Reuse Report. *[62-610.464(5)]*

13. Unless specified otherwise in this permit, all reports and other information required by this permit, including 24-hour notifications, shall be submitted to or reported to, as appropriate, the Department's Central District Office at the address specified below:

Florida Department of Environmental Protection
Central District Office
3319 Maguire Blvd
Suite 232
Orlando, Florida 32803-3767

Phone Number - (407)897-4100
FAX Number - (850)412-0467
(All FAX copies and e-mails shall be followed by original copies.)

[62-620.305]

14. All reports and other information shall be signed in accordance with the requirements of Rule 62-620.305, F.A.C. *[62-620.305]*

II. BIOSOLIDS MANAGEMENT REQUIREMENTS

1. Biosolids generated by this facility may be transferred to Central Process RMF or disposed of in a Class I solid waste landfill. Transferring biosolids to an alternative biosolids treatment facility does not require a permit modification. However, use of an alternative biosolids treatment facility requires submittal of a copy of the agreement pursuant to Rule 62-640.880(1)(c), F.A.C., along with a written notification to the Department at least 30 days before transport of the biosolids. *[62-620.320(6), 62-640.880(1)]*

2. The permittee shall monitor and keep records of the quantities of biosolids generated, received from source facilities, treated, distributed and marketed, land applied, used as a biofuel or for bioenergy, transferred to another facility, or landfilled. These records shall be kept for a minimum of five years. *[62-640.650(4)(a)]*

3. Biosolids quantities shall be monitored by the permittee as specified below. Results shall be reported on the permittee's Discharge Monitoring Report, for monitoring group RMP-Q, in accordance with Condition I.B.8.

			Biosolids Limitations		Monitoring Requirements		
Parameter	Units	Max/ Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number
Biosolids Quantity (Transferred)	dry tons	Max	Report	Monthly Total	Monthly	Calculated	RMP-1
Biosolids Quantity (Landfilled)	dry tons	Max	Report	Monthly Total	Monthly	Calculated	RMP-1

[62-640.650(5)(a)1]

4. Biosolids quantities shall be calculated as listed in Permit Condition II.3 and as described below:

Monitoring Site Number	Description of Monitoring Site Calculations
RMP-1	Biosolids leaving the facility, based on volume and % solids

5. The treatment, management, transportation, use, land application, or disposal of biosolids shall not cause a violation of the odor prohibition in subsection 62-296.320(2), F.A.C. *[62-640.400(6)]*

6. Storage of biosolids or other solids at this facility shall be in accordance with the Facility Biosolids Storage Plan. *[62-640.300(4)]*

7. Biosolids shall not be spilled from or tracked off the treatment facility site by the hauling vehicle. *[62-640.400(9)]*

8. Disposal of biosolids, septage, and "other solids" in a solid waste disposal facility, or disposal by placement on land for purposes other than soil conditioning or fertilization, such as at a monofill, surface impoundment, waste pile, or dedicated site, shall be in accordance with Chapter 62-701, F.A.C. *[62-640.100(6)(b) & (c)]*

9. The permittee shall not be held responsible for treatment and management violations that occur after its biosolids have been accepted by a permitted biosolids treatment facility with which the source facility has an agreement in accordance with subsection 62-640.880(1)(c), F.A.C., for further treatment, management, or disposal. *[62-640.880(1)(b)]*

10. The permittee shall keep hauling records to track the transport of biosolids between the facilities. The hauling records shall contain the following information:

Source Facility
1. Date and time shipped
2. Amount of biosolids shipped
3. Degree of treatment (if applicable)
4. Name and ID Number of treatment facility
5. Signature of responsible party at source facility
6. Signature of hauler and name of hauling firm

Biosolids Treatment Facility or Treatment Facility
1. Date and time received
2. Amount of biosolids received
3. Name and ID number of source facility
4. Signature of hauler
5. Signature of responsible party at treatment facility

A copy of the source facility hauling records for each shipment shall be provided upon delivery of the biosolids to the biosolids treatment facility or treatment facility. The treatment facility permittee shall report to the Department within 24 hours of discovery any discrepancy in the quantity of biosolids leaving the source facility and arriving at the biosolids treatment facility or treatment facility.

[62-640.880(4)]

11. If the permittee intends to accept biosolids from other facilities, a permit revision is required pursuant to paragraph 62-640.880(2)(d), F.A.C. *[62-640.880(2)(d)]*

III. GROUND WATER REQUIREMENTS

1. The permittee shall give at least 72-hours notice to the Department's Central District Office, prior to the installation of any monitoring wells. *[62-520.600(6)(h)]*

2. Before construction of new ground water monitoring wells, a soil boring shall be made at each new monitoring well location to properly determine monitoring well specifications such as well depth, screen interval, screen slot, and filter pack. *[62-520.600(6)(g)]*

3. Within 30 days after installation of a monitoring well, the permittee shall submit to the Department's Central District Office well completion reports and soil boring/lithologic logs on the attached DEP Form(s) 62-520.900(3), Monitoring Well Completion Report. *[62-520.600(6)(j) and .900(3)]*

4. All piezometers and monitoring wells not part of the approved ground water monitoring plan shall be plugged and abandoned in accordance with Rule 62-532.500(5), F.A.C., unless future use is intended. *[62-532.500(5)]*

5. For the Part II land application system(s), all ground water quality criteria specified in Chapter 62-520, F.A.C., shall be met at the edge of the zone of discharge. The zone of discharge for Land Application Site R-001 shall extend horizontally 100 feet from the application site and vertically to the base of the surficial aquifer. *[62-520.200(27)] [62-520.465]*

6. For the Part III Public Access system, all ground water quality criteria specified in Chapter 62-520, F.A.C., shall be met at the edge of the zone of discharge. The zone of discharge for Land Application Site R-002 shall extend horizontally 100 feet from the application site(s) or to the property boundaries, whichever is less, 100 feet from the application site and vertically to the base of the surficial aquifer. *[62-520.200(27)] [62-520.465]*

7. The ground water minimum criteria specified in Rule 62-520.400 F.A.C., shall be met within the zone of discharge. *[62-520.400 and 62-520.420(4)]*

8. If the concentration for any constituent listed in Permit Condition III.11. and III.13. in the natural background quality of the ground water is greater than the stated maximum, or in the case of pH is also less than the minimum, the representative background quality shall be the prevailing standard. *[62-520.420(2)]*

9. During the period of operation authorized by this permit, the permittee shall continue to sample ground water at the monitoring wells identified in Permit Conditions III.10. and III.12., below in accordance with this permit and the approved ground water monitoring plan prepared in accordance with Rule 62-520.600, F.A.C. *[62-520.600] [62-610.412] [62-610.463]*

10. The following monitoring wells shall be sampled for Reuse System R-001 located at Land Application Site SUB-001.

Monitoring Well ID	Alternate Well Name and/or Description of Monitoring Location	Latitude			Longitude			Depth (Feet)	Aquifer Monitored	New or Existing
		o	'	"	o	'	"			
MWB-1	Well Name MW-1 Sprayfield WAFR 30244 3042A14945	29	01	12	81	51	50	65	Floridan	Existing
MWC-2	Well Name MW-2 Sprayfield WAFR 30245 3042A14946	29	01	27	82	00	23	60	Floridan	Existing
MWC-3	Well Name MW-3 Sprayfield WAFR 30246 3042A14947	29	02	10	81	59	63	35	Surficial	Existing
MWC-4	Well Name MW-4 Sprayfield WAFR 30247 3042A14948	29	01	87	82	00	48	39	Surficial	Existing

MWC = Compliance; MWB = Background; MWI = Intermediate; MWP =Piezometer

[62-520.600] [62-610.412]

11. The following parameters shall be analyzed for each monitoring well identified in Permit Condition III.10.:

Parameter	Compliance Well Limit	Units	Sample Type	Monitoring Frequency
Water Level Relative to NGVD	Report	ft	In Situ	Quarterly
Nitrogen, Nitrate, Total (as N)	10	mg/L	Grab	Quarterly
Solids, Total Dissolved (TDS)	500	mg/L	Grab	Quarterly
Chloride (as Cl)	250	mg/L	Grab	Quarterly
Coliform, Fecal	4	#/100mL	Grab	Quarterly
pH	6.5-8.5	s.u.	Grab	Quarterly
Turbidity	Report	NTU	Grab	Quarterly

[62-520.600(11)(b)] [62-601.300(3), 62-601.700, and Figure 3 of 62-601] [62-601.300(6)] [62-520.310(5)]

12. The following monitoring wells shall be sampled for Reuse System R-002.

Monitoring Well ID	Alternate Well Name and/or Description of Monitoring Location	Latitude			Longitude			Depth (Feet)	Aquifer Monitored	New or Existing
		o	'	"	o	'	"			
MWB-01R	Well Name MWB 1rGolf WAFR 26579	29	3	12	89	51	50	60	Floridan	Existing
MWC-02	Well Name MWC-02 Golf WAFR26580	29	01	27	89	00	23	60	Floridan	Existing
MWC-03	Well Name MWC-03 Golf WAFR 26582	29	02	10	81	59	63	61	Floridan	Existing
MWC-04	Well Name MWC-04 Golf WAFR 26583	29	01	87	82	00	48	60	Floridan	Existing

MWC = Compliance; MWB = Background; MWI = Intermediate; MWP =Piezometer

[62-520.600] [62-610.463]

13. The following parameters shall be analyzed for each monitoring well identified in Permit Condition III.12.:

Parameter	Compliance Well Limit	Units	Sample Type	Monitoring Frequency
Water Level Relative to NGVD	Report	ft	In Situ	Quarterly
Nitrogen, Nitrate, Total (as N)	10	mg/L	Grab	Quarterly
Solids, Total Dissolved (TDS)	500	mg/L	Grab	Quarterly
Chloride (as Cl)	250	mg/L	Grab	Quarterly
Coliform, Fecal	4	#/100mL	Grab	Quarterly
pH	6.5-8.5	s.u.	Grab	Quarterly
Turbidity	Report	NTU	Grab	Quarterly

[62-520.600(11)(b)] [62-601.300(3), 62-601.700, and Figure 3 of 62-601] [62-601.300(6)] [62-520.310(5)]

14. Water levels shall be recorded before evacuating each well for sample collection. Elevation references shall include the top of the well casing and land surface at each well site (NAVD allowable) at a precision of plus or minus 0.01 foot. *[62-520.600(11)(c)] [62-610.412(2)(c)] [62-610.463(3)(a)]*

15. Ground water monitoring wells shall be purged prior to sampling to obtain representative samples. *[62-160.210] [62-601.700(5)]*

16. Analyses shall be conducted on unfiltered samples, unless filtered samples have been approved by the Department's Central District Office as being more representative of ground water conditions. *[62-520.310(5)]*

17. Ground water monitoring test results shall be submitted on Part D of Form 62-620.910(10) in accordance with Permit Condition I.B.8. *[62-520.600(11)(b)] [62-601.300(3), 62.601.700, and Figure 3 of 62-601] [62-620.610(18)]*

18. If any monitoring well becomes inoperable or damaged to the extent that sampling or well integrity may be affected, the permittee shall notify the Department's Central District Office within two business days from discovery, and a detailed written report shall follow within ten days after notification to the Department. The written report shall detail what problem has occurred and remedial measures that have been taken to prevent recurrence or request approval for replacement of the monitoring well. All monitoring well design and replacement shall be approved by the Department's Central District Office before installation. *[62-520.600(6)(l)]*

IV. ADDITIONAL REUSE AND LAND APPLICATION REQUIREMENTS

A. Part II Slow-Rate/Restricted Access System(s)

1. The subsurface application system shall be operated to preclude saturated conditions from developing at the ground surface. *[62-610.400(3)]*

2. The permittee may allow public access to areas irrigated using subsurface application systems. *[62-610.418(2)]*

3. Advisory signs shall be posted around the site boundaries to designate the nature of the project area. *[62-610.418(1)]*

4. Routine aquatic weed control and regular maintenance of storage pond embankments and access areas are required. *[62-610.414(8)]*

5. The maximum annual average loading rate to sprayfield shall be limited to 3.96 inches per week. The hydraulic loading rate shall not produce surface runoff or ponding of the applied reclaimed water. *[62-610.423(3) and (4)]*

6. The crops or vegetation shall be periodically harvested and removed from the project area. *[62-610.310(3)(d) and 62-610.419(1)(b)]*

7. No restrictions or waiting periods are imposed on the grazing of cattle, including dairy whose milk is intended for human consumption. *[62-610.425]*

8. Irrigation of edible food crops is prohibited. *[62-610.426]*

9. Overflows from emergency discharge facilities on storage ponds shall be reported as abnormal events in accordance with Permit Condition IX.20. *[62-610.800(9)]*

B. Part III Public Access System(s)

1. This reuse system includes the following major user(s) of reclaimed water (i.e., using 0.1 MGD or more) and general service area(s):

Site Number	User Name	User Type	Capacity(MGD)	Acreage
PAA-001	Baseline Golf Course	Golf Courses	0.3	70
PAA-002	Spruce Creek Golf Course	Golf Courses	1.0	374
		Total	1.3	444

[62-610.800(5)][62-620.630(10)(b)]

2. Cross-connections to the potable water system are prohibited. *[62-610.469(7)]*

3. A cross-connection control program shall be implemented and/or remain in effect within the areas where reclaimed water will be provided for use and shall be in compliance with the Rule 62-555.360, F.A.C. *[62-610.469(7)]*

4. The permittee shall conduct inspections within the reclaimed water service area to verify proper connections, to minimize illegal cross-connections, and to verify both the proper use of reclaimed water and that the proper backflow prevention assemblies or devices have been installed and tested. Inspections are required when a customer first connects to the reuse distribution system. Subsequent inspections are required as specified in the cross-connection control and inspection program. *[62-610.469(7)(h)]*

5. If an actual or potential (e.g. no dual check device on residential connections served by a reuse system) cross-connection between the potable and reclaimed water systems is discovered, the permittee shall:

   a. Immediately discontinue potable water and/or reclaimed water service to the affected area if an actual cross-connection is discovered.

   b. If the potable water system is contaminated, clear the potable water lines.

   c. Eliminate the cross-connection and install a backflow prevention device as required by the Rule 62-555.360.F.A.C.

   d. Test the affected area for other possible cross-connections.

   e. Within 24 hours, notify the Department's Central District Office's domestic wastewater and drinking water programs.

   f. Within 5 days of discovery of an actual or potential cross-connection, submit a written report to the Department's Central District Office detailing: a description of the cross-connection, how the cross-connection was discovered, the exact date and time of discovery, approximate time that the cross-

connection existed, the location, the cause, steps taken to eliminate the cross-connection, whether reclaimed water was consumed, and reports of possible illness, whether the drinking water system was contaminated and the steps taken to clear the drinking water system, when the cross-connection was eliminated, plan of action for testing for other possible cross-connections in the area, and an evaluation of the cross-connection control and inspection program to ensure that future cross-connections do not occur.

[62-555.350(3) and 62-555.360][62-620.610(20)]

6. Maximum obtainable separation of reclaimed water lines and potable water lines shall be provided and the minimum separation distances specified in Rule 62-610.469(7), F.A.C., shall be provided. Reuse facilities shall be color coded or marked. Underground piping which is not manufactured of metal or concrete shall be color coded using Pantone Purple 522C using light stable colorants. Underground metal and concrete pipe shall be color coded or marked using purple as the predominant color. *[62-610.469(7)]*

7. In constructing reclaimed water distribution piping, the permittee shall maintain a 75-foot setback distance from a reclaimed water transmission facility to public water supply wells. No setback distances are required to other potable water supply wells or to any nonpotable water supply wells. *[62-610.471(3)]*

8. A setback distance of 75 feet shall be maintained between the edge of the wetted area and potable water supply wells, unless the utility adopts and enforces an ordinance prohibiting potable water supply wells within the reuse service area. No setback distances are required to any nonpotable water supply well, to any surface water, to any developed areas, or to any private swimming pools, hot tubs, spas, saunas, picnic tables, barbecue pits, or barbecue grills. *[62-610.471(1), (2), (5), and (7)]*

9. Reclaimed water shall not be used to fill swimming pools, hot tubs, or wading pools. *[62-610.469(4)]*

10. Low trajectory nozzles, or other means to minimize aerosol formation shall be used within 100 feet from outdoor public eating, drinking, or bathing facilities. *[62-610.471(6)]*

11. A setback distance of 100 feet shall be maintained from indoor aesthetic features using reclaimed water to adjacent indoor public eating and drinking facilities. *[62-610.471(8)]*

12. The public shall be notified of the use of reclaimed water. This shall be accomplished by posting of advisory signs in areas where reuse is practiced, notes on scorecards, or other methods. *[62-610.468(2)]*

13. All new advisory signs and labels on vaults, service boxes, or compartments that house hose bibbs along with all labels on hose bibbs, valves, and outlets shall bear the words "do not drink" and "no beber" along with the equivalent standard international symbol. In addition to the words "do not drink" and "no beber," advisory signs posted at storage ponds and decorative water features shall also bear the words "do not swim" and "no nadar" along with the equivalent standard international symbols. Existing advisory signs and labels shall be retrofitted, modified, or replaced in order to comply with the revised wording requirements. For existing advisory signs and labels this retrofit, modification, or replacement shall occur within 365 days after the date of this permit. For labels on existing vaults, service boxes, or compartments housing hose bibbs this retrofit, modification, or replacement shall occur within 730 days after the date of this permit. *[62-610.468, 62-610.469]*

14. The permittee shall ensure that users of reclaimed water are informed about the origin, nature, and characteristics of reclaimed water; the manner in which reclaimed water can be safely used; and limitations on the use of reclaimed water. Notification is required at the time of initial connection to the reclaimed water distribution system and annually after the reuse system is placed into operation. A description of on-going public notification activities shall be included in the Annual Reuse Report. *[62-610.468(6)]*

15. Routine aquatic weed control and regular maintenance of storage pond embankments and access areas are required. *[62-610.414(8)]*

16. Overflows from emergency discharge facilities on storage ponds shall be reported as abnormal events in accordance with Permit Condition IX.20. *[62-610.800(9)]*

Supplemental Water Supplies - Discharge of Stormwater into the Sewerage System

17. Introduction of stormwater into the sewerage system shall be limited to dry-weather, low-flow conditions in the sanitary sewerage system. *[62-610.472(3)(c)]*

V. OPERATION AND MAINTENANCE REQUIREMENTS

A. Staffing Requirements

1. During the period of operation authorized by this permit, the wastewater facilities shall be operated under the supervision of a(n) operator(s) certified in accordance with Chapter 62-602, F.A.C. In accordance with Chapter 62-699, F.A.C., this facility is a Category III, Class C facility and, at a minimum, operators with appropriate certification must be on the site as follows:

   A Class C or higher operator 6 hours/day for 7 days/week. The lead/chief operator must be a Class B operator, or higher.

   [62-620.630(3)][62-699.310] [62-610.462]

2. The lead/chief operator shall be employed at the plant full time. "Full time" shall mean at least 4 days per week, working a minimum of 35 hours per week, including leave time. A licensed operator shall be on-site and in charge of each required shift for periods of required staffing time when the lead/chief operator is not on-site. An operator meeting the lead/chief operator class for the treatment plant shall be available during all periods of plant operation. "Available" means able to be contacted as needed to initiate the appropriate action in a timely manner. *[62-699.311(10), (6) and (1)]*

3. An operator meeting the lead/chief operator class for the plant shall be available during all periods of plant operation. "Available" means able to be contacted as needed to initiate the appropriate action in a timely manner. *[62-699.311(1)]*

B. Capacity Analysis Report and Operation and Maintenance Performance Report Requirements

1. The application to renew this permit shall include an updated capacity analysis report prepared in accordance with Rule 62-600.405, F.A.C. *[62-600.405(5)]*

2. The application to renew this permit shall include a detailed operation and maintenance performance report prepared in accordance with Rule 62-600.735, F.A.C. *[62-600.735(1)]*

C. Recordkeeping Requirements

1. The permittee shall maintain the following records and make them available for inspection on the site of the permitted facility.

   a. Records of all compliance monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, including, if applicable, a copy of the laboratory certification showing the certification number of the laboratory, for at least three years from the date the sample or measurement was taken;

   b. Copies of all reports required by the permit for at least three years from the date the report was prepared;

   c. Records of all data, including reports and documents, used to complete the application for the permit for at least three years from the date the application was filed;

   d. Monitoring information, including a copy of the laboratory certification showing the laboratory certification number, related to the residuals use and disposal activities for the time period set forth in Chapter 62-640, F.A.C., for at least three years from the date of sampling or measurement;

   e. A copy of the current permit;

   f. A copy of the current operation and maintenance manual as required by Chapter 62-600, F.A.C.;

g. A copy of any required record drawings;

h. Copies of the licenses of the current certified operators;

i. Copies of the logs and schedules showing plant operations and equipment maintenance for three years from the date of the logs or schedules. The logs shall, at a minimum, include identification of the plant; the signature and license number of the operator(s) and the signature of the person(s) making any entries; date and time in and out; specific operation and maintenance activities, including any preventive maintenance or repairs made or requested; results of tests performed and samples taken, unless documented on a laboratory sheet; and notation of any notification or reporting completed in accordance with Rule 62-602.650(3), F.A.C. The logs shall be maintained on-site in a location accessible to 24-hour inspection, protected from weather damage, and current to the last operation and maintenance performed; and

j. Records of biosolids quantities, treatment, monitoring, and hauling for at least five years.

[62-620.350, 62-602.650, 62-640.650(4)]

VI. SCHEDULES

1. The permittee is not authorized to discharge to waters of the state after the expiration date of this permit, unless:

   a. The permittee has applied for renewal of this permit at least 180 days before the expiration date of this permit using the appropriate forms listed in Rule 62-620.910, F.A.C., and in the manner established in the Department of Environmental Protection Guide to Permitting Wastewater Facilities or Activities Under Chapter 62-620, F.A.C., including submittal of the appropriate processing fee set forth in Rule 62-4.050, F.A.C.; or

   b. The permittee has made complete the application for renewal of this permit before the permit expiration date.

   [62-620.335(1) - (4)]

VII. INDUSTRIAL PRETREATMENT PROGRAM REQUIREMENTS

1. This facility is not required to have a pretreatment program at this time. *[62-625.500]*

VIII. OTHER SPECIFIC CONDITIONS

1. The permittee shall comply with all conditions and requirements for reuse contained in their consumptive use permit issued by the Water Management District, if such requirements are consistent with Department rules. *[62-610.800(10)]*

2. In the event that the treatment facilities or equipment no longer function as intended, are no longer safe in terms of public health and safety, or odor, noise, aerosol drift, or lighting adversely affects neighboring developed areas at the levels prohibited by Rule 62-600.400(2)(a), F.A.C., corrective action (which may include additional maintenance or modifications of the permitted facilities) shall be taken by the permittee. Other corrective action may be required to ensure compliance with rules of the Department. Additionally, the treatment, management, use or land application of residuals shall not cause a violation of the odor prohibition in Rule 62-296.320(2), F.A.C. *[62-600.410(8) and 62-640.400(6)]*

3. The deliberate introduction of stormwater in any amount into collection/transmission systems designed solely for the introduction (and conveyance) of domestic/industrial wastewater; or the deliberate introduction of stormwater into collection/transmission systems designed for the introduction or conveyance of combinations of storm and domestic/industrial wastewater in amounts which may reduce the efficiency of pollutant removal by the treatment plant is prohibited, except as provided by Rule 62-610.472, F.A.C. *[62-604.130(3)]*

4. Collection/transmission system overflows shall be reported to the Department in accordance with Permit Condition IX. 20. *[62-604.550] [62-620.610(20)]*

5. The operating authority of a collection/transmission system and the permittee of a treatment plant are prohibited from accepting connections of wastewater discharges which have not received necessary pretreatment or which contain materials or pollutants (other than normal domestic wastewater constituents):

   a. Which may cause fire or explosion hazards; or

   b. Which may cause excessive corrosion or other deterioration of wastewater facilities due to chemical action or pH levels; or

   c. Which are solid or viscous and obstruct flow or otherwise interfere with wastewater facility operations or treatment; or

   d. Which result in the wastewater temperature at the introduction of the treatment plant exceeding $40^{o}C$ or otherwise inhibiting treatment; or

   e. Which result in the presence of toxic gases, vapors, or fumes that may cause worker health and safety problems.

   [62-604.130(5)]

6. The treatment facility, storage ponds for Part II systems, rapid infiltration basins, and/or infiltration trenches shall be enclosed with a fence or otherwise provided with features to discourage the entry of animals and unauthorized persons. *[62-610.418(1) and 62-600.400(2)(b)]*

7. Screenings and grit removed from the wastewater facilities shall be collected in suitable containers and hauled to a Department approved Class I landfill or to a landfill approved by the Department for receipt/disposal of screenings and grit. *[62-701.300(1)(a)]*

8. Where required by Chapter 471 or Chapter 492, F.S., applicable portions of reports that must be submitted under this permit shall be signed and sealed by a professional engineer or a professional geologist, as appropriate. *[62-620.310(4)]*

9. The permittee shall provide verbal notice to the Department's Central District Office as soon as practical after discovery of a sinkhole or other karst feature within an area for the management or application of wastewater, wastewater residuals (sludges), or reclaimed water. The permittee shall immediately implement measures appropriate to control the entry of contaminants, and shall detail these measures to the Department's Central District Office in a written report within 7 days of the sinkhole discovery. *[62-620.320(6)]*

10. The permittee shall provide notice to the Department of the following:

    a. Any new introduction of pollutants into the facility from an industrial discharger which would be subject to Chapter 403, F.S., and the requirements of Chapter 62-620, F.A.C., if it were directly discharging those pollutants; and

    b. Any substantial change in the volume or character of pollutants being introduced into that facility by a source which was identified in the permit application and known to be discharging at the time the permit was issued.

       Notice shall include information on the quality and quantity of effluent introduced into the facility and any anticipated impact of the change on the quantity or quality of effluent or reclaimed water to be discharged from the facility.

    [62-620.625(2)]

IX. GENERAL CONDITIONS

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are binding and enforceable pursuant to Chapter 403, Florida Statutes. Any permit noncompliance constitutes a violation of Chapter 403, Florida Statutes, and is grounds for enforcement action, permit termination, permit revocation and reissuance, or permit revision. *[62-620.610(1)]*

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviations from the approved drawings, exhibits, specifications, or conditions of this permit constitutes grounds for revocation and enforcement action by the Department. *[62-620.610(2)]*

3. As provided in subsection 403.087(7), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor authorize any infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other Department permit or authorization that may be required for other aspects of the total project which are not addressed in this permit. *[62-620.610(3)]*

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title. *[62-620.610(4)]*

5. This permit does not relieve the permittee from liability and penalties for harm or injury to human health or welfare, animal or plant life, or property caused by the construction or operation of this permitted source; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department. The permittee shall take all reasonable steps to minimize or prevent any discharge, reuse of reclaimed water, or residuals use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. *[62-620.610(5)]*

6. If the permittee wishes to continue an activity regulated by this permit after its expiration date, the permittee shall apply for and obtain a new permit. *[62-620.610(6)]*

7. The permittee shall at all times properly operate and maintain the facility and systems of treatment and control, and related appurtenances, that are installed and used by the permittee to achieve compliance with the conditions of this permit. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to maintain or achieve compliance with the conditions of the permit. *[62-620.610(7)]*

8. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit revision, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition. *[62-620.610(8)]*

9. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, including an authorized representative of the Department and authorized EPA personnel, when applicable, upon presentation of credentials or other documents as may be required by law, and at reasonable times, depending upon the nature of the concern being investigated, to:

    a. Enter upon the permittee's premises where a regulated facility, system, or activity is located or conducted, or where records shall be kept under the conditions of this permit;

    b. Have access to and copy any records that shall be kept under the conditions of this permit;

    c. Inspect the facilities, equipment, practices, or operations regulated or required under this permit; and

    d. Sample or monitor any substances or parameters at any location necessary to assure compliance with this permit or Department rules.

    [62-620.610(9)]

10. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data, and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except as such use is proscribed by Section 403.111,

F.S., or Rule 62-620.302, F.A.C. Such evidence shall only be used to the extent that it is consistent with the Florida Rules of Civil Procedure and applicable evidentiary rules. *[62-620.610(10)]*

11. When requested by the Department, the permittee shall within a reasonable time provide any information required by law which is needed to determine whether there is cause for revising, revoking and reissuing, or terminating this permit, or to determine compliance with the permit. The permittee shall also provide to the Department upon request copies of records required by this permit to be kept. If the permittee becomes aware of relevant facts that were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be promptly submitted or corrections promptly reported to the Department. *[62-620.610(11)]*

12. Unless specifically stated otherwise in Department rules, the permittee, in accepting this permit, agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules. A reasonable time for compliance with a new or amended surface water quality standard, other than those standards addressed in Rule 62-302.500, F.A.C., shall include a reasonable time to obtain or be denied a mixing zone for the new or amended standard. *[62-620.610(12)]*

13. The permittee, in accepting this permit, agrees to pay the applicable regulatory program and surveillance fee in accordance with Rule 62-4.052, F.A.C. *[62-620.610(13)]*

14. This permit is transferable only upon Department approval in accordance with Rule 62-620.340, F.A.C. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the Department. *[62-620.610(14)]*

15. The permittee shall give the Department written notice at least 60 days before inactivation or abandonment of a wastewater facility or activity and shall specify what steps will be taken to safeguard public health and safety during and following inactivation or abandonment. *[62-620.610(15)]*

16. The permittee shall apply for a revision to the Department permit in accordance with Rules 62-620.300, F.A.C., and the Department of Environmental Protection Guide to Permitting Wastewater Facilities or Activities Under Chapter 62-620, F.A.C., at least 90 days before construction of any planned substantial modifications to the permitted facility is to commence or with Rule 62-620.325(2), F.A.C., for minor modifications to the permitted facility. A revised permit shall be obtained before construction begins except as provided in Rule 62-620.300, F.A.C. *[62-620.610(16)]*

17. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. The permittee shall be responsible for any and all damages which may result from the changes and may be subject to enforcement action by the Department for penalties or revocation of this permit. The notice shall include the following information:

    a. A description of the anticipated noncompliance;

    b. The period of the anticipated noncompliance, including dates and times; and

    c. Steps being taken to prevent future occurrence of the noncompliance.

    [62-620.610(17)]

18. Sampling and monitoring data shall be collected and analyzed in accordance with Rule 62-4.246 and Chapters 62-160, 62-601, and 62-610, F.A.C., and 40 CFR 136, as appropriate.

    a. Monitoring results shall be reported at the intervals specified elsewhere in this permit and shall be reported on a Discharge Monitoring Report (DMR), DEP Form 62-620.910(10), or as specified elsewhere in the permit.

    b. If the permittee monitors any contaminant more frequently than required by the permit, using Department approved test procedures, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.

c. Calculations for all limitations which require averaging of measurements shall use an arithmetic mean unless otherwise specified in this permit.

d. Except as specifically provided in Rule 62-160.300, F.A.C., any laboratory test required by this permit shall be performed by a laboratory that has been certified by the Department of Health Environmental Laboratory Certification Program (DOH ELCP). Such certification shall be for the matrix, test method and analyte(s) being measured to comply with this permit. For domestic wastewater facilities, testing for parameters listed in Rule 62-160.300(4), F.A.C., shall be conducted under the direction of a certified operator.

e. Field activities including on-site tests and sample collection shall follow the applicable standard operating procedures described in DEP-SOP-001/01 adopted by reference in Chapter 62-160, F.A.C.

f. Alternate field procedures and laboratory methods may be used where they have been approved in accordance with Rules 62-160.220, and 62-160.330, F.A.C.

[62-620.610(18)]

19. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule detailed elsewhere in this permit shall be submitted no later than 14 days following each schedule date. *[62-620.610(19)]*

20. The permittee shall report to the Department's Central District Office any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the permittee becomes aware of the circumstances. The written submission shall contain: a description of the noncompliance and its cause; the period of noncompliance including exact dates and time, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

    a. The following shall be included as information which must be reported within 24 hours under this condition:
        (1) Any unanticipated bypass which causes any reclaimed water or effluent to exceed any permit limitation or results in an unpermitted discharge,
        (2) Any upset which causes any reclaimed water or the effluent to exceed any limitation in the permit,
        (3) Violation of a maximum daily discharge limitation for any of the pollutants specifically listed in the permit for such notice, and
        (4) Any unauthorized discharge to surface or ground waters.

    b. Oral reports as required by this subsection shall be provided as follows:
        (1) For unauthorized releases or spills of treated or untreated wastewater reported pursuant to subparagraph (a)4. that are in excess of 1,000 gallons per incident, or where information indicates that public health or the environment will be endangered, oral reports shall be provided to the STATE WARNING POINT TOLL FREE NUMBER (800) 320-0519, as soon as practical, but no later than 24 hours from the time the permittee becomes aware of the discharge. The permittee, to the extent known, shall provide the following information to the State Warning Point:
            (a) Name, address, and telephone number of person reporting;
            (b) Name, address, and telephone number of permittee or responsible person for the discharge;
            (c) Date and time of the discharge and status of discharge (ongoing or ceased);
            (d) Characteristics of the wastewater spilled or released (untreated or treated, industrial or domestic wastewater);
            (e) Estimated amount of the discharge;
            (f) Location or address of the discharge;
            (g) Source and cause of the discharge;
            (h) Whether the discharge was contained on-site, and cleanup actions taken to date;
            (i) Description of area affected by the discharge, including name of water body affected, if any; and
            (j) Other persons or agencies contacted.
        (2) Oral reports, not otherwise required to be provided pursuant to subparagraph b.1 above, shall be provided to the Department's Central District Office within 24 hours from the time the permittee becomes aware of the circumstances.

c. If the oral report has been received within 24 hours, the noncompliance has been corrected, and the noncompliance did not endanger health or the environment, the Department's Central District Office shall waive the written report.

[62-620.610(20)]

21. The permittee shall report all instances of noncompliance not reported under Permit Conditions IX.17., IX.18., or IX.19. of this permit at the time monitoring reports are submitted. This report shall contain the same information required by Permit Condition IX.20. of this permit. *[62-620.610(21)]*

22. Bypass Provisions.

    a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment works.

    b. Bypass is prohibited, and the Department may take enforcement action against a permittee for bypass, unless the permittee affirmatively demonstrates that:
       (1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and
       (2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
       (3) The permittee submitted notices as required under Permit Condition IX.22.c. of this permit.

    c. If the permittee knows in advance of the need for a bypass, it shall submit prior notice to the Department, if possible at least 10 days before the date of the bypass. The permittee shall submit notice of an unanticipated bypass within 24 hours of learning about the bypass as required in Permit Condition IX.20. of this permit. A notice shall include a description of the bypass and its cause; the period of the bypass, including exact dates and times; if the bypass has not been corrected, the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent recurrence of the bypass.

    d. The Department shall approve an anticipated bypass, after considering its adverse effect, if the permittee demonstrates that it will meet the three conditions listed in Permit Condition IX.22.b.(1) through (3) of this permit.

    e. A permittee may allow any bypass to occur which does not cause reclaimed water or effluent limitations to be exceeded if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Permit Condition IX.22.b. through d. of this permit.

[62-620.610(22)]

23. Upset Provisions.

    a. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based effluent limitations because of factors beyond the reasonable control of the permittee.
       (1) An upset does not include noncompliance caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, careless or improper operation.
       (2) An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of upset provisions of Rule 62-620.610, F.A.C., are met.

    b. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed contemporaneous operating logs, or other relevant evidence that:
       (1) An upset occurred and that the permittee can identify the cause(s) of the upset;
       (2) The permitted facility was at the time being properly operated;
       (3) The permittee submitted notice of the upset as required in Permit Condition IX.20. of this permit; and
       (4) The permittee complied with any remedial measures required under Permit Condition IX.5. of this permit.

c. In any enforcement proceeding, the burden of proof for establishing the occurrence of an upset rests with the permittee.

d. Before an enforcement proceeding is instituted, no representation made during the Department review of a claim that noncompliance was caused by an upset is final agency action subject to judicial review.

[62-620.610(23)]

Executed in Orlando, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Christianne C. Ferraro, P.E.
Administrator
Water Permitting Program

Permit Issuance Date: September 9, 2014

Attachment(s):
Discharge Monitoring Report
"Pathogen Monitoring" Form

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

When Completed mail this report to: Department of Environmental Protection, 3319 Maguire Blvd, Suite 232, Orlando, FL 32803-3767

PERMITTEE NAME:	Belleview, City of	PERMIT NUMBER:	FLA010678-007-DW1P	**Effective Date:**	October 22, 2014
MAILING ADDRESS:	5343 SE Abshier Blvd			**Expiration Date:**	October 21, 2019
	Belleview, Florida 34420-3914	LIMIT:	Final	REPORT FREQUENCY:	Monthly
		CLASS SIZE:	N/A	PROGRAM:	Domestic
FACILITY:	Belleview WWTF	MONITORING GROUP NUMBER:	R-001		
LOCATION:	SE 116th Street at S.E. 58th Ave.	MONITORING GROUP DESCRIPTION:	Restricted Access Sprayfield, with Influent		
	Belleview, FL 34420	RE-SUBMITTED DMR: ☐			
		NO DISCHARGE FROM SITE: ☐			
COUNTY:	Marion	MONITORING PERIOD From:	_____ To: _____		
OFFICE:	Central District				

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Flow (Sprayfield)	Sample Measurement										
PARM Code 50050 Y Mon. Site No. FLW-1	Permit Requirement		0.3 (An.Avg.)	MGD						5 Days/Week	Elapsed Time Meter
Flow (Sprayfield)	Sample Measurement										
PARM Code 50050 1 Mon. Site No. FLW-1	Permit Requirement		Report (Mo.Avg.)	MGD						5 Days/Week	Elapsed Time Meter
BOD, Carbonaceous 5 day, 20C	Sample Measurement										
PARM Code 80082 Y Mon. Site No. EFA-1	Permit Requirement					20.0 (An.Avg.)		mg/L		Weekly	16-hr FPC
BOD, Carbonaceous 5 day, 20C	Sample Measurement										
PARM Code 80082 A Mon. Site No. EFA-1	Permit Requirement				60.0 (Max.)	45.0 (Wk.Avg.)	30.0 (Mo.Avg.)	mg/L		Weekly	16-hr FPC
Solids, Total Suspended	Sample Measurement										
PARM Code 00530 Y Mon. Site No. EFA-1	Permit Requirement					20 (An.Avg.)		mg/L		Weekly	16-hr FPC
Solids, Total Suspended	Sample Measurement										
PARM Code 00530 A Mon. Site No. EFA-1	Permit Requirement				60 (Max.)	45 (Wk.Avg.)	30 (Mo.Avg.)	mg/L		Weekly	16-hr FPC

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here):

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Belleview WWTF MONITORING GROUP NUMBER: R-001 PERMIT NUMBER: FLA010678-007-DW1P

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Coliform, Fecal	Sample Measurement										
PARM Code 74055 Y Mon. Site No. EFA-1	Permit Requirement					200 (An.Avg.)		#/100mL		Weekly	Grab
Coliform, Fecal	Sample Measurement										
PARM Code 74055 A Mon. Site No. EFA-1	Permit Requirement					200 (Mo.Geo.Mn.)	800 (Max.)	#/100mL		Weekly	Grab
pH	Sample Measurement										
PARM Code 00400 A Mon. Site No. EFA-1	Permit Requirement				6.0 (Min.)		8.5 (Max.)	s.u.		Continuous	Meter
Chlorine, Total Residual (For Disinfection)	Sample Measurement										
PARM Code 50060 A Mon. Site No. EFA-1	Permit Requirement				0.5 (Min.)			mg/L		Continuous	Meter
Flow (through plant)	Sample Measurement										
PARM Code 50050 P Mon. Site No. CAL-1	Permit Requirement		0.76 (An.Avg.)	MGD						5 Days/Week	Flow Totalizer
Flow (through plant)	Sample Measurement										
PARM Code 50050 Q Mon. Site No. CAL-1	Permit Requirement	Report (Qt.Avg.)	Report (Mo.Avg.)	MGD						5 Days/Week	Flow Totalizer
Percent Capacity, (TMADF/ Permitted Capacity) x 100	Sample Measurement										
PARM Code 00180 P Mon. Site No. CAL-1	Permit Requirement						Report (Mo.Total)	percent		Monthly	Calculated
BOD, Carbonaceous 5 day, 20C (Influent)	Sample Measurement										
PARM Code 80082 G Mon. Site No. INF-1	Permit Requirement						Report (Max.)	mg/L		Weekly	16-hr FPC
Solids, Total Suspended (Influent)	Sample Measurement										
PARM Code 00530 G Mon. Site No. INF-1	Permit Requirement						Report (Max.)	mg/L		Weekly	16-hr FPC

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

When Completed mail this report to: Department of Environmental Protection, 3319 Maguire Blvd, Suite 232, Orlando, FL 32803-3767

PERMITTEE NAME:	Belleview, City of	PERMIT NUMBER:	FLA010678-007-DW1P		
MAILING ADDRESS:	5343 SE Abshier Blvd				
	Belleview, Florida 34420-3914	LIMIT:	Final	REPORT FREQUENCY:	Monthly
		CLASS SIZE:	N/A	PROGRAM:	Domestic
FACILITY:	Belleview WWTF	MONITORING GROUP NUMBER:	R-002		
LOCATION:	SE 116th Street at S.E. 58th Ave.	MONITORING GROUP DESCRIPTION:	Baseline Golf Course and Spruce Creek Golf Course		
	Belleview, FL 34420	RE-SUBMITTED DMR: ☐			
		NO DISCHARGE FROM SITE: ☐			
COUNTY:	Marion	MONITORING PERIOD From:	_____ To: _____		
OFFICE:	Central District				

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Flow (Public Access Reuse)	Sample Measurement										
PARM Code 50050 Y Mon. Site No. CAL-2	Permit Requirement		1.3 (An.Avg.)	MGD						5 Days/Week	Calculated
Flow (Public Access Reuse)	Sample Measurement										
PARM Code 50050 P Mon. Site No. CAL-2	Permit Requirement		Report (Mo.Avg.)	MGD						5 Days/Week	Calculated
Flow (Flow to Baseline G C)	Sample Measurement										
PARM Code 50050 1 Mon. Site No. FLW-2	Permit Requirement		0.3 (An.Avg.)	MGD						5 Days/Week	Flow Totalizer
Flow (Flow to Baseline G C)	Sample Measurement										
PARM Code 50050 Q Mon. Site No. FLW-2	Permit Requirement		Report (Mo.Avg.)	MGD						5 Days/Week	Flow Totalizer
Flow (to Spruce Creek G C)	Sample Measurement										
PARM Code 50050 R Mon. Site No. FLW-3	Permit Requirement		1.0 (An.Avg.)	MGD						5 Days/Week	Flow Totalizer
Flow (to Spruce Creek G C)	Sample Measurement										
PARM Code 50050 S Mon. Site No. FLW-3	Permit Requirement		Report (Mo.Avg.)	MGD						5 Days/Week	Flow Totalizer

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here):

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Belleview WWTF MONITORING GROUP NUMBER: R-002 PERMIT NUMBER: FLA010678-007-DW1P

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Flow (Supplemental stormwater)	Sample Measurement										
PARM Code 50050 T Mon. Site No. FLW-4	Permit Requirement		Report (An.Avg.)	MGD						5 Days/Week	Flow Totalizer
Flow (Supplemental stormwater)	Sample Measurement										
PARM Code 50050 U Mon. Site No. FLW-4	Permit Requirement		Report (Mo.Avg.)	MGD						5 Days/Week	Flow Totalizer
BOD, Carbonaceous 5 day, 20C	Sample Measurement										
PARM Code 80082 Y Mon. Site No. EFA-1	Permit Requirement					20.0 (An.Avg.)		mg/L		Weekly	16-hr FPC
BOD, Carbonaceous 5 day, 20C	Sample Measurement										
PARM Code 80082 A Mon. Site No. EFA-1	Permit Requirement				60.0 (Max.)	45.0 (Wk.Avg.)	30.0 (Mo.Avg.)	mg/L		Weekly	16-hr FPC
Solids, Total Suspended	Sample Measurement										
PARM Code 00530 B Mon. Site No. EFB-1	Permit Requirement						5.0 (Max.)	mg/L		4 Days/Week	Grab
Coliform, Fecal	Sample Measurement										
PARM Code 74055 A Mon. Site No. EFA-1	Permit Requirement						25 (Max.)	#/100mL		4 Days/Week	Grab
Coliform, Fecal, % less than detection	Sample Measurement										
PARM Code 51005 A Mon. Site No. EFA-1	Permit Requirement				75 (Min.Mo.Total)			percent		4 Days/Week	Calculated
pH	Sample Measurement										
PARM Code 00400 A Mon. Site No. EFA-1	Permit Requirement				6.0 (Min.)		8.5 (Max.)	s.u.		5 Days/Week	Grab
Chlorine, Total Residual (For Disinfection)	Sample Measurement										
PARM Code 50060 A Mon. Site No. EFA-1	Permit Requirement				1.0 (Min.)			mg/L		Continuous	Meter
Turbidity	Sample Measurement										
PARM Code 00070 B Mon. Site No. EFB-1	Permit Requirement						Report (Max.)	NTU		Continuous	Meter

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Belleview WWTF MONITORING GROUP NUMBER: R-002 PERMIT NUMBER: FLA010678-007-DW1P

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Phosphorus, Total (as P)	Sample Measurement										
PARM Code 00665 A Mon. Site No. EFA-1	Permit Requirement						Report (Max.)	mg/L		Monthly	16-hr FPC
Nitrogen, Total	Sample Measurement										
PARM Code 00600 A Mon. Site No. EFA-1	Permit Requirement						Report (Max.)	mg/L		Monthly	16-hr FPC

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

When Completed mail this report to: Department of Environmental Protection, 3319 Maguire Blvd, Suite 232, Orlando, FL 32803-3767

PERMITTEE NAME: Belleview, City of
MAILING ADDRESS: 5343 SE Abshier Blvd
Belleview, Florida 34420-3914

FACILITY: Belleview WWTF
LOCATION: SE 116th Street at S.E. 58th Ave.
Belleview, FL 34420

COUNTY: Marion
OFFICE: Central District

PERMIT NUMBER: FLA010678-007-DW1P

LIMIT: Final
CLASS SIZE: N/A
MONITORING GROUP NUMBER: RMP-Q
MONITORING GROUP DESCRIPTION: Biosolids Quantity
RE-SUBMITTED DMR: ☐
NO DISCHARGE FROM SITE: ☐
MONITORING PERIOD From: _____ To: _____

REPORT FREQUENCY: Monthly
PROGRAM: Domestic

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Biosolids Quantity (Transferred)	Sample Measurement										
PARM Code B0007 + Mon. Site No. RMP-1	Permit Requirement		Report (Mo.Total)	dry tons						Monthly	Calculated
Biosolids Quantity (Landfilled)	Sample Measurement										
PARM Code B0008 + Mon. Site No. RMP-1	Permit Requirement		Report (Mo.Total)	dry tons						Monthly	Calculated

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NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here):

DAILY SAMPLE RESULTS - PART B

Permit Number: FLA010678-007-DW1P Facility: Belleview WWTF
Monitoring Period From: _____ To: _____

	Flow (through plant) MGD	BOD, Carbonaceous 5 day, 20C mg/L	Chlorine, Total Residual (For Disinfection) mg/L	Coliform, Fecal #/100mL	Nitrogen, Total mg/L	Phosphorus, Total (as P) mg/L	Solids, Total Suspended mg/L	pH s.u. (Min.)	pH s.u. (Max.)
Code	50050	80082	50060	74055	00600	00665	00530	00400	00400
Mon. Site	CAL-1	EFA-1	EFA-1	EFA-1	EFA-1	EFA-1	EFA-1	EFA-1	EFA-1
1									
2									
3									
4									
5									
6									
7									
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23									
24									
25									
26									
27									
28									
29									
30									
31									
Total									
Mo. Avg.									

PLANT STAFFING:

Day Shift Operator Class: _____ Certificate No: _____ Name: _____

Evening Shift Operator Class: _____ Certificate No: _____ Name: _____

Night Shift Operator Class: _____ Certificate No: _____ Name: _____

Lead Operator Class: _____ Certificate No: _____ Name: _____

DAILY SAMPLE RESULTS - PART B

Permit Number: FLA010678-007-DW1P Facility: Belleview WWTF
Monitoring Period From: _____ To: _____

	Solids, Total Suspended mg/L	Turbidity NTU	Flow (Sprayfield) MGD	Flow (Flow to Baseline G C) MGD	Flow (to Spruce Creek G C) MGD	Flow (Supplemental stormwater) MGD	BOD, Carbonaceous 5 day, 20C (Influent) mg/L	Solids, Total Suspended (Influent) mg/L	
Code	00530	00070	50050	50050	50050	50050	80082	00530	
Mon. Site	EFB-1	EFB-1	FLW-1	FLW-2	FLW-3	FLW-4	INF-1	INF-1	
1									
2									
3									
4									
5									
6									
7									
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26									
27									
28									
29									
30									
31									
Total									
Mo. Avg.									

PLANT STAFFING:

Day Shift Operator Class: _____ Certificate No: _____ Name: _____

Evening Shift Operator Class: _____ Certificate No: _____ Name: _____

Night Shift Operator Class: _____ Certificate No: _____ Name: _____

Lead Operator Class: _____ Certificate No: _____ Name: _____

GROUNDWATER MONITORING REPORT - PART D

Facility Name: Belleview, City of
Permit Number: FLA010678-007-DW1P
County: Marion

Monitoring Well ID: MWB-1
Well Type: Background
Description: Well Name MW-1 Sprayfield WAFR 30244 3042A14945

Report Frequency: Quarterly
Program: Domestic

Office: Central District

Re-submitted DMR: ☐

Monitoring Period From: _____ To: _____

Date Sample Obtained: _____

Time Sample Obtained: _____

Was the well purged before sampling? ___Yes ___ No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	ft	In Situ	Quarterly				
Nitrogen, Nitrate, Total (as N)	00620		Report	mg/L	Grab	Quarterly				
Chloride (as Cl)	00940		Report	mg/L	Grab	Quarterly				
Solids, Total Dissolved (TDS)	70295		Report	mg/L	Grab	Quarterly				
Coliform, Fecal	74055		Report	#/100mL	Grab	Quarterly				
pH	00400		Report	s.u.	Grab	Quarterly				
Turbidity	00070		Report	NTU	Grab	Quarterly				

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENTS AND EXPLANATION (Reference all attachments here):

GROUNDWATER MONITORING REPORT - PART D

Facility Name: Belleview, City of
Permit Number: FLA010678-007-DW1P
County: Marion

Monitoring Well ID: MWC-2
Well Type: Compliance
Description: Well Name MW-2 Sprayfield WAFR 30245 3042A14946

Report Frequency: Quarterly
Program: Domestic

Office: Central District

Re-submitted DMR: ☐

Monitoring Period From: _____ To: _____

Date Sample Obtained: _____

Time Sample Obtained: _____

Was the well purged before sampling? ___Yes ___ No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	ft	In Situ	Quarterly				
Nitrogen, Nitrate, Total (as N)	00620		10	mg/L	Grab	Quarterly				
Chloride (as Cl)	00940		250	mg/L	Grab	Quarterly				
Solids, Total Dissolved (TDS)	70295		500	mg/L	Grab	Quarterly				
Coliform, Fecal	74055		4	#/100mL	Grab	Quarterly				
pH	00400		6.5 - 8.5	s.u.	Grab	Quarterly				
Turbidity	00070		Report	NTU	Grab	Quarterly				

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NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENTS AND EXPLANATION (Reference all attachments here):

GROUNDWATER MONITORING REPORT - PART D

Facility Name: Belleview, City of
Permit Number: FLA010678-007-DW1P
County: Marion

Monitoring Well ID: MWC-3
Well Type: Compliance
Description: Well Name MW-3 Sprayfield WAFR 30246 3042A14947

Report Frequency: Quarterly
Program: Domestic

Office: Central District

Re-submitted DMR: ☐

Monitoring Period From: _____ To: _____

Date Sample Obtained: _____

Time Sample Obtained: _____

Was the well purged before sampling? ___Yes ___ No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	ft	In Situ	Quarterly				
Nitrogen, Nitrate, Total (as N)	00620		10	mg/L	Grab	Quarterly				
Chloride (as Cl)	00940		250	mg/L	Grab	Quarterly				
Solids, Total Dissolved (TDS)	70295		500	mg/L	Grab	Quarterly				
Coliform, Fecal	74055		4	#/100mL	Grab	Quarterly				
pH	00400		6.5 - 8.5	s.u.	Grab	Quarterly				
Turbidity	00070		Report	NTU	Grab	Quarterly				

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NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENTS AND EXPLANATION (Reference all attachments here):

GROUNDWATER MONITORING REPORT - PART D

Facility Name: Belleview, City of
Permit Number: FLA010678-007-DW1P
County: Marion

Monitoring Well ID: MWC-4
Well Type: Compliance
Description: Well Name MW-4 Sprayfield WAFR 30247 3042A14948

Report Frequency: Quarterly
Program: Domestic

Office: Central District

Re-submitted DMR: ☐

Monitoring Period From: _____ To: _____

Date Sample Obtained: _____

Time Sample Obtained: _____

Was the well purged before sampling? ___Yes ___ No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	ft	In Situ	Quarterly				
Nitrogen, Nitrate, Total (as N)	00620		10	mg/L	Grab	Quarterly				
Chloride (as Cl)	00940		250	mg/L	Grab	Quarterly				
Solids, Total Dissolved (TDS)	70295		500	mg/L	Grab	Quarterly				
Coliform, Fecal	74055		4	#/100mL	Grab	Quarterly				
pH	00400		6.5 - 8.5	s.u.	Grab	Quarterly				
Turbidity	00070		Report	NTU	Grab	Quarterly				

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COMMENTS AND EXPLANATION (Reference all attachments here):

GROUNDWATER MONITORING REPORT - PART D

Facility Name: Belleview, City of
Permit Number: FLA010678-007-DW1P
County: Marion
Office: Central District

Monitoring Well ID: MWB-01R
Well Type: Background
Description: Well Name MWB 1rGolf WAFR 26579
Re-submitted DMR: ☐

Report Frequency: Quarterly
Program: Domestic

Monitoring Period From: _____ To: _____

Date Sample Obtained: _____

Time Sample Obtained: _____

Was the well purged before sampling? ___Yes ___ No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	ft	In Situ	Quarterly				
Nitrogen, Nitrate, Total (as N)	00620		Report	mg/L	Grab	Quarterly				
Solids, Total Dissolved (TDS)	70295		Report	mg/L	Grab	Quarterly				
Chloride (as Cl)	00940		Report	mg/L	Grab	Quarterly				
Coliform, Fecal	74055		Report	#/100mL	Grab	Quarterly				
pH	00400		Report	s.u.	Grab	Quarterly				
Turbidity	00070		Report	NTU	Grab	Quarterly				

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENTS AND EXPLANATION (Reference all attachments here):

GROUNDWATER MONITORING REPORT - PART D

Facility Name: Belleview, City of
Permit Number: FLA010678-007-DW1P
County: Marion
Office: Central District

Monitoring Well ID: MWC-02
Well Type: Compliance
Description: Well Name MWC-02 Golf WAFR26580
Re-submitted DMR: ☐

Report Frequency: Quarterly
Program: Domestic

Monitoring Period From: _____ To: _____

Date Sample Obtained: _____

Time Sample Obtained: _____

Was the well purged before sampling? ___Yes ___ No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	ft	In Situ	Quarterly				
Nitrogen, Nitrate, Total (as N)	00620		10	mg/L	Grab	Quarterly				
Solids, Total Dissolved (TDS)	70295		500	mg/L	Grab	Quarterly				
Chloride (as Cl)	00940		250	mg/L	Grab	Quarterly				
Coliform, Fecal	74055		4	#/100mL	Grab	Quarterly				
pH	00400		6.5-8.5	s.u.	Grab	Quarterly				
Turbidity	00070		Report	NTU	Grab	Quarterly				

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NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENTS AND EXPLANATION (Reference all attachments here):

GROUNDWATER MONITORING REPORT - PART D

Facility Name: Belleview, City of
Permit Number: FLA010678-007-DW1P
County: Marion
Office: Central District

Monitoring Well ID: MWC-03
Well Type: Compliance
Description: Well Name MWC-03 Golf WAFR 26582
Re-submitted DMR: ☐

Report Frequency: Quarterly
Program: Domestic

Monitoring Period From: _____ To: _____

Date Sample Obtained: _____

Time Sample Obtained: _____

Was the well purged before sampling? ___Yes ___ No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	ft	In Situ	Quarterly				
Nitrogen, Nitrate, Total (as N)	00620		10	mg/L	Grab	Quarterly				
Solids, Total Dissolved (TDS)	70295		500	mg/L	Grab	Quarterly				
Chloride (as Cl)	00940		250	mg/L	Grab	Quarterly				
Coliform, Fecal	74055		4	#/100mL	Grab	Quarterly				
pH	00400		6.5-8.5	s.u.	Grab	Quarterly				
Turbidity	00070		Report	NTU	Grab	Quarterly				

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NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENTS AND EXPLANATION (Reference all attachments here):

GROUNDWATER MONITORING REPORT - PART D

Facility Name: Belleview, City of
Permit Number: FLA010678-007-DW1P
County: Marion
Office: Central District

Monitoring Well ID: MWC-04
Well Type: Compliance
Description: Well Name MWC-04 Golf WAFR 26583
Re-submitted DMR: ☐

Report Frequency: Quarterly
Program: Domestic

Monitoring Period From: _____ To: _____

Date Sample Obtained: _____

Time Sample Obtained: _____

Was the well purged before sampling? ___Yes ___ No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	ft	In Situ	Quarterly				
Nitrogen, Nitrate, Total (as N)	00620		10	mg/L	Grab	Quarterly				
Solids, Total Dissolved (TDS)	70295		500	mg/L	Grab	Quarterly				
Chloride (as Cl)	00940		250	mg/L	Grab	Quarterly				
Coliform, Fecal	74055		4	#/100mL	Grab	Quarterly				
pH	00400		6.5-8.5	s.u.	Grab	Quarterly				
Turbidity	00070		Report	NTU	Grab	Quarterly				

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENTS AND EXPLANATION (Reference all attachments here):

INSTRUCTIONS FOR COMPLETING THE WASTEWATER DISCHARGE MONITORING REPORT

Read these instructions before completing the DMR. Hard copies and/or electronic copies of the required parts of the DMR were provided with the permit. All required information shall be completed in full and typed or printed in ink. A signed, original DMR shall be mailed to the address printed on the DMR by the 28th of the month following the monitoring period. Facilities who submit their DMR(s) electronically through eDMR do not need to submit a hardcopy DMR. The DMR shall not be submitted before the end of the monitoring period.

The DMR consists of three parts--A, B, and D--all of which may or may not be applicable to every facility. Facilities may have one or more Part A's for reporting effluent or reclaimed water data. All domestic wastewater facilities will have a Part B for reporting daily sample results. Part D is used for reporting ground water monitoring well data.

When results are not available, the following codes should be used on parts A and D of the DMR and an explanation provided where appropriate. Note: Codes used on Part B for raw data are different.

CODE	DESCRIPTION/INSTRUCTIONS
ANC	Analysis not conducted.
DRY	Dry Well
FLD	Flood disaster.
IFS	Insufficient flow for sampling.
LS	Lost sample.
MNR	Monitoring not required this period.

CODE	DESCRIPTION/INSTRUCTIONS
NOD	No discharge from/to site.
OPS	Operations were shutdown so no sample could be taken.
OTH	Other. Please enter an explanation of why monitoring data were not available.
SEF	Sampling equipment failure.

When reporting analytical results that fall below a laboratory's reported method detection limits or practical quantification limits, the following instructions should be used, unless indicated otherwise in the permit or on the DMR:

1. Results greater than or equal to the PQL shall be reported as the measured quantity.
2. Results less than the PQL and greater than or equal to the MDL shall be reported as the laboratory's MDL value. These values shall be deemed equal to the MDL when necessary to calculate an average for that parameter and when determining compliance with permit limits.
3. Results less than the MDL shall be reported by entering a less than sign ("<") followed by the laboratory's MDL value, e.g. < 0.001. A value of one-half the MDL or one-half the effluent limit, whichever is lower, shall be used for that sample when necessary to calculate an average for that parameter. Values less than the MDL are considered to demonstrate compliance with an effluent limitation.

PART A -DISCHARGE MONITORING REPORT (DMR)

Part A of the DMR is comprised of one or more sections, each having its own header information. Facility information is preprinted in the header as well as the monitoring group number, whether the limits and monitoring requirements are interim or final, and the required submittal frequency (e.g. monthly, annually, quarterly, etc.). Submit Part A based on the required reporting frequency in the header and the instructions shown in the permit. The following should be completed by the permittee or authorized representative:

Resubmitted DMR: Check this box if this DMR is being re-submitted because there was information missing from or information that needed correction on a previously submitted DMR. The information that is being revised should be clearly noted on the re-submitted DMR (e.g. highlight, circle, etc.)
No Discharge From Site: Check this box if no discharge occurs and, as a result, there are no data or codes to be entered for all of the parameters on the DMR for the entire monitoring group number; however, if the monitoring group includes other monitoring locations (e.g., influent sampling), the "NOD" code should be used to individually denote those parameters for which there was no discharge.
Monitoring Period: Enter the month, day, and year for the first and last day of the monitoring period (i.e. the month, the quarter, the year, etc.) during which the data on this report were collected and analyzed.
Sample Measurement: Before filling in sample measurements in the table, check to see that the data collected correspond to the limit indicated on the DMR (i.e. interim or final) and that the data correspond to the monitoring group number in the header. Enter the data or calculated results for each parameter on this row in the non-shaded area above the limit. Be sure the result being entered corresponds to the appropriate statistical base code (e.g. annual average, monthly average, single sample maximum, etc.) and units. Data qualifier codes are not to be reported on Part A.
No. Ex.: Enter the number of sample measurements during the monitoring period that exceeded the permit limit for each parameter in the non-shaded area. If none, enter zero.
Frequency of Analysis: The shaded areas in this column contain the minimum number of times the measurement is required to be made according to the permit. Enter the actual number of times the measurement was made in the space above the shaded area.
Sample Type: The shaded areas in this column contain the type of sample (e.g. grab, composite, continuous) required by the permit. Enter the actual sample type that was taken in the space above the shaded area.
Signature: This report must be signed in accordance with Rule 62-620.305, F.A.C. Type or print the name and title of the signing official. Include the telephone number where the official may be reached in the event there are questions concerning this report. Enter the date when the report is signed.
Comment and Explanation of Any Violations: Use this area to explain any exceedances, any upset or by-pass events, or other items which require explanation. If more space is needed, reference all attachments in this area.

PART B - DAILY SAMPLE RESULTS

Monitoring Period: Enter the month, day, and year for the first and last day of the monitoring period (i.e. the month, the quarter, the year, etc.) during which the data on this report were collected and analyzed.
Daily Monitoring Results: Transfer all analytical data from your facility's laboratory or a contract laboratory's data sheets for all day(s) that samples were collected. Record the data in the units indicated. Table 1 in Chapter 62-160, F.A.C., contains a complete list of all the data qualifier codes that your laboratory may use when reporting analytical results. However, when transferring numerical results onto Part B of the DMR, only the following data qualifier codes should be used and an explanation provided where appropriate.

CODE	DESCRIPTION/INSTRUCTIONS
<	The compound was analyzed for but not detected.
A	Value reported is the mean (average) of two or more determinations.
J	Estimated value, value not accurate.
Q	Sample held beyond the actual holding time.
Y	Laboratory analysis was from an unpreserved or improperly preserved sample.

To calculate the monthly average, add each reported value to get a total. For flow, divide this total by the number of days in the month. For all other parameters, divide the total by the number of observations.
Plant Staffing: List the name, certificate number, and class of all state certified operators operating the facility during the monitoring period. Use additional sheets as necessary.

PART D - GROUND WATER MONITORING REPORT

Monitoring Period: Enter the month, day, and year for the first and last day of the monitoring period (i.e. the month, the quarter, the year, etc.) during which the data on this report were collected and analyzed.
Date Sample Obtained: Enter the date the sample was taken. Also, check whether or not the well was purged before sampling.
Time Sample Obtained: Enter the time the sample was taken.
Sample Measurement: Record the results of the analysis. If the result was below the minimum detection limit, indicate that. Data qualifier codes are not to be reported on Part D.
Detection Limits: Record the detection limits of the analytical methods used.
Analysis Method: Indicate the analytical method used. Record the method number from Chapter 62-160 or Chapter 62-601, F.A.C., or from other sources.
Sampling Equipment Used: Indicate the procedure used to collect the sample (e.g. airlift, bucket/bailer, centrifugal pump, etc.)
Samples Filtered: Indicate whether the sample obtained was filtered by laboratory (L), filtered in field (F), or unfiltered (N).
Signature: This report must be signed in accordance with Rule 62-620.305, F.A.C. Type or print the name and title of the signing official. Include the telephone number where the official may be reached in the event there are questions concerning this report. Enter the date when the report is signed.
Comments and Explanation: Use this space to make any comments on or explanations of results that are unexpected. If more space is needed, reference all attachments in this area.

SPECIAL INSTRUCTIONS FOR LIMITED WET WEATHER DISCHARGES

Flow (Limited Wet Weather Discharge): Enter the measured average flow rate during the period of discharge or divide gallons discharged by duration of discharge (converted into days). Record in million gallons per day (MGD).
Flow (Upstream): Enter the average flow rate in the receiving stream upstream from the point of discharge for the period of discharge. The average flow rate can be calculated based on two measurements; one made at the start and one made at the end of the discharge period. Measurements are to be made at the upstream gauging station described in the permit.
Actual Stream Dilution Ratio: To calculate the Actual Stream Dilution Ratio, divide the average upstream flow rate by the average discharge flow rate. Enter the Actual Stream Dilution Ratio accurate to the nearest 0.1.
No. of Days the SDF > Stream Dilution Ratio: For each day of discharge, compare the minimum Stream Dilution Factor (SDF) from the permit to the calculated Stream Dilution Ratio. On Part B of the DMR, enter an asterisk (*) if the SDF is greater than the Stream Dilution Ratio on any day of discharge. On Part A of the DMR, add up the days with an "*" and record the total number of days the Stream Dilution Factor was greater than the Stream Dilution Ratio.
$CBOD_5$: Enter the average $CBOD_5$ of the reclaimed water discharged during the period shown in duration of discharge.
TKN: Enter the average TKN of the reclaimed water discharged during the period shown in duration of discharge.
Actual Rainfall: Enter the actual rainfall for each day on Part B. Enter the actual cumulative rainfall to date for this calendar year and the actual total monthly rainfall on Part A. The cumulative rainfall to date for this calendar year is the total amount of rain, in inches, that has been recorded since January 1 of the current year through the month for which this DMR contains data.
Rainfall During Average Rainfall Year: On Part A, enter the total monthly rainfall during the average rainfall year and the cumulative rainfall for the average rainfall year. The cumulative rainfall for the average rainfall year is the amount of rain, in inches, which fell during the average rainfall year from January through the month for which this DMR contains data.
No. of Days LWWD Activated During Calendar Year: Enter the cumulative number of days that the limited wet weather discharge was activated since January 1 of the current year.
Reason for Discharge: Attach to the DMR a brief explanation of the factors contributing to the need to activate the limited wet weather discharge.

wet weather discharge.

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

When Completed mail this report to: Department of Environmental Protection, 3319 Maguire Blvd, Suite 232, Orlando, FL 32803-3767

PERMITTEE NAME: Belleview, City of
MAILING ADDRESS: 5343 SE Abshier Blvd
Belleview, Florida 34420-3914

FACILITY: Belleview WWTF
LOCATION: SE 116th Street at S.E. 58th Ave.
Belleview, FL 34420

COUNTY: Marion
OFFICE: Central District

PERMIT NUMBER: FLA010678-007-DW1P

LIMIT: Final
CLASS SIZE: N/A
MONITORING GROUP NUMBER: RWS-A
MONITORING GROUP DESCRIPTION: Annual Reclaimed Water or Effluent Analysis
RE-SUBMITTED DMR: ☐
NO DISCHARGE FROM SITE: ☐
MONITORING NOT REQUIRED: ☐
MONITORING PERIOD From: _____ To: _____

REPORT FREQUENCY: Annually
PROGRAM: Domestic

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Antimony, Total Recoverable (GWS = 6)*	Sample Measurement										
PARM Code 01268 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Arsenic, Total Recoverable (GWS = 10)	Sample Measurement										
PARM Code 00978 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Barium, Total Recoverable (GWS = 2,000)	Sample Measurement										
PARM Code 01009 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Beryllium, Total Recoverable (GWS = 4)	Sample Measurement										
PARM Code 00998 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Cadmium, Total Recoverable (GWS = 5)	Sample Measurement										
PARM Code 01113 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Chromium, Total Recoverable (GWS =100)	Sample Measurement										
PARM Code 01118 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC

*GROUND WATER STANDARD (GWS) FOR REFERENCE AND REVIEW ONLY.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here):

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Belleview WWTF MONITORING GROUP NUMBER: RWS-A PERMIT NUMBER: FLA010678-007-DW1P

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Cyanide, Free (amen. to chlorination)(GWS = 200)	Sample Measurement										
PARM Code 00722 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
Fluoride, Total (as F) (GWS = 4.0/2.0)	Sample Measurement										
PARM Code 00951 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	mg/L		Annually	24-hr FPC
Lead, Total Recoverable (GWS = 15)	Sample Measurement										
PARM Code 01114 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Mercury, Total Recoverable (GWS = 2)	Sample Measurement										
PARM Code 71901 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Nickel, Total Recoverable (GWS = 100)	Sample Measurement										
PARM Code 01074 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Nitrogen, Nitrate, Total (as N) (GWS = 10)	Sample Measurement										
PARM Code 00620 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	mg/L		Annually	24-hr FPC
Nitrogen, Nitrite, Total (as N) (GWS = 1)	Sample Measurement										
PARM Code 00615 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	mg/L		Annually	24-hr FPC
Nitrite plus Nitrate, Total 1 det. (as N)(GWS = 10)	Sample Measurement										
PARM Code 00630 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	mg/L		Annually	24-hr FPC
Selenium, Total Recoverable (GWS =50)	Sample Measurement										
PARM Code 00981 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Sodium, Total Recoverable (GWS = 160)	Sample Measurement										
PARM Code 00923 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	mg/L		Annually	24-hr FPC

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Belleview WWTF MONITORING GROUP NUMBER: RWS-A PERMIT NUMBER: FLA010678-007-DW1P

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Thallium, Total Recoverable (GWS = 2)	Sample Measurement										
PARM Code 00982 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
1,1-dichloroethylene (GWS = 7)	Sample Measurement										
PARM Code 34501 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
1,1,1-trichloroethane (GWS = 200)	Sample Measurement										
PARM Code 34506 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
1,1,2-trichloroethane (GWS = 5)	Sample Measurement										
PARM Code 34511 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
1,2-dichloroethane (GWS = 3)	Sample Measurement										
PARM Code 32103 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
1,2-dichloropropane (GWS = 5)	Sample Measurement										
PARM Code 34541 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
1,2,4-trichlorobenzene (GWS = 70)	Sample Measurement										
PARM Code 34551 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Benzene (GWS = 1)	Sample Measurement										
PARM Code 34030 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
Carbon tetrachloride (GWS = 3)	Sample Measurement										
PARM Code 32102 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
Cis-1,2-dichloroethene (GWS = 70)	Sample Measurement										
PARM Code 81686 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Belleview WWTF MONITORING GROUP NUMBER: RWS-A PERMIT NUMBER: FLA010678-007-DW1P

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Dichloromethane (methylene chloride)(GWS = 5)	Sample Measurement										
PARM Code 03821 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
Ethylbenzene (GWS = 700)	Sample Measurement										
PARM Code 34371 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
Monochlorobenzene (GWS = 100)	Sample Measurement										
PARM Code 34031 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
1,2-dichlorobenzene (GWS = 600)	Sample Measurement										
PARM Code 34536 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
1,4-dichlorobenzene (GWS = 75)	Sample Measurement										
PARM Code 34571 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
Styrene, Total (GWS = 100)	Sample Measurement										
PARM Code 77128 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
Tetrachloroethylene (GWS = 3)	Sample Measurement										
PARM Code 34475 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
Toluene (GWS = 1,000)	Sample Measurement										
PARM Code 34010 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
1,2-trans-dichloroethylene (GWS = 100)	Sample Measurement										
PARM Code 34546 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
Trichloroethylene (GWS = 3)	Sample Measurement										
PARM Code 39180 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Belleview WWTF MONITORING GROUP NUMBER: RWS-A PERMIT NUMBER: FLA010678-007-DW1P

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Vinyl chloride (GWS = 1)	Sample Measurement										
PARM Code 39175 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
Xylenes (GWS = 10,000)	Sample Measurement										
PARM Code 81551 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
2,3,7,8-tetrachlorodibenzo-p-dioxin(GWS = 3x10^-5)	Sample Measurement										
PARM Code 34675 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
2,4-dichlorophenoxyacetic acid (GWS = 70)	Sample Measurement										
PARM Code 39730 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Silvex (GWS = 50)	Sample Measurement										
PARM Code 39760 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Alachlor (GWS = 2)	Sample Measurement										
PARM Code 39161 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Atrazine (GWS = 3)	Sample Measurement										
PARM Code 39033 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Benzo(a)pyrene (GWS = 0.2)	Sample Measurement										
PARM Code 34247 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Carbofuran (GWS = 40)	Sample Measurement										
PARM Code 81405 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Chlordane (tech mix. and metabolites)(GWS = 2)	Sample Measurement										
PARM Code 39350 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Belleview WWTF MONITORING GROUP NUMBER: RWS-A PERMIT NUMBER: FLA010678-007-DW1P

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Dalapon (GWS = 200)	Sample Measurement										
PARM Code 38432 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Bis(2-ethylhexyl)adipate (GWS = 400)	Sample Measurement										
PARM Code 77903 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Bis (2-ethylhexyl) phthalate (GWS = 6)	Sample Measurement										
PARM Code 39100 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Dibromochloropropane (DBCP) (GWS = 0.2)	Sample Measurement										
PARM Code 82625 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
Dinoseb (GWS = 7)	Sample Measurement										
PARM Code 30191 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Diquat (GWS = 20)	Sample Measurement										
PARM Code 04443 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Endothall (GWS = 100)	Sample Measurement										
PARM Code 38926 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Endrin (GWS = 2)	Sample Measurement										
PARM Code 39390 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Ethylene dibromide (1,2-dibromoethane)(GWS = 0.02)	Sample Measurement										
PARM Code 77651 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	Grab
Glyphosate (GWS = 0.7)	Sample Measurement										
PARM Code 79743 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	mg/L		Annually	24-hr FPC

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Belleview WWTF MONITORING GROUP NUMBER: RWS-A PERMIT NUMBER: FLA010678-007-DW1P

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Heptachlor (GWS = 0.4)	Sample Measurement										
PARM Code 39410 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Heptachlor epoxide (GWS = 0.2)	Sample Measurement										
PARM Code 39420 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Hexachlorobenzene (GWS = 1)	Sample Measurement										
PARM Code 39700 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Hexachlorocyclopentadiene (GWS = 50)	Sample Measurement										
PARM Code 34386 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Gamma BHC (Lindane) (GWS = 0.2)	Sample Measurement										
PARM Code 39782 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Methoxychlor (GWS = 40)	Sample Measurement										
PARM Code 39480 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Oxamyl (vydate) (GWS = 200)	Sample Measurement										
PARM Code 38865 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Pentachlorophenol (GWS = 1)	Sample Measurement										
PARM Code 39032 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Picloram (GWS = 500)	Sample Measurement										
PARM Code 39720 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Polychlorinated Biphenyls (PCBs)(GWS = 0.5)	Sample Measurement										
PARM Code 39516 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Belleview WWTF MONITORING GROUP NUMBER: RWS-A PERMIT NUMBER: FLA010678-007-DW1P

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Simazine (GWS = 4)	Sample Measurement										
PARM Code 39055 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Toxaphene (GWS = 3)	Sample Measurement										
PARM Code 39400 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Trihalomethane, Total by summation(GWS = 0.080)	Sample Measurement										
PARM Code 82080 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	mg/L		Annually	Grab
Radium 226 + Radium 228, Total (GWS = 5)	Sample Measurement										
PARM Code 11503 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	pCi/L		Annually	24-hr FPC
Alpha, Gross Particle Activity (GWS = 15)	Sample Measurement										
PARM Code 80045 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	pCi/L		Annually	24-hr FPC
Aluminum, Total Recoverable (GWS = 0.2)	Sample Measurement										
PARM Code 01104 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	mg/L		Annually	24-hr FPC
Chloride (as Cl) (GWS = 250)	Sample Measurement										
PARM Code 00940 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	mg/L		Annually	24-hr FPC
Iron, Total Recoverable (GWS = 0.3)	Sample Measurement										
PARM Code 00980 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	mg/L		Annually	24-hr FPC
Copper, Total Recoverable (GWS = 1,000)	Sample Measurement										
PARM Code 01119 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Manganese, Total Recoverable (GWS = 50)	Sample Measurement										
PARM Code 11123 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Belleview WWTF MONITORING GROUP NUMBER: RWS-A PERMIT NUMBER: FLA010678-007-DW1P

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Silver, Total Recoverable (GWS = 100)	Sample Measurement										
PARM Code 01079 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
Sulfate, Total (GWS = 250)	Sample Measurement										
PARM Code 00945 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	mg/L		Annually	24-hr FPC
Zinc, Total Recoverable (GWS = 5,000)	Sample Measurement										
PARM Code 01094 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	ug/L		Annually	24-hr FPC
pH (GWS = 6.5-8.5)	Sample Measurement										
PARM Code 00400 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	s.u.		Annually	Grab
Solids, Total Dissolved (TDS) (GWS = 500)	Sample Measurement										
PARM Code 70295 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	mg/L		Annually	24-hr FPC
Foaming Agents (GWS = 0.5)	Sample Measurement										
PARM Code 01288 P Mon. Site No. RWS-A	Permit Requirement						Report (Max.)	mg/L		Annually	24-hr FPC

Florida Department of Environmental Protection

Twin Towers Office Bldg., 2600 Blair Stone Road, Tallahassee, Florida 32399-2400

PATHOGEN MONITORING

Part I - Instructions

1. Completion of this report is required by Rules 62-610.463(4), 62-610.472(3)(d), 62-610.525(13), 62-610.568(11), 62-610.568(12), and 62-610.652(6)(c), F.A.C., for all domestic wastewater facilities that provide reclaimed water to certain types of reuse activities. The schedule for sampling and reporting shall be in accordance with the permit for the facility. If a schedule for sampling or re-sampling is not included in the permit, the following schedule shall apply:

   a. Routine Sampling:

      If sampling is required once every two years, this report shall be submitted on or before November 28 of each even numbered year (2006, 2008, 2010, etc.).

      If sampling is required once every five years, this report shall be submitted with the application for permit renewal.

      If sampling is required quarterly, this report shall be submitted on or before February 28, May 28, August 28, and November 28 of each year.

   b. Subsequent Re-Sampling:

      If subsequent re-sampling is required by Item 9 in Part I of this form, this form shall be submitted for the subsequent re-sampling(s) in accordance with the schedule established in Item 9 in Part I of this form.

2. Submit one copy of this form and a copy of the laboratory's final report for the analysis of *Giardia* and *Cryptosporidium* to each of the following two addresses:

   a. The appropriate DEP district office (attention Domestic Wastewater Program). Addresses for the DEP district offices are available at www.dep.state.fl.us/secretary/dist/default.htm.

   b. DEP Water Reuse Coordinator
      Mail Station 3540
      2600 Blair Stone Road
      Tallahassee, Florida 32399-2400

3. Please type or print legibly.

4. In Part II, Items 7 through 12 need to be completed only if this is the first submittal of this report, if the information in Items 7 through 12 has changed since the last submittal, or if the information in any of these questions has not been previously provided.

5. Part III is to be used when sampling for *Giardia* and *Cryptosporidium* at the treatment plant. Part III is also to be used when sampling for *Giardia* and *Cryptosporidium* in a supplemental water supply (see Rule 62-610.472, F.A.C.).

6. For each sample, record the sample volume obtained in liters.

7. For *Giardia*, record the concentrations in cysts per 100 liters. For *Cryptosporidium*, record the concentrations in oocysts per 100 liters. Sufficient sample volumes shall be collected and processed such that the detection limit is no greater than 5 cysts or oocysts per 100 liters. Detection levels on the order of 1 cyst or oocyst per 100 liters are recommended. If an observation is less than the detection limit, make an entry in the form "<2" (where 2 per 100 liters is the detection limit in this example). The actual detection limit will be dictated by the volumes of sample obtained, filtered, and processed. Do NOT record nondetectable values as zero.

8. EPA Method 1623 or other approved methods for reclaimed water or nonpotable waters, adjusted appropriately to accommodate the detection limit requirements, shall be used. Methods previously allowed for EPA's Information Collection Rule (ICR) shall not be used. The full requirements of the approved method, including quality assurance and quality control, are to be met. Quality assurance and sampling requirements in Chapter 62-160, F.A.C., shall apply.

   Two concentrations of *Giardia* and *Cryptosporidium* shall be recorded on Part III of this form:

   a. Total cysts and oocysts shall be enumerated using EPA Method 1623 or other approved methods.

   b. Potentially viable cysts and oocysts shall be enumerated using the DAPI staining technique contained in EPA Method 1623 or similar enumeration techniques included in other approved methods. Cysts and oocysts that are stained DAPI positive or show internal structure by D.I.C. shall be considered as being potentially viable. If the laboratory reports separate values for DAPI positive and for cysts or oocysts having internal structure, the larger of the two concentrations will be reported as being potentially viable.

9. If the number of potentially viable cysts of *Giardia* reported exceeds 5 per 100 liters, a subsequent sample shall be taken and analyzed using EPA Method 1623 or other approved methods and reported using this form. If the number of potentially viable oocysts of *Cryptosporidium* reported exceeds 22 per 100 liters, a subsequent sample shall be taken and analyzed using EPA Method 1623 or other approved methods and reported using this form. This subsequent sample shall be collected within 90 days of the date the initial sample was taken, analyzed for both *Giardia* and *Cryptosporidium*, and the results of the subsequent analysis shall be submitted to DEP using this form within 60 days of sample collection.

10. Rule 62-160.300, F.A.C., requires that all laboratories generating environmental data for submission to the DEP shall hold certification from the Department of Health's (DOH) Environmental Laboratory Certification Program (ELCP). Certification by the ELCP for analysis of *Giardia* and *Cryptosporidium* using EPA Method 1623 for non-potable waters is required. If other approved methods are used, certification by the ELCP is required for the specific method and for the test matrix. Lists of certified laboratories can be found at www.dep.state.fl.us/labs/cgi-bin/aams/index.asp

11. Samples shall be collected during peak flow periods (normally between the hours of 8:00 a.m. and 6:00 p.m.).

12. Recognizing that concentrations of these pathogens generally increase during the late summer through fall period, it is recommended that utilities sample during the August through October time period.

13. If the wastewater treatment facility uses chlorination for disinfection, samples obtained for analysis of *Giardia* and *Cryptosporidium* shall be dechlorinated.

14. When sampling at the treatment facility, obtain a grab sample for total suspended solids (TSS) that is representative of the water leaving the filters at the treatment facility during the period when pathogen

samples are being obtained. In addition, record the highest turbidity and the lowest total chlorine residual observed during the period when pathogen samples are being obtained.

15. When sampling a supplemental water supply, obtain a grab sample for total suspended solids (TSS) that is representative of the surface water or treated stormwater as it is added to the reclaimed water system. This TSS sample shall be taken during the period when pathogen samples are being obtained. In addition, record the lowest total chlorine residual observed during the period when pathogen samples are being obtained.

Part II - General Information

1. DEP wastewater facility identification number: **FLA010678**

   Wastewater facility name: Belleview WWTF

   Permittee name: Belleview, City of

2. Person completing this form:

   Name: _____

   Telephone: (_____)_____

   Email address: _____

3. Sampling and analysis:

   Date samples were taken: _____

   Organization collecting the samples: _____

   Was the sample dechlorinated in the field? ☐ Yes ☐ No

   Was the sample refrigerated or kept on ice during shipment to the laboratory? ☐ Yes ☐ No

   Date samples delivered to laboratory: _____

   Date analytical work was done: _____

   Laboratory doing the analysis: _____

   Laboratory's DOH Identification Number: _____

   Approved method used:

   ☐ EPA Method 1623

   ☐ Other approved method: _____

   Contact person at the laboratory: _____

   Email address of the lab contact person: _____

4. Is this the first time that this form has been submitted for the facility?

   ☐ Yes [Please complete Questions 7 through 16.]

   ☐ No [Proceed to Question 5.]

5. Is this a report of "subsequent re-sampling" required by Item 9 in Part I of this form based on concentrations of potentially viable cysts or oocysts in a previous sampling?

☐ No [Proceed to Question 6.]

☐ Yes [Attach a description of any facility or operational changes made to the treatment facilities since the time of the previous sampling and proceed to Question 6.]

6. Has the information requested in Questions 7 through 12 (below) changed since the last submittal of this form?

☐ Yes [Please complete Questions 7 through 16.]

☐ No [Proceed to Questions 13 through 16 of Part II of this form. You do not need to complete Questions 7 through 12.]

7. Type of secondary treatment system:

☐ Conventional activated sludge ☐ Extended aeration

☐ Contact stabilization ☐ Biological nutrient removal (such as Bardenpho)

☐ Other: _____

8. Does this treatment facility nitrify (convert ammonia nitrogen to nitrate)? ☐ Yes ☐ No

9. Filter type:

☐ Deep bed, single media ☐ Deep bed, multiple media

☐ Shallow bed, automatic backwash ☐ Upflow (including Dynasand)

☐ Slow rate sand filter ☐ Diatomaceous earth filter

☐ Fabric filter ☐ Cartridge filter

☐ Membranes (microfiltration, ultrafiltration, membrane bioreactor, reverse osmosis)

☐ Other: _____

10. Filter Media (complete for each type of media provided):

Top layer of media: Media type: _____

Effective size: _____ mm

Uniformity coefficient: _____

Bed depth: _____ inches

Middle layer of media: Media type: _____

Effective size: _____ mm

Uniformity coefficient: _____

Bed depth: _____ inches

Bottom layer of media: Media type: _____

Effective size: _____ mm

Uniformity coefficient: _____

Bed depth: _____ inches

11. Filter backwash water:

☐ Backwash water is returned to the headworks of the treatment plant.

☐ Backwash water is returned to the aeration basin.

☐ Other. Please describe: _____

12. Disinfection system:

☐ Chlorination, gas ☐ Hypochlorite

☐ Chlorine dioxide ☐ Chlorination, other _____

☐ Ultraviolet ☐ Ozone

☐ Other: _____

13. Is chlorine added before the filters? ☐ No ☐ Yes Dose: _____ mg/L

14. During the period that samples were taken, did you add a coagulant, coagulant aid, polyelectrolyte, or other chemical to enhance filtration?

☐ No

☐ Yes. Please list the chemicals being added and their dose.

Chemical 1 - Name: _____ Dose: _____ mg/L

Chemical 2 - Name: _____ Dose: _____ mg/L

Chemical 3 - Name: _____ Dose: _____ mg/L

15. Wastewater treatment plant permitted capacity: _____ MGD

16. Wastewater flow being treated at the time samples were collected: _____ MGD

PART III - PATHOGEN MONITORING REPORT

FACILITY ID: FLA010678
FACILITY NAME: Belleview WWTF
FACILITY ADDRESS: SE 116th Street at S.E. 58th Ave., Belleview, FL 34420
PERMITTEE NAME: Belleview, City of
MAILING ADDRESS: 5343 SE Abshier Blvd, Belleview, Florida 34420-3914
DATE OF SAMPLING: _____

Parameter	Quantity or Loading		Quality or Concentration	
	Sample Measurement	Units	Sample Measurement	Units
Treatment Plant: After Filter Monitoring Site No. EFB-1				
Turbidity PARM Code 00070				NTU
TSS PARM Code 00530				mg/L
Treatment Plant: After Disinfection Monitoring Site No. EFA-1				
Total Chlorine Residual PARM Code 50060				mg/L
Volume Collected PARM Code 71994		Liters		
Giardia, total count * PARM Code GIARD				total cysts/100 L
Giardia, potentially viable cysts * PARM Code VGIAR				potentially viable cysts/100 L
Cryptosporidium, total count * PARM Code CRYPT				total oocysts/100 L
Cryptosporidium, potentially viable oocysts * PARM Code VCRYP				potentially viable oocysts/100 L
Supplemental Water Supply (surface water or stormwater): After Treatment & Disinfection Monitoring Site No.				
TSS PARM Code 00530				mg/L
Total Chlorine Residual PARM Code 50060				mg/L
Volume Collected PARM Code 71994		Liters		
Giardia (total count) * PARM Code GIARD				total cysts/100 L
Giardia, potentially viable cysts * PARM Code VGIAR				potentially viable cysts/100 L
Cryptosporidium, total count * PARM Code CRYPT				total oocysts/100 L
Cryptosporidium, potentially viable oocysts * PARM Code VCRYP				potentially viable oocysts/100 L

* Data entries must be made for both total and potentially viable cysts and oocysts.

PART IV - CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein; and based upon my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

Name/Title of Principle Executive Officer or Authorized Agent (Type or Print)	Signature of Principle Executive Officer or Authorized Agent	Telephone No.	Date (YY/MM/DD)
	Email Address		

STATEMENT OF BASIS
FOR
STATE OF FLORIDA DOMESTIC WASTEWATER FACILITY PERMIT

PERMIT NUMBER: FLA010678-007

FACILITY NAME: Belleview WWTF

FACILITY LOCATION: SE 116th Street at S.E. 58th Ave., Belleview, FL 34420
Marion County

NAME OF PERMITTEE: Belleview, City of

PERMIT WRITER: Charles LeGros

1. SUMMARY OF APPLICATION

a. Chronology of Application

Application Number: FLA010678-007-DW1P

Application Submittal Date: May 15, 2014

b. Type of Facility

Domestic Wastewater Treatment Plant

Ownership Type: Municipal

SIC Code: 4952

c. Facility Capacity

Existing Permitted Capacity:	0.76 mgd Annual Average Daily Flow
Proposed Increase in Permitted Capacity:	0 mgd Annual Average Daily Flow
Proposed Total Permitted Capacity:	0.76 mgd Annual Average Daily Flow

d. Description of Wastewater Treatment

An existing 0.76 million gallon day (mgd) annual average daily flow (AADF) permitted capacity domestic wastewater treatment plant consisting of influent screening, sequence batch reactors (SBRs)providing aeration and settling, filtration, chlorination, a 662,000 gallon concrete holding pond, dewatering sludge, and aerobic digestion of biosolids.

e. Description of Effluent Disposal and Land Application Sites (as reported by applicant)

Land Application R-001: An existing 0.3 MGD annual average daily flow permitted capacity slow-rate restricted public access (subsurface) system. R-001 is a reuse system which consists of a 19.5 acre sprayfield with a three day wet weather (3.48 million gallon) lined holding pond having a capacity of 0.3 MGD located approximately at latitude 29°4' 32" N, longitude 82°3' 26" W.

Land Application R-002: An existing 1.3 MGD annual average daily flow permitted capacity slow-rate public access system. R-002 is a reuse system which consists of the 70 acre Baseline Golf Course with permitted capacity of 0.3 MGD AADF and 374 acre Spruce Creek Golf Course with permitted capacity of 1.0 MGD AADF. Land application system R-002 is located approximately at latitude 29 04 32 N, longitude 82 03 26 W.

Stormwater from the surface water pond may be introduced into the sanitary sewerage system to augment the supply of reclaimed water: The maximum average daily flow design flow from the proposed surface water augmentation system will be 98,000 gpd.

2. SUMMARY OF SURFACE WATER DISCHARGE

This facility does not discharge to surface waters.

3. BASIS FOR PERMIT LIMITATIONS AND MONITORING REQUIREMENTS

This facility is authorized to direct reclaimed water to Reuse System R-001, a slow-rate/restricted public access system, based on the following:

Parameter	Units	Max/ Min	Limit	Statistical Basis	Rationale
Flow (Sprayfield)	MGD	Max	0.3	Annual Average	62-600.400(3)(b) & 62-610.810(5) FAC
		Max	Report	Monthly Average	62-600.400(3)(b) & 62-610.810(5) FAC
BOD, Carbonaceous 5 day, 20C	mg/L	Max	20.0	Annual Average	62-610.410 & 62-600.740(1)(b)1.a. FAC
		Max	30.0	Monthly Average	62-600.740(1)(b)1.b. FAC
		Max	45.0	Weekly Average	62-600.740(1)(b)1.c. FAC
		Max	60.0	Single Sample	62-600.740(1)(b)1.d. FAC
Solids, Total Suspended	mg/L	Max	20	Annual Average	
		Max	30	Monthly Average	
		Max	45	Weekly Average	
		Max	60	Single Sample	62-600.440(5)(f)3. FAC
Coliform, Fecal	#/100mL	Max	200	Single Sample	62-600.440(5)(f)2. FAC
pH	s.u.	Min	6.0	Single Sample	62-600.445 FAC
		Max	8.5	Single Sample	62-600.445 FAC
Chlorine, Total Residual (For Disinfection)	mg/L	Min	1.0	Single Sample	62-600.440(5)(b) FAC

This facility is authorized to direct reclaimed water to Reuse System R-002, a slow-rate public access system, based on the following:

Parameter	Units	Max/ Min	Limit	Statistical Basis	Rationale
Flow (Public Access Reuse)	MGD	Max	1.3	Annual Average	62-600.400(3)(b) & 62-610.810(5) FAC
		Max	Report	Monthly Average	62-600.400(3)(b) & 62-610.810(5) FAC
Flow (Flow to Baseline G C)	MGD	Max	0.3	Annual Average	62-600.400(3)(b) & 62-610.810(5) FAC
		Max	Report	Monthly Average	62-600.400(3)(b) & 62-610.810(5) FAC
Flow (to Spruce Creek G C)	MGD	Max	1.0	Annual Average	62-600.400(3)(b) & 62-610.810(5) FAC
		Max	Report	Monthly Average	62-600.400(3)(b) & 62-610.810(5) FAC
Flow (Supplemental stormwater)	MGD	Max	Report	Annual Average	62-600.400(3)(b) & 62-610.810(5) FAC
		Max	Report	Monthly Average	62-600.400(3)(b) & 62-610.810(5) FAC
BOD, Carbonaceous 5 day, 20C	mg/L	Max	20.0	Annual Average	62-610.460 & 62-600.740(1)(b)1.a. FAC
		Max	30.0	Monthly Average	62-600.740(1)(b)1.b. FAC
		Max	45.0	Weekly Average	62-600.740(1)(b)1.c. FAC
		Max	60.0	Single Sample	62-600.740(1)(b)1.d. FAC
Solids, Total Suspended	mg/L	Max	5.0	Single Sample	62-610.460(1) & 62-600.440(5)(f)3. FAC
Coliform, Fecal	#/100mL	Max	25	Single Sample	62-610.460 & 62-600.440(5)(f)2. FAC
Coliform, Fecal, % less than detection	percent	Min	75	Monthly Total	62-600.440(5)(f)1. FAC
pH	s.u.	Min	6.0	Single Sample	62-600.445 FAC
		Max	8.5	Single Sample	62-600.445 FAC

Parameter	Units	Max/ Min	Limit	Statistical Basis	Rationale
Chlorine, Total Residual (For Disinfection)	mg/L	Min	1.0	Single Sample	62-600.440(5)(b), 62-610.460(2), & 62-610.463(2) FAC
Turbidity	NTU	Max	Report	Single Sample	62-610.463(2) FAC
Giardia	cysts/100L	Max	Report	Single Sample	62-610.463(4) FAC
Cryptosporidium	oocysts/100L	Max	Report	Single Sample	62-610.463(4) FAC
Phosphorus, Total (as P)	mg/L	Max	Report	Single Sample	62-601.300(6) FAC
Nitrogen, Total	mg/L	Max	Report	Single Sample	62-601.300(6)FAC

Other Limitations and Monitoring Requirements:

Parameter	Units	Max/ Min	Limit	Statistical Basis	Rationale
Flow (through plant)	MGD	Max	0.76	Annual Average	62-600.400(3)(b) FAC
		Max	Report	Monthly Average	62-600.400(3)(b) FAC
		Max	Report	Quarterly Average	62-600.400(3)(b) FAC
Percent Capacity, (TMADF/Permitted Capacity) x 100	percent	Max	Report	Monthly Total	62-600.405(4) FAC
BOD, Carbonaceous 5 day, 20C (Influent)	mg/L	Max	Report	Single Sample	62-601.300(1) FAC
Solids, Total Suspended (Influent)	mg/L	Max	Report	Single Sample	62-601.300(1) FAC
Monitoring Frequencies and Sample Types	-	-	-	All Parameters	62-601 FAC & 62-699 FAC and/or BPJ of permit writer
Sampling Locations	-	-	-	All Parameters	62-601, 62-610.412, 62-610.463(1), 62-610.568, 62-610.613 FAC and/or BPJ of permit writer

4. DISCUSSION OF CHANGES TO PERMIT LIMITATIONS

The current wastewater permit for this facility will expire October 21, 2014. This permit, FLA010678-007-DW1P, will becomes effective October 22, 2014 and will expire on October 21, 2019. Total suspended solids and fecal coliform monitoring were reduced to 4 days per week based on 62-601 Figure 2, footnote 4. The facility is classified as a Type II C facility. Staff time was previously reduced to 6 hrs per day, 7 days per week and lead operator is a Class B based on Rule 62-610.462(2 and 3), FAC and previous permit.

5. BIOSOLIDS MANAGEMENT REQUIREMENTS

Biosolids generated by this facility may be transferred to Central Process RMF or disposed of in a Class I solid waste landfill.

See the table below for the rationale for the biosolids quantities monitoring requirements.

Parameter	Units	Max/ Min	Limit	Statistical Basis	Rationale
Biosolids Quantity (Transferred)	dry tons	Max	Report	Monthly Total	62-640.650(5)(a)1. FAC
Biosolids Quantity (Landfilled)	dry tons	Max	Report	Monthly Total	62-640.650(5)(a)1. FAC

Parameter	Units	Max/ Min	Limit	Statistical Basis	Rationale
Monitoring Frequency		All Parameters			62-640.650(5)(a) FAC

6. GROUND WATER MONITORING REQUIREMENTS

Ground water monitoring requirements have been established in accordance with Chapters 62-520, 532, 601, 610, and 620, F.A.C.

7. PERMIT SCHEDULES

A schedule is not included in the wastewater permit.

8. INDUSTRIAL PRETREATMENT REQUIREMENTS

At this time, the facility is not required to develop an approved industrial pretreatment program. However, the Department reserves the right to require an approved program if future conditions warrant.

9. ADMINISTRATIVE ORDERS (AO) AND CONSENT ORDERS (CO)

This permit is not accompanied by an AO and has not entered into a CO with the Department.

10. REQUESTED VARIANCES OR ALTERNATIVES TO REQUIRED STANDARDS

No variances were requested for this facility.

11. THE ADMINISTRATIVE RECORD

The administrative record including application, draft permit, fact sheet, public notice (after release), comments received and additional information is available for public inspection during normal business hours at the location specified in item 13. Copies will be provided at a minimal charge per page.

12. PROPOSED SCHEDULE FOR PERMIT ISSUANCE

Effective Date of Permit	October 22, 2014
Notice of Permit Issuance	September 10, 2014

13. DEPARTMENT CONTACT

Additional information concerning the permit and proposed schedule for permit issuance may be obtained during normal business hours from:

Charles LeGros
Engineer IV
Charles.LeGros@dep.state.fl.us

3319 Maguire Blvd Suite 232
Orlando, FL 32803-3767

Telephone No.: (407) 897-4158

APPENDIX B:
DMR SUMMARY

City of Belleview Wastewater Treatment Facility
Discharge Monitoring Report Summary

Month/Year	ADF (MGD)	MDF (MGD)	MDF/ADF Ratio	TMRADF (MGD)	AADF (MGD)	Effluent CB0D5 (mg/L)	Total Residual Chlorine (mg/L)	Coliform, Fecal (#/100mL) (max)	Nitrogen, Total (mg/L)	Phosphorus, Total (mg/L)	Effluent TSS (A) (mg/L)	pH (min)	pH (max)	Efluent TSS (B) (mg/L)	Turbidity NTU	Flow (to Sprayfield) (MGD)	Flow (to Baseline G C) (MGD)	Flow (to Spruce Creek G C) (MGD)	Flow (Supplemental Stormwater) (MGD)	Influent CBOD5 (mg/L)	Influent TSS (mg/L)	Flow through treatment plant
Mon. Site Code	**CAL-1**	**CAL-1**				**EFA-1**	**EFA-1**	**EFA-1**	**EFA-1**	**EFA-1**	**EFA-1**	**EFA-1**	**EFA-1**	**EFB-1**	**EFB-1**	**FLW-1**	**FLW-2**	**FLW-3**	**FLW-4**	**INF-1**	**INF-1**	
January-17	0.370	0.615	1.662	0.367	0.378	1.4	4.0	0.5	1.3	0.52	2.8	6.9	7.6	0.5	1.8	0.031	0.223	0.104	0.001	260	290	550.359
February-17	0.392	0.576	1.469	0.374	0.376	1.0	3.6	0.5	2.3	0.49	4.2	7.0	7.6	0.6	1.9	0.021	0.275	0.095	0.000	244	260	504.391
March-17	0.381	0.731	1.919	0.381	0.377	1.0	4.0	0.5	1.9	0.23	3.0	7.0	7.6	0.6	1.8	0.013	0.304	0.053	0.000	239	362	601.370
April-17	0.366	0.505	1.380	0.380	0.378	1.0	4.0	0.5	3.7	0.66	2.3	7.0	7.6	0.5	1.9	0.030	0.335	0.001	0.000	238	307	545.366
May-17	0.421	0.564	1.340	0.389	0.383	1.0	3.9	0.5	1.3	0.87	4.0	7.0	7.6	0.7	1.8	0.061	0.326	0.030	0.000	236	265	501.417
June-17	0.421	0.685	1.627	0.403	0.385	1.5	4.0	0.5	2.8	0.24	7.5	6.9	7.4	0.8	1.9	0.064	0.158	0.197	0.002	241	276	517.421
July-17	0.425	0.653	1.536	0.422	0.390	2.2	3.7	0.5	1.9	0.47	10.1	7.0	7.5	1.9	1.8	0.012	0.277	0.137	0.043	204	170	374.469
August-17	0.444	0.736	1.658	0.430	0.395	1.0	4.0	0.5	0.1	0.38	2.7	7.0	7.5									
September-17	0.566	0.877	1.549	0.478	0.409	2.4	4.0	0.7	4.7	0.57	4.0	6.9	7.4	1.9	1.8	0.226	0.218	0.108	0.171	148	174	322.723
October-17	0.453	0.645	1.424	0.488	0.414	1.4	4.0	0.5	6.9	0.78	7.6	6.7	7.5	2.7	1.8	0.044	0.253	0.137	0.063	220	205	425.497
November-17	0.446	0.757	1.697	0.488	0.420	1.3	4.0	0.5	4.3	0.69	3.0	7.0	7.5	2.2	1.7	0.025	0.324	0.082	0.016	196	158	354.447
December-17	0.408	0.658	1.613	0.436	0.424	1.0	4.5	0.5	2.1	0.23	2.5	6.9	7.5	1.6	1.7	0.012	0.260	0.122	0.022	241	368	609.416
January-18	0.388	0.614	1.582	0.414	0.426	1.0	3.7	200.0	2.1	0.31	0.7	6.9	7.1	1.4	1.8	0.000	0.187	0.177	0.021	252	244	496.385
February-18	0.404	0.717	1.775	0.400	0.427	2.0	4.0	0.5	2.9	0.22	2.6	7.0	7.6	0.8	1.7	0.000	0.284	0.129	0.002	435	387	822.415
March-18	0.382	0.575	1.505	0.391	0.427	1.5	4.0	0.5	2.8	1.00	3.8	6.9	7.6	3.5	1.7	0.066	0.234	0.075	0.002	243	291	534.377
April-18	0.353	0.647	1.833	0.380	0.426	1.6	4.0	0.5	3.3	0.30	2.3	6.9	7.6	2.7	1.7	0.013	0.233	0.092	0.000	286	260	546.338
May-18	0.420	0.728	1.733	0.385	0.426	2.9	4.0	0.5	1.9	0.49	5.6	6.5	7.8	2.7	1.8	0.033	0.185	0.168	0.008	201	171	372.394
June-18	0.424	0.593	1.399	0.399	0.426	1.7	4.0	18.7	2.5	0.24	4.0	6.8	7.8	1.9	1.7	0.020	0.276	0.128	0.032	189	157	346.456
July-18	0.405	0.556	1.373	0.416	0.424	1.0	4.9	0.5	1.7	0.34	2.0	6.5	7.9	1.1	1.0	0.025	0.272	0.145	0.015	205	127	332.457
August-18	0.452	0.764	1.690	0.427	0.425	2.3	4.0	0.5	6.4	1.10	2.5	6.7	7.9	1.7	1.6	0.000	0.354	0.098	0.021	263	173	436.473
Average	**0.370**	**0.527**	**1.419**	**0.369**	**0.357**	**1.711**	**3.325**	**2.462**	**2.330**	**0.389**	**2.621**	**6.787**	**7.451**	**0.911**	**1.493**	**0.075**	**0.125**	**0.200**	**0.008**	**207.946**	**207.684**	**426.468**
Minimum	**0.284**	**0.311**	**0.740**	**0.300**	**0.298**	**1.000**	**1.500**	**0.100**	**0.094**	**0.050**	**0.500**	**6.000**	**7.100**	**0.260**	**0.350**	**0.000**	**0.017**	**0.001**	**0.000**	**122.000**	**92.800**	**0.334**
Maximum	**0.566**	**0.877**	**2.003**	**0.488**	**0.427**	**5.900**	**5.000**	**200.000**	**6.900**	**1.100**	**11.000**	**7.070**	**7.900**	**3.500**	**2.600**	**1.390**	**0.354**	**0.363**	**0.171**	**435.000**	**455.000**	**822.415**

APPENDIX C: FLOW PROJECTION SUMMARY

CITY OF BELLEVIEW
UTILITY MASTER PLAN
ERU, WATER, SANITARY SEWER DEMAND PROJECTIONS

	AREA	2018			2022			2027			2037		
		ERUs[4]	WATER ADD (GPD)[2]	WW ADD (GPD)[3]	ERUs[4]	WATER ADD (GPD)[2]	WW ADD (GPD)[3]	ERUs[4]	WATER ADD (GPD)[2]	WW ADD (GPD)[3]	ERUs[4]	WATER ADD (GPD)[2]	WW ADD (GPD)[3]
EXISTING	Existing WTP/WRF Service Area[1]	2,144	857,711	428,856	2,451	857,711	428,856	2,144	857,711	428,856	2,144	857,711	428,856
INFILL	Infill	0	0	0	104	41,412	20,706	241	96,349	48,175	462	184,794	92,397
	Subtotal	0	0	0	104	41,412	20,706	241	96,349	48,175	462	184,794	92,397
EXPANSION & DEVELOPMENT	132nd Street West[6]	0	0	0	159	56,033	28,016	172	61,160	30,580	206	73,589	36,794
	132nd Street East[6]	0	0	0	212	74,045	37,022	229	80,149	40,074	274	95,785	47,892
	Autumn Glen Development	0	0	0	132	46,200	23,100	132	46,200	23,100	132	46,200	23,100
	Summer Crest[5]	0	0	0	150	67,500	30,000	400	180,000	80,001	625	281,250	125,000
	Water Only (Expansion)	0	0	0	0	0	0	0	0	0	90	36,090	18,045
	Subtotal	0	0	0	653	243,778	118,139	934	367,508	173,755	1,327	532,914	250,832
SEPTIC TO SEWER	Septic to Sewer Region 1	0	0	0	214	85,489	44,282	249	99,418	52,274	309	123,717	66,325
	Septic to Sewer Region 2	0	0	0	73	29,150	14,787	100	39,860	20,284	146	58,491	29,862
	Septic to Sewer Region 3	0	0	0	478	191,226	96,532	506	202,461	102,765	557	222,632	113,988
	Septic to Sewer Region 4	0	0	0	0	0	0	5	1,991	15,516	7	2,844	15,942
	Septic to Sewer Region 5	0	0	0	0	0	0	106	42,236	49,978	160	63,850	62,973
	Septic to Sewer Region 6	0	0	0	0	0	0	233	93,091	47,566	251	100,326	51,941
	Future Septic Region 7	0	0	0	0	0	0	0	0	0	64	25,450	12,847
	Future Septic Region 8	0	0	0	0	0	0	0	0	0	423	169,147	86,149
	Future Septic Region 9	0	0	0	0	0	0	0	0	0	1,554	621,513	310,757
	Future Septic Region 10	0	0	0	0	0	0	0	0	0	466	186,287	93,615
	Future Septic Region 11	0	0	0	0	0	0	0	0	0	126	50,517	25,475
	Subtotal	0	0	0	765	305,865	155,601	1,198	479,058	288,383	4,062	1,624,775	869,874
	Total (No OSTDS)	2,144	857,711	428,856	3,207	1,142,901	567,700	3,319	1,321,568	650,785	3,933	1,575,419	772,084
	Total with OSTDS Region 1-6				3,972	1,448,765	723,302	4,516	1,800,626	939,168	5,363	2,147,278	1,113,115
	Total with OSTDS Region 1-11										7,995	3,200,193	1,641,958

1. Based on 2017 FDEP MOR data
2. 400 gpd/ERU per the Marion County Land Development Code level of service for potable water
3. 200 gpd/ERU per the Marion County Land Development Code level of service for wastewater
4. Assumed 2.35 people per ERU
5. Assumed 450 gpd/ERU. Currently 75 lots occupied, to increase at 50 lots/year. Does not include existing customers
6. 50% of buildout in 2037, 2% growth rate. Values used from Project No. 042417005 Abshier SE 132nd Utility Ext.

Peak Hour Factor	4.5
Max Day Factor	2.25

	ADD	MDD	PHF
Current Water System Capacity	0.547	1.23	2.46
Current Wastewater System Capactiy	0.76	1.71	1.71

APPENDIX D: DETAILED COST OPINION EXISTING IMPROVEMENTS

CITY OF BELLEVIEW WRF FACILITY PLAN

ENGINEER'S OPINION OF PROBABLE COST

FOR

The City of Belleview

WRF Improvement No.1A: Required Improvements to Existing Plant

ITEM #	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
1	MISCILLANEOUS (Includes general site work, mobilizations, bonds, testing, etc.)	LS	1	$ 100,000	$ 100,000
2	REPLACE IMPELLERS ON EXISTING INFLUENT PUMP STATION PUMPS	EA	3	$ 20,000	$ 60,000
3	EMERGENCY OVERFLOW TANK MODIFCATION	LS	1	$ 100,000	$ 100,000
4	PURCHASE UNISTALLED SBR JET MIXER	LS	1	$ 80,000	$ 80,000
5	INSTALL NEW EFFLUENT PUMPS WITH INCREASED CAPACITY	EA	2	$ 50,000	$ 100,000
6	EFFLUENT STORAGE POND - REJECT PUMP AND REHAB	LS	1	$ 225,000	$ 225,000
				SUBTOTAL	**$ 670,000**
				DESIGN AND PERMITTING (15%)	**$ 100,000**
				CONTINGENCY (30%)	**$ 201,000**
				TOTAL	**$ 970,000**

The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.

CITY OF BELLEVIEW WRF FACILITY PLAN

ENGINEER'S OPINION OF PROBABLE COST

FOR

The City of Belleview

WRF Improvement No.1B: Optional Improvements to Existing Plant

ITEM #	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
1	MISCILLANEOUS (Includes general site work, mobilizations, bonds, testing, etc.)	LS	1	$ 100,000	$ 100,000
2	DEMO INFLUENT BAR SCREENS	LS	1	$ 50,000	$ 50,000
3	INSTALL SBR CATWALK	LS	1	$ 30,000	$ 30,000
4	UPGRADE SBR BLOWERS	EA	3	$ 50,000	$ 150,000
5	UPGRADE FILTER FEED PUMP AND INSTALL NEW VFD	LS	1	$ 150,000	$ 150,000
6	REHAB CCC	LS	1	$ 50,000	$ 50,000
7	REPLACE DIGESTER BLOWER	LS	1	$ 40,000	$ 40,000
8	DEMO SLUDGE DRYING BED	LS	1	$ 25,000	$ 25,000
9	ELECTRICAL SERVICE UPGRADES	LS	1	$ 500,000	$ 500,000
				SUBTOTAL	**$ 1,100,000**
				DESIGN AND PERMITTING (15%)	**$ 170,000**
				CONTINGENCY (30%)	**$ 330,000**
				TOTAL	**$ 1,600,000**

The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.

APPENDIX E: DETAILED COST OPINION RERATE EXISTING PLANT TO 0.8 MGD

CITY OF BELLEVIEW WRF FACILITY PLAN

ENGINEER'S OPINION OF PROBABLE COST

FOR

The City of Belleview

WRF Improvement No.2A: Rereate Existing WRF to 0.8 MGD (Scenario A)

ITEM #	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
1	MOBILIZATION	LS	1	$ 20,000	$ 20,000
2	GENERAL PROJECT WORK (Includes bonds, insurance, start-up, testing, as-builts, O&M, survey, training, project sign, pre and post construction video, and other miscellaneous)	LS	1	$ 5,000	$ 5,000
3	REPLACE IMPELLERS ON EXISTING INFLUENT PUMP STATION PUMPS TO INCREASE CAPACITY	LS	3	$ 20,000	$ 60,000
4	INSTALL NEW SBR BLOWERS TO INCREASE AERATION CAPACITY	EA	3	$ 50,000	$ 150,000
5	REPLACE BOTH FILTER FEED PUMPS WITH 1,200 GPM PUMPS	EA	2	$ 50,000	$ 100,000
6	UPGRADE EXISTING PLANT LIFT STATION PUMPS	EA	2	$ 50,000	$ 100,000
7	MISC. ELECTRICAL	LS	1	$ 250,000	$ 250,000
				SUBTOTAL	**$ 690,000**
				DESIGN AND PERMITTING (15%)	**$ 100,000**
				CONTINGENCY (30%)	**$ 207,000**
				TOTAL	**$ 1,000,000**

The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.

APPENDIX F: DETAILED COST OPINION EXPAND TO 1.2 MGD SBR

CITY OF BELLEVIEW WRF FACILITY PLAN

ENGINEER'S OPINION OF PROBABLE COST

FOR

The City of Belleview

WRF Improvement No.2B: Expand WRF to 1.20 MGD with SBRs (Scenario B Alternative 1)

ITEM #	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
1	MOBILIZATION	LS	1	$ 190,000	$ 190,000
2	GENERAL PROJECT WORK (Includes bonds, insurance, start-up, testing, as-builts, O&M, survey, training, project sign, pre and post construction video, and other miscellaneous)	LS	1	$ 100,000	$ 100,000
3	YARD PIPING (Includes constructing new headworks piping and valves, flow equalization basin no. 2 RAS and mixed liquor piping, and dewatered concentrate piping and valves)	LS	1	$ 750,000	$ 750,000
4	SITE WORK (Includes concrete pads and slabs, sidewalks, miscellaneous concrete, paving, erosion and sediment control, excavation, backfill, grading, site clearing, fencing, and sodding)	LS	1	$ 100,000	$ 100,000
5	REPLACE INFLUENT PUMP STATION PUMPS	EA	3	$ 50,000	$ 150,000
6	REPLACE STATIC SCREEN WITH DRUM SCREEN	LS	1	$ 350,000	$ 350,000
7	CONSTRUCT NEW 0.4 MGD SBR TANK (Includes upgrade existing tanks and equipment, add 3rd tank (blower, mixer, controls, etc.)	LS	1	$ 1,500,000	$ 1,500,000
8	NEW 0.2 MGD FILTER FEED TANK AND TRANSFER PUMPS	GAL	200,000	$ 2	$ 400,000
9	INSTALL NEW DISC FILTERS	EA	2	$ 300,000	$ 600,000
10	NEW 0.4 MGD DIGESTER	GAL	400,000	$ 3	$ 1,200,000
11	CONVERT EXISTING FILTER TANKS TO CCB	LS	1	$ 100,000	$ 100,000
12	EXPAND CHLORINE STORAGE AND INCREASE PUMP CAPACITY	LS	1	$ 50,000	$ 50,000
13	INCREASE CENTRIFUGE PUMP CAPACITY	LS	1	$ 50,000	$ 50,000
14	INCREASE CENTRIFUGE CAPACITY	LS	1	$ 50,000	$ 50,000
15	DEMO CLARIFIER	LS	1	$ 50,000	$ 50,000
16	DEMO "ORIGINAL" PLANT	LS	1	$ 250,000	$ 250,000
17	NEW PLANT LIFT STATION	LS	1	$ 500,000	$ 500,000
18	NEW EFFLUENT PUMP STATION	LS	1	$ 350,000	$ 350,000
19	CONSTRUCT ADDITIONAL REJECT STORAGE	LS	1	$ 500,000	$ 500,000
20	ELECTRICAL	LS	1	$ 1,500,000	$ 1,500,000
				SUBTOTAL	**$ 8,740,000**
				DESIGN AND PERMITTING (15%)	**$ 1,310,000**
				CONTINGENCY (30%)	**$ 2,622,000**
				TOTAL	**$ 12,670,000**

The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.

APPENDIX G: DETAILED COST OPINION EXPAND TO 1.2 MGD OXIDATION DITCH

CITY OF BELLEVIEW WRF FACILITY PLAN

ENGINEER'S OPINION OF PROBABLE COST

FOR

The City of Belleview

Scenario B Alternative 2: Expand WRF to 1.20 MGD with Oxidation Ditches

ITEM #	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
1	MOBILIZATION	LS	1	$ 150,000	$ 150,000
2	GENERAL PROJECT WORK (Includes bonds, insurance, start-up, testing, as-builts, O&M, survey, training, project sign, pre and post construction video, and other miscellaneous)	LS	1	$ 80,000	$ 80,000
3	YARD PIPING (Includes constructing new headworks piping and valves, flow equalization basin no. 2 RAS and mixed liquor piping, new oxidation ditch piping, clarifier flow splitting structure and associated piping and valves, dewatered concentrate piping and valves)	LS	1	$ 1,000,000	$ 1,000,000
4	SITE WORK (Includes concrete pads and slabs, sidewalks, miscellaneous concrete, paving, erosion and sediment control, excavation, backfill, grading, site clearing, fencing, and sodding)	LS	1	$ 100,000	$ 100,000
5	REPLACE INFLUENT PUMP STATION PUMPS	EA	3	$ 50,000	$ 150,000
6	REPLACE STATIC SCREEN WITH DRUM SCREEN	LS	1	$ 350,000	$ 350,000
7	CONSTRUCT NEW 1.20 MGD OXIDATION DITCHES	LS	1	$ 3,500,000	$ 3,500,000
8	CONSTRUCT 60' DIAMETER CLARIFIERS	EA	2	$ 250,000	$ 500,000
9	REPLACE BOTH FILTER FEED PUMPS WITH 1,611 GPM PUMPS	EA	2	$ 30,000	$ 60,000
10	INSTALL NEW 1,200 GPM FILTERS	EA	2	$ 300,000	$ 600,000
11	CONVERT EXISTING FILTER TANKS TO CCB	LS	1	$ 100,000	$ 100,000
12	EXPAND CHLORINE STORAGE AND INCREASE PUMP CAPACITY	LS	1	$ 50,000	$ 50,000
13	INCREASE CHEMICAL STORAGE AND METERING PUMP CAPACITY	LS	1	$ 60,000	$ 60,000
14	CONVERT SBRS TO AEROBIC DIGESTER (install new blowers, VFDs, and associated piping)	LS	1	$ 400,000	$ 400,000
15	NEW PLANT LIFT STATION	LS	1	$ 500,000	$ 500,000
16	NEW EFFLUENT PUMP STATION	LS	1	$ 350,000	$ 350,000
17	CONSTRUCT ADDITIONAL REJECT/WET WEATHER STORAGE POND	LS	1	$ 500,000	$ 500,000
18	ELECTRICAL	LS	1	$ 1,500,000	$ 1,500,000
				SUBTOTAL	**$ 9,950,000**
				DESIGN AND PERMITTING (15%)	**$ 1,490,000**
				CONTINGENCY (30%)	**$ 2,985,000**
				TOTAL	**$ 14,425,000**

The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.

APPENDIX H: DETAILED COST OPINION EXPAND TO 1.2 MGD MBR

CITY OF BELLEVIEW WRF FACILITY PLAN

ENGINEER'S OPINION OF PROBABLE COST

FOR

The City of Belleview

Scenario B Alternative 3: Convert SBRs to a 1.20 MGD 4-stage Bardenpho process with MBRs

ITEM #	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
1	MOBILIZATION	LS	1	$ 150,000	$ 150,000
2	GENERAL PROJECT WORK (Includes bonds, insurance, start-up, testing, as-builts, O&M, survey, training, project sign, pre and post construction video, and other miscellaneous)	LS	1	$ 80,000	$ 80,000
3	YARD PIPING (Includes constructing new headworks piping and valves, flow equalization basin no. 2 RAS and mixed liquor piping, new oxidation ditch piping, clarifier flow splitting structure and associated piping and valves, dewatered concentrate piping and valves)	LS	1	$ 1,000,000	$ 1,000,000
4	SITE WORK (Includes concrete pads and slabs, sidewalks, miscellaneous concrete, paving, erosion and sediment control, excavation, backfill, grading, site clearing, fencing, and sodding)	LS	1	$ 100,000	$ 100,000
5	REPLACE INFLUENT PUMP STATION PUMPS	EA	3	$ 50,000	$ 150,000
6	REPLACE STATIC SCREEN WITH DRUM SCREEN	LS	1	$ 350,000	$ 350,000
7	CONVERT EXISTING SBRS TO 4-STAGE BARDENPHO PROCESS	LS	1	$ 1,200,000	$ 1,200,000
8	CONSTRUCT (2) 30,000 GALLON MBR PROCESS TANKS AND INSTALL MEBRANES	LS	1	$ 2,750,000	$ 2,750,000
9	REMOVE DISC FILTERS	EA	2	$ 5,000	$ 10,000
10	CONVERT EXISTING FILTER TANKS TO CCB	LS	1	$ 100,000	$ 100,000
11	EXPAND CHLORINE STORAGE AND INCREASE PUMP CAPACITY	LS	1	$ 50,000	$ 50,000
12	INCREASE CHEMICAL STORAGE AND METERING PUMP CAPACITY	LS	1	$ 60,000	$ 60,000
13	COVERT FILTER FEED TANK TO AEROBIC DIGESTER	LS	1	$ 400,000	$ 400,000
14	NEW PLANT LIFT STATION	LS	1	$ 500,000	$ 500,000
15	NEW EFFLUENT PUMP STATION	LS	1	$ 350,000	$ 350,000
16	CONSTRUCT ADDITIONAL REJECT/WET WEATHER STORAGE POND	LS	1	$ 500,000	$ 500,000
17	ELECTRICAL	LS	1	$ 1,500,000	$ 1,500,000
				SUBTOTAL	**$ 9,250,000**
				DESIGN AND PERMITTING (15%)	**$ 1,390,000**
				CONTINGENCY (30%)	**$ 2,775,000**
				TOTAL	**$ 13,420,000**

The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.

APPENDIX I: DETAILED COST OPINION EXPAND TO 1.8 MGD SBR

CITY OF BELLEVIEW WRF FACILITY PLAN

ENGINEER'S OPINION OF PROBABLE COST

FOR

The City of Belleview

Scenario C Alternative 1: Expand WRF to 1.35 MGD expandable to 1.80 MGD SBRs

ITEM #	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
1	MOBILIZATION	LS	1	$ 50,000	$ 50,000
2	GENERAL PROJECT WORK (Includes bonds, insurance, start-up, testing, as-builts, O&M, survey, training, project sign, pre and post construction video, and other miscellaneous)	LS	1	$ 10,000	$ 10,000
3	YARD PIPING (Includes constructing new headworks piping and valves, flow equalization basin no. 2 RAS and mixed liquor piping, and dewatered concentrate piping and valves)	LS	1	$ 500,000	$ 500,000
4	SITE WORK (Includes concrete pads and slabs, sidewalks, miscellaneous concrete, paving, erosion and sediment control, excavation, backfill, grading, site clearing, fencing, and sodding)	LS	1	$ 100,000	$ 100,000
5	DEMO INFLUENT BAR SCREENS	LS	1	$ 50,000	$ 50,000
6	REPLACE INFLUENT PUMP STATION PUMPS	EA	3	$ 50,000	$ 150,000
7	EMERGENCY OVERFLOW TANK MODIFCATION	LS	1	$ 75,000	$ 75,000
8	REPLACE STATIC SCREEN WITH DRUM SCREEN	LS	1	$ 350,000	$ 350,000
9	CONSTRUCT NEW 0.45 MGD SBR TANK (Includes upgrade existing tanks and equipment, add 3rd tank (blower, mixer, controls, etc.)	LS	1	$ 1,700,000	$ 1,700,000
10	INTALL 4TH BLOWER TO MEET CLASS I RELIABILITY	LS	1	$ 50,000	$ 50,000
11	NEW 0.2 MGD FILTER FEED TANK AND TRANSFER PUMPS	GAL	200,000	$ 2	$ 400,000
12	INSTALL NEW DISC FILTERS	EA	2	$ 300,000	$ 600,000
13	CONVERT EXISTING FILTER TANKS TO CCB	LS	1	$ 100,000	$ 100,000
14	EXPAND CHLORINE STORAGE AND INCREASE PUMP CAPACITY	LS	1	$ 50,000	$ 50,000
15	CONSTRUCT NEW 200,000 GALLON AEROBIC DIGESTER	GAL	200,000	$ 4	$ 800,000
16	NEW PLANT LIFT STATION	LS	1	$ 500,000	$ 500,000
17	NEW EFFLUENT PUMP STATION	LS	1	$ 350,000	$ 350,000
18	CONSTRUCT ADDITIONAL REJECT STORAGE	LS	1	$ 500,000	$ 500,000
19	ELECTRICAL	LS	1	$ 750,000	$ 750,000
				SUBTOTAL OF PHASE 1 (INCREASE TO 1.35 MGD)	**$ 7,835,000**
1	MOBILIZATION	LS	1	$ 50,000	$ 50,000
2	GENERAL PROJECT WORK (Includes bonds, insurance, start-up, testing, as-builts, O&M, survey, training, project sign, pre and post construction video, and other miscellaneous)	LS	1	$ 10,000	$ 10,000
3	YARD PIPING (Includes constructing new headworks piping and valves, flow equalization basin no. 2 RAS and mixed liquor piping, and dewatered concentrate piping and valves)	LS	1	$ 200,000	$ 200,000
4	SITE WORK (Includes concrete pads and slabs, sidewalks, miscellaneous concrete, paving, erosion and sediment control, excavation, backfill, grading, site clearing, fencing, and sodding)	LS	1	$ 50,000	$ 50,000
5	NEW PLANT INFLUENT LIFT STATION	LS	1	$ 350,000	$ 350,000
6	CONSTRUCT NEW 0.45 MGD SBR TANK (Includes upgrade existing tanks and equipment, add 3rd tank (blower, mixer, controls, etc.)	LS	1	$ 1,700,000	$ 1,700,000
7	INTALL 5TH BLOWER TO MEET CLASS I RELIABILITY	LS	1	$ 50,000	$ 50,000
8	ADD 3RD FILTER FEED PUMP WITH CAPACITY OF 1,250 GPM	LS	1	$ 50,000	$ 50,000
9	CONSTRUCT NEW 200,000 GALLON AEROBIC DIGESTER	GAL	200,000	$ 4	$ 800,000
10	INSTALL NEW CENTRIFUGE	LS	1	$ 300,000	$ 300,000
11	MISC. ELECTRICAL	LS	1	$ 350,000	$ 350,000
				SUBTOTAL OF PHASE 1 (INCREASE TO 1.80 MGD)	**$ 3,910,000**
				DESIGN AND PERMITTING (15%)	**$ 1,760,000**
				CONTINGENCY (30%)	**$ 3,523,500**
				TOTAL	**$ 17,030,000**

The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.

APPENDIX J: DETAILED COST OPINION EXPAND TO 1.8 MGD OXIDATION DITCH

CITY OF BELLEVIEW WRF FACILITY PLAN

ENGINEER'S OPINION OF PROBABLE COST

FOR

The City of Belleview

Scenario C Alternative 2: Expand WRF to 1.80 MGD with Oxidation Ditches

ITEM #	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
1	MOBILIZATION	LS	1	$ 150,000	$ 150,000
2	GENERAL PROJECT WORK (Includes bonds, insurance, start-up, testing, as-builts, O&M, survey, training, project sign, pre and post construction video, and other miscellaneous)	LS	1	$ 80,000	$ 80,000
3	YARD PIPING (Includes constructing new headworks piping and valves, flow equalization basin no. 2 RAS and mixed liquor piping, new oxidation ditch piping, clarifier flow splitting structure and associated piping and valves, dewatered concentrate piping and valves)	LS	1	$ 1,000,000	$ 1,000,000
4	SITE WORK (Includes concrete pads and slabs, sidewalks, miscellaneous concrete, paving, erosion and sediment control, excavation, backfill, grading, site clearing, fencing, and sodding)	LS	1	$ 100,000	$ 100,000
5	REPLACE INFLUENT PUMP STATION PUMPS	EA	3	$ 50,000	$ 150,000
6	REPLACE STATIC SCREEN WITH DRUM SCREEN	LS	1	$ 350,000	$ 350,000
7	CONSTRUCT NEW 1.80 MGD OXIDATION DITCHES	LS	1	$ 7,000,000	$ 7,000,000
8	CONSTRUCT 65' DIAMETER CLARIFIERS	EA	2	$ 300,000	$ 600,000
9	INSTALL FILTER FEED PUMPS WITH 1,250 GPM PUMPS	EA	3	$ 20,000	$ 60,000
10	INSTALL NEW 1,750 GPM FILTERS	EA	2	$ 350,000	$ 700,000
11	CONVERT EXISTING FILTER TANKS TO CCB	LS	1	$ 100,000	$ 100,000
12	EXPAND CHLORINE STORAGE AND INCREASE PUMP CAPACITY	LS	1	$ 50,000	$ 50,000
13	INCREASE CHEMICAL STORAGE AND METERING PUMP CAPACITY	LS	1	$ 60,000	$ 60,000
14	CONVERT SBRS TO AEROBIC DIGESTER (install new blowers, VFDs, and associated piping)	LS	1	$ 400,000	$ 400,000
15	INSTALL NEW CENTRIFUGE	LS	1	$ 300,000	$ 300,000
16	NEW PLANT LIFT STATION	LS	1	$ 500,000	$ 500,000
17	NEW EFFLUENT PUMP STATION	LS	1	$ 350,000	$ 350,000
18	CONSTRUCT ADDITIONAL REJECT/WET WEATHER STORAGE POND	LS	1	$ 500,000	$ 500,000
19	ELECTRICAL	LS	1	$ 1,500,000	$ 1,500,000
				SUBTOTAL	**$ 13,950,000**
				DESIGN AND PERMITTING (15%)	**$ 2,090,000**
				CONTINGENCY (30%)	**$ 4,185,000**
				TOTAL	**$ 20,230,000**

The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.

APPENDIX K: DETAILED COST OPINION EXPAND TO 1.8 MGD MBR

CITY OF BELLEVIEW WRF FACILITY PLAN

ENGINEER'S OPINION OF PROBABLE COST

FOR

The City of Belleview

Scenario C Alternative 3: Convert SBRs to a 1.35 MGD 4-stage Bardenpho process with MBRs expandable to 1.80 MGD

ITEM #	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
1	MOBILIZATION	LS	1	$ 150,000	$ 150,000
2	GENERAL PROJECT WORK (Includes bonds, insurance, start-up, testing, as-builts, O&M, survey, training, project sign, pre and post construction video, and other miscellaneous)	LS	1	$ 80,000	$ 80,000
3	YARD PIPING (Includes constructing new headworks piping and valves, flow equalization basin no. 2 RAS and mixed liquor piping, new oxidation ditch piping, clarifier flow splitting structure and associated piping and valves, dewatered concentrate piping and valves)	LS	1	$ 1,000,000	$ 1,000,000
4	SITE WORK (Includes concrete pads and slabs, sidewalks, miscellaneous concrete, paving, erosion and sediment control, excavation, backfill, grading, site clearing, fencing, and sodding)	LS	1	$ 100,000	$ 100,000
5	REPLACE INFLUENT PUMP STATION PUMPS	EA	3	$ 50,000	$ 150,000
6	REPLACE STATIC SCREEN WITH DRUM SCREEN	LS	1	$ 350,000	$ 350,000
7	CONVERT EXISTING SBRS TO 4-STAGE BARDENPHO PROCESS	LS	1	$ 1,300,000	$ 1,300,000
8	CONSTRUCT 2 30,000 GALLON MBR PROCESS TANKS AND INSTALL MEMBRANE	LS	1	$ 2,980,000	$ 2,980,000
9	REMOVE DISC FILTERS	EA	2	$ 5,000	$ 10,000
10	CONVERT EXISTING FILTER TANKS TO CCB	LS	1	$ 100,000	$ 100,000
11	EXPAND CHLORINE STORAGE AND INCREASE PUMP CAPACITY	LS	1	$ 50,000	$ 50,000
12	INCREASE CHEMICAL STORAGE AND METERING PUMP CAPACITY	LS	1	$ 60,000	$ 60,000
13	CONSTRUCT NEW 200,000 GALLON AEROBIC DIGESTER	GAL	200,000	$ 4	$ 800,000
14	NEW PLANT LIFT STATION	LS	1	$ 500,000	$ 500,000
15	NEW EFFLUENT PUMP STATION	LS	1	$ 350,000	$ 350,000
16	CONSTRUCT ADDITIONAL REJECT/WET WEATHER STORAGE POND	LS	1	$ 500,000	$ 500,000
17	ELECTRICAL	LS	1	$ 1,500,000	$ 1,500,000
				SUBTOTAL	**$ 9,980,000**
1	MOBILIZATION	LS	1	$ 150,000	$ 150,000
2	GENERAL PROJECT WORK (Includes bonds, insurance, start-up, testing, as-builts, O&M, survey, training, project sign, pre and post construction video, and other miscellaneous)	LS	1	$ 80,000	$ 80,000
3	YARD PIPING (Includes constructing new headworks piping and valves, flow equalization basin no. 2 RAS and mixed liquor piping, new oxidation ditch piping, clarifier flow splitting structure and associated piping and valves, dewatered concentrate piping and valves)	LS	1	$ 1,000,000	$ 750,000
4	SITE WORK (Includes concrete pads and slabs, sidewalks, miscellaneous concrete, paving, erosion and sediment control, excavation, backfill, grading, site clearing, fencing, and sodding)	LS	1	$ 100,000	$ 100,000
5	NEW PLANT INFLUENT LIFT STATION	LS	1	$ 350,000	$ 350,000
6	CONSTRUCT NEW MBR PROCESS TANKS AND INSTALL NEW MEMBRANE	LS	1	$ 1,490,000	$ 1,490,000
7	CONSTRUCT NEW 200,000 GALLON AEROBIC DIGESTER	GAL	200,000	$ 4	$ 800,000
8	INSTALL NEW CENTRIFUGE	LS	1	$ 300,000	$ 300,000
9	MISC. ELECTRICAL	LS	1	$ 350,000	$ 350,000
				SUBTOTAL	**$ 4,370,000**
				DESIGN AND PERMITTING (15%)	**$ 2,150,000**
				CONTINGENCY (30%)	**$ 690,000**
				TOTAL	**$ 17,190,000**

The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.