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Solicitation Addendum

Addendum No.:	2
Solicitation No.:	25-TA006100SAM
Project No.:	Project No. 6110662
Solicitation Title:	Design-Build Services for North Regional Water Reclamation Facility Expansion
Addendum Date:	August 8, 2025
Procurement Contact:	Sherri Meier

RFQ No. 25-TA006100SAM is amended as set forth herein. Responses to questions posed by prospective bidders are provided below. This Addendum is hereby incorporated in and made a part of RFQ No. 25-TA006100SAM.

The deadline to submit all inquiries concerning interpretation, clarification or additional information pertaining to this RFQ was August 4, 2025.

CHANGE TO:

EXHIBIT 2, TAB 8, ITEM 11

Change Tab 8, Item 11 to read:

Provide a list of design and / or construction projects that have been awarded to the Proposer and / or Proposers Team by Manatee County since July 1, 2023. Include the following information for each:
a. Name of the project.
b. Date of award.
c. Dollar value of the design work.

ADD TO:

EXHIBIT 2, TAB 7, ITEM 14

14. A conceptual level schedule should be included as a separate page to illustrate concepts of design and permitting time, sequencing of major elements of construction, scheduling of proposed improvements outside the plant site, and time allocated for start-up testing and commissioning (11"x17" page size and a maximum of forty (40) activities).

DELETE:

EXHIBIT 2, TAB 8, ITEM 14

~~14. A conceptual level schedule should be included as a separate page to illustrate concepts of design and permitting time, sequencing of major elements of construction, scheduling of proposed improvements outside the plant site, and time allocated for start-up testing and commissioning (11"x17" page size and a maximum of forty (40) activities).~~

ADD TO:

EXHIBIT 3, FACILITY PLAN

Add attached Exhibit 3, North Regional Water Reclamation Facility (NRWRF) Facility Plan July 2025 (Final), hereby incorporated into the RFQ.

QUESTIONS AND RESPONSES:

Q1. Page 45 of the RFQ states Carollo's 2025 NRWRF Facility Plan will be provided in the appendices; however, it does not appear to be included. When does the County plan to provide that plan?

R1. See attached Exhibit 3.

Q2. Can Tab 8 Item 14 be moved to Tab 7 Item 4 (replacing the item deleted in addendum 1)? This allows for continuity of approach, consolidation of schedule under the approach section, and will ease selection committee review.

R2. Yes, see Change to Tab 7 and Delete to Tab 8 above.

Q3. Can Tab 7 Item 7 (in its entirety) and Tab 7 Item 9.c. be provided as appendices to Tab 7 and be excluded from page count?

R3. Yes.

Q4. Please confirm that Manatee County does not have a GMP development preference and is expecting the project teams to recommend an approach that meets the overall project schedule?

R4. The County does agree to allow the project team to recommend an approach that meets the project specifications, schedule, and will define this information in their proposal.

Q5. Please confirm that the provided Form 10, Anti-Human Trafficking Affidavit is also required to be completed and submitted under Tab 3.

R5. Confirmed.

Q6. **Should the language under Tab 8, Item 11 state as follows to account for each design and <u>construction</u> firm's participation on previous county awards as both a prime and subcontractor?**

R6. See Change to Tab 8, Item 11 above.

Q7. Tab 8, Question 6: Does the County have a specific Bid Form they would like the contractor to use? If so, can it be provided for reference?

R7. This Request for Qualifications (RFQ) is qualification-based, no pricing will be entertained during this process.

NOTE:
Deleted items will be ~~struck through~~, added or modified items will be <u>underlined</u>. All other terms and conditions remain as stated in the RFQ.

INSTRUCTIONS:
Receipt of this Addendum must be acknowledged as instructed in the solicitation document. Failure to acknowledge receipt of this Addendum may result in the response being deemed non-responsive.

END OF ADDENDUM

AUTHORIZED FOR RELEASE Jacob Erickson, MBA, CPPO, NIGP-CPP

Digitally signed by Jacob Erickson, MBA, CPPO, NIGP-CPP
Date: 2025.08.08 07:54:16 -04'00'

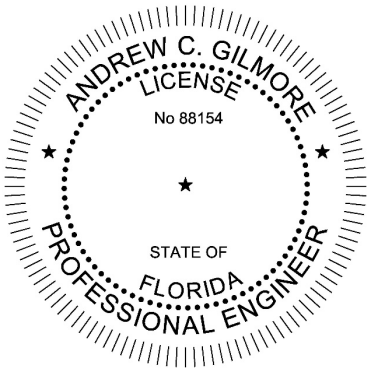
North Regional Water Reclamation Facility (NRWRF) Facility Plan

July 2025 / FINAL

NRWRF Facility Plan and Near-Term Improvements

North Regional Water Reclamation Facility (NRWRF) Facility Plan

July 2025 / FINAL



This item has been digitally signed and sealed by Andrew C. Gilmore on the date adjacent to the seal.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Carollo Engineers, Inc.
301 N Cattlemen Road, Suite 302
Sarasota, Florida 34232
941.371.9832

Contents

Appendices

Tables

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Abbreviations

AACE	Association for the Advancement of Cost Engineering
AADF	annual average daily flow
AAOFDAB	adjacent area outside the future development area boundary
ADF	average daily flow
AGS	aerobic granular sludge
AWT	advanced waste treatment
BEBR	Bureau of Economic and Business Research
BFP	belt filter press
BMAP	basin management action plan
BOD_5	five-day biochemical oxygen demand
Carollo	Carollo Engineers
cBOD5	five-day carbonaceous biochemical oxygen demand
County	Manatee County
EDU	equivalent dwelling unit
E&I	electrical and instrumentation
EPA	Environmental Protection Agency
ESDC	Engineering Services for Design and Construction
FDEP	Florida Department of Environmental Protection
ft^2	square feet/foot
FY	fiscal year
GBT	gravity belt thickener
GIS	geographic information system
gpcd	gallons per capita day
gpd	gallons per day
gpm	gallons per minute
hp	horsepower
L	liter
lb	pound
LOS	level-of-service
MBR	membrane bioreactor
MCMRS	Manatee County Master Reuse System
MDF	maximum day flow
MG	million gallons
mgd	million gallons per day
mg/L	milligrams per liter
mL	milliliter
MLE	Modified Ludzack-Ettinger

MLSS	mixed liquor suspended solids
mm	millimeter
MMF	maximum month flow
NRWRF	North Regional Water Reclamation Facility
NTU	nephelometric turbidity unit
O&M	operations and maintenance
PDB	progressive design build
PHF	peak hour flow
ppd	pounds per day
RAS	return activated sludge
RIB	rapid infiltration basin
SBR	sequencing batch reactor
SCADA	supervisory control and data acquisition
SLR	solids loading rate
SOR	surface overflow rate
s.u.	standard unit
SWFWMD	Southwest Florida Water Management District
TKN	total Kjeldahl nitrogen
TM	technical memorandum
TMRADF	three-month rolling average daily flow
TN	total nitrogen
TP	total phosphorus
TSS	total suspended solids
VFD	variable frequency drive
WAS	waste activated sludge

EXECUTIVE SUMMARY

Manatee County (County) developed this Facility Plan to support the planned expansion of the North Regional Water Reclamation Facility (NRWRF) in response to continued population growth and subsequent increases in wastewater flow. The facility, currently permitted for 7.5 million gallons per day (mgd) based on a three-month rolling average daily flow (TMRADF), is nearing capacity. Updated population and flow projections indicate that an increase to 14 mgd annual average daily flow (AADF) will be needed to reliably serve the North Service Area through the planning period to 2050. This planning effort also evaluates potential near-term improvements to optimize existing capacity and long-term infrastructure upgrades to treat future flows.

Historical flows and loading data was reviewed, and a capacity analysis was conducted for all major treatment processes. The evaluation identified that while some units such as the headworks and chlorine contact chambers have sufficient capacity to accommodate additional capacity, others, such as the secondary process and the tertiary filters, would limit the facility's capacity. Near-term improvements are recommended to optimize current performance, including filter retrofits. Additional Process modeling is recommended to confirm a potential increase in biological capacity. Finally, the reclassification of the existing reclaimed water storage pond to improve operational flexibility. The County is also pursuing, with the Florida Department of Environmental Protection (FDEP), modifications of the permit from TMRADF to an AADF basis.

To expand the facility to 14 mgd, three alternatives were considered: expansion of the existing oxidation ditch based Modified Ludzack-Ettinger (MLE) process, conversion to a membrane bioreactor (MBR), and added capacity using aerobic granular sludge (AGS) technology in addition to the current oxidation ditch system. Each option was evaluated based on capital and operational costs, treatment performance, energy usage, footprint, operational complexity, and alignment with the County's long-term goals. While each alternative presents trade-offs, the County has selected AGS as the preferred option. This technology offers a reduced footprint, potential for lower energy use, and supports the County's intent to eventually align treatment technologies across all facilities.

The expansion to 14 mgd AADF at the NRWRF will require headwork improvements, additional equalization storage and pumping, construction of new AGS reactor basin and balance tank, upgrades to filtration and effluent pumping, additional chemical storage, and the addition of reclaimed water storage. To optimize existing facilities and reduce capital improvement costs the County plans to pursue a small number of interim improvements to allow re-rating of the existing facility from 7.5 mgd to a higher permitted capacity, potentially up to 10 mgd AADF prior to constructing the full expansion to 14 mgd.

The Facility Plan recommends that the County move forward with the interim improvements and re-rating efforts first, followed by implementation of AGS to reach the ultimate 14 mgd capacity. This approach will make use of the full capability of the existing infrastructure and help to facilitate future capacity while efficiently using the County's resources. The County is proceeding with the procurement of a Progressive Design Builder to design and build the interim capacity improvements and necessary facilities for the 14 mgd expansion project.

SECTION 1 PLANNING OBJECTIVES AND PERMITTING

1.1 Background

The County owns and operates the NRWRF located in Palmetto, Florida. The facility is currently permitted and designed to treat up to 7.5 mgd TMRADF using a Type I oxidation ditch activated sludge process. Treatment processes include mechanical screening, vortex grit removal, a MLE secondary process with Ovivo Carrousel oxidation ditches for biological nutrient removal, followed by tertiary filtration and chlorine disinfection. Treated effluent is conveyed either to on-site reclaimed water storage or to the Manatee County Master Reuse System (MCMRS) under a separate permit.

To accommodate projected population growth and maintain level-of-service (LOS) commitments, the County is planning a major expansion of the NRWRF beginning in fiscal year (FY) 2026. This updated Facility Plan evaluates opportunities to optimize the existing treatment capacity, defines the timing and design criteria for future expansion, and identifies near-term improvements to enhance operational flexibility and treatment reliability. A key area of focus is the return activated sludge (RAS), and waste activated sludge (WAS) pumping station, which currently represents a hydraulic bottleneck within the system.

The objectives of this work include reviewing historical data to assess current capacity and inform expansion needs; evaluating projected flows and service requirements to determine the timing of required improvements; identifying and recommending process and non-process upgrades; evaluating phasing options for the expansion; assessing potential project delivery methods; and recommending short-term enhancements to improve system flexibility and reliability across all major treatment processes.

1.2 Organization of NRWRF Facility Plan

This report is organized into the following sections:

- **Section 1** outlines planning objectives and permitting considerations.
- **Section 2** summarizes historical flow, load, and plant performance data and includes projections and expansion timing.
- **Section 3** evaluates existing facility capacity and the RAS/WAS system.
- **Section 4** identifies near-term improvements to optimize capacity and reliability.
- **Section 5** presents expansion alternatives.
- **Section 6** contains a discussion of the selected alternative and an implementation schedule.

1.3 NRWRF Operating Permit

The following section summarizes the existing permit requirements for NRWRF. While Florida facilities are increasingly being modified to meet advanced waste treatment (AWT) standards, based on basin management action plans (BMAPs) or other drivers, evaluation of AWT upgrades is not included in the scope of this Facility Plan but may be required for future planning efforts.

1.3.1 Current FDEP Operating Permit

The County NRWRF treats domestic and light commercial wastewater in compliance with state and federal regulations to protect public health and water quality. Under FDEP Domestic Wastewater Facility Permit No. FLA012617-026, the facility is authorized to treat up to 7.5 mgd TMRADF.

The current permit, included in Appendix A, expires in February 2026. As part of a separate project, Carollo is preparing the documentation required to support the permit renewal where the County is pursuing a change in the permit basis for the NRWRF from TMRADF to AADF. This change will align NRWRF's permit with the County's other facilities—Southwest currently operates under an AADF basis, and Southeast has requested the same change of flow basis in its latest permit renewal application.

NRWRF is permitted to send 7.5 mgd AADF of treated effluent to its MCMRS, a Part III slow-rate public access reuse system. The facility also may send reclaimed water to an onsite 49-million gallons (MG) rapid infiltration basin (RIB). Table 1.1 lists the current water quality requirements permitted for land application (R-001), which connects to the County's MCMRS (under a separate permit). Abbreviations: cBOD5 – five-day biochemical oxygen demand; TSS – total suspended solids; mg/L – milligrams per liter; mL – milliliter; L – liter; NTU – nephelometric turbidity unit; TP – total phosphorous; TN – total nitrogen

Table 1.2 has the water quality requirements for the RIB (R-002).

Table 1.1 NRWRF Reclaimed Water Quality Limits (R-001)

Parameter	Unit	Max/ Min	Limit
Flow	mgd	Max Max	7.5 Annual Average Report Monthly Average
Carbonaceous five-day biochemical oxygen demand ($cBOD_5$)	mg/L	Max Max Max Max	20.0 Annual Average 30.0 Monthly Average 45.0 Weekly Average 60.0 Single Sample
Total Suspended Solids (TSS)	mg/L	Max	5.0 Single Sample
Fecal Coliform	#/100 mL	Max	25 Single Sample
Coliform % less than detection	percent	Min	75 Monthly
Total Residual Chlorine	mg/L	Min	1.0 Single Sample
Turbidity	NTU	Max	Report Single Sample
Total Nitrogen (as TN)	mg/L	Max	Report Single Sample
Total Phosphorous (as TP)	mg/L	Max	Report Single Sample
Giardia	cysts/100L	Max	Report Single Sample
Cryptosporidium	oocysts/100L	Max	Report Single Sample

Abbreviations: $cBOD_5$ – five-day biochemical oxygen demand; TSS – total suspended solids; mg/L – milligrams per liter; mL – milliliter; L – liter; NTU – nephelometric turbidity unit; TP – total phosphorous; TN – total nitrogen

Table 1.2 NRWRF Reclaimed Water Quality Limits (R-002)

Parameter	Unit	Max/ Min	Limit
Flow	mgd	Max	Report Annual Average
		Max	Report Monthly Average
$cBOD_5$	mg/L	Max	20.0 Annual Average
		Max	30.0 Monthly Average
		Max	45.0 Weekly Average
		Max	60.0 Single Sample
TSS	mg/L	Max	20.0 Annual Average
		Max	30.0 Monthly Average
		Max	45.0 Weekly Average
		Max	60.0 Single Sample
pH	s.u.	Min	6.0 Single Sample
		Max	8.5 Single Sample
Fecal Coliform	#/100mL	Max	200 Annual Average
		Max	800 Single Sample
Total Residual Chlorine	mg/L	Min	0.5 Single Sample
TN, Nitrate	mg/L	Max	12.0 Single Sample

Abbreviations: s.u. – standard unit

SECTION 2 PLANNING FRAMEWORK

This section presents the planning period, projected population growth, associated influent flows and loads, and the resulting timing necessary for facility expansion.

2.1 Planning Period

The 25-year planning period for this Facility Plan starts in 2025 and ends in 2050.

2.2 Historical Flows and Loads

This section reviews NRWRF's historical flows and loads, permit requirements, and plant performance. This historical data analysis forms the basis for design flows and loads and treatment needs.

2.2.1 Influent and Effluent Flows

The past 20 years of NRWRF flow data were analyzed to support the flow projections presented in Section 2.4. Figure 2.1 summarizes influent flow trends from January 2005 through December 2024, including an AADF, maximum month flow (MMF), and maximum day flow (MDF). Over this period, all three flow measurements have increased.

- AADF: 51 percent increase from 3.7 mgd to 5.6 mgd.
- MMF: 64 percent increase from 4.2 mgd to 6.9 mgd.
- MDF: 90 percent increase from 6.9 mgd to 13.1 mgd.

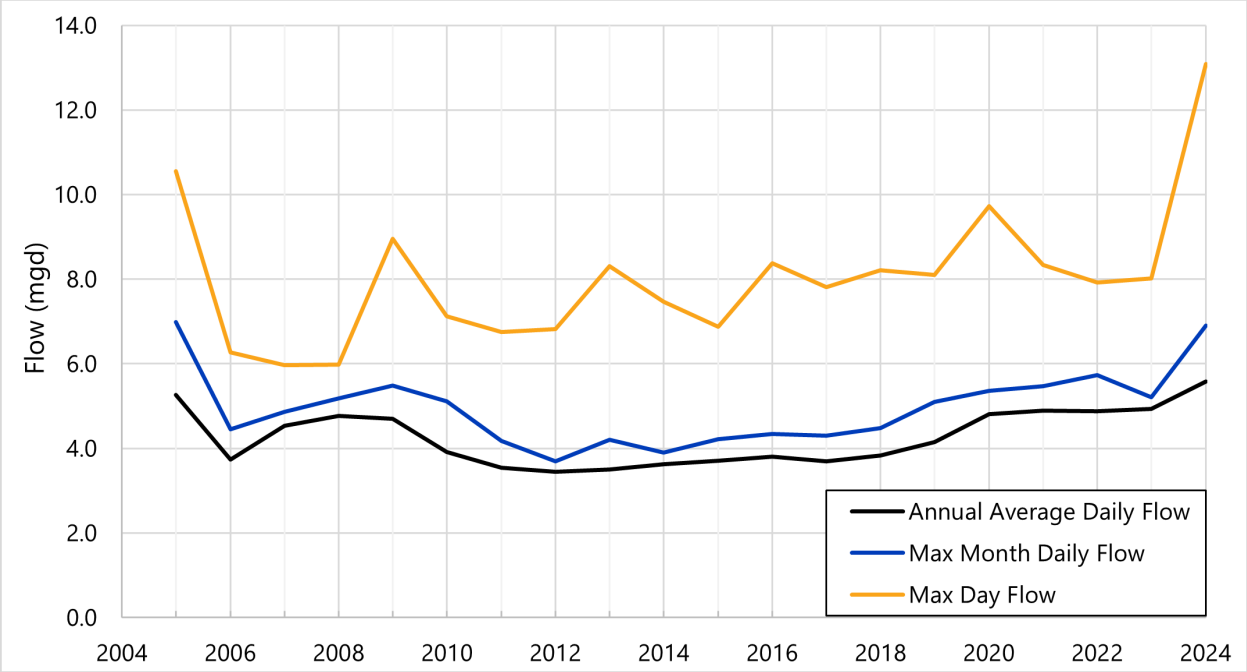


Figure 2.1 Influent Flow Over Past 20 Years (2015-2024)

Peaking factors quantify how much flow conditions deviate from the average and are typically expressed as the ratio in flow relative to the AADF. Figure 2.2 presents the peaking factors for MMF and MDF over the past 5 years. During this period, maximum month peaking factors ranged from 1.06 to 1.23, and maximum day peaking factors ranged from 1.61 to 2.29. The lowest peaking factors occurred in 2023 and the highest in 2024.

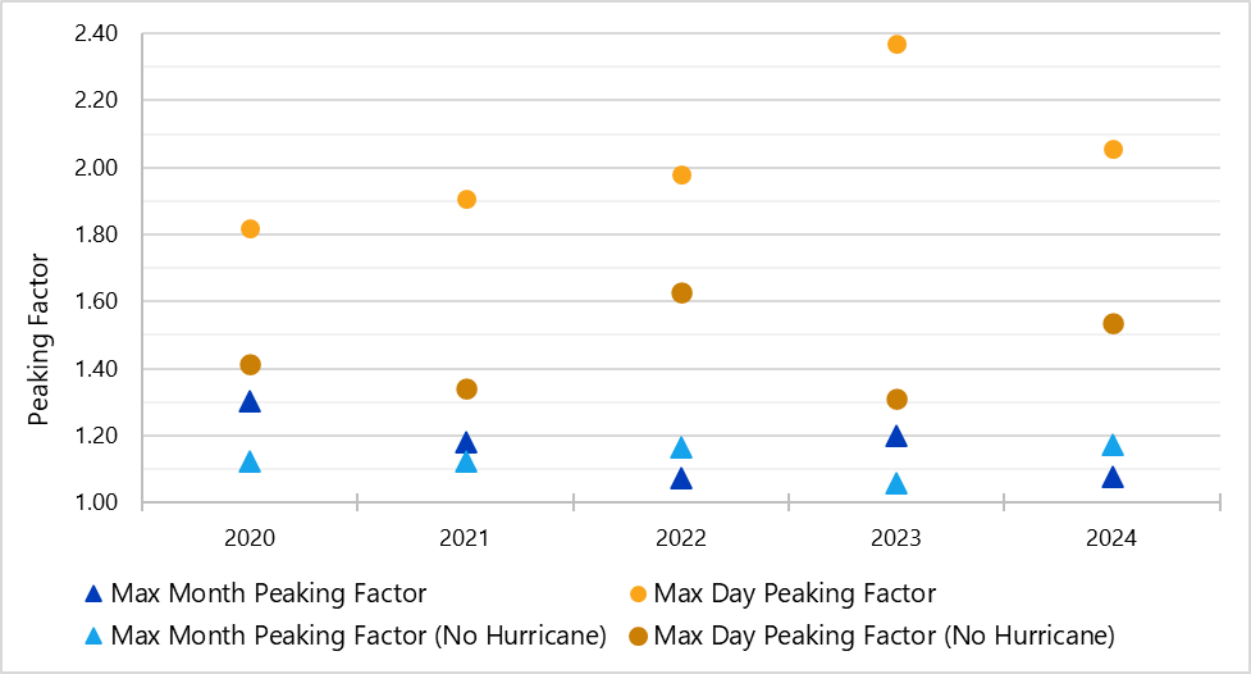


Figure 2.2 Peaking Factors Over Past 5 Years (2020-2024)

As shown in Figure 2.2, the maximum day peaking factor is highly impacted by extreme wet weather events, like hurricanes and tropical storms. A list of named storms that contributed to these peak flows are identified in Table 2.1. When these events are removed from analysis, the highest maximum day peaking factor over the past 5 years is 40 percent lower at 1.63, while the highest maximum month peaking factor remains relatively unchanged at 1.17.

Table 2.1 Extreme Weather Events Contributing to Peak Flows

Year	Date(s)	Extreme Weather Event	Flows Observed (mgd)
2020	Jun 6-7	Tropical Storm Cristobal	7.5-8.5
	Nov 11-12	Tropical Storm Eta	7.5-9.7
2021	Jul 7	Hurricane Elsa	7.1
	Aug 4-5	Unnamed Storm	8.3
2022	Sep 28	Hurricane Ian	7.8
	Nov 10	Hurricane Nicole	7.1
2023	Aug 30	Hurricane Idalia	8.0
2024	Aug 4-7	Hurricane Debbie	7.3-13.1
	Sep 27	Hurricane Helene	7.2
	Oct 10	Hurricane Milton	9.0

The evaluation has shown how extreme weather events can increase peak flows at the facility. Those events are considered recurring, and it was determined that they will be accounted for in the facility design to maintain operational flexibility.

While the observed maximum day peaking factor was 2.3, a peaking factor of 2.5 is recommended for future design to improve robustness. This margin will help the facility manage extreme conditions without overloading treatment processes or risking permit violations, thereby supporting reliable operation under weather-driven variability.

2.2.2 Influent Loads

The past 5 years of NRWRF flow data were analyzed to establish a basis for load projections for influent 5-day biochemical oxygen demand (BOD_5), TSS, total Kjeldahl nitrogen (TKN), ammonia, and total phosphorus (P).

Carollo's review of influent data suggested the autosampler may be drawing from a poorly mixed location in the influent channel, resulting in frequent low and highly variable TSS and BOD concentrations that are uncharacteristically low for raw municipal wastewater. Figure 2.3 shows NRWRF influent carbonaceous BOD_5 (cBOD) and TSS data from January 2020 through December 2024. Graphs of additional influent parameters are included in Appendix B.

The calculated BOD:TSS ratio averages approximately 1.8, which is significantly higher than typical municipal ranges (0.8–1.2) and suggests that solids may be settling out in the sampling location, leading to a mismatch between organic and solids loading measurements. Initial process modeling efforts indicate that influent BOD concentrations may also be underreported and would need to be approximately 60 percent higher than measured to support the observed TN removal. The amount of sludge produced per unit of BOD_5 removed appears unusually high, with calculated values ranging from 0.3 up to 4.0 pounds (lbs) TSS per lb BOD_5 removed—compared to typical values around 0.2 to 0.85 for oxidation ditch systems. Calculated per capita BOD loading (0.09–0.12 pounds per day (ppd) per capita based on the most recent 5 years of data for average day to maximum month conditions) is also lower than expected for municipal wastewater (0.11–0.20 ppd per capita based on WEF MOP 8). These findings are consistent with observations from McKim & Creed's 2025 technical memorandum (TM), which noted abnormally low influent BOD_5 and TSS concentrations (28 mg/L and 81 mg/L, respectively) during Phase I sampling and raised concerns that the results may not reflect actual influent characteristics due to potential dilution or upstream pretreatment (McKim & Creed, 2025).

A special sampling campaign is underway to determine whether a more representative influent sampling location is available and to improve the accuracy of influent loading estimates, supporting more reliable design and planning decisions.

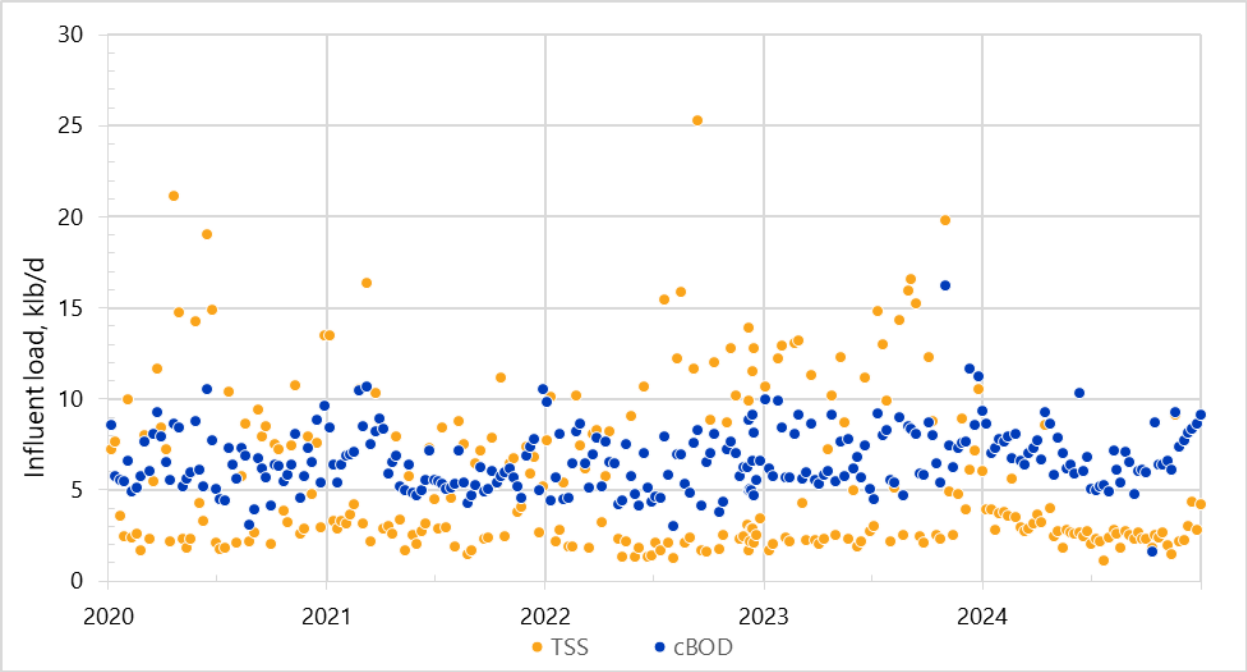


Figure 2.3 Influent BOD and TSS Concentrations Over Past 5 Years (2020-2024)

2.2.3 Summary of Current Flows and Peaking Factors

Table 2.2 summarizes the current (2024) flow and peaking factor used as the basis for flow projections in Section 2.4. Loading estimates will be provided following completion of the special sampling effort mentioned on Section 2.2.2.

Table 2.2 Summary of Current NRWRF Flow and Peaking Factors

Parameter	Flow
Average Daily Annual Flow	5.6 mgd
Max Month Peaking Factor	1.23
Max Week Peaking Factor	1.65
Max Day Peaking Factor	2.29

2.3 Population Projections

Two methods were implemented to estimate current and projected populations:

- **Method 1**: Estimation based on the County's existing sewershed and future planned equivalent dwelling units (EDUs).
- **Method 2**: Estimation based on Southwest Florida Water Management District (SWFWMD) parcel-based population data.

2.3.1 Method 1: Manatee County Sewershed and EDU Method

Geographic information system (GIS) data was obtained from the County in March 2025. The data included equivalent EDUs for existing sewersheds as well as projected future EDUs within planned developments at the end of 2025, 2030, 2040, and 2050. Figure 2.4 shows the existing sewersheds, anticipated future developments, and potential future developments in the adjacent area outside the future development area boundary (AAOFDAB).

After determining the number of EDUs anticipated in each planning year, population estimates were calculated using historical population and household data. A housing unit is defined differently than a household, with households defined as the number units occupied by permanent residents. Based on 2024 estimates provided by the U.S. Census, the number of households was approximately 71 percent of the total number of housing units in Manatee County. Therefore, the number of housing units was adjusted to account for 71 percent occupancy by permanent households. The total population was calculated as the number of households by the average number of people per household in Manatee County. According to the University of Florida's Bureau of Economic and Business Research (BEBR), the average household size in Manatee County in 2024 was 2.33 people. AAOFDAB developments were not included in the flow projections evaluated for the NRWRF Facility Plan since these are outside the County's service area.

Additional details about the methodology and results are included in the TM attached in Appendix C.

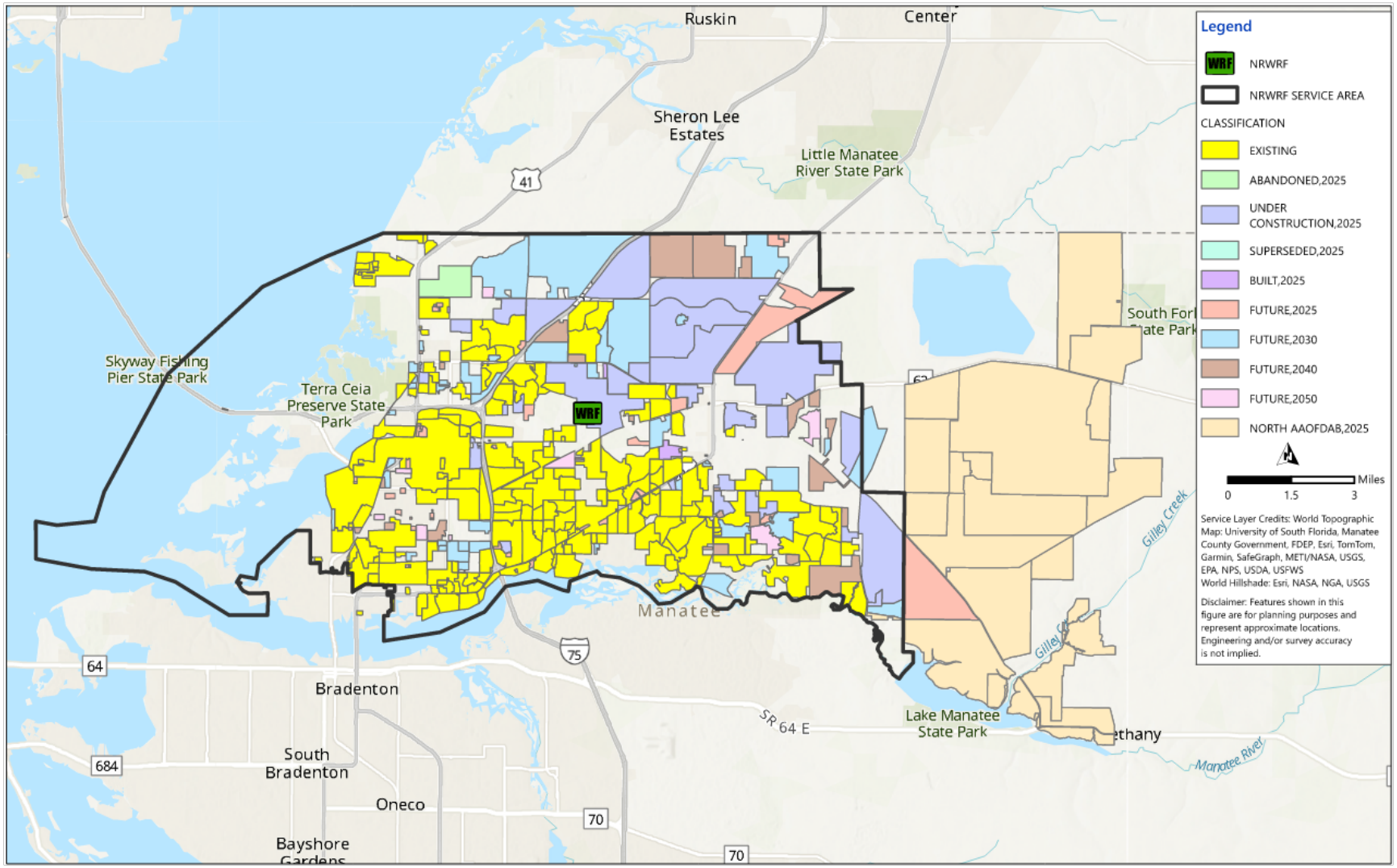


Figure 2.4 Manatee County Existing Sewersheds and Planned Developments

2.3.2 Method 2: SWFWMD Method

To supplement and compare with the County's population projections, an independent estimate was developed using spatial data provided by SWFWMD. A shapefile containing SWFWMD's projected population by parcel was overlaid with the County's existing sewershed areas and future planned development areas to be served by the County. Population estimates were then assigned to each development using SWFWMD's associated density and occupancy assumptions. Parcels were also filtered to include only residential areas and exclude commercial or industrial areas for purposes of calculating population. Population projections were developed for 2025, 2030, 2035, 2040, 2045, 2050, and build-out.

2.3.3 North Service Area Population Projections

Figure 2.5 shows the historical population of the North Service Area (2015-2024) as well as the projected populations (2025 build-out) estimated by the two methods. Because the Manatee County population projection method (Method 1) is the most conservative through 2050, it was selected as the basis for this Facility Plan's population projections. The SWFWMD approach projects a slower growth rate by the end of the planning period in 2050. Based on the County's method, it is projected that the population will reach approximately 209,000 people by 2050. This is equivalent to a growth rate of approximately 3.6 percent per year.

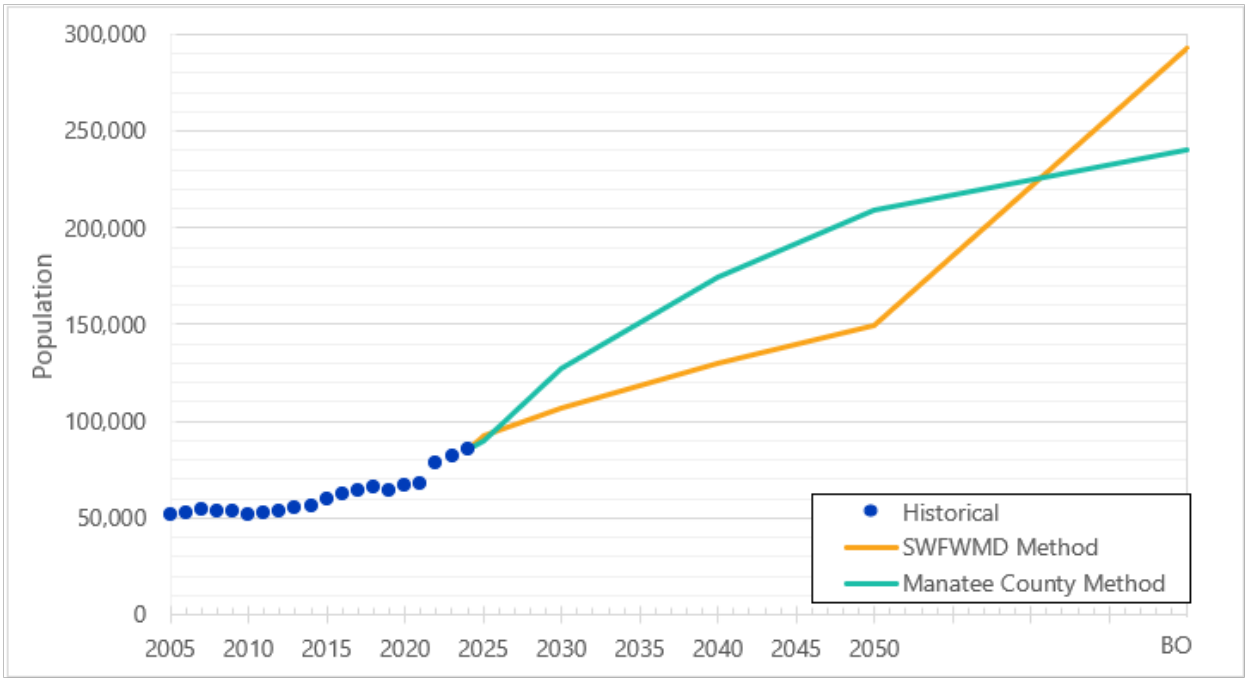


Figure 2.5 Comparison of North Service Area Population Projections

2.4 Flow Projections

Figure 2.6 presents historical wastewater flow trends along with projected flows through build-out based on varying per capita LOS, ranging from 65 to 80 gallons per capita per day (gpcd) through 2050. Historical flow data reflects observed influent conditions at the facility through 2024. Future projections were developed by applying population estimates to a range of LOS assumptions to capture the potential variability in water usage behavior.

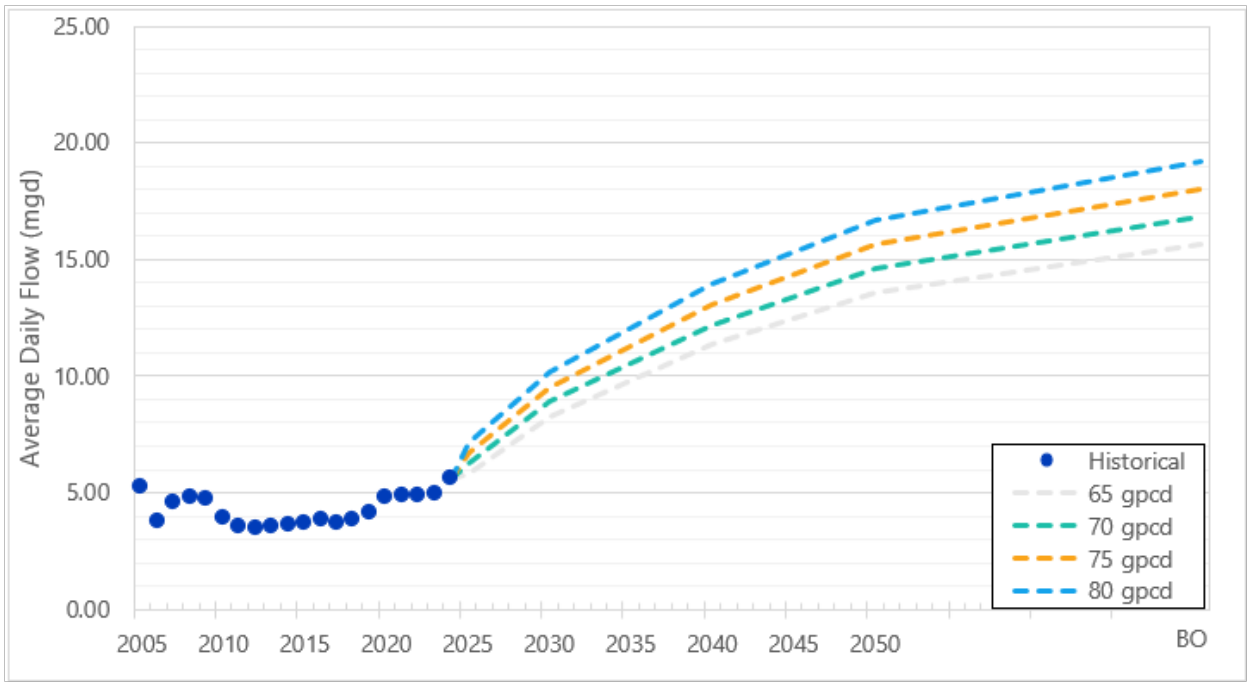


Figure 2.6 Average Annual Daily Flow Projections based on Per Capita Wastewater Generation Rates (2025-2050)

Although flow projections are based on AADF, permit capacity is based on TMRADF. The maximum TMRADF to AADF ratio was calculated for each year over the past 10 years (2015-2024), as shown in Table 2.3. The average ratio was 1.10, which is carried forward in this Facility Plan to convert between AADF and TMRADF.

Table 2.3 TMRADF to AADF Ratios

Maximum TMRADF			AADF (mgd)	TMRADF to AADF Ratio
Year	Month	Flow (mgd)		
2015	September	3.87	3.71	1.04
2016	October	4.21	3.81	1.11
2017	September	4.19	3.70	1.13
2018	September	4.18	3.82	1.09
2019	September	4.59	4.15	1.11
2020	November	5.13	4.81	1.07
2021	April	5.47	4.90	1.12
2022	September	5.39	4.90	1.10
2023	January	5.27	4.93	1.07
2024	October	6.43	5.58	1.15
Average of Maximum TMRADF to AADF Ratios				**1.10**

As part of the upcoming permit renewal application due in August 2025, the County is pursuing a change in the permit basis for the NRWRF from TMRADF to AADF. This change will align NRWRF's permit with the County's other facilities—Southwest currently operates under an AADF basis, and Southeast has requested the same change of flow basis in its latest permit renewal.

2.5 Level of Service

Historically, the County had a requirement to provide 95 gpcd of wastewater treatment LOS at the NRWRF, assuming average daily flow (ADF). In 2015, this value was amended to 80 gpcd, and in 2022, the per capita LOS removed from the County's Comprehensive Plan. As shown in Figure 2.7, the average daily per capita flow has remained relatively consistent over at least the past 10 years, averaging approximately 65 gpcd in the last 10 years, below the 2015-2022 LOS of 80 gpcd. Operating below the LOS capacity indicates the facility has sufficient capacity to meet LOS standards; however, excessive capacity can result in underutilized facility capacity. It is important for the County to maintain an appropriate balance between planning for future growth and making full use of existing facilities.

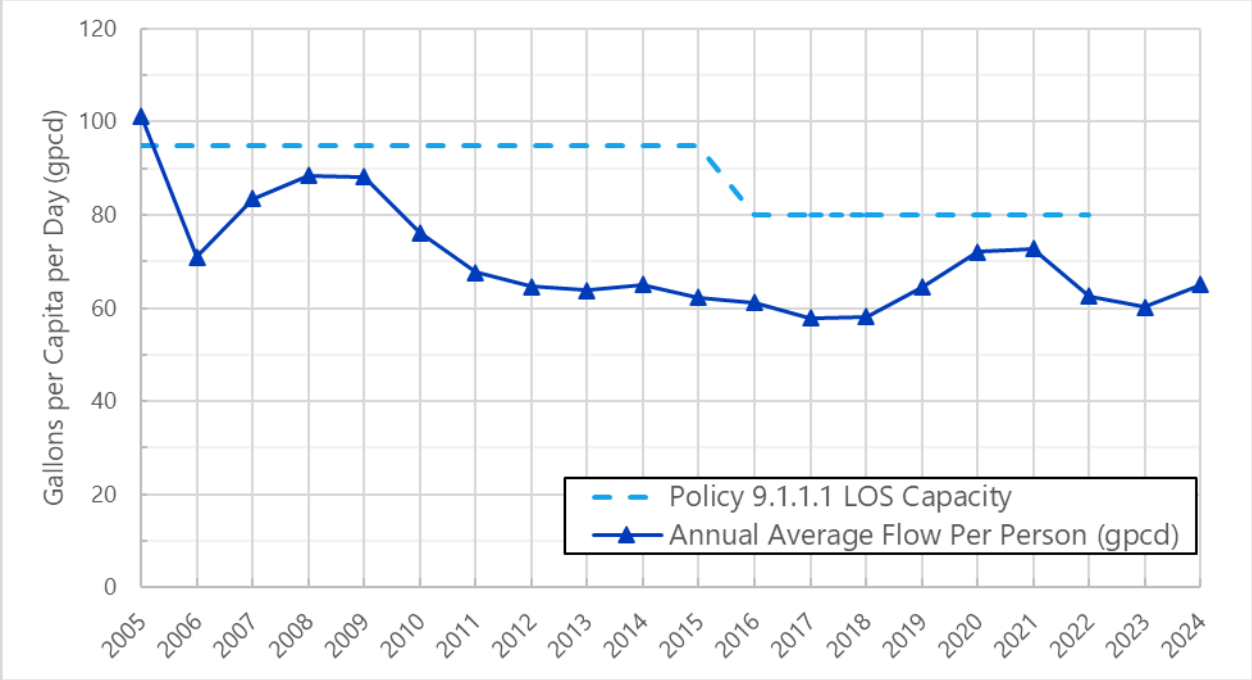


Figure 2.7 Per Capita Wastewater Generation Rates and LOS (2005-2024)

Based on the historical data analyzed, a value of 65 gpcd was selected for planning purposes, as it reflects the average per capita flow observed over the past 10 years. This value represents a realistic planning baseline that captures actual system performance without inflating future flow projections.

2.6 Anticipated Timing of Facility Expansions

Figure 2.8 presents the historical and projected influent flows to the NRWRF based on an AADF basis. The current permit defines capacity as 7.5 mgd TMRADF, which corresponds to approximately 6.8 mgd AADF using the facility's observed ratio of 1.10 between TMRADF and AADF. The 6.8 mgd AADF equivalent (blue dashed line) is expected to be exceeded between 2026 and 2027, indicating that, under current permit conditions, the facility would be approaching its permitted flow threshold within the next 1 to 2 years.

The 7.5 mgd AADF limit (solid blue line) represents the proposed new permit basis the County is pursuing as part of the 2025 permit renewal. Aligning the NRWRF with the AADF basis would bring it in line with the County's Southwest facility and the approach recently submitted for the Southeast facility. Under this proposed AADF basis, permitted capacity is projected to be exceeded between 2028 and 2029.

To accommodate continued growth in the North Service Area, it is recommended that the County plans to expand NRWRF to 14 mgd AADF. Based on flow projections and assuming an LOS of 65 gpcd, the expanded capacity is expected to meet demand through 2050.

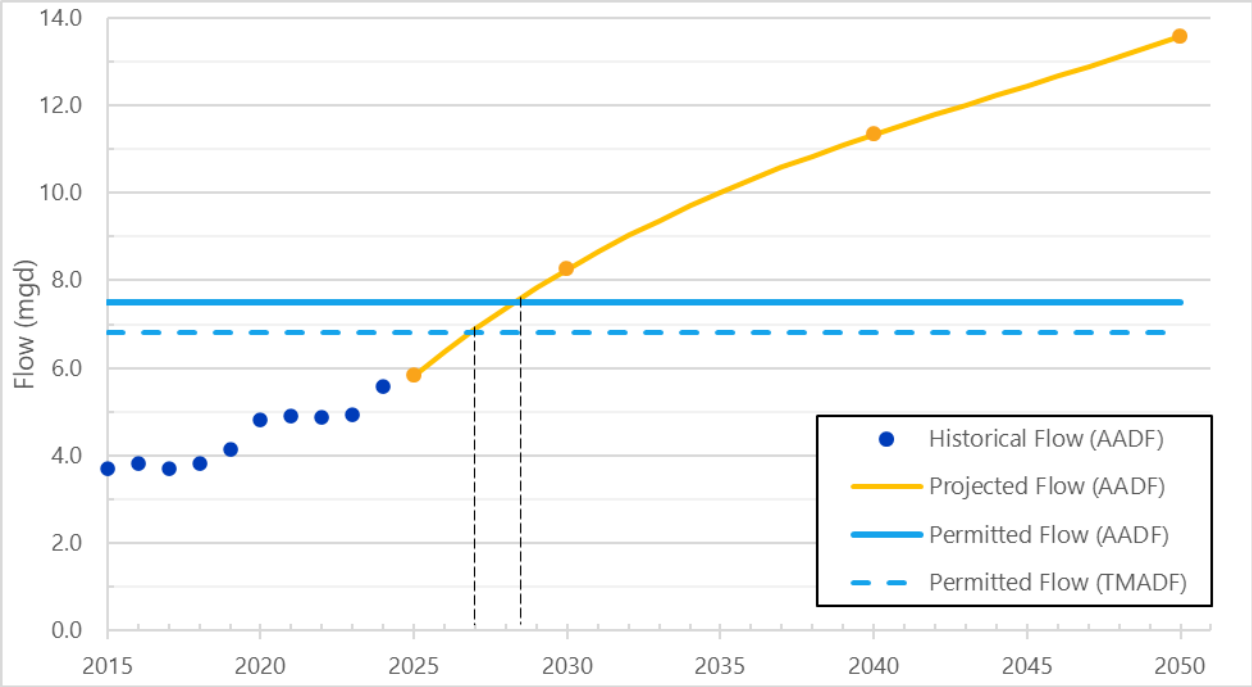


Figure 2.8 Expansion Timing Based on Projected AADFs

SECTION 3 FACILITY EVALUATION

This section reviews the existing treatment process and site layout at NRWRF and analyzes the hydraulic and biological capacity of each liquid stream unit process. A detailed evaluation is provided for the RAS/WAS system, which has known hydraulic limitations.

3.1 Overview of Existing Facility

NRWRF is located at 8500 69th Street in Palmetto, Florida. The facility provides wastewater treatment, supports reuse systems, and processes biosolids for part of Manatee County. Figure 3.1 contains a site layout.

3.1.1 Treatment Process

The liquids treatment process at NRWRF, shown on Figure 3.2 on consists of screening and grit removal (headworks), equalization, secondary treatment (oxidation ditch with anoxic and oxic zones), secondary clarification, flash mix flocculation, filtration, disinfection (chlorination), and high service pumping. Reclaimed water may be used onsite, directed to non-potable water end users, or directed to the MCMRS.

Figure 3.3 illustrates the solids handling at the NRWRF. The WAS is conveyed to one of three sludge holding tanks and then pumped to three belt filter presses (BFPs) via the BFP feed pumps. The dewatered sludge is hauled to the biosolids dryer facility at the SEWRF and the filtrate and sludge supernatant are returned to the headworks.

Other plant waste streams, including reject water from disinfection, decant and filtrate from solids handling, filter backwash, and plant drains, are combined with RAS and conveyed to the plant drain pump station. The combined stream is returned to the headworks.

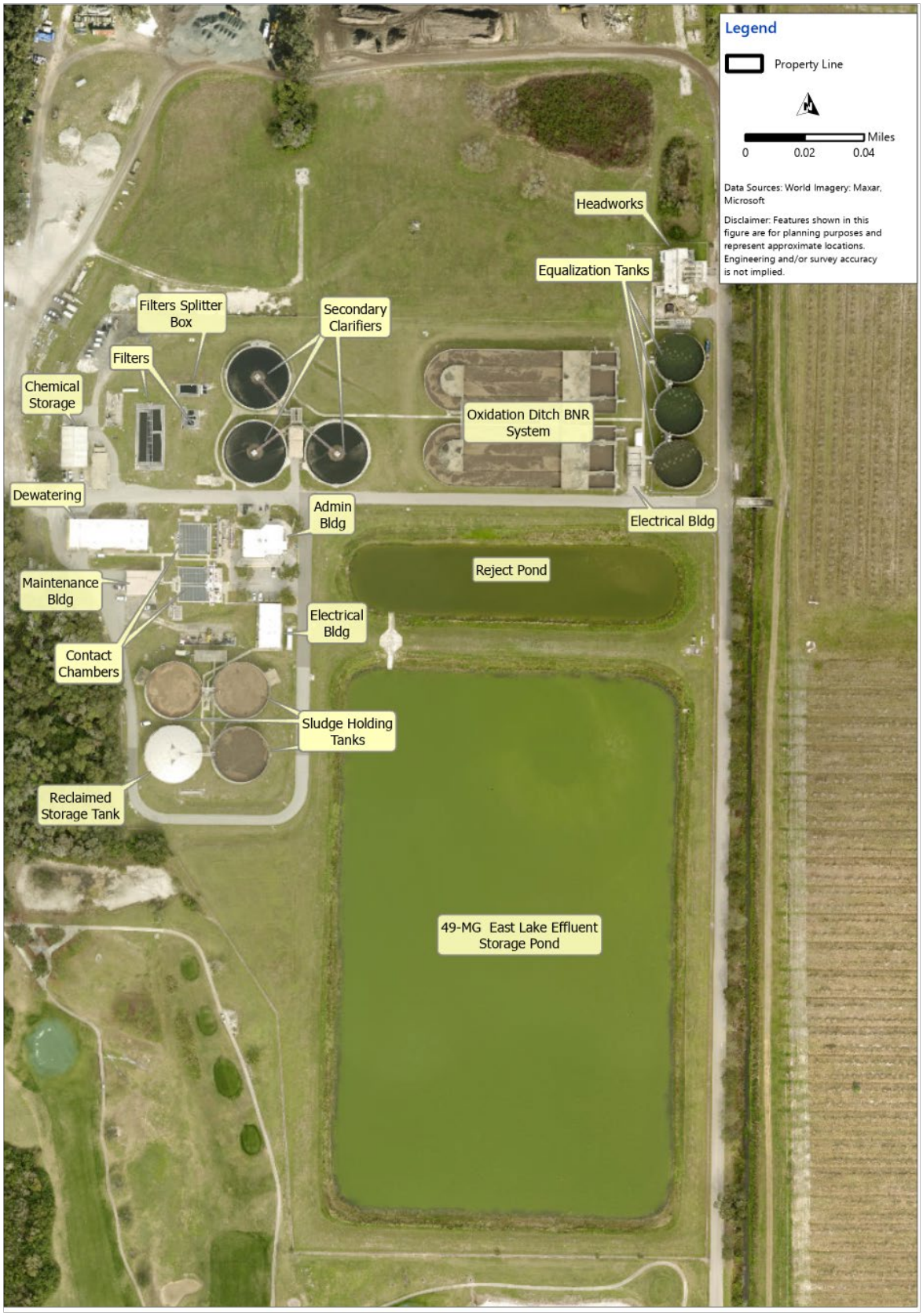


Figure 3.1 Site Layout

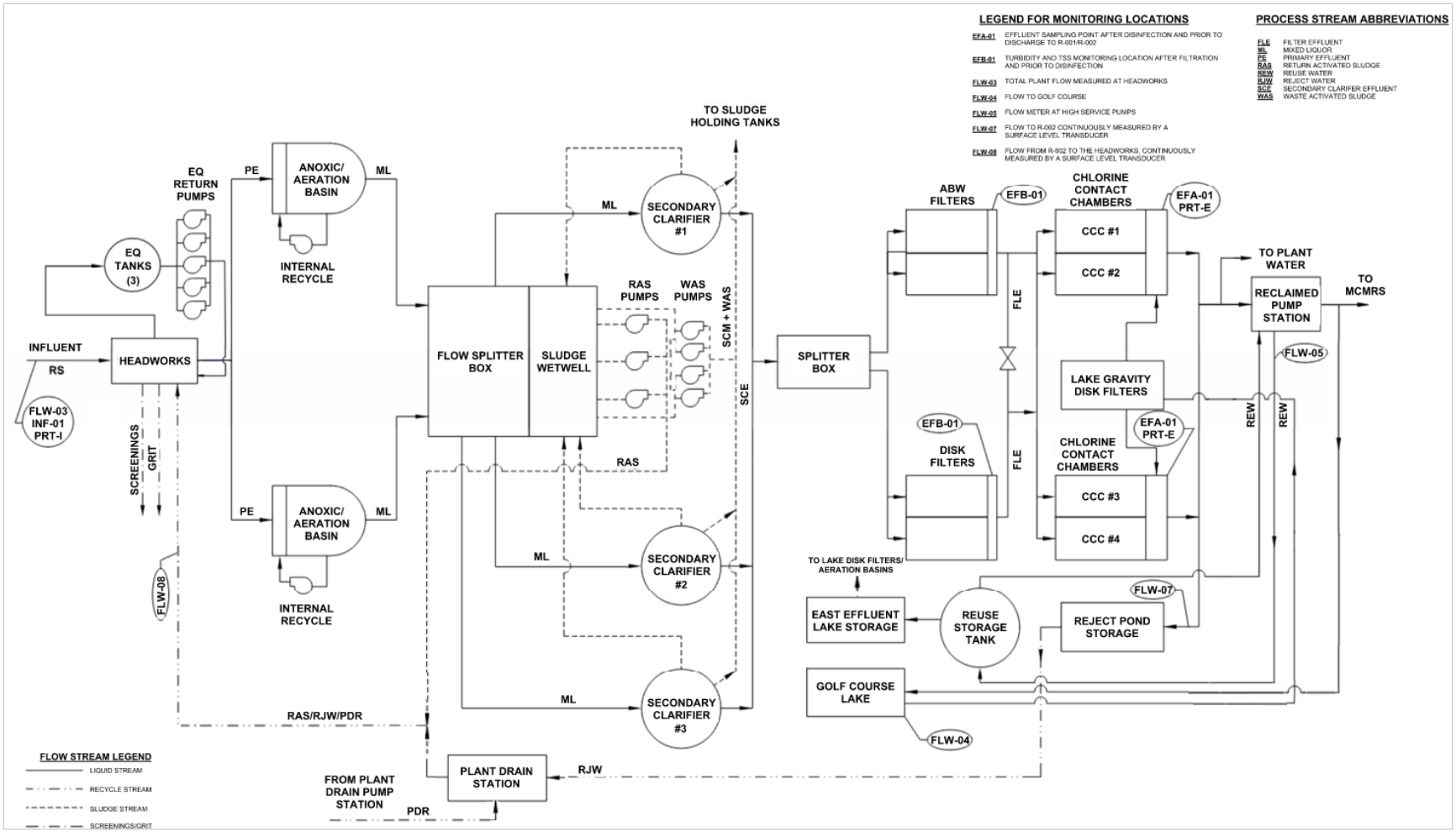


Figure 3.2 NRWRF Liquid Process Flow Diagram

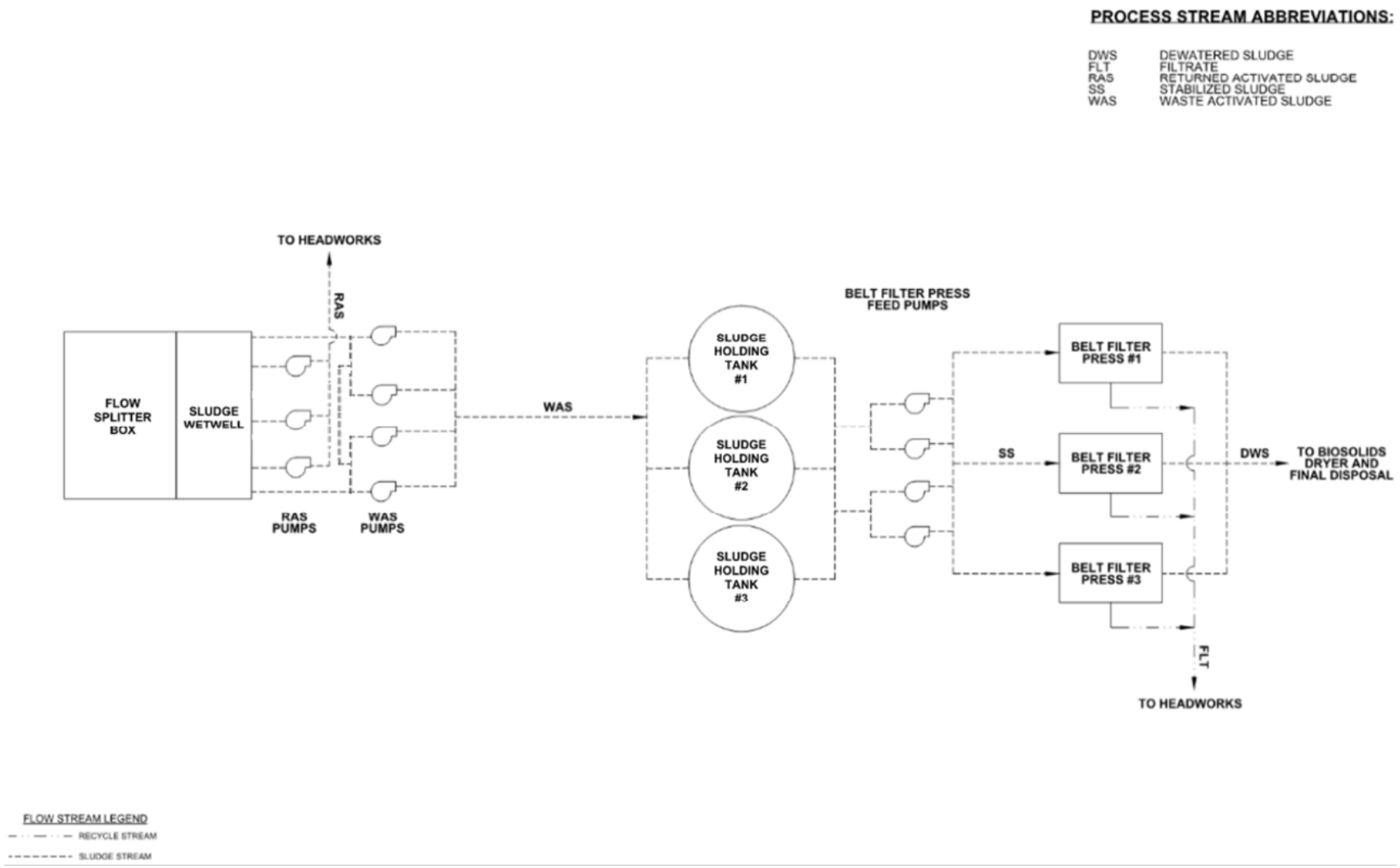


Figure 3.3 NRWRF Solids Process Flow Diagram

3.2 Unit Process Capacity Analysis

This section evaluates the hydraulic and process capacity of the treatment units at the NRWRF relative to the proposed future design flow of 14 mgd. For planning and sizing purposes, a peak hour peaking factor of 2.5 was applied, resulting in a projected peak hour flow (PHF) of 35 mgd.

The evaluations are based on the Environmental Protection Agency (EPA) Class I reliability criteria (EPA 430/9-75-001, "Reliability Criteria for Mechanical, Electrical, and Fluid Systems"), and the "Recommended Standards for Wastewater Facilities" (Ten States Standards).

The Ten States Standards are used to evaluate if the treatment processes are sized for reliable performance under certain operating conditions. These standards provide recommended design values for unit loading rates, detention times, and other treatment parameters. The Ten State Standards are not enforceable but are recognized by FDEP as a benchmark for engineering practices.

The EPA Class I reliability criteria are used to evaluate whether the treatment facilities can maintain continuous operation during equipment failures or routine maintenance. Under these guidelines, the facility should be able to treat a specified percentage of the total design flow with one major unit of each process out of service. These are not intended as normal operating conditions but serve as a check to guide equipment redundancy and sizing.

Both documents together provide design recommendations for treatment process sizing, redundancy requirements, and operational reliability.

3.2.1 Liquid Stream Capacity Analysis

3.2.1.1 Preliminary Treatment

Before entering the influent channel, flow is measured using an ultrasonic meter on a 30-inch pipe. The wastewater then moves through the headworks, which has three channels—two with mechanical 6-millimiter (mm) band screens (manufactured by Parkson) and one with a standby manual bar rack. Each screen and the manual rack are rated for 20 mgd.

The headworks also features two stacked tray grit removal units (Hydro International HeadCell), each with 8 trays and a capacity of 15.2 mgd, expandable to 22.5 mgd with additional trays. The additional trays can be installed as part of the AGS expansion discussed later in this report. Grit from these units is processed through a grit separator/classifier (SlurryCup and Grit Snail) system for washing and dewatering, achieving 95 percent removal of particles 50 microns and larger. The processed grit is collected in a dumpster.

Table 3.1 Headworks Evaluation Summary

Unit	Capacity
Screens(1, 2, 3)	40 mgd PHF (16 mgd ADF)
Grit Removal(4, 5, 6)	45 mgd

Notes:
(1) Ten States Standards design criterion: Auxiliary manual screens or duplicate mechanical units.
(2) EPA Class I reliability criterion: at least one manual backup screen.
(3) Two mechanical screens (20 mgd each), and one 20 mgd backup manual screen.
(4) Does not require PHF criteria.
(5) Total Capacity. Currently, only 8 out of 12 trays are installed, totaling 30.4 mgd.
(6) Class I reliability criteria: no backup requirement.

3.2.1.2 Equalization

During periods of elevated flow, wastewater exceeding the set point capacity of the headworks splitter box overflows an adjustable weir gate and is diverted to three equalization tanks, each with a volume of 1 MG. When influent flow decreases, the stored wastewater is returned to the treatment process via a return pump station equipped with five pumps, each rated at 1,500 gallons per minute (gpm) (2.1 mgd).

The goal of this evaluation is to assess the diurnal flow pattern based on 5 years of supervisory control and data acquisition (SCADA) data provided by the County and establish representative hourly flows under normal operating conditions. This analysis focuses on typical daily flow variations throughout a 24-hour cycle.

The diurnal pattern data does not include extreme weather events, as these are not regular occurrences and do not follow predictable diurnal patterns. Extreme events can occur at any time of day and are characterized by flows that significantly exceed normal operational ranges. Therefore, the results of this evaluation are specifically applicable to determining equalization capacity requirements under regular operating conditions.

The remaining tank capacity not utilized for normal diurnal flow management can be reserved for peak shaving during extreme events. While greater available capacity provides better resilience for handling these extreme conditions, the peak shaving capacity cannot be accurately estimated or designed by simply analyzing diurnal flow patterns, as each storm event has different intensity and duration. In order to evaluate whether the available equalization capacity is properly sized for daily operations, a diurnal flow pattern was developed using the past 5 years of SCADA data, as summarized in Table 3.2. The table presents the hourly distribution of flow as a percentage of the total daily volume. Under equalized conditions, the goal is to discharge flow from the tanks uniformly across 24 hours—equivalent to 4.2 percent of the daily flow per hour.

When the hourly flow percentage exceeds 4.2 percent, the tanks are in filling mode (more flow entering than leaving); when the hourly percentage is below 4.2 percent, the tanks are emptying (more flow being pumped out than entering). This analysis was used to simulate equalization performance under an ADF equal to the facility's current permitted capacity of 7.5 mgd TMADF.

Based on the diurnal flow pattern, the equalization system was evaluated for existing and future ADF conditions. For an equalized ADF of 7.5 mgd, the analysis determined that a storage volume of approximately 0.91 MG is required, with the maximum tank volume reached around 10:00 PM. When the same diurnal pattern is applied to the planned 14.0 mgd AADF scenario, the required equalization volume increases to 1.70 MG under normal operating conditions.

While the existing equalization volume of 3.0 MG is sufficient to manage normal daily fluctuations, additional equalization may be necessary to improve the facility's resilience during extreme weather events or peak inflow conditions.

The equalization return system has five pumps; each rated at 2.1 mgd. Under EPA Class I reliability, one pump is considered standby, resulting in a firm pumping capacity of 8.4 mgd. When operating at 14 mgd, the maximum draw down required (0.320 MG at 3:00 AM) would require pumping equivalent to 7.6 mgd. The current firm pumping capacity is sufficient to draw down the tanks at a controlled rate.

In the event the facility transitions to AGS technology, which is a batch mode operation, the equalization will play a different role in the facility operation. For that scenario, any flow not processed through the AGS during treatment cycles would need to be routed through the MLE treatment plant, using the equalization tanks to buffer and distribute flow consistently. Therefore, expanding equalization volume and pumping capacity is also recommended to support the AGS process configuration for consistent hydraulic loading across the AGS and the existing treatment facility.

Table 3.2 Diurnal Pattern NRWRF

			7.5 mgd Operation				14.0 mgd Operation			
Hour	Average Influent Flow for the Hour (mgd)	Percentage of Daily Flow	Equivalent Flow at 7.5 mgd for Hour (mgd)	Equalized Flow (mgd)	Volume Variation for the Hour (mgal)	Tank Volume (mgal)	Equivalent Flow at 14 mgd for Hour (mgd)	Equalized Flow (mgd)	Volume Variation for the Hour (mgal)	Tank Volume (mgal)
12:00 AM	3.31	2.8%	4.9	7.5	-0.106	0.745	9.2	14.0	-0.198	1.39
1:00 AM	2.82	2.3%	4.2	7.5	-0.137	0.609	7.9	14.0	-0.255	1.14
2:00 AM	2.51	2.1%	3.7	7.5	-0.156	0.453	7.0	14.0	-0.291	0.84
3:00 AM	2.42	2.0%	3.6	7.5	-0.162	0.291	6.7	14.0	-0.302	0.54
4:00 AM	2.59	2.2%	3.9	7.5	-0.151	0.140	7.2	14.0	-0.281	0.26
5:00 AM	3.33	2.8%	5.0	7.5	-0.105	0.035	9.3	14.0	-0.196	0.07
6:00 AM	4.45	3.7%	6.7	7.5	-0.035	0.000	12.4	14.0	-0.065	0.00
7:00 AM	5.45	4.5%	8.2	7.5	0.028	0.028	15.2	14.0	0.051	0.05
8:00 AM	6.04	5.0%	9.0	7.5	0.064	0.092	16.9	14.0	0.120	0.17
9:00 AM	6.31	5.2%	9.5	7.5	0.081	0.173	17.6	14.0	0.151	0.32
10:00 AM	6.27	5.2%	9.4	7.5	0.079	0.251	17.5	14.0	0.147	0.47
11:00 AM	6.06	5.0%	9.1	7.5	0.065	0.317	16.9	14.0	0.122	0.59
12:00 PM	5.80	4.8%	8.7	7.5	0.049	0.366	16.2	14.0	0.092	0.68
01:00 PM	5.57	4.6%	8.3	7.5	0.035	0.400	15.5	14.0	0.064	0.75
02:00 PM	5.37	4.5%	8.0	7.5	0.022	0.423	15.0	14.0	0.042	0.79
3:00 PM	5.40	4.5%	8.1	7.5	0.024	0.447	15.0	14.0	0.045	0.83
04:00 PM	5.64	4.7%	8.5	7.5	0.039	0.486	15.8	14.0	0.074	0.91
05:00 PM	6.07	5.0%	9.1	7.5	0.066	0.552	17.0	14.0	0.123	1.03
06:00 PM	6.48	5.4%	9.7	7.5	0.092	0.644	18.1	14.0	0.171	1.20
07:00 PM	6.73	5.6%	10.1	7.5	0.107	0.751	18.8	14.0	0.200	1.40
08:00 PM	6.55	5.4%	9.8	7.5	0.096	0.847	18.3	14.0	0.179	1.58
09:00 PM	5.99	5.0%	9.0	7.5	0.061	0.908	16.7	14.0	0.114	1.69
10:00 PM	5.04	4.2%	7.6	7.5	0.002	0.910	14.1	14.0	0.004	1.70
11:00 PM	4.07	3.4%	6.1	7.5	-0.059	0.852	11.4	14.0	-0.109	1.59
Average	5.01		7.50				14.0			

3.2.1.3 Secondary Treatment

Oxidation Ditches

The NRWRF secondary treatment system includes two Ovivo Carrousel oxidation ditch basins, each with a volume of 3.1 MG. These basins operate in parallel as part of the facility's MLE process for biological treatment. In accordance with EPA Class I reliability criteria, full redundancy is not required when at least two equal-volume treatment basins are provided—criteria which NRWRF meets.

Based on available plant data, Carollo reviewed aeration tank loadings against the Ten State Standards, which provide guidance for permissible organic loading rates. As summarized in Table 3.3, the average organic loading over the past 5 years appears to remain below the recommended thresholds, and historical treatment performance seems to support this assumption. However, as discussed in Section 2.2.2, Carollo's data review—along with the inability to calibrate a reliable process model (see Section 3.3)— suggests that the plant's influent data may contain anomalies that raise questions about the representativeness of reported BOD_5 and TSS concentrations and limit the ability to perform a formal capacity evaluation. A targeted special sampling effort is underway to address these issues and support future modeling and secondary capacity evaluations.

Based on the 14.0 mgd AADF under the planned expansion, this capacity is insufficient to meet the projected PHF of 35 mgd. As a result, additional clarifier capacity will be required to maintain compliance with design standards and ensure system reliability under future conditions. Adding a fourth clarifier would increase total surface area and provide sufficient redundancy, enabling the system to treat up to 37.9 mgd PHF, or 15.1 mgd AADF, with one unit offline.

Table 3.3 Organic Loading Criteria

Year	AADF (mgd)	Aeration Tank Organic Loading Criteria (lb BOD_5/d/1,000 ft^3)(1)	Aeration Tank Organic Loading Criteria (lb BOD_5/d)(1, 2)	Average Organic Loading (lb BOD_5/d)(3, 4)	Max Organic Loading (lb BOD_5/d)(3, 4)
2020	4.8	15	12,432	6,359	7,966
2021	4.9			6,356	9,309
2022	4.9			6,249	8,312
2023	4.9			7,215	9,835
2024	5.6			6,962	10,254

Notes:
(1) Organic loading criteria based on Ten States Standards Section 92.31 for extended aeration processes.
(2) Ten States organic loading criteria converted to pounds per day, based on 6.20 MG (828.8 thousand cubic feet) total oxidation ditch volume.
(3) Influent organic loading is reported as $CBOD_5$ (carbonaceous BOD_5); however, plant staff confirmed that no nitrification inhibitor is added during sample analysis. As a result, values are functionally equivalent to BOD_5.
(4) Based on available plant data from 2020 through 2024; however, the reported BOD_5 concentrations may not reflect actual influent conditions due to concerns with sampling representativeness, as discussed in Section 2.2 and Section 3.3.

Secondary Clarifiers

The facility also includes three circular secondary clarifiers located downstream of the oxidation ditches. While the facility can operate with two clarifiers and one offline, the facility is typically operated with all clarifiers online for better reliability. Under normal operating conditions, when all three clarifiers are online, the system provides a total surface area of 28,509 ft^2. Based on the Ten State Standards surface overflow rate (SOR) of 1,000 gallons per day (gpd) per square foot (ft^2), this equates to a peak clarifier treatment capacity of 28.5 mgd. However, under EPA Class I reliability requirements—which mandate that 75 percent of peak design flow must be treated with the largest clarifier out of service—the effective surface area is reduced. In this condition, the system can handle up to 25.3 mgd PHF, which is equivalent to 10.1 mgd average day flow (ADF), assuming a peaking factor of 2.5.

Based on the 14.0 mgd AADF under the planned expansion, this capacity is insufficient to meet the projected PHF of 35 mgd. As a result, additional clarifier capacity will be required to maintain compliance with design standards and ensure system reliability under future conditions. Adding a fourth clarifier would increase total surface area and provide sufficient redundancy, enabling the system to treat up to 37.9 mgd PHF, or 15.1 mgd AADF, with one unit offline. Table 3.4 summarizes the assumptions and design criteria used to evaluate clarifier capacity under both current and projected flow conditions.

Table 3.4 Secondary Clarifier Evaluation Summary

Capacity	Result(1)
Firm Capacity (SOR)(2, 3, 4, 5)	**25.3 mgd PHF (10.1 mgd ADF)(6)**
Firm Capacity (SLR)(3, 4, 5, 7)	26.6 mgd PHF (10.6 mgd ADF)(8)
Total Capacity (SOR)(2, 5, 9, 10)	28.5 mgd(11)

Abbreviations: SLR – solids loading rate; MLSS – mixed liquor suspended solids

Notes:
(1) Changes in secondary process can impact the secondary clarifier capacity.
(2) Ten States Standards design criterion from: 1,000 gpd/ft^2 surface overflow rate.
(3) EPA Class I Reliability criterion: With largest unit out of service, other units must have capacity for 75% design flow.
(4) Firm Capacity: 2 clarifiers + 1 clarifier as backup.
(5) Clarifier area: 9,503 ft^2 per clarifier.
(6) Firm Capacity = 2 x 9,503 ft^2 x 1000 gpd/ft^2 = 19 mgd.
19 mgd is 75% of the max design capacity (Class I Criterion)
Firm Capacity = 19 / 0.75 = 25.3 mgd PHF = 10.1 mgd ADF (PF = 2.5).
(7) MLSS in Aeration Basins: average of 4,000 mg/L since October 2024, when operation changed.
(8) Firm Capacity = 2 x 9,503 ft^2 x 35 lb/d/ft^2 = 665,245 lb/d.
With MLSS = 4,000 mg/L, 665,245 lb/d is equivalent to 19.9 mgd PHF.
19.9 mgd is 75% of the firm capacity capacity (Class I Criterion).
Firm Capacity = 19.9 / 0.75 = 26.6 mgd PHF = 10.6 mgd ADF (PF = 2.5).
(9) Total Capacity: capacity with all units operating.
(10) SOR Criteria considered since SOR firm capacity was more restrictive than SLR Firm Capacity.
(11) Total Capacity = 28,509 ft^2 x 1,000 gpd/ft^2 = 28.5 mgd.

3.2.1.4 Filtration

The NRWRF's tertiary filtration system includes two traveling bridge filters and two cloth media disk filters (Aqua Aerobics), operating in parallel. The design criteria used for the evaluation are based on the Ten State Standards, which recommend a maximum surface loading rate of 5.0 gpm/ft^2 based on PHF. In addition, EPA Class I reliability requires that, with the largest filter unit out of service, the remaining units must be capable of treating 75 percent of the peak design flow.

Table 3.5 summarizes the filter evaluation, including unit sizes, loading rates, and resulting capacity for each filter type under current configuration.

Table 3.5 Filter Evaluation Summary

Capacity	Result
Firm Capacity(1, 2, 3, 4, 5, 6)	**20.9 mgd PHF (8.3 mgd ADF)(7)**
Total Capacity(1, 3, 4, 8)	23.1 mgd(9)

Notes:
(1) Ten States Standards design criterion: Maximum of 5.0 gpm/ft² based on PHF.
(2) EPA Class I Reliability criterion: With largest unit out of service, other units must have capacity for 75% design flow.
(3) Traveling Bridge Filters: 2 filters, 1,440 ft² each.
- Loading rate: 0.00288 mgd/ft² (2.0 gpm/ft²) PHF
- Capacity of each filter:1,440 ft² x 0.00288 mgd/ft² = 4.14 mgd PHF = 1.66 mgd ADF (PF = 2.5)
(4) Cloth Disk Filters: 2 filters, 1,291 ft² each
- Loading Rate: 0.00576 mgd/ft² (4.0 gpm/ft²) PHF
- Capacity of each filter: 1,291 ft² x 0.00576 mgd/ft² = 7.43 mgd PHF = 2.97 mgd ADF (PF = 2.5)
(5) Highest Capacity Unit: Cloth Disk Filter.
(6) Firm Capacity: 2 Traveling Bridge Filters + 1 Cloth Disk Filter (1 Cloth Disk Filter out of service).
(7) Firm Capacity = 2 x 4.14 mgd PHF + 7.43 mgd PHF = 15.7 mgd PHF
15.7 mgd is 75% of the Max Design Capacity (Class I Criterion).
Firm Capacity = 15.7 / 0.75 = 20.9 mgd PHF = 8.3 mgd ADF (PF = 2.5).
(8) Total Capacity: capacity with all filters units operating (2 Traveling Bridge Filters + 2 Cloth Disk Filter).
(9) Total Capacity = 2 x 1,440 ft² x 0.00288 mgd/ft² + 2 x 1,291 ft² x 0.00576 mgd/ft² = 23.1 mgd.

Although the traveling bridge filters have a larger surface area, their hydraulic capacity is lower compared to the cloth disk filters, which limits their overall effectiveness. Under EPA Class I reliability criteria—assuming one cloth disk filter is out of service.

When all filters are operating, the total combined capacity reaches 23.1 mgd. Under PHF conditions with one cloth disk filter out of service, the system can still handle up to 20.9 mgd under Class I reliability (75 percent of the flow). However, this is below the projected PHF of 35 mgd, which corresponds to an ADF of 14 mgd.

To address this shortfall and improve operational resilience, near-term filtration upgrades are recommended. The evaluation supports replacing or retrofitting the existing traveling bridge filters with higher-capacity units such as cloth media diamond filters (Aqua Aerobics AquaDiamond). These filters integrate cloth media technology into a traveling bridge design, offering more hydraulic capacity than traditional sand filters while maintaining the same footprint. This upgrade would enhance the facility's ability to meet future demands and maintain compliance under Class I reliability standards.

3.2.1.5 Disinfection

The NRWRF includes two types of chlorine contact basins used in parallel for final disinfection. Flow is divided evenly between the two basin types, and one or both chambers within each basin can be used as needed for operational flexibility.

Table 3.6 contains a summary of the Chlorine Contact Chamber evaluation.

Table 3.6 Chlorine Contact Chambers Evaluation Summary

Capacity	Result
Firm Capacity(1, 2, 3, 4, 5, 6)	**44.8 mgd PHF (17.9 mgd ADF)(7)**
Total Capacity(1, 3, 4, 8)	31.0 mgd(9)

Notes:
(1) Ten States Standards design criterion: More than 15 minutes of contact time based on PHF.
(2) EPA Class I Reliability criterion: With largest unit out of service, other units must have capacity for 50% design flow.
(3) Contact Basins Type 1: 2 basins, 71,810 gallons each
Capacity of each basin: 71,810 gal / 15 min = 4,787 gpm = 6.89 mgd PHF = 2.75 mgd ADF (PF =2.5).
(4) Contact Basins Type 2: 2 basins, 89,810 gallons each
Capacity of Each Basin: 89,810 gal / 15 min = 5,987 gpm = 8.62 mgd PHF = 3.44 mgd ADF (PF =2.5).
(5) Highest Capacity Unit: Contact Basin Type 2.
(6) Firm Capacity: 2 Basins Type 1 + 1 Basin Type 2 (1 Basin Type 2 out of service).
(7) Firm Capacity= 2 x 6.89 mgd PHF + 8.62 mgd PHF = 22.4 mgd PHF
22.4 mgd is 50% of the firm Capacity (Class I Criterion)
Firm Capacity = 44.8 mgd PHF = 17.7 mgd ADF PF = 2.5).
(8) Total Capacity: capacity with all basins operating (2 Basins Type 1+ 2 Basins Type 2).
(9) Total Capacity = (2 x 71,810 gal + 2 x 89,810 gal) / 15 min = 21,549 gpm = 31.0 mgd.

When all units are employed during normal flows, and only rely on redundancy when necessary, the total disinfection capacity is 31.0 mgd for 15 minutes of contact time. When at peak flow, the facility can exceptionally handle a peak of 44.8 mgd under the Class I reliability criteria, which means it can provide 15 minutes contact time to 22.2 mgd ADF with the largest basin out of service.

Given the planned expansion to 14.0 mgd ADF, with an estimated peak flow of 35 mgd, the current contact basins are adequately sized. They are capable of maintaining the required contact time both under normal and reliability-limited conditions. Therefore, no upgrades to the disinfection basins are necessary to accommodate the proposed capacity increase.

Sodium Hypochlorite Storage

Facility records indicate that the average sodium hypochlorite (bleach) consumption is approximately 125 gallons per mgd of treated flow. At the proposed design flow of 14 mgd, the daily sodium hypochlorite demand would be approximately 1,750 gpd.

The facility currently maintains four 2,500-gallon storage tanks, providing a total capacity of 10,000 gallons. At the projected usage rate, this volume would provide less than 1 week of storage (between 5 and 6 days), which may not be sufficient to ensure operational resilience, particularly during supply interruptions or emergency conditions.

To improve reliability, storage volume can be sized to accommodate at least 14 days of usage, including a 10 percent safety factor. Under these conditions, a minimum of 25,025 gallons of storage would be required. A more conservative sizing based on 30 days of storage would require approximately 53,625 gallons.

Based on this analysis, it is recommended that the facility expand its sodium hypochlorite storage capacity to provide between 25,000 and 50,000 gallons, depending on the County's preferred level of operational redundancy.

3.2.2 Effluent Pumps

The facility currently has five variable frequency drive (VFD) vertical turbine effluent pumps with capacity of 2,600 gpm (3.744 mgd) each. Following the Class I reliability standard, with 1 pump out of operation, the firm capacity is 14.9 mgd PHF, which represents an ADF of 6.0 mgd (peak flow of 2.5). With all pumps operating, the total capacity available is 18.7 mgd.

Considering that the pumps are the final bottleneck before discharge to the reuse system, the pumps must be able to handle the highest expected flow into the effluent structure, especially during wet weather or high inflow periods.

3.2.3 Solids Stream Capacity Analysis

The current storage capacity of 3 MG in the sludge holding tanks would be enough to accommodate 10 days of WAS production under a 14 mgd operation.

Regarding dewatering, the NRWRF utilizes three BFPs for sludge dewatering. For reliability planning, this evaluation assumes one press is out of service. Although the EPA Class I reliability document is structured around mechanical, electrical, and fluid systems for maintaining compliance with effluent discharge requirements, solids handling equipment, such as BFPs are mechanical components and need to be eventually shut down for maintenance and repairs.

The sludge production and dewatering evaluation is based on facility data and assumptions that include operational changes in October 2024. These include:

- Influent $CBOD_5$ concentration of 250 mg/L (used for facility design).
- Sludge yield of 0.90, based on WAS solids concentration of 9,600 mg/L.
- $CBOD_5$ removal efficiency of 99.8 percent.
- BFP loading rate of 1,200 lb TSS/hour per unit.
- WAS volatile solids fraction of 81 percent, assumed equivalent to RAS.
- Volatile solids destruction set to zero, assuming no digestion and minimal aeration in the holding tanks (to avoid septicity).
- Solids concentration in the holding tank assumed at 2.5 percent.

Figure 3.4 summarizes the maximum sludge loads that can be processed by the BFPs under various operating schedules.

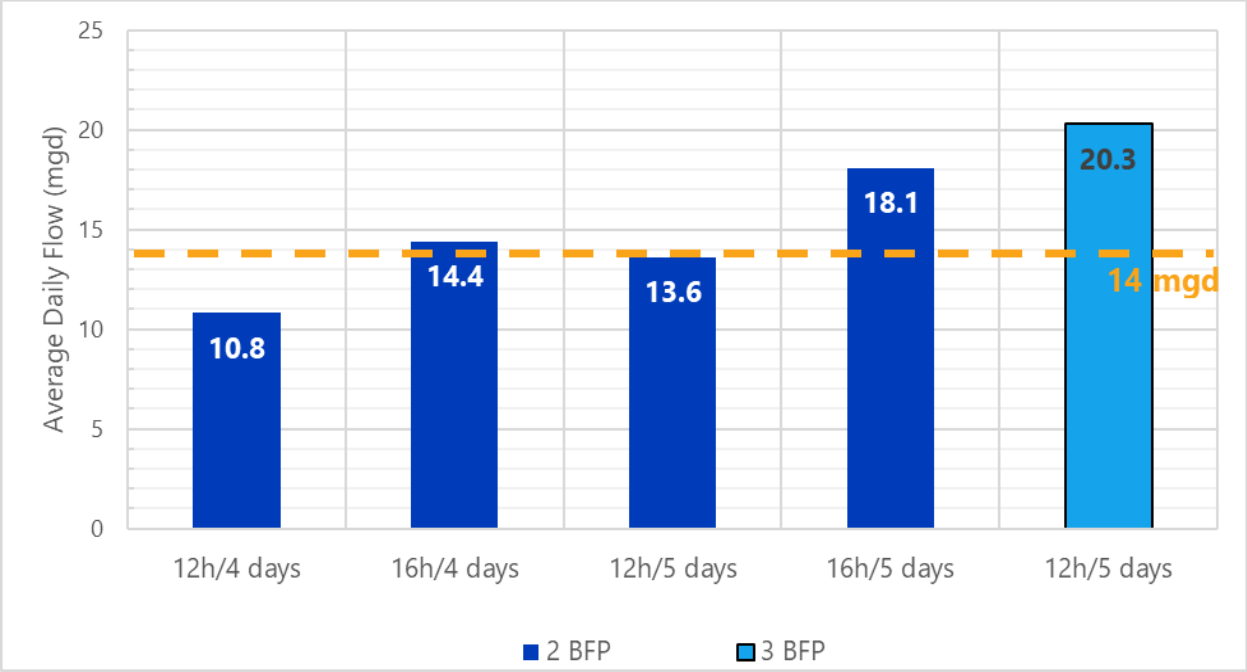


Figure 3.4 Belt Filter Press Operation Scenarios

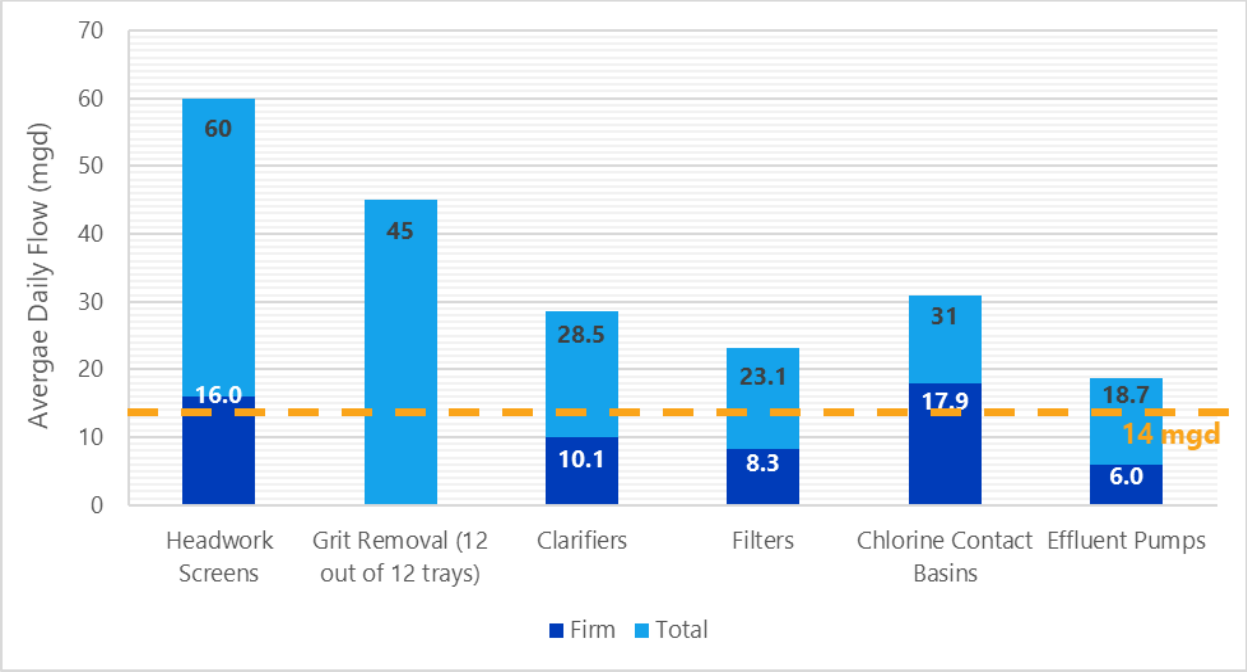
The facility can operate two presses for extended shifts to maintain solids processing capacity. For example, with two presses operating 16 hours per day, 5 days per week, the system can support up to 18.1 mgd of ADF, sufficient to handle the projected 14.0 mgd expansion scenario on a temporary basis.

Under normal operation with all three presses online, running 12 hours per day, 5 days per week, the system can handle solids from flows up to 20.3 mgd. This confirms that the existing dewatering infrastructure has capacity to support the planned expansion and offer operational flexibility during temporary equipment outages.

The County plans to implement gravity belt thickeners (GBT) to provide additional flexibility and to standardize operations. The County operates GBTs at their other WRFs.

3.2.4 Capacity Analysis Overall Summary

Figure 3.5 presents a summary of the capacity evaluation across the main treatment units. The Total Capacity represents the maximum treatment potential when all units are in operation, while the Firm Capacity reflects the available capacity under EPA Class I reliability criteria for each specific unit. For comparison purposes, the firm capacity of units based on PHF was converted to ADF using the peaking factor of 2.5. The grit removal does not fall under Class I reliability requirements; therefore, no firm capacity is shown for that process.



**Secondary Treatment capacity is not displayed as it will depend on the results of the model evaluation.*

Figure 3.5 Capacity Evaluation Summary

As shown, the headworks, grit removal, and chlorine contact basins exceed the 14 mgd ADF target capacity both in total and firm terms. However, clarifiers and particularly filters fall short of meeting Class I reliability standards at the 14 mgd design flow.

While the clarifiers could reach a firm capacity of approximately 10.1 mgd (depending on the Oxidation Ditch performance), the filters are the limiting process, with a firm capacity of just 8.3 mgd, underscoring the need for near-term improvements. Retrofitting or replacing the lower-performing traveling bridge filters with higher-capacity technologies, such as cloth media filters (AquaDiamond), is recommended to meet the future flow demands. To support these upgrades, the County's intends to relocate a packaged cloth media disk filter system from the Southwest WRF to the NRWRF to increase filtration capacity. The relocation is anticipated to be conducted during the NRWRF expansion project by the selected Progressive Design Build team.

The chlorine contact basins were confirmed to be sufficient, with a total capacity of 31.0 mgd and a firm capacity of 17.9 mgd, capable of reliably providing 15 minutes of contact time under Class I standards under the planned expansion scenario.

Regarding the effluent pumps, additional pumps will be required to handle the PHF. Currently the facility is able to handle a peak of 15 mgd (6 mgd ADF) under Class I reliability. This capacity will have to be upgraded to be able to handle a 35 mgd peak (14 mgd ADF). Additional pump improvements will require 6 to 7 additional 2,600 gpm pumps depending on whether there will be two separate effluent pump stations or a single station. Table 3.7 contains a summary of the capacity evaluation in this section.

Table 3.7 Capacity Evaluation Summary Table

Unit	Summary
Screens/ Grit Removal (Headworks)	No improvements required for additional capacity. Improvements suggested to facilitate operation.
Equalization Tanks	Additional tanks recommended for AGS flexibility and extreme event peak shaving.
Aeration Basins	Additional sampling campaign recommended to evaluate short-term additional capacity.
Clarifiers	Expandable up to 10.1 mgd. Additional clarifiers required for 14 mgd expansion.
Filters	Expandable up to 8.1 mgd. Additional filters or retrofitting travel bridge filters required for 14 mgd expansion.
Contact Chambers	No additional improvements required.
Sodium Hypochlorite Storage	Expand storage capacity to 25,000 to 50,000 gallons (14 to 28 days).
Sludge Holding Tanks	No additional improvements required.
Belt Filter Press	No additional improvements required.
Effluent Pumps	Additional 6 to 7 pumps required depending on the configuration (1 single pump station or 2 separate pump stations).

3.3 Process Simulation Modeling Approach

Process simulation modeling will be performed for the NRWRF using BioWin software, a commercially available wastewater treatment simulation platform developed by EnviroSim Associates. BioWin integrates biological and physical process models to evaluate steady-state and dynamic interactions within wastewater treatment systems. In addition to BioWin modeling, other analytical tools (e.g. state point analyses) may be used to evaluate secondary clarifier performance as needed.

Due to influent sampling anomalies (see Section 2.2.2), the BioWin modeling effort will be documented in a separate TM, to be provided later, after sufficient representative data are available. These anomalies, specifically low and highly variable BOD and TSS concentrations, have limited the ability to calibrate the model to current operating conditions. As a result, additional sampling is underway to identify a more representative influent sampling location and support accurate model inputs for calibration and performance prediction.

As part of the modeling effort, Carollo reviewed the prior BioWin model developed for the NRWRF. The original model was based on pre-built templates within the BioWin software. To more accurately simulate NRWRF, Carollo developed a custom BioWin model tailored to the existing treatment trains based on record drawings and with improvements to the modeled module layout to capture the nuances associated with oxidation ditch process modeling (Figure 3.6).

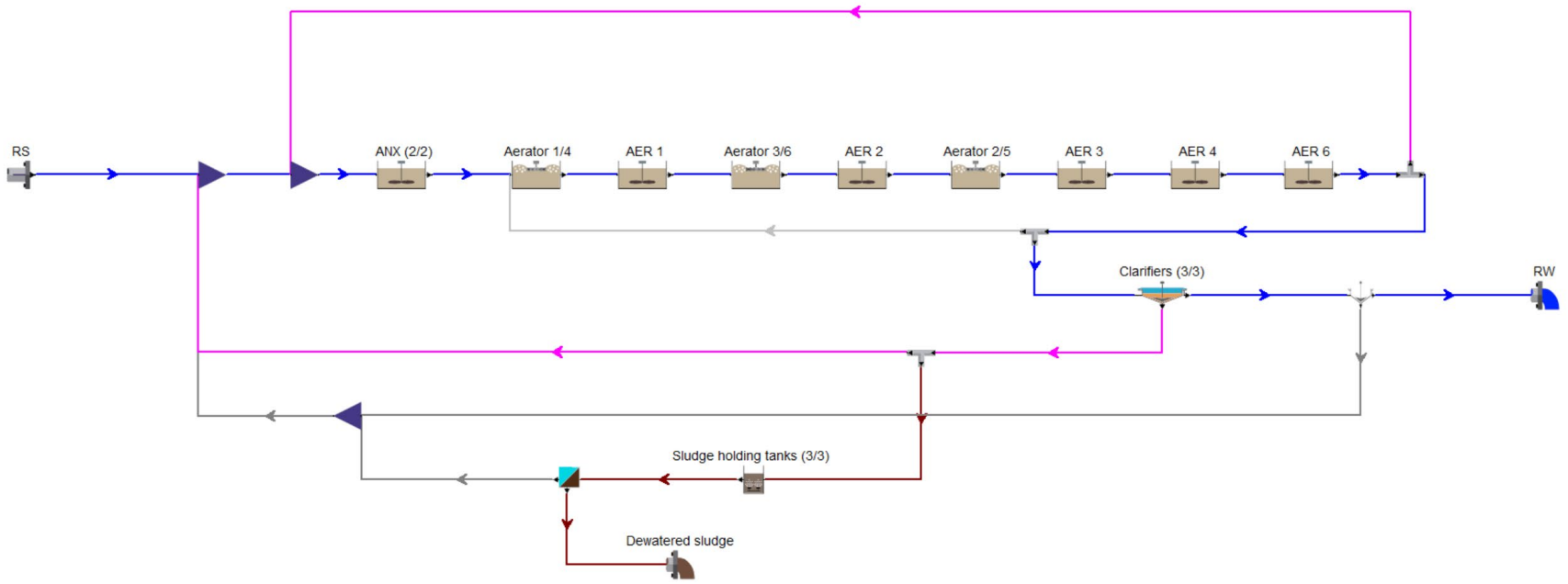


Figure 3.6 BioWin Calibration Model Setup for NRWRF

Historical influent and process data were compiled from plant records and evaluated for completeness and consistency. Data gaps and questions were discussed with NRWRF operations staff to ensure appropriate assumptions and boundary conditions are applied during model development. Initial attempts were made to calibrate a steady-state model using data from a 1-month period between May 1, 2024 and June 30, 2024. During this effort, it became apparent that the reported influent BOD was insufficient to match the observed effluent TN concentrations. The model indicated that approximately 90 percent higher influent BOD would have been needed to achieve the observed level of TN removal during the calibration period. These findings further support the concern that current influent sampling may not be representative of actual loading conditions.

Once the special sampling effort is complete and the influent characteristics are validated, the model will be calibrated using a representative period of stable operation. The calibrated model will then be used to predict future performance under various flow and loading conditions and to support capacity planning and design decisions.

3.4 RAS/WAS System Evaluation

The County has identified the RAS and WAS pumping systems as a process bottleneck within the facility. Therefore, the County requested that these two pumping systems be evaluated in detail as part of this Facility Plan. This section evaluates the condition and capacity needs of the NRWRF for the RAS and WAS pumping systems associated with the secondary treatment. The current RAS and WAS facilities have been in service since 1989 with minor modification and rehabilitation performed sporadically over the course of the past 36-year lifespan. This evaluation considered the replacement of equipment, piping and associated electrical and instrumentation (E&I) components to improve performance in the short term as well as potential expansion considerations.

Recommendations for improvement for each system are offered for consideration and include the appropriate delivery method. A Class III cost estimate for direct construction costs was developed in accordance with Association for the Advancement of Cost Engineering (AACE) standards. These direct costs constitute the material, labor and equipment cost but do not encompass the general contractor's contingencies, profit, insurance, mobilization, demobilization, etc. as these direct costs depend on the method by which the County chooses to execute the work.

3.4.1 RAS System Evaluation

RAS pumping provides an integral part of the process, returning activated sludge from the secondary clarifiers to the beginning of the secondary process treatment train. NRWRF currently utilizes an MLE treatment process with a typical recycle of 50 to 150 percent of the influent flow as RAS. At a design capacity of 6.8 mgd AADF, design RAS flow rates are estimated at 3.4 mgd (2,360 gpm) to 10.2 mgd (7,080 gpm).

The current pumping arrangement includes three dry pit type centrifugal pumps at 25 horsepower (hp) each (75 hp total). The pumps operate on the flat portion of the pump curve to deliver the maximum flow possible back to the process. This limits the facilities pumping capacity to 6.3 mgd (4,375 gpm) or 93 percent of the design AADF capacity. As can be observed in Figure 3.7, there is little benefit in operating two pumps versus three pumps with the increase in flow of less than 0.5 mgd (350 gpm), again due to the flat pump curves.

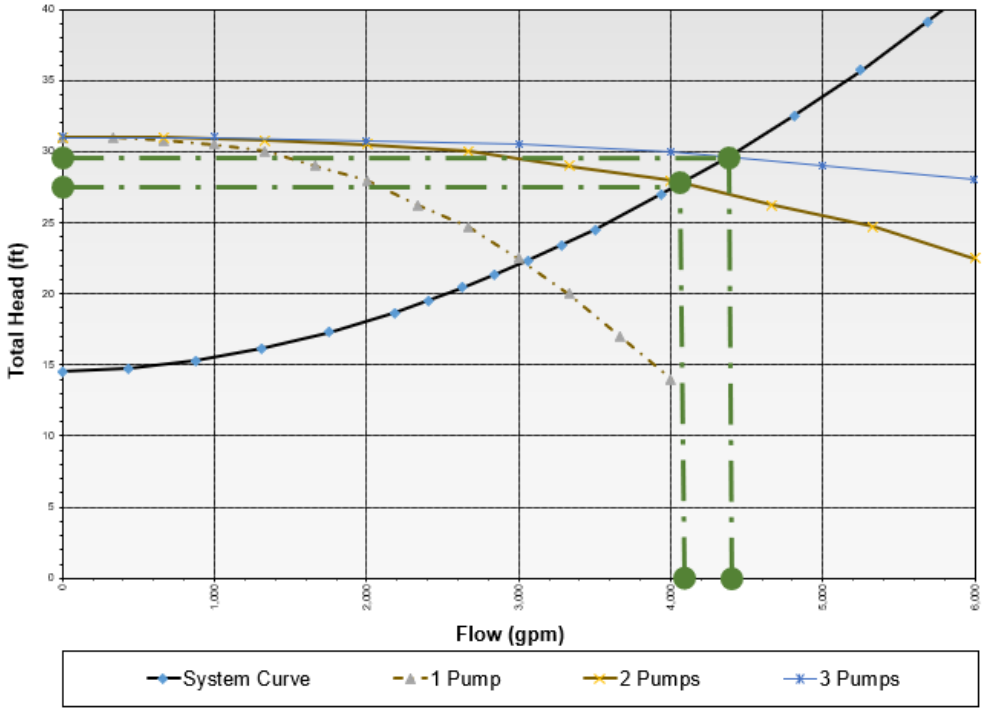


Figure 3.7 Existing RAS Pump System Curves to the Headworks – Parallel Pump Arrangement

Factors contributing to the limited pump capacity when compared to the initial design are as follows:

- Construction of a new headworks added approximately 9 feet of additional static head to pumping system;
- Flow from the plant drain lift station and equalization return pump station combine with the RAS flow to create additional dynamic head in the system; and
- Total pumping distance has increased considerably for the RAS pumping system to route the flow around the equalization basins to the new headworks.

Initial investigations focused on pump improvement(s) and/or replacement to provide additional flow capacity. A new impeller was considered but the original manufacturer, Aurora Pumps, has been acquired by Pentair Inc. making this approach infeasible. The original pumps are no longer supported as they are obsolete, and a third-party manufacturer impeller retrofit may be cost prohibitive with no assurance of the desired outcome. Alternatively, new pumps were considered (KSB). Due to the existing electrical system's capacity, e.g., panels, wiring, etc., replacing the 25 hp pumps with larger units would be costly. Based on a preliminary evaluation, an additional 1 mgd (approximately 694 gpm) or 107 percent of the current design AADF is the greatest increase possible if the existing pumps are replaced. While this is an improvement from the existing pumping capacity, it represents a significant investment (approximately $670,000 in capital costs) which could increase depending on unknowns related to mechanical, electrical, and structural conditions discovered during design and construction. Table 3.8 presents a conceptual level direct costs for replacing the RAS pumps with equal sized motors.

Table 3.8 RAS Pump Replacement Direct Cost Estimate

Description(1)	Quantity	Unit	Unit Cost	Subtotal
RAS Pump Replacement	3	EA	$151,900	$455,700
Demolition	1	LS	$47,900	$47,900
Electrical	1	LS	$95,700	$95,700
Instrumentation & Control	1	LS	$71,800	$71,800
			Total	**$671,100**

Notes:
(1) RAS pump replacement includes demolition and replacement of the existing pumps, fittings immediately upstream and downstream, pump pedestal, VFDs, and other miscellaneous appurtenances for a fully functional RAS pumping system.

Finally, the investigation considered pumping directly to the anoxic zone of the Oxidation Ditches and decoupling the RAS flow from the equalization basin return pump station. This allows the RAS pumping system to recover/reduce approximately 9 feet of static head that had been encumbered by previous plant modifications for the headworks and equalization improvements as observed in Figure 3.8.

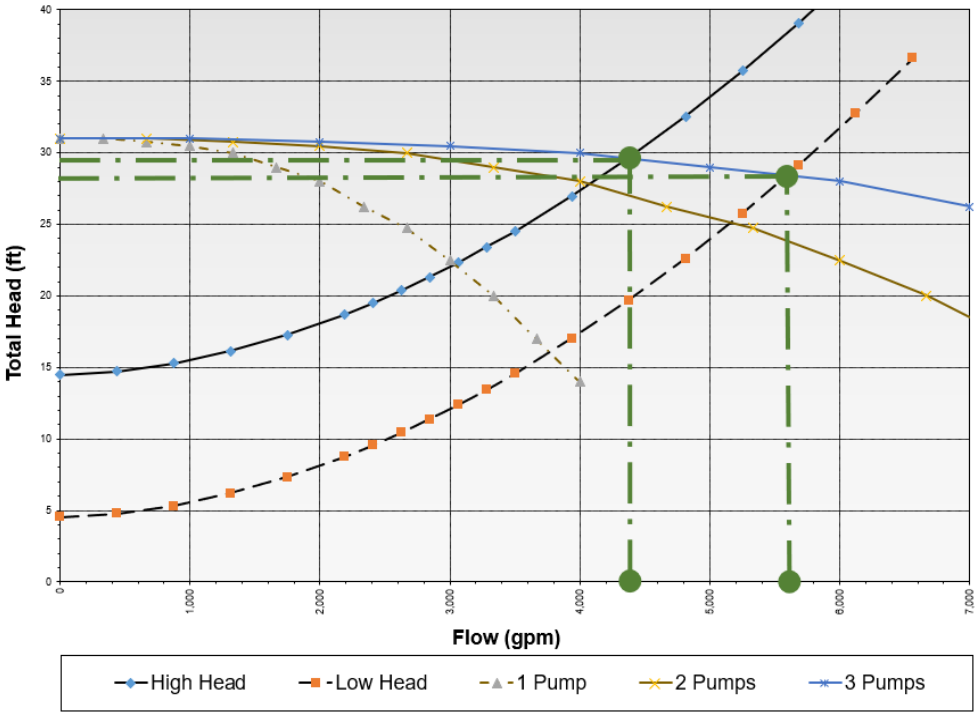


Figure 3.8 Existing RAS Pump System Curves to the Anoxic Reactor – Parallel Pump Arrangement

The pipe adjustments required are relatively minor (see Figure 3.9) and shutdowns should be minimal. Piping to the anoxic zones of the Oxidation Ditches already exist including knife gate valve for isolation, according to the plant record drawings. This RAS approach will also provide greater control of flow splitting to each of the secondary treatment oxidation ditches through their associated anoxic reactors. This could provide 1.7 mgd (1,200 gpm) of additional RAS pumping capacity increasing the previous 6.3 mgd (4,375 gpm) to 8.1 mgd (5,600 gpm) or roughly 119 percent of the current AADF design capacity.

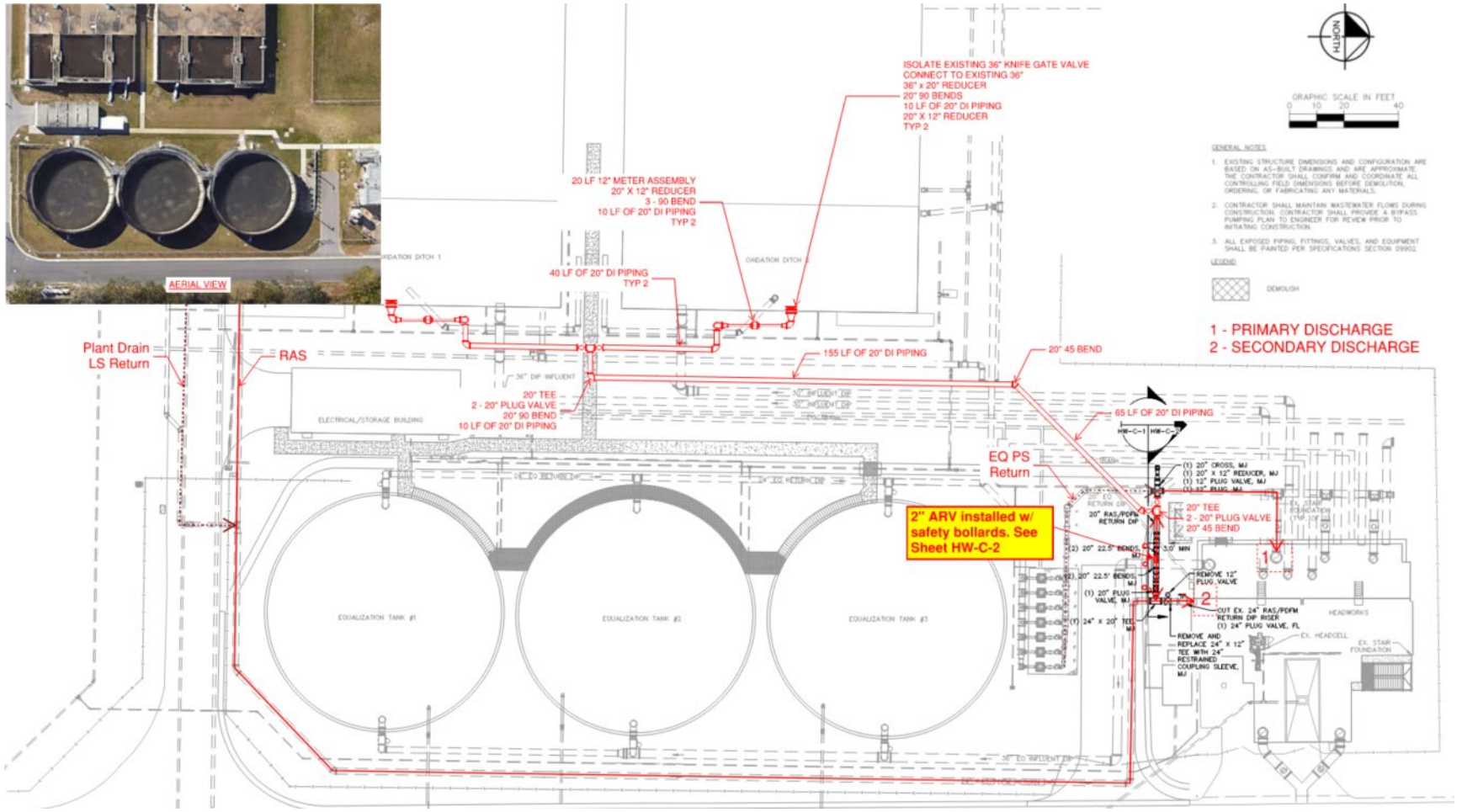


Figure 3.9 Existing RAS Pumps to the Anoxic Reactor – Piping Modifications

The County has elected to include the recommended RAS pumping system improvements in the upcoming expansion to 14 mgd. The Class III direct costs for the piping adjustments shown in Figure 3.10 are approximately $430,000. See Table 3.9 for quantity take-off and unit cost.

Table 3.9 RAS Piping Modifications Direct Cost Estimate

Description	Quantity	Unit	Unit Cost	Subtotal
20" Flg Cl DI Pipe In Open Trench	360	LF	$259	$93,240
20" Flg X Flare 90 Deg Elbow	9	EA	$7,078	$63,702
20" Cl DI Flg Straight Tee In Place	2	EA	$9,816	$19,632
20" 45° 125# Cldi Cl DI Fxf Ell	2	EA	$5,353	$10,706
36" X 20" Cl DI Mj Reducer	2	EA	$7,198	$14,396
20" X 12" Cl DI Mj Reducer	4	EA	$1,625	$6,500
20" Fxf Cast Iron Plug Valve W/HW Op	4	EA	$18,759	$75,036
4" Flat Slab On Grade	13.33	CF	$637	$8,491
Remove Conc Pavement To 6" Thk	40	SF	$2	$80
2" ARV	1	EA	$1,010	$1,010
6" Flat Non-Formed Slab On Grade	96	CF	$579	$55,584
20" Restraint Gland	33	EA	$566	$18,678
12" Meter	2	EA	$14,791	$29,582
12" Flg Cl DI Pipe In Open Trench	80	LF	$131	$10,480
12" 90° 125# Cl DI Fxf Ell	8	EA	$2,725	$21,800
			Total	**$428,917**

3.4.2 WAS System Evaluation

The WAS pumping system serves an equally integral role in the control of the available biology to process the influent waste stream and produce a desired effluent quality. The original design WAS pumping capacity is 0.36 mgd (250 gpm at 7.5 hp) each (x 4) or 21 percent of the design AADF allowing for batch or continual wasting regimen.

The County desires to replace the existing pumps with double diaphragm pumps (Penn Valley). They have installed a single 300 gpm double diaphragm pump at 10 hp. It is recommended to replace the remaining 3 pumps with 100 gpm double diaphragm pumps (Penn Valley) at 5 hp each. This approach will provide 600 gpm of total WAS pump capacity and 300 gpm of firm WAS pump capacity at 30 hp. This requires no electrical upgrades but provides pump capacity, pump turndown, and redundancy for batch and continual wasting regimen.

The County also wishes to remove and replace the above ground piping for the wasting system but not replace the electrically actuated valves. See Figure 3.10 and Figure 3.11 for more details.

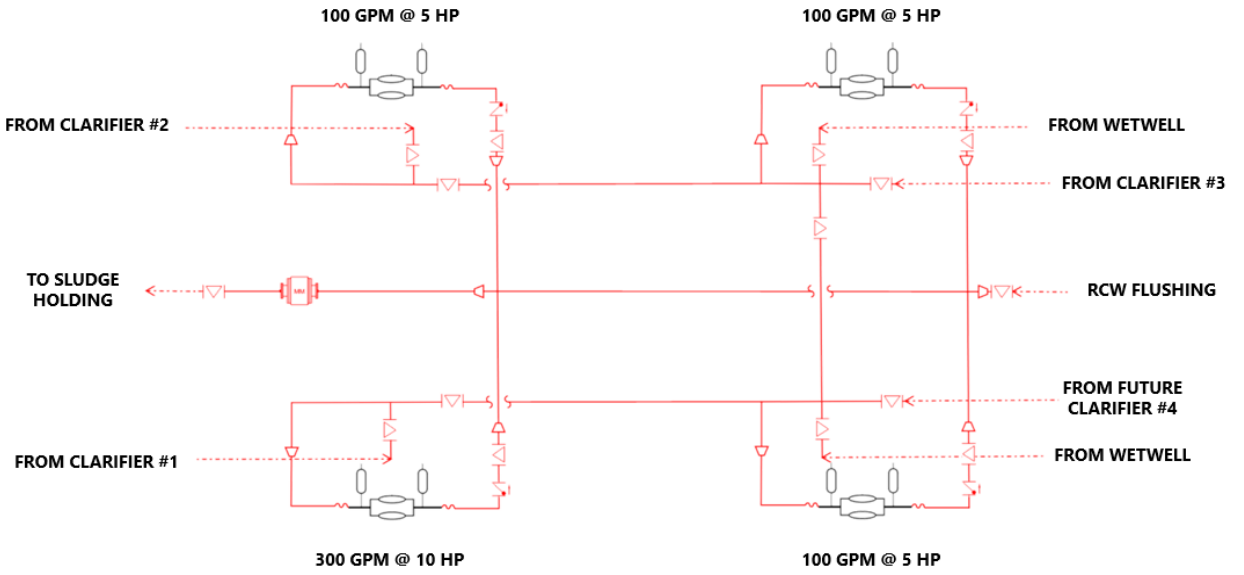
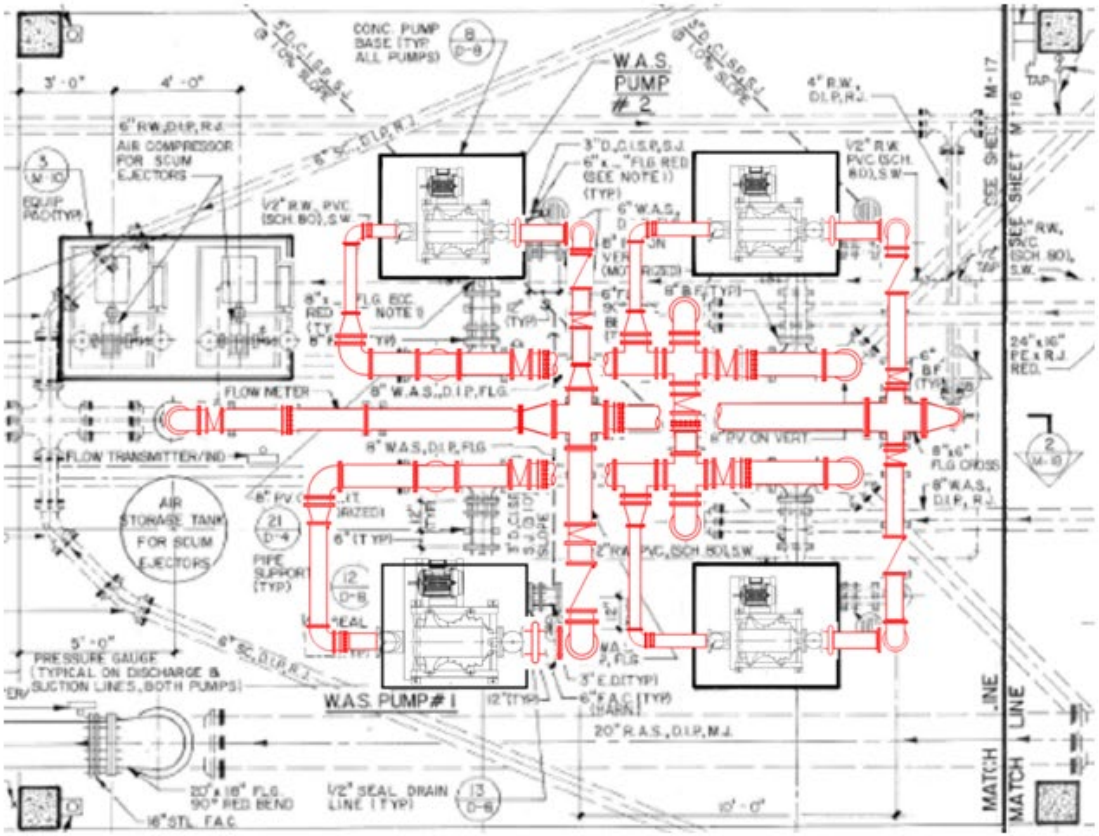


Figure 3.10 WAS Pumping System Process Flow Diagram



List of Materials

- 5 – 8" Plug Valve
- 6 – 8" 90° Bend
- 4 - 8" Tee
- 3 - 8" x 6" Reducer
- 3 – 8" x 4" Reducer
- 2 - 8" x 6" Cross
- 5 – 8" Couplings
- 50 LF – 8" Flanged Pipe
- 3 – 6" Plug Valve
- 3 – 6" 90° Bend
- 1 - 6" Check Valve
- 1 - 6" Coupling
- 30 LF – 6" Flanged Pipe
- 12 - 4" 90° Bend
- 3 – 4" Check Valves
- 9 – 4" Couplings
- 50 LF – 4" Flanged Pipe
- 4 – VFD
- 4 - Panels
- 3 – 4" Double Disc Pumps

Figure 3.11 WAS Pumping System Mechanical Sketch

The County has elected to perform these improvements under their continuing contract agreements by an on-call contractor. The Class III estimate for direct costs is $450,000. See Table 3.10 for quantity take-off and unit cost.

Table 3.10 WAS Modifications Direct Cost Estimate

Description	Quantity	Unit	Unit Cost	Subtotal
8" Plug Valve	5	EA	$3,875	$19,375
8" 90° Bend DIP FL P401	6	EA	$1,240	$7,440
8" Tee DIP FL P401	4	EA	$1,550	$6,200
8" x 6" Reducer DIP FL P401	3	EA	$1,395	$4,185
8" x 4" Reducer DIP FL P401	3	EA	$1,318	$3,954
8" x 6" Cross DIP FL P401	2	EA	$2,325	$4,650
8" Coupling DIP	5	EA	$620	$3,100
8" DIP FL P401	50	LF	$233	$11,650
6" Plug Valve	3	EA	$1,860	$5,580
6" 90° Bend DIP FL P401	3	EA	$930	$2,790
6" Check Valve	1	EA	$3,410	$3,410
6" Coupling DIP	1	EA	$543	$543
6" DIP FL P401	30	LF	$186	$5,580
4" 90° Bend DIP FL P401	12	EA	$465	$5,580
4" Check Valve	3	EA	$2,480	$7,440
4" Coupling DIP	6	EA	$388	$2,325
4" DIP FL P401	50	LF	$155	$7,750
VFD	3	EA	$15,500	$46,500
Panels	4	EA	$10,850	$43,400
4" Double Diaphragm Pumps	3	EA	$46,500	$139,500
Demo	1	LS	$34,747	$34,747
Electrical	1	LS	$48,174	$48,174
Instrumentation & Controls	1	LS	$36,131	$36,131
			Total	**$450,007**

3.4.3 RAS/WAS System Evaluation Summary

The RAS/WAS system evaluation highlights the constraint placed on both systems by the limited availability of power feeding that area of the plant. Both systems can be improved with piping modifications that increase operational flexibility and maintainability. Further, by changing the pumping technology for the WAS system from centrifugal pumps to double diaphragm pumps, batch and continual wasting regimen can be supported for better process control. The delivery method for each system can be either through the County's continuing contract agreements by an on-call contractor or deferred to the Design Build team for the upcoming expansion, allowing the County greater flexibility in their funding choices.

SECTION 4 NEAR-TERM IMPROVEMENTS

This section evaluates and recommends near-term improvements to optimize existing capacity, improve operations, and increase reliability at NRWRF, while also reducing the overall expansion requirements to 14 mgd. The near-term improvements, discussed herein, are intended to be completed in 2027 to allow the 14 mgd expansion to be completed in 2031.

4.1 Capacity Improvements

Based on the findings of the capacity evaluation, the filtration system has been identified as a limiting factor to treat projected flows, particularly under peak hour conditions. The existing traveling bridge filters are limited by low surface loading rates and will require retrofitting to higher-capacity filtration technology, such as cloth media filters (AquaDiamond), to support the planned expansion to 14 mgd AADF. The County has determined that their packaged cloth media disk filter, currently at the SWWRF, be relocated to the NRWRF to provide additional filter capacity. The County intends to include this relocation and improvements to be conducted as part of the 14 mgd expansion project as an early work package. This near-term filter improvement is part of an overall approach to increase the NRWRF capacity in 2027.

It is also recommended that the capacity of the biological treatment system be further evaluated using the facility's BioWin process model. With capacity figures now well established for other unit processes, an updated and calibrated model may help identify whether additional biological capacity is available under current conditions. This could allow the County to extend treatment capacity and support a re-rate of the facility prior to implementing the long-term expansion improvements to 14 mgd. To support this evaluation, a targeted sampling and data collection effort is being pursued by the County with subsequent calibration of the model with representative influent characteristics and operating conditions. The calibrated model will be used to determine the overall secondary process capacity. Additional secondary process improvements include the RAS pumping system improvements noted earlier in this report.

SECTION 5 EXPANSION ALTERNATIVES ANALYSIS

This section presents the evaluation of treatment alternatives considered as part of the facility expansion, to 14 mgd. The purpose is to identify the path forward by comparing expansion with AGS technology, expansion of the existing conventional activated sludge process, and MBR for technical, operational, and regulatory criteria. Each alternative was assessed for its strengths and limitations, with the goal of determining which approach best aligns with the facility's future treatment goals and long-term performance expectations. As noted earlier, the County has decided to proceed with adding AGS reactors to increase the capacity to 14 mgd AADF. The capacity of the AGS reactors will be dependent on the proposed re-rating of the existing secondary process, which is pending upon completion of the sampling campaign and biological model calibration efforts.

5.1 Multi-Criteria Evaluation

A multi-criteria analysis was used to compare, at a high level, the three proposed wastewater treatment alternatives. This approach provides an overview of each alternative's performance across factors such as energy requirements, space footprint, operational complexity, sludge handling, nutrient removal capability, water reuse potential, process robustness, costs, and regulatory acceptance.

Table 5.1 has a summary of the considerations to help identifying the trade-offs in each alternative balancing technical performance, economic factors, and regulatory compliance. The table presents a qualitative comparison (e.g. low, moderate, high) for each criterion, highlighting where one technology excels or falls short relative to the others.

Table 5.1 Multi-Criteria Evaluation of Expansion Alternatives

Criteria	Aerobic Granular Sludge (AGS)	Existing Process Expansion	Membrane Bioreactor (MBR)
Energy Consumption	*Low*	*Moderate*	*High*
Footprint (Land Area)	*Moderate*	*Large*	*Small*
Operational Complexity	*High*	*Low*	*Moderate*
Sludge Management	*Medium*	*Medium*	*Easier*
Nutrient Removal	*Good*	*Excellent*	*Excellent*
Reuse Potential	*Additional Steps*	*Additional Steps*	*High*
Robustness	*Low*	*Medium*	*High*
Capital Cost	*Lower*	*Moderate*	*Moderate*
Operational Cost	*Lower*	*Moderate*	*Higher*
Regulatory Acceptance	*New/Emerging*	*Established*	*Established*

The multi-criteria comparison shows that no single alternative excels in every category. Each comes with its own benefits and trade-offs. Aerobic granular sludge offers efficiency and economy using less energy and space, but it introduces operational complexity and uncertainty given its emerging status. The conventional process expansion is the most consolidated approach, with straightforward implementation and reliable nutrient removal, yet it demands the greatest footprint and does not improve on energy or cost efficiency. The membrane bioreactor delivers superior effluent quality with minimal land use, but at the expense of higher operational costs and energy demand.

The following subsections provide a closer look at each of the three alternatives, including design considerations, facility layout implications, and associated costs.

5.2 Aerobic Granular Sludge

AquaNereda® AGS is a process intensification technology, offered by Aqua-Aerobic Systems in the United States, that performs carbon oxidation, nitrification, denitrification, and phosphorus removal in a sequencing batch reactor (SBR). Each cycle includes fill, react, settle, and decant phases. In the end, the process produces sludge granules that are larger than typical activated sludge flocs and settle more rapidly, eliminating the need for secondary clarifiers.

Due to granule size, oxygen does not penetrate completely through the granule. As a result, aerobic, anoxic, and anaerobic layers are formed that facilitate nitrification, denitrification, and phosphorus removal, respectively.

Advantages of AGS include reduced footprint, simplified process to simultaneously treat for carbon, nitrogen, and phosphorus, and elimination of additional secondary clarifiers.

Disadvantages of AGS include process sensitivity to changes in influent quality, the potential need for post-treatment to achieve desired water quality, and restriction to a single manufacturer's patented process. Additionally, AGS will be a new treatment process that will need to be operated at NRWRF, which could increase operational complexity. AGS also has not been tested or proven for low nutrient removal (such as that required to meet Florida AWT) which results in future compliance risk.

Figure 5.1 illustrates the AGS SBR cycle and sludge granule.

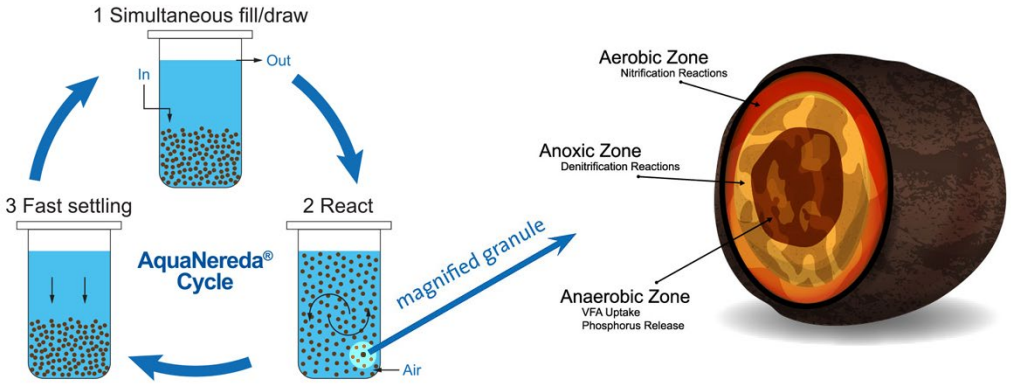


Figure 5.1 AGS Process Overview

Expanding the NRWRF will require new AGS reactors, blowers, and a balance tank. Design criteria for these system components were based on Aqua-Aerobic Systems' initial estimate for a 6.0 mgd expansion, which was developed when the facility's ultimate capacity was projected at 12.5 mgd. Given the updated projections to 14 mgd, the maximum capacity for the AGS system is now 6.5 mgd, though this could be reduced if near-term capacity improvements are identified through future influent sampling and model calibration of the MLE facility. For example, if the MLE facility can be demonstrated to have capacity to treat 8.5 mgd rather than the current 7.5 mgd, the required AGS expansion would be reduced to 5.5 mgd, resulting in correspondingly smaller AGS reactor sizing. The design criteria presented in Table 5.2 serve as a reference baseline from Aqua Nereda's 6.0 mgd evaluation.

Table 5.2 AGS Design Criteria

Section	Parameter	Value
INFLUENT AND EFFLUENT DESIGN PARAMETERS		
Flow	Average Design Flow	6.0 mgd
	Max Design Flow	9.5 mgd
	PHF	12.5 mgd
Influent Parameters	BOD_5	204 mg/L
	TSS	317 mg/L
	TKN	46 mg/L
	Total P	6 mg/L
Effluent Requirements	BOD_5	20 mg/L
	TSS	5 mg/L
	TN (Anticipated)	10 mg/L
AGS BASIN DESIGN VALUES		
No./Geometry	Basins	3 Rectangular
	Length	88.5 ft (27.0 m)
	Width	78.5 ft (23.9 m)
Water Depth	Process Level	21.0 ft (6.4 m)
	Discharge Level	21.8 ft (6.7 m)
	Top of Wall	23.5 ft (7.2 m)
Volume	Per Basin	1.09 MG (4,130 m^3)
PROCESS DETAILS		
Cycle Time	Duration	4.0 hrs/cycle
Biological Process	F/M Ratio	0.047 lbs. BOD_5/lb. MLSS-Day
	MLSS Concentration	8,000 mg/L
	Hydraulic Retention Time	0.55 days
	Solids Retention Time	19.10 days
Sludge	Net Yield	1.07 lbs WAS/lb BOD_5
	Dry Solids Produced	10,957 lbs/day

Section	Parameter	Value
AERATION AND ENERGY USE		
Oxygen Demand	BOD_5	1.25 lbs O_2/lb
	TKN	4.60 lbs O_2/lb
	Peak O_2 Factor	1.08
	Total O_2 Required	25,217 lbs/day
Air Supply	Max Air/Basin	3,243 SCFM
	Min Air/Basin	811 SCFM
	Max Simultaneous	4,930 SCFM
	Min Simultaneous	1,317 SCFM
Energy	Aeration Power	2,367 kWh/day (77% load)
RETURN FLOW ESTIMATES		
Return Flow	Daily	1.43 mgd
	Instantaneous	1,553 gpm
WATER LEVEL CORRECTION TANK		
Geometry	Basin Count	1 Rectangular
	Volume	39,626 gal (150 m^3)
Dimensions	Length x Width	14.1 ft x 26.0 ft
Depth	Max Water Depth	14.4 ft
Pumping	Max Flow	440.3 gpm (100 m^3/hr)
	Power	83.6 kWh/day
SLUDGE BUFFER		
Geometry	Basins	2 Rectangular
	Volume	79,017 gal (299 mÂ³)
Dimensions	Length x Width	26.3 ft x 26.0 ft
Depth	Max Water Depth	15.4 ft
Sludge Pumping	Max Sludge Flow	220 gpm (50 m^3/hr)
	Supernatant Flow	881 gpm (200 m^3/hr)
Power	Avg Energy Use	82 kWh/day (77% load)

Figure 5.2 illustrates the proposed site layout the location of infrastructure improvements for the AGS system. Major improvements include the AGS basins with the water level correction tanks and sludge buffer tanks, upgraded filters, additional sodium hypochlorite storage and a new effluent pump station with new reclaimed water tanks.

Legend:
(1) Headworks improvements
(2) Additional equalization tank
(3) AGS reactors and balance tank
(4) New high service pump station and reuse tanks
(5) Retrofit travel bridge filter
(6) Additional sodium hypochlorite storage

Figure 5.2 AGS Site Layout and Components

5.3 Existing Process Expansion

The current liquids treatment process at the NRWRF is based on an MLE configuration in an Oxidation Ditch configuration. To support the facility's planned expansion to 14 mgd, a series of improvements are proposed to the existing process, as shown in Figure 5.3.

Legend:
(1) Headworks improvements
(2) Additional equalization tank
(3) Additional oxidation ditch
(4) New high service pump station and reuse tanks
(5) Additional clarifiers
(6) Retrofit travel bridge filter
(7) Additional sodium hypochlorite storage

Figure 5.3 Existing Process Expansion Site Layout and Components

In this scenario, the construction of one new oxidation ditch (MLE) and three clarifiers to supplement the existing units is estimated. The final configuration may require an additional aeration basin and/or fewer clarifiers depending on the outcome of the process modeling evaluation.

By building upon the MLE configuration already in use, this alternative will allow for the reuse of existing infrastructure and will leverage operational familiarity among plant staff. The nutrient removal performance is expected to remain high, and regulatory acceptance is expected to be straightforward due to the treatment process being well established.

The expansion of the existing infrastructure will require a relatively large footprint, particularly for additional oxidation ditches and secondary clarifiers. Additionally, while the adequate nutrient removal is expected, the effluent may not meet advanced reuse standards without further treatment steps.

5.4 Membrane Bioreactor

The MBR process combines conventional biological treatment with membrane filtration to achieve high-quality effluent and compact system footprint. As illustrated in Figure 5.4, wastewater enters a suspended-growth bioreactor and is then filtered through ultrafiltration membranes submerged in the bioreactor. The membranes effectively replace secondary clarifiers and filters, capturing solids, pathogens, and biomass with very high efficiency. The MBR design must accommodate for membrane maintenance and blowers, as well as membrane cleaning and replacement protocols to maintain long-term reliability. The addition of membranes would allow the existing Oxidation Ditches to operate at higher MLSS concentrations and thereby increase their biological capacity.

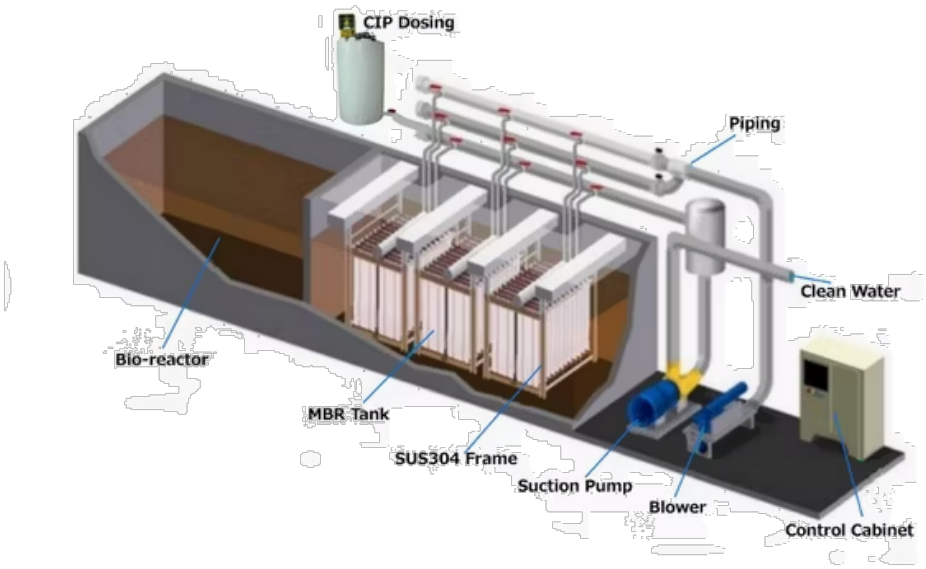


Figure 5.4 MBR System Components

Figure 5.5 shows the proposed layout for the MBR alternative at NRWRF. Notably, it will not require additional secondary clarifiers nor filters, as these processes are inherently included in the membrane separation process. The oxidation ditches would be modified with diffusers and blowers, the new equalization tank would remain, and the membrane unit replaces filtration and clarification processes. Additional components include expanded hypochlorite storage, reclaimed water tanks and high-service pumping.

Legend:
(1) Headworks improvements
(2) Additional equalization tank
(3) MBR building and blower buildings
(4) New high service pump station and reuse tanks
(5) Additional sodium hypochlorite storage

Figure 5.5 MBR System Site Layout and Components

SECTION 6 RECOMMENDED EXPANSION ALTERNATIVE

The County has opted to implement the AGS process for the next capacity expansion at the NRWRF. Adopting AGS at NRWRF aligns with the County's long-term goal of employing a uniform treatment technology across all its water reclamation facilities, streamlining operations and maintenance across all facilities.

Implementing the AGS process at NRWRF will require modifications to the existing plant infrastructure, as identified in the facility evaluation (Section 3), the near-term improvements plan (Section 4), and the AGS expansion analysis (Section 5.2).

Infrastructure improvements needed to accommodate the AGS expansion include the new AGS reactors and associated balance tanks to support the granular sludge process, additional flow equalization capacity, headworks upgrades, filtration system improvements, additional sodium hypochlorite storage, to handle, additional effluent pumping capacity, and additional reuse storage.

6.1 Phasing of Expansion Project

The scope of the AGS expansion will depend on the facility permitted capacity. Expanding directly from 7.5 mgd AADF (assuming the update from TMRADF to AADF will be approved in the NRWRF permit renewal application) to the future 14 mgd AADF requires adding 6.5 mgd of treatment capacity via AGS reactors and supporting infrastructure.

If the County can re-rate the Oxidation Ditch MLE plant to a higher capacity ahead of the expansion, the AGS would require a smaller capacity expansion. The facility evaluation in Section 3 indicates that this strategy may be feasible since several existing process units have reserve capacity beyond 7.5 mgd. However, confirmation whether the existing oxidation ditch capacity is adequate for an expansion must be confirmed through process modeling.

Therefore, it is recommended that the County coordinate with FDEP to increase the permitted capacity once the supporting improvements are in place and performance data justifies the higher rating of the NRWRF's existing treatment capacity, prior to initiating major expansion construction. This means continuing to implement near-term capacity optimizations and confirming, through operational data and modeling, that the facility can reliably treat more flow. The expansion project will proceed under a PDB delivery method, allowing the re-rating effort to be conducted in parallel with the preconstruction and design development stages of the project.

After the re-rating is achieved and the new capacity confirmed, the full AGS expansion project be initiated to reach the ultimate 14 mgd AADF capacity. This phased approach will allow the County to reduce capital expenditure and align the expansion timeline with capacity requirements for long-term service reliability with the AGS treatment technology.

APPENDIX A

NRWRF PERMIT

Butler, Linda

From: Butler, Linda on behalf of SWD_WF_Permitting (Shared Mailbox)
Sent: Tuesday, October 20, 2015 12:34 PM
To: C. Mike Gore (mike.gore@mymanatee.org)
Cc: Kaur, Ramandeep; Gracik, Elaine; McGucken, Vicki; Sia Mollanazar, P.E. (sia.mollanazar@mymanatee.org); Kenneth Labarr (kenneth.labarr@mymanatee.org); 'Jeff.Goodwin@mymanatee.org'; Andre Rachmaninoff (andre.rachmaninoff@mymanatee.org); 'DMilton@Carollo.com'; Curll, Ryan
Subject: Manatee County North Regional WRF, FLA012617-026-DW1P/NRL, Final Permit
Attachments: NOPI FLA012617-026-DW1P-NRL.pdf; Permit FLA012617-026.pdf; DMR R-001 FLA012617-026.docx; DMR R-002 FLA012617-026.docx; DMR RMP-Q FLA012617-026.docx; DMR Daily Part B FLA012617-026.docx; DMR Pretreatment FLA012617-026.docx; DMR RWS-A FLA012617-026.docx; Statement of Basis FLA012617-026.pdf

Dear Mr. Gore:

Attached please find the above-subject documents. In an effort to reduce costs and waste, our agency is moving to electronic, rather than paper, correspondence. This is the only copy that you will receive, unless you request otherwise.

Acrobat Reader 6.0 or greater is required to read the documents and is available for downloading at: http://www.adobe.com/products/acrobat/readstep.html

If you have any questions concerning the contents of the attached documents, please contact FDEP Engineering Specialist Ryan Curll at 813-470-5947 or Ryan.Curll@dep.state.fl.us

Sincerely,

Linda Butler
Operations Analyst I
FDEP - Southwest District
13051 North Telecom Parkway
Temple Terrace, FL 33637-0926
Direct Line: (813) 470-5719
Email: Linda.Butler@dep.state.fl.us

Florida Department of Environmental Protection

Southwest District Office
13051 North Telecom Parkway
Temple Terrace, FL 33637-0926

October 20, 2015

In the Matter of an
Application for Permit by:

Manatee County Utilities Department
Mike Gore, Utilities Department Director
4410 66th Street West
Bradenton, Florida 34210
Mike.Gore@mymanatee.org

File Number FLA012617-026-DW1P/NRL
Manatee County
Manatee County North Regional WRF

NOTICE OF PERMIT ISSUANCE

Enclosed is Permit Number FLA012617 to operate the Manatee County North Regional WRF, issued under Chapter 403**,** 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, Florida Statutes, within fourteen days of receipt of notice. 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, 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.

Under Rule 62-110.106(4), Florida Administrative Code, a person may request an extension of the time for filing a petition for an administrative hearing. The request must be filed (received by the Clerk) in the Office of General Counsel before the end of the time period for filing a petition for an administrative hearing.

Petitions by the applicant or any of the persons 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), 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. Section 120.60(3), Florida Statutes, however, also allows that any person who has asked the Department in writing 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 or request for an extension of time within fourteen days of receipt of notice shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, 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, Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information, as indicated in Rule 28-106.201, Florida Administrative Code:

(a) The name and address of each agency affected and each agency's file or identification number, if known;
(b) The name, address, any e-mail address, any facsimile number, and telephone number of the petitioner, if the petitioner is not represented by an attorney or a qualified representative; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the determination;
(c) A statement of when and how the petitioner received notice of the Department's decision;
(d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
(e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the Department's proposed action;
(f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the Department's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and
(g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the Department to take with respect to the Department's proposed action.

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.

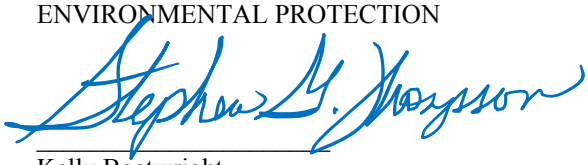
Mediation under Section 120.573, Florida Statutes, is not available for this proceeding.

This permit action is final and effective on the date filed with the Clerk of the Department unless a petition (or request for an extension of time) is filed in accordance with the above. Upon the timely filing of a petition (or request for an extension of time), this permit will not be effective until further order of the Department.

Any party to the permit has the right to seek judicial review of the permit action under Section 120.68, Florida Statutes, by the filing of a notice of appeal under Rules 9.110 and 9.190, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 3900 Commonwealth Boulevard, Mail Station 35, 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 this permit action is filed with the Clerk of the Department.

Executed in Hillsborough County, Florida

STATE OF FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION



For Kelly Boatwright
Program Administrator
Permitting & Waste Cleanup Program
Southwest District

FILING AND ACKNOWLEDGMENT

FILED, on this date, under Section 120.52, Florida Statutes, with the designated Deputy Clerk, receipt of which is hereby acknowledged.

October 20, 2015

[Clerk] **[Date]**

CERTIFICATE OF SERVICE

The undersigned hereby certifies that this NOTICE OF PERMIT ISSUANCE and all copies were mailed before the close of business on October 20, 2015 to the listed persons.

October 20, 2015

Name Date

Copies Furnished To:
Ramandeep Kaur, PhD, FDEP SWD, Ramandeep.Kaur@dep.state.fl.us
Elaine Gracik, FDEP SWD, Elaine.Gracik@dep.state.fl.us
Vicki McGucken, FDEP SWD, Vicki.McGucken@dep.state.fl.us
Sia Mollanazar, P.E., Manatee County, Sia.Mollanazar@mymanatee.org
Kenneth Labarr, Manatee County, Kenneth.Labarr@mymanatee.org
Jeff Goodwin, Manatee County, Jeff.Goodwin@mymanatee.org
Andre Rachmaninoff, Manatee County, Andre.Rachmaninoff@mymanatee.org
Dean Milton, P.E., Carollo Engineers, Inc., DMilton@carollo.com

Florida Department of Environmental Protection

Southwest District Office
13051 North Telecom Parkway
Temple Terrace, FL 33637-0926

Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

Jonathan P. Steverson
Secretary

STATE OF FLORIDA
DOMESTIC WASTEWATER FACILITY PERMIT

PERMITTEE:
Manatee County Utilities Department

RESPONSIBLE OFFICIAL:
Mike Gore, Utilities Department Director
4410 66th Street West
Bradenton, Florida 34210
(941) 792-8811
Mike.Gore@mymanatee.org

PERMIT NUMBER: FLA012617
FILE NUMBER: FLA012617-026-DW1P/NRL
EFFECTIVE DATE: February 3, 2016
EXPIRATION DATE: February 2, 2026

FACILITY:

Manatee County North Regional WRF
8500 69th St E
Palmetto, FL 34221-9064
Manatee County
Latitude: 27°35' 02" N Longitude: 82°28' 37" 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:

Operation of an existing 7.5 Million Gallon per Day (MGD) Three-Month Rolling Average Daily Flow (TMRADF), Type I, oxidation ditch activated sludge domestic wastewater treatment facility consisting of: a head works with two automatic bar screens, one manual bar screen, and a forced flow vortex grit removal unit; two Carrousel oxidation ditches (each with a 0.6 Million Gallons [MG] anoxic basin and a 3.1 MG aeration basin, for a total oxidation ditch volume of 7.4 MG), three clarifiers (each with a volume of 1 MG and a surface area of 9,500 Square Feet [SF], for a total clarification volume of 3 MG and total surface area of 28,500 SF), a 32,000 gallon mixing/flow splitter basin, two automatic backwash traveling bridge filters (each with a surface area of 1,440 SF, for a total surface area of 2,880 SF), two automatic backwash cloth media disk filters (each rated at 3 MGD for a total disk filter capacity of 6 MGD), and four chlorine contact chambers (two chlorine contact chambers with a volume of 71,810 gallons and two chlorine contact chamber with a volume of 89,180 gallons for total volume of 321,980 gallons). Disinfection is achieved using sodium hypochlorite. Waste activated sludge is directed from the clarifiers to three aerated sludge holding tanks (each with a volume of 1.012 MG, for a total holding tank volume of 3.036 MG), and three belt filter presses. The North Regional WRF is a source facility for residuals processing at the Manatee County Southeast Regional Water Reclamation Facility (Permit FLA012618).

Modification:

Construction of a 3 MG equalization basin and installation of a forced flow vortex grit removal unit and one belt filter press. The modification will include the construction and installation of a cover and odor control, a splitter box, a new electrical building, a pump-back station, a platform with stairway, as well as all of the necessary electrical, instrumentation and controls with SCADA modifications, and all necessary new piping and appurtenances.

After Modification:

Operation of an existing 7.5 Million Gallon per Day (MGD) Three-Month Rolling Average Daily Flow (TMRADF), Type I, oxidation ditch activated sludge domestic wastewater treatment facility consisting of: a head works with two automatic bar screens, one manual bar screen, and two forced flow vortex grit removal units; a 3 MG equalization basin, two Carrousel oxidation ditches (each with a 0.6 Million Gallons [MG] anoxic basin and a 3.1 MG aeration basin, for a total oxidation ditch volume of 7.4 MG), three clarifiers (each with a volume of 1 MG and a surface area of 9,500 Square Feet [SF], for a total clarification volume of 3 MG and total surface area of 28,500 SF), a 32,000 gallon mixing/flow splitter basin, two automatic backwash traveling bridge filters (each with a surface area of 1,440 SF, for a total surface area of 2,880 SF), two automatic backwash cloth media disk filters (each rated at 3 MGD for a total disk filter capacity of 6 MGD), and four chlorine contact chambers (two chlorine contact chambers with a volume of 71,810 gallons each and two chlorine contact chamber with a volume of 89,180 gallons each for total volume of 321,980 gallons). Disinfection is achieved using sodium hypochlorite. Waste activated sludge is directed from the clarifiers to three aerated sludge holding tanks (each with a volume of 1.012 MG, for a total holding tank volume of 3.036 MG), and four belt filter presses. The North Regional WRF is a source facility for residuals processing at the Manatee County Southeast Regional Water Reclamation Facility (Permit FLA012618).

REUSE OR DISPOSAL:

Land Application R-001: An existing 7.5 MGD Annual Average Daily Flow (AADF) permitted capacity Part III slow-rate public access reuse (PAR) system (R-001). The MC North Regional WRF serves as a source plant for the Manatee County Master Reuse System (Permit FLA474029). A 49.0 MG PAR storage pond is located onsite. The Manatee County Master Reuse System Permit contains additional PAR storage information.

Land Application R-002: An existing Part IV rapid-rate land application system (R-002). R-002 consists of a single-cell Rapid Infiltration Basin (RIB). R-002 is used to store reject water until it is returned to the headworks for further treatment when no other discharge location is available. R-002's southwestern embankment is equipped with an overflow structure to the 49.0 MG PAR storage pond. An overflow from R-002 to the storage pond will require the water in the storage pond to be sent to the plant for retreatment. R-002 is located approximately at Latitude 27^{o} 35' 04" N, Longitude 82^{o} 28' 29" W.

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 21 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, to R-001	MGD	Max Max	7.5 Report	Annual Average Monthly Average	Monthly	Calculated	FLW-06	See I.A.2 and 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	5 Days/Week	24-hr FPC	EFA-01	
Solids, Total Suspended	mg/L	Max	5.0	Single Sample	Daily; 24 hours	Grab	EFB-01	
pH	s.u.	Min Max	6.0 8.5	Single Sample Single Sample	Continuous	Meter	EFA-01	See I.A.4
Coliform, Fecal	#/100mL	Max	25	Single Sample	Daily; 24 hours	Grab	EFA-01	
Coliform, Fecal, % less than detection	percent	Min	75	Monthly Total	Monthly	Calculated	EFA-01	See I.A.5
Chlorine, Total Residual (For Disinfection)	mg/L	Min	1.0	Single Sample	Continuous	Meter	EFA-01	See I.A.4, I.A.6, I.A.9 and I.A.11
Turbidity	NTU	Max	Report	Single Sample	Continuous	Meter	EFB-01	See I.A.7 and I.A.9
Nitrogen, Total	mg/L	Max	Report	Single Sample	Monthly	24-hr FPC	EFA-01	
Phosphorus, Total (as P)	mg/L	Max	Report	Single Sample	Monthly	24-hr FPC	EFA-01	
Giardia	cysts/100L	Max	Report	Single Sample	Every 2 years	Grab	EFA-01	See I.A.10
Cryptosporidium	oocysts/100L	Max	Report	Single Sample	Every 2 years	Grab	EFA-01	See I.A.10

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
EFA-01	Effluent sampling point after disinfection and prior to discharge to R-001
EFB-01	Turbidity and TSS monitoring location after filtration and prior to disinfection
FLW-04	Flow to the Golf Course.
FLW-05	Flow Meter After High Service Pumps.
FLW-06	Total Flow to R-001 (FLW-06) = (FLW-04) + (FLW-05)

3. Recording flow meters and totalizers shall be utilized to measure flow and calibrated at least annually. *[62-601.200(17) and .500(6)]*

4. Hourly measurement of pH and total residual chlorine for disinfection during the period of required operator attendance may be substituted for continuous measurement. *[Chapter 62-601, Figure 2]*

5. 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)]*

6. 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)]*

7. 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)]*

8. 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 *[62-610.320(6) and 62-610.463(2)]*

9. 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)]*

10. Intervals between sampling for Giardia and Cryptosporidium shall not exceed two years. *[62-610.463(4)]*

11. Total residual chlorine must be maintained for a minimum contact time of 15 minutes based on peak hourly flow. *[62-610.510, 62-600.440(4)(b) and (5)(b)]*

12. 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-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 Monitoring	Sample Type	Monitoring Site Number	Notes
Flow, to R-002	MGD	Max Max	Report Report	Annual Average Monthly Average	Monthly	Calculated	FLW-09	See I.A.3 and I.A.13
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	5 Days/Week	24-hr FPC	EFA-01	
Solids, Total Suspended	mg/L	Max Max Max Max	20.0 30.0 45.0 60.0	Annual Average Monthly Average Weekly Average Single Sample	5 Days/Week	24-hr FPC	EFA-01	
pH	s.u.	Min Max	6.0 8.5	Single Sample Single Sample	Continuous	Meter	EFA-01	See I.A.4
Coliform, Fecal	#/100mL	Max Max	200 800	Annual Average Single Sample	5 Days/Week	Grab	EFA-01	
Chlorine, Total Residual (For Disinfection)	mg/L	Min	0.5	Single Sample	Continuous	Meter	EFA-01	See I.A.4, I.A.6, I.A.9 and I.A.11
Nitrogen, Nitrate, Total (as N)	mg/L	Max	12.0	Single Sample	5 Days/Week	24-hr FPC	EFA-01	

13. Reclaimed water samples shall be taken at the monitoring site locations listed in Permit Condition I.A.12 and as described below:

Monitoring Site Number	Description of Monitoring Site
EFA-01	Effluent sampling point after disinfection and prior to discharge to R-001
FLW-07	Flow to R-002, continuously measured by a surface level transducer.
FLW-08	Flow from R-002 to the headworks, continuously measured by a surface level transducer.
FLW-09	Flow to R-002 (percolation) (FLW-09) = (FLW-07) - (FLW-08)

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, Total Plant	MGD	Max Max	7.5 Report	3-Month Rolling Average Monthly Average	Continuous	Recording Flow Meter	FLW-03	See I.B.3
Percent Capacity, (TMADF/Permitted Capacity) x 100	percent	Max	Report	Monthly Average	Monthly	Calculated	FLW-03	
BOD, Carbonaceous 5 day, 20C (Influent)	mg/L	Max	Report	Monthly Average	Weekly	24-hr FPC	INF-01	See I.B.4
Solids, Total Suspended (Influent)	mg/L	Max	Report	Monthly Average	Weekly	24-hr FPC	INF-01	See I.B.4

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
FLW-03	Total plant flow measured at the headworks
INF-01	Influent sampling point prior to treatment and ahead of the return activated sludge line.

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. 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)]*

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 Southwest 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 Southwest 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 Southwest 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 Southwest 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 Southwest District Office at the address specified below:

Florida Department of Environmental Protection
Southwest District Office
13051 N Telecom Pkwy
Temple Terrace, Florida 33637-0926
Email Address: swd_dw@dep.state.fl.us

Phone Number - (813) 470-5700
FAX Number - (813) 470-5996

[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

A. Basic Requirements

1. Biosolids generated by this facility may be transferred to a Biosolids Treatment Facility (BTF) or disposed of in a Class I solid waste landfill. Transferring biosolids to an alternative BTF does not require a permit modification. However, use of an alternative BTF 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-01
Biosolids Quantity (Landfilled)	dry tons	Max	Report	Monthly Total	Monthly	Calculated	RMP-02

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

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

Monitoring Site Number	Description of Monitoring Site Calculations
RMP-01	Biosolids Quantity (Transferred to BTF)
RMP-02	Biosolids Quantity (Landfilled)

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)]*

B. Disposal

1. 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)]*

C. Transfer

1. 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)]*

2. 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)]

D. Receipt

1. 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)]*

II. GROUND WATER REQUIREMENTS

Ground water monitoring requirements are contained in the Manatee County Master Reuse System (MCMRS), Permit No. FLA474029.

III. ADDITIONAL REUSE AND LAND APPLICATION REQUIREMENTS

E. Part III Public Access System(s)

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

2. 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)]*

3. 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)]*

4. 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 Southwest 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 Southwest 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)]

5. 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)]*

6. 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 non-potable water supply wells. *[62-610.471(3)]*

7. 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 non-potable 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)]*

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

9. 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)]*

10. 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)]*

11. 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)]*

12. 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]*

13. 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)]*

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

15. 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)]*

F. Part IV Rapid Infiltration Basins

1. Advisory signs shall be posted around the site boundaries to designate the nature of the project area. *[62-610.518]*

2. Rapid infiltration basins shall be routinely maintained to control vegetation growth and to maintain percolation capability by scarification or removal of deposited solids. Basin bottoms shall be maintained to be level. *[62-610.523(6) and (7)]*

3. Routine aquatic weed control and regular maintenance of storage pond embankments and access areas are required. *[62-610.514 and 62-610.414]*

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

IV. 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 B facility and, at a minimum, operators with appropriate certification must be on the site as follows:

   A Class C or higher operator for 24 hours/day for 7 days/week. The lead operator must be a Class B operator, or higher.

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)]*

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

1. Submit an updated capacity analysis report prepared in accordance with Rule 62-600.405, F.A.C., five years from the date of issuance of this permit. [62-600.405(5)] (Only applicable to facilities that meet the criteria in Section 403.087(3), F.S. and are being issued permits for terms exceeding five years.)

2. 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)]*

3. 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)]

V. SCHEDULES

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

Implementation Step		Completion Date
a.	Submit an application for permit renewal.	At least 180 days before existing permit expiration date.
b.	Submit a revised Operating Protocol to the Department's Compliance Assurance Program for review and approval prior to placing the new facilities into operation.	Ninety (90) days prior to the completion of construction.
c.	Provide appropriate documentation as required in permit Conditions VII. 9 & 10 for any new facilities or unit processes.	As required by permit Conditions VII. 9 & 10

VI. INDUSTRIAL PRETREATMENT PROGRAM REQUIREMENTS

1. This facility's pretreatment program requirements are included in the Manatee County Southwest Regional WWTP permit issued by the Department under Permit Number FLA012619.

2. As required by Rules 62-625.600(8) and (12), F.A.C., the permittee shall submit DMRs for Monitoring Site Numbers PRT-I, PRT-E, and PRT-R to the Manatee County Southwest Regional WWTP (FLA012619) for inclusion in the annual report.*[62-625.600(8)]*

3. Samples for Monitoring Site Numbers PRT-I, PRT-E, and PRT-R shall be taken at the monitoring site locations described below:

Monitoring Location Site Number	Description of Monitoring Location
PRT-I	Pretreatment influent
PRT-E	Pretreatment effluent
PRT-R	Pretreatment residuals

VII. OTHER SPECIFIC CONDITIONS

1. 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)]*

2. 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)]*

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

4. 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)]

5. 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. *[62-610.518(1) and 62-600.400(2)(b)]*

6. 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)]*

7. 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)]*

8. The permittee shall provide verbal notice to the Department's Southwest 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 Southwest District Office in a written report within 7 days of the sinkhole discovery. *[62-620.320(6)]*

9. Prior to placing the new facilities into operation or any individual unit processes into operation, for any purpose other than testing for leaks and equipment operation, the permittee shall complete and submit to the Department DEP Form 62-620.910(12), Notification of Completion of Construction for Domestic Wastewater Facilities. *[62-620.630(2)]*

10. Within six months after a facility is placed in operation, the permittee shall provide written certification to the Department on Form 62-620.910(13) that record drawings pursuant to Chapter 62-600, F.A.C., and that an operation and maintenance manual pursuant to Chapters 62-600 and 62-610, F.A.C., as applicable, are available at the location specified on the form. *[62-620.630(7)]*

VIII. 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 Southwest 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 WATCH OFFICE 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 Watch Office:
            (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 Southwest 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 Southwest 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 Hillsborough County, Florida.

STATE OF FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

For _____

Kelley M. Boatwright
Program Administrator
Permitting & Waste Cleanup Program
Southwest District

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

When completed mail this report to: Department of Environmental Protection, Southwest District Office, Compliance Assurance Program, Attn: Domestic Wastewater, 13051 N. Telecom Parkway, Temple Terrace, FL 33637-0926, swd_dw@dep.state.fl.us

PERMITTEE NAME: Manatee County Utilities Department
MAILING ADDRESS: 4410 66th Street West
Bradenton, Florida 34210

FACILITY: Manatee County North Regional WRF
LOCATION: 8500 69th St E
Palmetto, FL 34221-9064

COUNTY: Manatee
OFFICE: Southwest District

PERMIT NUMBER: FLA012617-026-DW1P/NRL

LIMIT: Final
CLASS SIZE: N/A
MONITORING GROUP NUMBER: R-001
MONITORING GROUP DESCRIPTION: Manatee County Master Reuse System, including Influent
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
Flow, to R-001	Sample Measurement										
PARM Code 50050 Y Mon. Site No. FLW-06	Permit Requirement		7.5 (An.Avg.)	MGD						Monthly	Calculated
Flow, to R-001	Sample Measurement										
PARM Code 50050 1 Mon. Site No. FLW-06	Permit Requirement		Report (Mo.Avg.)	MGD						Monthly	Calculated
BOD, Carbonaceous 5 day, 20C	Sample Measurement										
PARM Code 80082 Y Mon. Site No. EFA-01	Permit Requirement					20.0 (An.Avg.)		mg/L		5 Days/Week	24-hr FPC
BOD, Carbonaceous 5 day, 20C	Sample Measurement										
PARM Code 80082 A Mon. Site No. EFA-01	Permit Requirement				60.0 (Max.)	45.0 (Max.Wk.Avg.)	30.0 (Mo.Avg.)	mg/L		5 Days/Week	24-hr FPC
Solids, Total Suspended	Sample Measurement										
PARM Code 00530 A Mon. Site No. EFA-01	Permit Requirement						5.0 (Max.)	mg/L		Daily; 24 hours	Grab
pH	Sample Measurement										
PARM Code 00400 B Mon. Site No. EFB-01	Permit Requirement				6.0 (Min.)		8.5 (Max.)	s.u.		Continuous	Meter

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: Manatee County North Regional WRF MONITORING GROUP NUMBER: R-001 PERMIT NUMBER: FLA012617-026-DW1P/NRL

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 A Mon. Site No. EFA-01	Permit Requirement						25 (Max.)	#/100mL		Daily; 24 hours	Grab
Coliform, Fecal, % less than detection	Sample Measurement										
PARM Code 51005 A Mon. Site No. EFA-01	Permit Requirement				75 (Min.Mo.Total)			percent		Monthly	Calculated
Chlorine, Total Residual (For Disinfection)	Sample Measurement										
PARM Code 50060 A Mon. Site No. EFA-01	Permit Requirement				1.0 (Min.)			mg/L		Continuous	Meter
Turbidity	Sample Measurement										
PARM Code 00070 B Mon. Site No. EFB-01	Permit Requirement						Report (Max.)	NTU		Continuous	Meter
Nitrogen, Total	Sample Measurement										
PARM Code 00600 A Mon. Site No. EFA-01	Permit Requirement						Report (Max.)	mg/L		Monthly	24-hr FPC
Phosphorus, Total (as P)	Sample Measurement										
PARM Code 00665 A Mon. Site No. EFA-01	Permit Requirement						Report (Max.)	mg/L		Monthly	24-hr FPC
Flow, Facility Total	Sample Measurement										
PARM Code 50050 P Mon. Site No. FLW-03	Permit Requirement	Report (Mo.Avg.)	7.5 (3Mo.Avg.)	MGD						Continuous	Flow Totalizer
Percent Capacity, (TMADF/Permitted Capacity) x 100	Sample Measurement										
PARM Code 00180 1 Mon. Site No. FLW-03	Permit Requirement						Report (Mo.Avg.)	percent		Monthly	Calculated
BOD, Carbonaceous 5 day, 20C (Influent)	Sample Measurement										
PARM Code 80082 G Mon. Site No. INF-01	Permit Requirement						Report (Mo.Avg.)	mg/L		Weekly	24-hr FPC
Solids, Total Suspended (Influent)	Sample Measurement										
PARM Code 00530 G Mon. Site No. INF-01	Permit Requirement						Report (Mo.Avg.)	mg/L		Weekly	24-hr FPC

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 shut down 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.

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

When completed mail this report to: Department of Environmental Protection, Southwest District Office, Compliance Assurance Program, Attn: Domestic Wastewater, 13051 N. Telecom Parkway, Temple Terrace, FL 33637-0926, swd_dw@dep.state.fl.us

PERMITTEE NAME: Manatee County Utilities Department
MAILING ADDRESS: 4410 66th Street West
Bradenton, Florida 34210

FACILITY: Manatee County North Regional WRF
LOCATION: 8500 69th St E
Palmetto, FL 34221-9064

COUNTY: Manatee
OFFICE: Southwest District

PERMIT NUMBER: FLA012617-026-DW1P/NRL

LIMIT: Final
CLASS SIZE: N/A
MONITORING GROUP NUMBER: R-002
MONITORING GROUP DESCRIPTION: Unlined Reject Pond
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
Flow, to R-002	Sample Measurement										
PARM Code 50050 Y Mon. Site No. FLW-09	Permit Requirement		Report (An.Avg.)	MGD						Monthly	Calculated
Flow, to R-002	Sample Measurement										
PARM Code 50050 1 Mon. Site No. FLW-09	Permit Requirement		Report (Mo.Avg.)	MGD						Monthly	Calculated
BOD, Carbonaceous 5 day, 20C	Sample Measurement										
PARM Code 80082 Y Mon. Site No. EFA-01	Permit Requirement					20.0 (An.Avg.)		mg/L		5 Days/Week	24-hr FPC
BOD, Carbonaceous 5 day, 20C	Sample Measurement										
PARM Code 80082 A Mon. Site No. EFA-01	Permit Requirement				60.0 (Max.)	45.0 (Max.Wk.Avg.)	30.0 (Mo.Avg.)	mg/L		5 Days/Week	24-hr FPC
Solids, Total Suspended	Sample Measurement										
PARM Code 00530 Y Mon. Site No. EFB-01	Permit Requirement					20.0 (An.Avg.)		mg/L		5 Days/Week	24-hr FPC
Solids, Total Suspended	Sample Measurement										
PARM Code 00530 A Mon. Site No. EFB-01	Permit Requirement				60.0 (Max.)	45.0 (Max.Wk.Avg.)	30.0 (Mo.Avg.)	mg/L		5 Days/Week	24-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: Manatee County North Regional WRF MONITORING GROUP NUMBER: R-002 PERMIT NUMBER: FLA012617-026-DW1P/NRL

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
pH	Sample Measurement										
PARM Code 00400 A Mon. Site No. EFA-01	Permit Requirement				6.0 (Min.)		8.5 (Max.)	s.u.		Continuous	Meter
Coliform, Fecal	Sample Measurement										
PARM Code 74055 Y Mon. Site No. EFA-01	Permit Requirement					200 (An.Avg.)		#/100mL		5 Days/Week	Grab
Coliform, Fecal	Sample Measurement										
PARM Code 74055 A Mon. Site No. EFA-01	Permit Requirement						800 (Max.)	#/100mL		5 Days/Week	Grab
Chlorine, Total Residual (For Disinfection)	Sample Measurement										
PARM Code 50060 A Mon. Site No. EFA-01	Permit Requirement				0.5 (Min.)			mg/L		Continuous	Meter
Nitrogen, Nitrate, Total (as N)	Sample Measurement										
PARM Code 00620 A Mon. Site No. EFA-01	Permit Requirement						12.0 (Max.)	mg/L		5 Days/Week	24-hr FPC

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 shut down 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.

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

When completed mail this report to: Department of Environmental Protection, Southwest District Office, Compliance Assurance Program, Attn: Domestic Wastewater, 13051 N. Telecom Parkway, Temple Terrace, FL 33637-0926, swd_dw@dep.state.fl.us

PERMITTEE NAME: Manatee County Utilities Department
MAILING ADDRESS: 4410 66th Street West
Bradenton, Florida 34210

FACILITY: Manatee County North Regional WRF
LOCATION: 8500 69th St E
Palmetto, FL 34221-9064

COUNTY: Manatee
OFFICE: Southwest District

PERMIT NUMBER: FLA012617-026-DW1P/NRL

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-01	Permit Requirement		Report (Mo.Total)	dry tons						Monthly	Calculated
Biosolids Quantity (Landfilled)	Sample Measurement										
PARM Code B0008 + Mon. Site No. RMP-02	Permit Requirement		Report (Mo.Total)	dry tons						Monthly	Calculated

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):

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 shut down 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.

DAILY SAMPLE RESULTS - PART B

Permit Number: FLA012617-026-DW1P/NRL Facility: Manatee County North Regional WRF
Monitoring Period From: _____ To: _____

	BOD, Carbonaceous 5 day, 20C mg/L	Chlorine, Total Residual (For Disinfection) mg/L	Coliform, Fecal #/100mL	Nitrogen, Nitrate, Total (as N) mg/L	Nitrogen, Total mg/L	Phosphorus, Total (as P) mg/L	Solids, Total Suspended mg/L	pH Min. s.u.	pH Max. s.u.	Turbidity NTU	Flow MGD
Code	80082	50060	74055	00620	00600	00665	00530	00400	00400	00070	50050
Mon. Site	EFA-01	EFA-01	EFA-01	EFA-01	EFA-01	EFA-01	EFA-01	EFA-01	EFA-01	EFB-01	FLW-03
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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: FLA012617-026-DW1P/NRL Facility: Manatee County North Regional WRF
Monitoring Period From: _____ To: _____

	BOD, Carbonaceous 5 day, 20C (Influent) mg/L	Solids, Total Suspended (Influent) mg/L	pH Min. s.u.	pH Max. s.u.							
Code	80082	00530	00400	00400							
Mon. Site	INF-01	INF-01	EFB-01	EFB-01							
1											
2											
3											
4											
5											
6											
7											
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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: _____

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 shut down 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.

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

When completed mail this report to: Department of Environmental Protection, Southwest District Office, Compliance Assurance Program, Attn: Domestic Wastewater, 13051 N. Telecom Parkway, Temple Terrace, FL 33637-0926, swd_dw@dep.state.fl.us

PERMITTEE NAME: Manatee County Utilities Department
MAILING ADDRESS: 4410 66th Street West
Bradenton, Florida 34210

FACILITY: Manatee County North Regional WRF
LOCATION: 8500 69th St E
Palmetto, FL 34221-9064

COUNTY: Manatee
OFFICE: Southwest District

PERMIT NUMBER: FLA012617-026-DW1P/NRL

LIMIT: Final
CLASS SIZE: N/A
MONITORING GROUP NUMBER: PRT-I
MONITORING GROUP DESCRIPTION: Influent Pretreatment
RE-SUBMITTED DMR: ☐
NO DISCHARGE FROM SITE: ☐
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
pH	Sample Measurement										
PARM Code 00400 G Mon. Site No. PRT-I	Permit Requirement				Report (Min.)		Report (Max.)	s.u.		Annually	Grab
Oil and Grease, hexane extr method	Sample Measurement										
PARM Code 00552 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	mg/L		Annually	Grab
Benzene	Sample Measurement										
PARM Code 34030 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
Bromoform	Sample Measurement										
PARM Code 32104 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
Carbon tetrachloride	Sample Measurement										
PARM Code 32102 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
Chlorobenzene	Sample Measurement										
PARM Code 34301 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab

*FOR THOSE PARAMETERS THAT ARE SAMPLED ANNUALLY, THE MAXIMUM AND AVERAGE CONCENTRATIONS ARE EQUIVALENT AND SHALL BE REPORTED AS SUCH ON THE DMR.

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: Manatee County North Regional WRF MONITORING GROUP NUMBER: PRT-I PERMIT NUMBER: FLA012617-026-DW1P/NRL

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Chlorodibromomethane	Sample Measurement										
PARM Code 34306 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
Chloroethane	Sample Measurement										
PARM Code 85811 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
2-chloroethyl vinyl ether (mixed)	Sample Measurement										
PARM Code 34576 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
Chloroform	Sample Measurement										
PARM Code 32106 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
Dichlorobromomethane	Sample Measurement										
PARM Code 32101 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
1,2-dichlorobenzene	Sample Measurement										
PARM Code 34536 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
1,3-dichlorobenzene	Sample Measurement										
PARM Code 34566 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
1,4-dichlorobenzene	Sample Measurement										
PARM Code 34571 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
1,1-dichloroethane	Sample Measurement										
PARM Code 34496 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
1,2-dichloroethane	Sample Measurement										
PARM Code 32103 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Manatee County North Regional WRF MONITORING GROUP NUMBER: PRT-I PERMIT NUMBER: FLA012617-026-DW1P/NRL

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
1,1-dichloroethylene	Sample Measurement										
PARM Code 34501 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
1,2-dichloropropane	Sample Measurement										
PARM Code 34541 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
1,3-dichloropropene	Sample Measurement										
PARM Code 77163 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
Ethylbenzene	Sample Measurement										
PARM Code 34371 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
Methyl bromide	Sample Measurement										
PARM Code 34413 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
Methyl chloride	Sample Measurement										
PARM Code 34418 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
Methylene chloride	Sample Measurement										
PARM Code 34423 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
1,1,2,2-tetrachloroethane	Sample Measurement										
PARM Code 34516 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
Tetrachloroethylene	Sample Measurement										
PARM Code 34475 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
Toluene	Sample Measurement										
PARM Code 34010 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Manatee County North Regional WRF MONITORING GROUP NUMBER: PRT-I PERMIT NUMBER: FLA012617-026-DW1P/NRL

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
1,2-trans-dichloroethylene	Sample Measurement										
PARM Code 34546 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
1,1,1-trichloroethane	Sample Measurement										
PARM Code 34506 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
1,1,2-trichloroethane	Sample Measurement										
PARM Code 34511 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
Trichloroethylene	Sample Measurement										
PARM Code 39180 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
Vinyl chloride	Sample Measurement										
PARM Code 39175 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
2-chlorophenol	Sample Measurement										
PARM Code 34586 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
2,4-dichlorophenol	Sample Measurement										
PARM Code 34601 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
2,4-dimethylphenol	Sample Measurement										
PARM Code 34606 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
4,6-dinitro-o-cresol	Sample Measurement										
PARM Code 34657 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
2,4-dinitrophenol	Sample Measurement										
PARM Code 34616 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Manatee County North Regional WRF MONITORING GROUP NUMBER: PRT-I PERMIT NUMBER: FLA012617-026-DW1P/NRL

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
2-nitrophenol	Sample Measurement										
PARM Code 34591 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
4-nitrophenol	Sample Measurement										
PARM Code 34646 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
p-chloro-m-cresol	Sample Measurement										
PARM Code 82627 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Pentachlorophenol	Sample Measurement										
PARM Code 39032 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Phenol, Single Compound	Sample Measurement										
PARM Code 34694 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
2,4,6-trichlorophenol	Sample Measurement										
PARM Code 34621 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Acenaphthene	Sample Measurement										
PARM Code 34205 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Acenaphthylene	Sample Measurement										
PARM Code 34200 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Anthracene	Sample Measurement										
PARM Code 34220 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Benzidine	Sample Measurement										
PARM Code 39120 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Manatee County North Regional WRF MONITORING GROUP NUMBER: PRT-I PERMIT NUMBER: FLA012617-026-DW1P/NRL

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Benzo(a)anthracene	Sample Measurement										
PARM Code 34526 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Benzo(a)pyrene	Sample Measurement										
PARM Code 34247 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Benzo(b)fluoranthene (3,4-benzo)	Sample Measurement										
PARM Code 79531 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Benzo(ghi)perylene	Sample Measurement										
PARM Code 34521 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Benzo(k)fluoranthene	Sample Measurement										
PARM Code 34242 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Bis (2-chloroethoxy) methane	Sample Measurement										
PARM Code 34278 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Bis (2-chloroethyl) ether	Sample Measurement										
PARM Code 34273 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Bis (2-chloroisopropyl) ether	Sample Measurement										
PARM Code 34283 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Bis (2-ethylhexyl) phthalate	Sample Measurement										
PARM Code 39100 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
4-bromophenyl phenyl ether	Sample Measurement										
PARM Code 34636 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Manatee County North Regional WRF MONITORING GROUP NUMBER: PRT-I PERMIT NUMBER: FLA012617-026-DW1P/NRL

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Butyl benzyl phthalate	Sample Measurement										
PARM Code 34292 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
2-chloronaphthalene	Sample Measurement										
PARM Code 34581 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
4-chlorophenyl phenyl ether	Sample Measurement										
PARM Code 34641 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Chrysene	Sample Measurement										
PARM Code 34320 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Dibenzo (a,h) anthracene	Sample Measurement										
PARM Code 34556 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
3,3'-dichlorobenzidine	Sample Measurement										
PARM Code 34631 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Diethyl phthalate	Sample Measurement										
PARM Code 34336 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Dimethyl phthalate	Sample Measurement										
PARM Code 34341 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Di-n-butyl phthalate	Sample Measurement										
PARM Code 39110 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
2,4-dinitrotoluene	Sample Measurement										
PARM Code 34611 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Manatee County North Regional WRF MONITORING GROUP NUMBER: PRT-I PERMIT NUMBER: FLA012617-026-DW1P/NRL

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
2,6-dinitrotoluene	Sample Measurement										
PARM Code 34626 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Di-n-octyl phthalate	Sample Measurement										
PARM Code 34596 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
1,2-diphenylhydrazine	Sample Measurement										
PARM Code 34346 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Fluoranthene	Sample Measurement										
PARM Code 34376 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Fluorene	Sample Measurement										
PARM Code 34381 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Hexachlorobenzene	Sample Measurement										
PARM Code 39700 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Hexachlorobutadiene	Sample Measurement										
PARM Code 39702 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Hexachlorocyclopentadiene	Sample Measurement										
PARM Code 34386 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Hexachloroethane	Sample Measurement										
PARM Code 34396 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Indeno (1,2,3-Cd) pyrene	Sample Measurement										
PARM Code 34403 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Manatee County North Regional WRF MONITORING GROUP NUMBER: PRT-I PERMIT NUMBER: FLA012617-026-DW1P/NRL

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Isophorone	Sample Measurement										
PARM Code 34408 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Naphthalene	Sample Measurement										
PARM Code 34696 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Nitrobenzene	Sample Measurement										
PARM Code 34447 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
N-nitrosodimethylamine	Sample Measurement										
PARM Code 34438 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
N-nitrosodi-n-propylamine	Sample Measurement										
PARM Code 34428 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
N-nitrosodiphenylamine	Sample Measurement										
PARM Code 34433 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Phenanthrene	Sample Measurement										
PARM Code 34461 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Pyrene	Sample Measurement										
PARM Code 34469 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
1,2,4-trichlorobenzene	Sample Measurement										
PARM Code 34551 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Aldrin	Sample Measurement										
PARM Code 39330 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Manatee County North Regional WRF MONITORING GROUP NUMBER: PRT-I PERMIT NUMBER: FLA012617-026-DW1P/NRL

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Alpha-bhc	Sample Measurement										
PARM Code 39336 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
B-bhc-beta	Sample Measurement										
PARM Code 39338 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Gamma BHC (Lindane)	Sample Measurement										
PARM Code 39782 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Delta benzene hexachloride	Sample Measurement										
PARM Code 34259 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Chlordane (tech mix. and metabolites)	Sample Measurement										
PARM Code 39350 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
4,4'-DDT (p,p'-DDT)	Sample Measurement										
PARM Code 39300 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
4,4'-DDE (p,p'-DDE)	Sample Measurement										
PARM Code 39320 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
4,4'-DDD (p,p'-DDD)	Sample Measurement										
PARM Code 39310 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Dieldrin	Sample Measurement										
PARM Code 39380 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
A-endosulfan-alpha	Sample Measurement										
PARM Code 34361 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Manatee County North Regional WRF MONITORING GROUP NUMBER: PRT-I PERMIT NUMBER: FLA012617-026-DW1P/NRL

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
B-endosulfan-beta	Sample Measurement										
PARM Code 34356 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Endosulfan sulfate	Sample Measurement										
PARM Code 34351 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Endrin	Sample Measurement										
PARM Code 39390 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Endrin aldehyde	Sample Measurement										
PARM Code 34366 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Heptachlor	Sample Measurement										
PARM Code 39410 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Heptachlor epoxide	Sample Measurement										
PARM Code 39420 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
PCB-1242	Sample Measurement										
PARM Code 39496 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
PCB-1254	Sample Measurement										
PARM Code 39504 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
PCB-1221	Sample Measurement										
PARM Code 39488 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
PCB-1232	Sample Measurement										
PARM Code 39492 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Manatee County North Regional WRF MONITORING GROUP NUMBER: PRT-I PERMIT NUMBER: FLA012617-026-DW1P/NRL

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
PCB-1248	Sample Measurement										
PARM Code 39500 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
PCB-1260	Sample Measurement										
PARM Code 39508 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
PCB-1016	Sample Measurement										
PARM Code 34671 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Toxaphene	Sample Measurement										
PARM Code 39400 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Antimony, Total Recoverable	Sample Measurement										
PARM Code 01268 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Arsenic, Total Recoverable	Sample Measurement										
PARM Code 00978 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Beryllium, Total Recoverable	Sample Measurement										
PARM Code 00998 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Cadmium, Total Recoverable	Sample Measurement										
PARM Code 01113 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Chromium, Total Recoverable	Sample Measurement										
PARM Code 01118 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Copper, Total Recoverable	Sample Measurement										
PARM Code 01119 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Manatee County North Regional WRF MONITORING GROUP NUMBER: PRT-I PERMIT NUMBER: FLA012617-026-DW1P/NRL

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Lead, Total Recoverable	Sample Measurement										
PARM Code 01114 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Mercury, Total Recoverable	Sample Measurement										
PARM Code 71901 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
Nickel, Total Recoverable	Sample Measurement										
PARM Code 01074 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Selenium, Total Recoverable	Sample Measurement										
PARM Code 00981 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Silver, Total Recoverable	Sample Measurement										
PARM Code 01079 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Thallium, Total Recoverable	Sample Measurement										
PARM Code 00982 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Zinc, Total Recoverable	Sample Measurement										
PARM Code 01094 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Cyanide, Total Recoverable	Sample Measurement										
PARM Code 78248 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
Phenolic Compounds, Total Recoverable	Sample Measurement										
PARM Code 70029 G Mon. Site No. PRT-I	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

When completed mail this report to: Department of Environmental Protection, Southwest District Office, Compliance Assurance Program, Attn: Domestic Wastewater, 13051 N. Telecom Parkway, Temple Terrace, FL 33637-0926, swd_dw@dep.state.fl.us

PERMITTEE NAME: Manatee County Utilities Department
MAILING ADDRESS: 4410 66th Street West
Bradenton, Florida 34210

FACILITY: Manatee County North Regional WRF
LOCATION: 8500 69th St E
Palmetto, FL 34221-9064

COUNTY: Manatee
OFFICE: Southwest District

PERMIT NUMBER: FLA012617-026-DW1P/NRL

LIMIT: Final
CLASS SIZE: N/A
MONITORING GROUP NUMBER: PRT-E
MONITORING GROUP DESCRIPTION: Effluent Pretreatment
RE-SUBMITTED DMR: ☐
NO DISCHARGE FROM SITE: ☐
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
pH	Sample Measurement										
PARM Code 00400 1 Mon. Site No. PRT-E	Permit Requirement				Report (Min.)		Report (Max.)	s.u.		Annually	Grab
Oil and Grease, hexane extr method	Sample Measurement										
PARM Code 00552 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	mg/L		Annually	Grab
Benzene	Sample Measurement										
PARM Code 34030 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
Bromoform	Sample Measurement										
PARM Code 32104 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
Carbon tetrachloride	Sample Measurement										
PARM Code 32102 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
Chlorobenzene	Sample Measurement										
PARM Code 34301 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab

*FOR THOSE PARAMETERS THAT ARE SAMPLED ANNUALLY, THE MAXIMUM AND AVERAGE CONCENTRATIONS ARE EQUIVALENT AND SHALL BE REPORTED AS SUCH ON THE DMR.

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: Manatee County North Regional WRF MONITORING GROUP NUMBER: PRT-E PERMIT NUMBER: FLA012617-026-DW1P/NRL

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Chlorodibromomethane	Sample Measurement										
PARM Code 34306 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
Chloroethane	Sample Measurement										
PARM Code 85811 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
2-chloroethyl vinyl ether (mixed)	Sample Measurement										
PARM Code 34576 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
Chloroform	Sample Measurement										
PARM Code 32106 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
Dichlorobromomethane	Sample Measurement										
PARM Code 32101 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
1,2-dichlorobenzene	Sample Measurement										
PARM Code 34536 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
1,3-dichlorobenzene	Sample Measurement										
PARM Code 34566 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
1,4-dichlorobenzene	Sample Measurement										
PARM Code 34571 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
1,1-dichloroethane	Sample Measurement										
PARM Code 34496 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
1,2-dichloroethane	Sample Measurement										
PARM Code 32103 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Manatee County North Regional WRF MONITORING GROUP NUMBER: PRT-E PERMIT NUMBER: FLA012617-026-DW1P/NRL

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
1,1-dichloroethylene	Sample Measurement										
PARM Code 34501 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
1,2-dichloropropane	Sample Measurement										
PARM Code 34541 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
1,3-dichloropropene	Sample Measurement										
PARM Code 77163 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
Ethylbenzene	Sample Measurement										
PARM Code 34371 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
Methyl bromide	Sample Measurement										
PARM Code 34413 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
Methyl chloride	Sample Measurement										
PARM Code 34418 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
Methylene chloride	Sample Measurement										
PARM Code 34423 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
1,1,2,2-tetrachloroethane	Sample Measurement										
PARM Code 34516 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
Tetrachloroethylene	Sample Measurement										
PARM Code 34475 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
Toluene	Sample Measurement										
PARM Code 34010 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Manatee County North Regional WRF MONITORING GROUP NUMBER: PRT-E PERMIT NUMBER: FLA012617-026-DW1P/NRL

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
1,2-trans-dichloroethylene	Sample Measurement										
PARM Code 34546 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
1,1,1-trichloroethane	Sample Measurement										
PARM Code 34506 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
1,1,2-trichloroethane	Sample Measurement										
PARM Code 34511 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
Trichloroethylene	Sample Measurement										
PARM Code 39180 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
Vinyl chloride	Sample Measurement										
PARM Code 39175 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
2-chlorophenol	Sample Measurement										
PARM Code 34586 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
2,4-dichlorophenol	Sample Measurement										
PARM Code 34601 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
2,4-dimethylphenol	Sample Measurement										
PARM Code 34606 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
4,6-dinitro-o-cresol	Sample Measurement										
PARM Code 34657 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
2,4-dinitrophenol	Sample Measurement										
PARM Code 34616 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Manatee County North Regional WRF MONITORING GROUP NUMBER: PRT-E PERMIT NUMBER: FLA012617-026-DW1P/NRL

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
2-nitrophenol	Sample Measurement										
PARM Code 34591 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
4-nitrophenol	Sample Measurement										
PARM Code 34646 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
p-chloro-m-cresol	Sample Measurement										
PARM Code 82627 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Pentachlorophenol	Sample Measurement										
PARM Code 39032 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Phenol, Single Compound	Sample Measurement										
PARM Code 34694 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
2,4,6-trichlorophenol	Sample Measurement										
PARM Code 34621 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Acenaphthene	Sample Measurement										
PARM Code 34205 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Acenaphthylene	Sample Measurement										
PARM Code 34200 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Anthracene	Sample Measurement										
PARM Code 34220 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Benzidine	Sample Measurement										
PARM Code 39120 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Manatee County North Regional WRF MONITORING GROUP NUMBER: PRT-E PERMIT NUMBER: FLA012617-026-DW1P/NRL

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Benzo(a)anthracene	Sample Measurement										
PARM Code 34526 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Benzo(a)pyrene	Sample Measurement										
PARM Code 34247 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Benzo(b)fluoranthene (3,4-benzo)	Sample Measurement										
PARM Code 79531 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Benzo(ghi)perylene	Sample Measurement										
PARM Code 34521 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Benzo(k)fluoranthene	Sample Measurement										
PARM Code 34242 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Bis (2-chloroethoxy) methane	Sample Measurement										
PARM Code 34278 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Bis (2-chloroethyl) ether	Sample Measurement										
PARM Code 34273 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Bis (2-chloroisopropyl) ether	Sample Measurement										
PARM Code 34283 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Bis (2-ethylhexyl) phthalate	Sample Measurement										
PARM Code 39100 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
4-bromophenyl phenyl ether	Sample Measurement										
PARM Code 34636 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Manatee County North Regional WRF MONITORING GROUP NUMBER: PRT-E PERMIT NUMBER: FLA012617-026-DW1P/NRL

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Butyl benzyl phthalate	Sample Measurement										
PARM Code 34292 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
2-chloronaphthalene	Sample Measurement										
PARM Code 34581 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
4-chlorophenyl phenyl ether	Sample Measurement										
PARM Code 34641 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Chrysene	Sample Measurement										
PARM Code 34320 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Dibenzo (a,h) anthracene	Sample Measurement										
PARM Code 34556 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
3,3'-dichlorobenzidine	Sample Measurement										
PARM Code 34631 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Diethyl phthalate	Sample Measurement										
PARM Code 34336 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Dimethyl phthalate	Sample Measurement										
PARM Code 34341 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Di-n-butyl phthalate	Sample Measurement										
PARM Code 39110 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
2,4-dinitrotoluene	Sample Measurement										
PARM Code 34611 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Manatee County North Regional WRF MONITORING GROUP NUMBER: PRT-E PERMIT NUMBER: FLA012617-026-DW1P/NRL

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
2,6-dinitrotoluene	Sample Measurement										
PARM Code 34626 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Di-n-octyl phthalate	Sample Measurement										
PARM Code 34596 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
1,2-diphenylhydrazine	Sample Measurement										
PARM Code 34346 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Fluoranthene	Sample Measurement										
PARM Code 34376 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Fluorene	Sample Measurement										
PARM Code 34381 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Hexachlorobenzene	Sample Measurement										
PARM Code 39700 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Hexachlorobutadiene	Sample Measurement										
PARM Code 39702 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Hexachlorocyclopentadiene	Sample Measurement										
PARM Code 34386 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Hexachloroethane	Sample Measurement										
PARM Code 34396 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Indeno (1,2,3-Cd) pyrene	Sample Measurement										
PARM Code 34403 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Manatee County North Regional WRF MONITORING GROUP NUMBER: PRT-E PERMIT NUMBER: FLA012617-026-DW1P/NRL

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Isophorone	Sample Measurement										
PARM Code 34408 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Naphthalene	Sample Measurement										
PARM Code 34696 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Nitrobenzene	Sample Measurement										
PARM Code 34447 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
N-nitrosodimethylamine	Sample Measurement										
PARM Code 34438 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
N-nitrosodi-n-propylamine	Sample Measurement										
PARM Code 34428 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
N-nitrosodiphenylamine	Sample Measurement										
PARM Code 34433 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Phenanthrene	Sample Measurement										
PARM Code 34461 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Pyrene	Sample Measurement										
PARM Code 34469 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
1,2,4-trichlorobenzene	Sample Measurement										
PARM Code 34551 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Aldrin	Sample Measurement										
PARM Code 39330 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Manatee County North Regional WRF MONITORING GROUP NUMBER: PRT-E PERMIT NUMBER: FLA012617-026-DW1P/NRL

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Alpha-bhc	Sample Measurement										
PARM Code 39336 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
B-bhc-beta	Sample Measurement										
PARM Code 39338 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Gamma BHC (Lindane)	Sample Measurement										
PARM Code 39782 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Delta benzene hexachloride	Sample Measurement										
PARM Code 34259 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Chlordane (tech mix. and metabolites)	Sample Measurement										
PARM Code 39350 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
4,4'-DDT (p,p'-DDT)	Sample Measurement										
PARM Code 39300 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
4,4'-DDE (p,p'-DDE)	Sample Measurement										
PARM Code 39320 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
4,4'-DDD (p,p'-DDD)	Sample Measurement										
PARM Code 39310 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Dieldrin	Sample Measurement										
PARM Code 39380 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
A-endosulfan-alpha	Sample Measurement										
PARM Code 34361 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Manatee County North Regional WRF MONITORING GROUP NUMBER: PRT-E PERMIT NUMBER: FLA012617-026-DW1P/NRL

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
B-endosulfan-beta	Sample Measurement										
PARM Code 34356 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Endosulfan sulfate	Sample Measurement										
PARM Code 34351 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Endrin	Sample Measurement										
PARM Code 39390 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Endrin aldehyde	Sample Measurement										
PARM Code 34366 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Heptachlor	Sample Measurement										
PARM Code 39410 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Heptachlor epoxide	Sample Measurement										
PARM Code 39420 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
PCB-1242	Sample Measurement										
PARM Code 39496 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
PCB-1254	Sample Measurement										
PARM Code 39504 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
PCB-1221	Sample Measurement										
PARM Code 39488 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
PCB-1232	Sample Measurement										
PARM Code 39492 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Manatee County North Regional WRF MONITORING GROUP NUMBER: PRT-E PERMIT NUMBER: FLA012617-026-DW1P/NRL

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
PCB-1248	Sample Measurement										
PARM Code 39500 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
PCB-1260	Sample Measurement										
PARM Code 39508 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
PCB-1016	Sample Measurement										
PARM Code 34671 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Toxaphene	Sample Measurement										
PARM Code 39400 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Antimony, Total Recoverable	Sample Measurement										
PARM Code 01268 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Arsenic, Total Recoverable	Sample Measurement										
PARM Code 00978 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Beryllium, Total Recoverable	Sample Measurement										
PARM Code 00998 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Cadmium, Total Recoverable	Sample Measurement										
PARM Code 01113 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Chromium, Total Recoverable	Sample Measurement										
PARM Code 01118 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Copper, Total Recoverable	Sample Measurement										
PARM Code 01119 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Manatee County North Regional WRF MONITORING GROUP NUMBER: PRT-E PERMIT NUMBER: FLA012617-026-DW1P/NRL

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Lead, Total Recoverable	Sample Measurement										
PARM Code 01114 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Mercury, Total Recoverable	Sample Measurement										
PARM Code 71901 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
Nickel, Total Recoverable	Sample Measurement										
PARM Code 01074 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Selenium, Total Recoverable	Sample Measurement										
PARM Code 00981 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Silver, Total Recoverable	Sample Measurement										
PARM Code 01079 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Thallium, Total Recoverable	Sample Measurement										
PARM Code 00982 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Zinc, Total Recoverable	Sample Measurement										
PARM Code 01094 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	24-hr FPC
Cyanide, Total Recoverable	Sample Measurement										
PARM Code 78248 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab
Phenolic Compounds, Total Recoverable	Sample Measurement										
PARM Code 70029 1 Mon. Site No. PRT-E	Permit Requirement					Report (An.Avg.)	Report (Max.)	ug/L		Annually	Grab

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

When completed mail this report to: Department of Environmental Protection, Southwest District Office, Compliance Assurance Program, Attn: Domestic Wastewater, 13051 N. Telecom Parkway, Temple Terrace, FL 33637-0926, swd_dw@dep.state.fl.us

PERMITTEE NAME: Manatee County Utilities Department
MAILING ADDRESS: 4410 66th Street West
Bradenton, Florida 34210

FACILITY: Manatee County North Regional WRF
LOCATION: 8500 69th St E
Palmetto, FL 34221-9064

COUNTY: Manatee
OFFICE: Southwest District

PERMIT NUMBER: FLA012617-026-DW1P/NRL

LIMIT: Final
CLASS SIZE: N/A
MONITORING GROUP NUMBER: PRT-R
MONITORING GROUP DESCRIPTION: Residuals Pretreatment
RE-SUBMITTED DMR: ☐
NO DISCHARGE FROM SITE: ☐
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
Arsenic Total, Dry Weight, Sludge	Sample Measurement										
PARM Code 49565 + Mon. Site No. PRT-R	Permit Requirement					Report (An.Avg.)	Report (Max.)	mg/kg		Annually	Composite
Cadmium, Sludge, Tot. Dry Wt. (Cd)	Sample Measurement										
PARM Code 78476 + Mon. Site No. PRT-R	Permit Requirement					Report (An.Avg.)	Report (Max.)	mg/kg		Annually	Composite
Copper, Sludge, Tot, Dry Wt. (as Cu)	Sample Measurement										
PARM Code 78475 + Mon. Site No. PRT-R	Permit Requirement					Report (An.Avg.)	Report (Max.)	mg/kg		Annually	Composite
Lead, Dry Weight	Sample Measurement										
PARM Code 78468 + Mon. Site No. PRT-R	Permit Requirement					Report (An.Avg.)	Report (Max.)	mg/kg		Annually	Composite
Mercury, Dry Weight	Sample Measurement										
PARM Code 78471 + Mon. Site No. PRT-R	Permit Requirement					Report (An.Avg.)	Report (Max.)	mg/kg		Annually	Composite
Molybdenum, Dry Weight	Sample Measurement										
PARM Code 78465 + Mon. Site No. PRT-R	Permit Requirement					Report (An.Avg.)	Report (Max.)	mg/kg		Annually	Composite

*FOR THOSE PARAMETERS THAT ARE SAMPLED ANNUALLY, THE MAXIMUM AND AVERAGE CONCENTRATIONS ARE EQUIVALENT AND SHALL BE REPORTED AS SUCH ON THE DMR.

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: Manatee County North Regional WRF MONITORING GROUP NUMBER: PRT-R PERMIT NUMBER: FLA012617-026-DW1P/NRL

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Nickel, Dry Weight	Sample Measurement										
PARM Code 78469 + Mon. Site No. PRT-R	Permit Requirement					Report (An.Avg.)	Report (Max.)	mg/kg		Annually	Composite
Selenium Sludge Solid	Sample Measurement										
PARM Code 61518 + Mon. Site No. PRT-R	Permit Requirement					Report (An.Avg.)	Report (Max.)	mg/kg		Annually	Composite
Zinc, Dry Weight	Sample Measurement										
PARM Code 78467 + Mon. Site No. PRT-R	Permit Requirement					Report (An.Avg.)	Report (Max.)	mg/kg		Annually	Composite

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 shut down 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.

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

When completed mail this report to: Department of Environmental Protection, Southwest District Office, Compliance Assurance Program, Attn: Domestic Wastewater, 13051 N. Telecom Parkway, Temple Terrace, FL 33637-0926, swd_dw@dep.state.fl.us

PERMITTEE NAME: Manatee County Utilities Department
MAILING ADDRESS: 4410 66th Street West
Bradenton, Florida 34210

FACILITY: Manatee County North Regional WRF
LOCATION: 8500 69th St E
Palmetto, FL 34221-9064

COUNTY: Manatee
OFFICE: Southwest District

PERMIT NUMBER: FLA012617-026-DW1P/NRL

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: Manatee County North Regional WRF MONITORING GROUP NUMBER: RWS-A PERMIT NUMBER: FLA012617-026-DW1P/NRL

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: Manatee County North Regional WRF MONITORING GROUP NUMBER: RWS-A PERMIT NUMBER: FLA012617-026-DW1P/NRL

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: Manatee County North Regional WRF MONITORING GROUP NUMBER: RWS-A PERMIT NUMBER: FLA012617-026-DW1P/NRL

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: Manatee County North Regional WRF MONITORING GROUP NUMBER: RWS-A PERMIT NUMBER: FLA012617-026-DW1P/NRL

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: Manatee County North Regional WRF MONITORING GROUP NUMBER: RWS-A PERMIT NUMBER: FLA012617-026-DW1P/NRL

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: Manatee County North Regional WRF MONITORING GROUP NUMBER: RWS-A PERMIT NUMBER: FLA012617-026-DW1P/NRL

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: Manatee County North Regional WRF MONITORING GROUP NUMBER: RWS-A PERMIT NUMBER: FLA012617-026-DW1P/NRL

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: Manatee County North Regional WRF

MONITORING GROUP NUMBER: RWS-A

PERMIT NUMBER: FLA012617-026-DW1P/NRL

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

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 shut down 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.

STATEMENT OF BASIS
FOR
STATE OF FLORIDA DOMESTIC WASTEWATER FACILITY PERMIT

PERMIT NUMBER: FLA012617-026

FACILITY NAME: Manatee County North Regional WRF

FACILITY LOCATION: 8500 69th St E, Palmetto, FL 34221-9064
Manatee County

NAME OF PERMITTEE: Manatee County Utilities Department

PERMIT WRITER: Ryan Curll

1. SUMMARY OF APPLICATION

a. Chronology of Application

Application Number: FLA012617-026-DW1P/NRL

Application Submittal Date: August 21, 2015

b. Type of Facility

Domestic Wastewater Treatment Plant

Ownership Type: County

SIC Code: 4952

c. Facility Capacity

Existing Permitted Capacity:	7.5 mgd Three Month Average Daily Flow
Proposed Increase in Permitted Capacity:	0.0 mgd Three Month Average Daily Flow
Proposed Total Permitted Capacity:	7.5 mgd Three Month Average Daily Flow

d. Description of Wastewater Treatment

Operation of an existing 7.5 Million Gallon per Day (MGD) Three-Month Rolling Average Daily Flow (TMRADF), Type I, oxidation ditch activated sludge domestic wastewater treatment facility consisting of: a head works with two automatic bar screens, one manual bar screen, and a forced flow vortex grit removal unit; two Carrousel oxidation ditches (each with a 0.6 Million Gallons [MG] anoxic basin and a 3.1 MG aeration basin, for a total oxidation ditch volume of 7.4 MG), three clarifiers (each with a volume of 1 MG and a surface area of 9,500 Square Feet [SF], for a total clarification volume of 3 MG and total surface area of 28,500 SF), a 32,000 gallon mixing/flow splitter basin, two automatic backwash traveling bridge filters (each with a surface area of 1,440 SF, for a total surface area of 2,880 SF), two automatic backwash cloth media disk filters (each rated at 3 MGD for a total disk filter capacity of 6 MGD), and two chlorine contact chambers each with two basins (one chlorine contact chamber with a volume of 144,000 gallons and one chlorine contact chamber with a volume of 168,000 gallons for total volume of 312,000 gallons). Disinfection is achieved using sodium hypochlorite. Waste activated sludge is directed from the clarifiers to three aerobic digesters (two digesters with a volume of 0.6 MG each and one

digester with a volume of 1.05 MG, for a total digester volume of 2.25 MG), and four belt filter presses. The North Regional WRF is a source facility for residuals processing at the Manatee County Southeast Regional Water Reclamation Facility (Permit FLA012618).

During a site visit, it was noted that there are two automatic bar screens at this facility, as noted in the description above. Only one automatic bar screen was listed on the existing permit.

e. Description of Proposed Modifications (as reported by applicant)

Construction of a 3 MG equalization basin and installation of a forced flow vortex grit removal unit. The modification will include the construction and installation of a cover and odor control, a splitter box, a new electrical building, a pump-back station, a platform with stairway, as well as all of the necessary electrical, instrumentation and controls with SCADA modifications, and all necessary new piping and appurtenances.

The existing permit was modified to include the construction of a 3.7 MG Carrousel oxidation ditch and two 6.0 MG ground storage tanks. The County has notified the Department that these modifications will no longer be constructed, per an email from the County dated 9/23/2015, so the modification language was not retained.

g. Description of Effluent Disposal and Land Application Sites

Land Application R-001: An existing 7.5 MGD Annual Average Daily Flow (AADF) permitted capacity Part III slow-rate public access reuse (PAR) system (R-001). The MC North Regional WRF serves as a source plant for the Manatee County Master Reuse System (Permit FLA474029). A 49.0 MG PAR storage pond is located onsite. The Manatee County Master Reuse System Permit contains additional PAR storage information.

Land Application R-002: An existing Part IV rapid-rate land application system (R-002). R-002 consists of a single-cell Rapid Infiltration Basin (RIB). R-002 is used to store reject water until it is returned to the headworks for further treatment when no other discharge location is available. R-002's southwestern embankment is equipped with an overflow structure to the 49.0 MG PAR storage pond. An overflow from R-002 to the storage pond will require the water in the storage pond to be sent to the plant for retreatment. R-002 is located approximately at Latitude 27° 35' 04" N, Longitude 82° 28' 29" W.

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 public access system, based on the following:

Parameter	Units	Max/ Min	Limit	Statistical Basis	Rationale
Flow	MGD	Max	7.5	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

Parameter	Units	Max/ Min	Limit	Statistical Basis	Rationale
pH	s.u.	Min	6.0	Single Sample	62-600.445 FAC
		Max	8.5	Single Sample	62-600.445 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
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
Nitrogen, Total	mg/L	Max	Report	Single Sample	62-601.300(6) FAC
Phosphorus, Total (as P)	mg/L	Max	Report	Single Sample	62-601.300(6) 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

This facility is authorized to direct reclaimed water to Reuse System R-002, a rapid infiltration basin system, based on the following:

Parameter	Units	Max/ Min	Limit	Statistical Basis	Rationale
Flow	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	62-610.510 & 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	20.0	Annual Average	62-610.510 & 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
pH	s.u.	Min	6.0	Single Sample	62-600.445 FAC
		Max	8.5	Single Sample	62-600.445 FAC
Coliform, Fecal	#/100mL	Max	200	Annual Average	62-610.510 & 62-600.440(4)(c)1. FAC
		Max	800	Single Sample	62-600.440(4)(c)4. FAC
Chlorine, Total Residual (For Disinfection)	mg/L	Min	0.5	Single Sample	62-610.510 & 62-600.440(4)(b) FAC
Nitrogen, Nitrate, Total (as N)	mg/L	Max	12.0	Single Sample	62-610.510(1) FAC

Other Limitations and Monitoring Requirements:

Parameter	Units	Max/ Min	Limit	Statistical Basis	Rationale
Flow	MGD	Max	7.5	3-Month Rolling Average	62-600.400(3)(b) FAC

Parameter	Units	Max/ Min	Limit	Statistical Basis	Rationale
		Max	Report	Monthly Average	62-600.400(3)(b) FAC
Percent Capacity, (TMADF/Permitted Capacity) x 100	percent	Max	Report	Monthly Average	62-600.405(4) FAC
BOD, Carbonaceous 5 day, 20C (Influent)	mg/L	Max	Report	Monthly Average	62-601.300(1) FAC
Solids, Total Suspended (Influent)	mg/L	Max	Report	Monthly Average	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 FLA012617-025-DW1P/NR expires on February 2, 2016.

There were no changes to permit limitations.

5. BIOSOLIDS MANAGEMENT REQUIREMENTS

Biosolids generated by this facility may be transferred to a Biosolids Treatment Facility (BTF) 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
Monitoring Frequency		All Parameters			62-640.650(5)(a) FAC

6. GROUND WATER MONITORING REQUIREMENTS

Ground water monitoring requirements are contained in the Manatee County Master Reuse System (MCMRS), Permit No. FLA474029.

7. PERMIT SCHEDULES

Implementation Step		Completion Date
a.	Submit an application for permit renewal.	At least 180 days before existing permit expiration date.
b.	Submit a revised Operating Protocol to the Department's Compliance Assurance Program for review and approval prior to placing the new facilities into operation.	Ninety (90) days prior to the completion of construction.
c.	Provide appropriate documentation as required in permit Conditions VII. 9 & 10 for any new facilities or unit processes.	As required by permit Conditions VII. 9 & 10

8. INDUSTRIAL PRETREATMENT REQUIREMENTS

The permittee has an active, approved industrial pretreatment program. The permit includes standard conditions requiring implementation and enforcement of the existing program.

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. TERM OF THE PERMIT

The permittee requested a 10-year permit for this renewal. The treatment facility has generally met all water quality standards and has operated in conformance with the limits of permitted flows and other conditions specified in the existing permit. It is my best professional judgement that a 10-year permit be issued for this facility.

12. 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.

13. DEP CONTACT

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

Ryan Curll
Engineer II
Southwest District Office
13051 N Telecom Pkwy
Temple Terrace, FL 33637-0926
Ryan.Curll@dep.state.fl.us
Telephone No.: (813) 470-5947

Butler, Linda

From: Brantley, Anna on behalf of SWD_Clerical (Shared Mailbox)
Sent: Tuesday, October 20, 2015 9:47 AM
To: Butler, Linda
Subject: FW: WF - Manatee County North Regional WRF (FLA012617-026-DW1P/NRL)

Follow Up Flag: Follow up
Flag Status: Completed

Please process

From: Thompson, Steve
Sent: Tuesday, October 20, 2015 9:30 AM
To: SWD_Clerical (Shared Mailbox) <SWD_Clerical@dep.state.fl.us>
Cc: Curll, Ryan <Ryan.Curll@dep.state.fl.us>
Subject: FW: WF - Manatee County North Regional WRF (FLA012617-026-DW1P/NRL)

Please process.
Thanks,
Steve

From: Curll, Ryan
Sent: Wednesday, October 14, 2015 3:16 PM
To: Thompson, Steve <Steve.Thompson@dep.state.fl.us>
Subject: RE: WF - Manatee County North Regional WRF (FLA012617-026-DW1P/NRL)

Steve – I have made the suggested edits from the County. In legal docs, there is only "bi-annually" for the "every two years" monitoring. Other than the bi-annual question, I believe the permit is ready for final approval.

> **From:** Thompson, Steve
> **Sent:** Thursday, September 24, 2015 11:08 AM
> **To:** Curll, Ryan <Ryan.Curll@dep.state.fl.us>
> **Subject:** RE: WF - Manatee County North Regional WRF (FLA012617-026-DW1P/NRL)
>
> Acknowledged.
> Thanks

> **From:** Curll, Ryan
> **Sent:** Wednesday, September 23, 2015 4:49 PM
> **To:** Thompson, Steve <Steve.Thompson@dep.state.fl.us>
> **Subject:** WF - Manatee County North Regional WRF (FLA012617-026-DW1P/NRL)
>
> L:\all_common\Sites\Manatee\DW\Manatee County North Regional - FLA012617\Permit\026 NRL
>
> **Day 30 for this project is: September 20, 2015**
>
> **Notes to Administrative Staff:** DW 10-Year Permit
>
> **Send to SWD_Clerical for permit issuance.**

For IW and DW individual permit, please indicate whether the permit is Non-NPDES

County: **Manatee**

DW Permits
Catalog: Wastewater
Profile: Permitting Authorization
Document: **Permit Final**
Permit Type: **DW Facility**
Facility Type: **Domestic Wastewater**
Application Number: FLA012617026
Document Subject: 026 DW1PNRL Final permit

Thanks!
Ryan Curll
Engineering Specialist II
Permitting & Waste Cleanup Program, Southwest District
Florida Department of Environmental Protection
Ryan.Curll@dep.state.fl.us
(813)470-5947

APPENDIX B

INFLUENT PARAMETERS

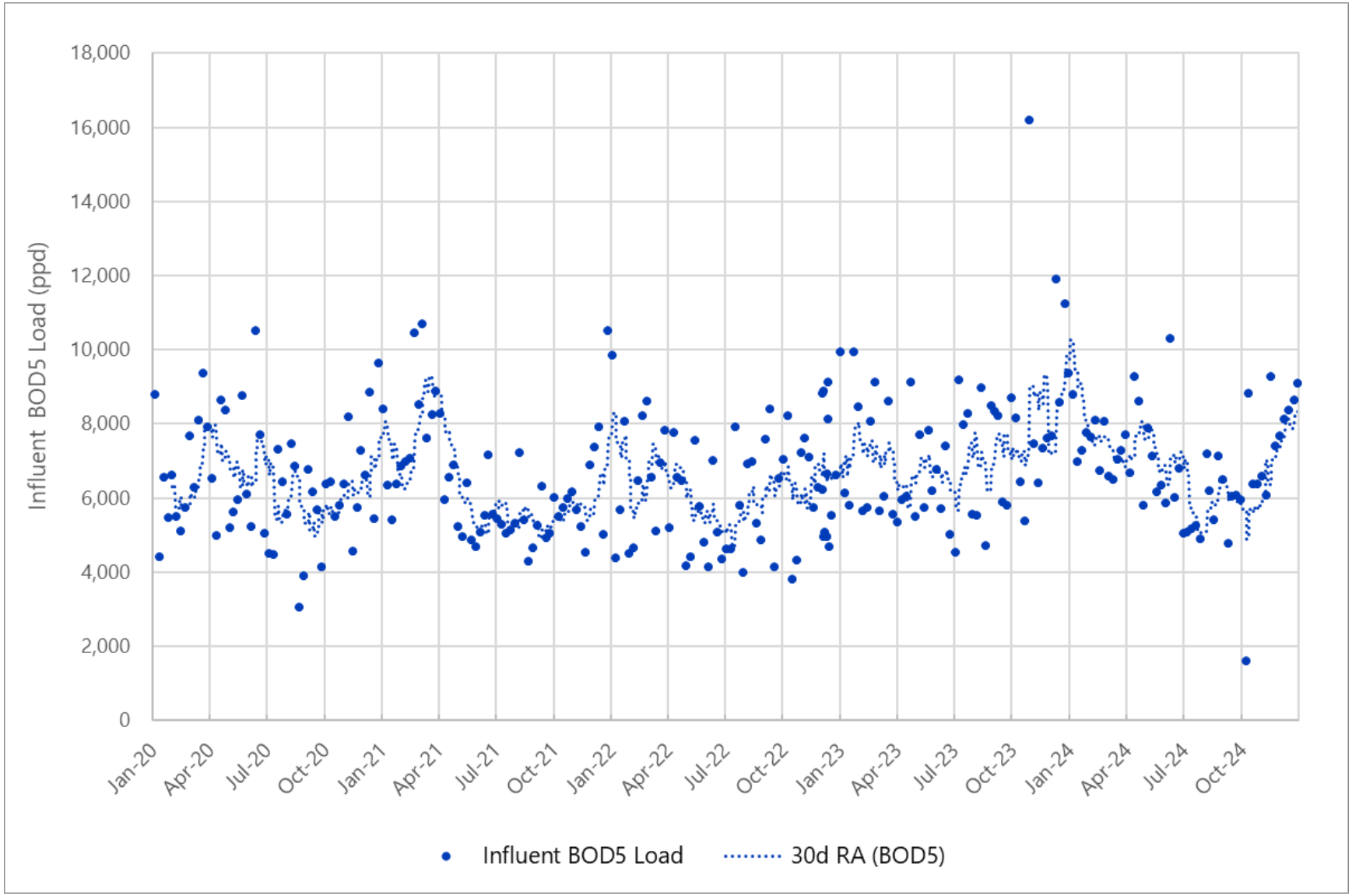

Figure B1 Historical Influent BOD_5 load time series

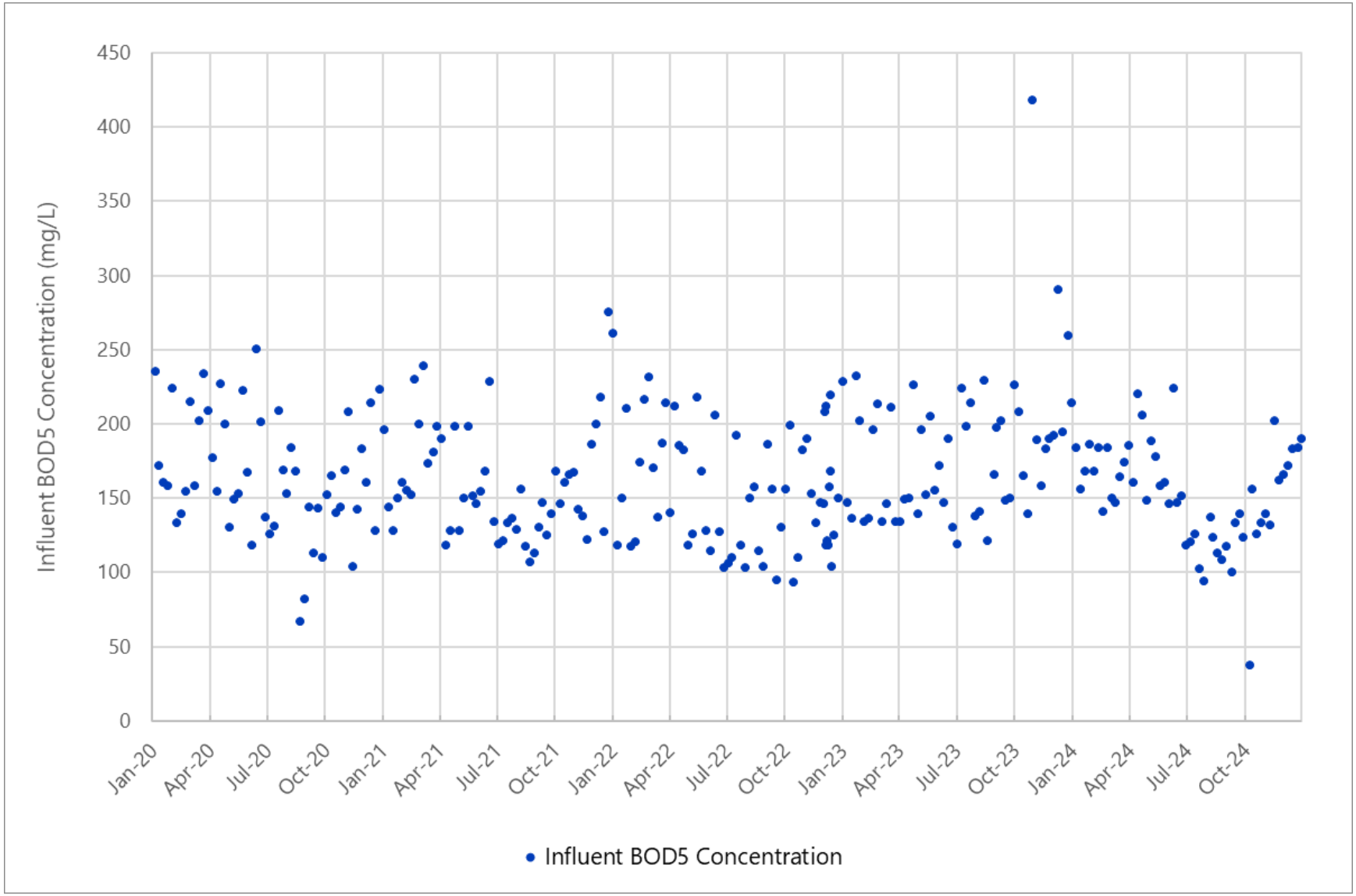

Figure B2 Historical influent BOD concentration time series

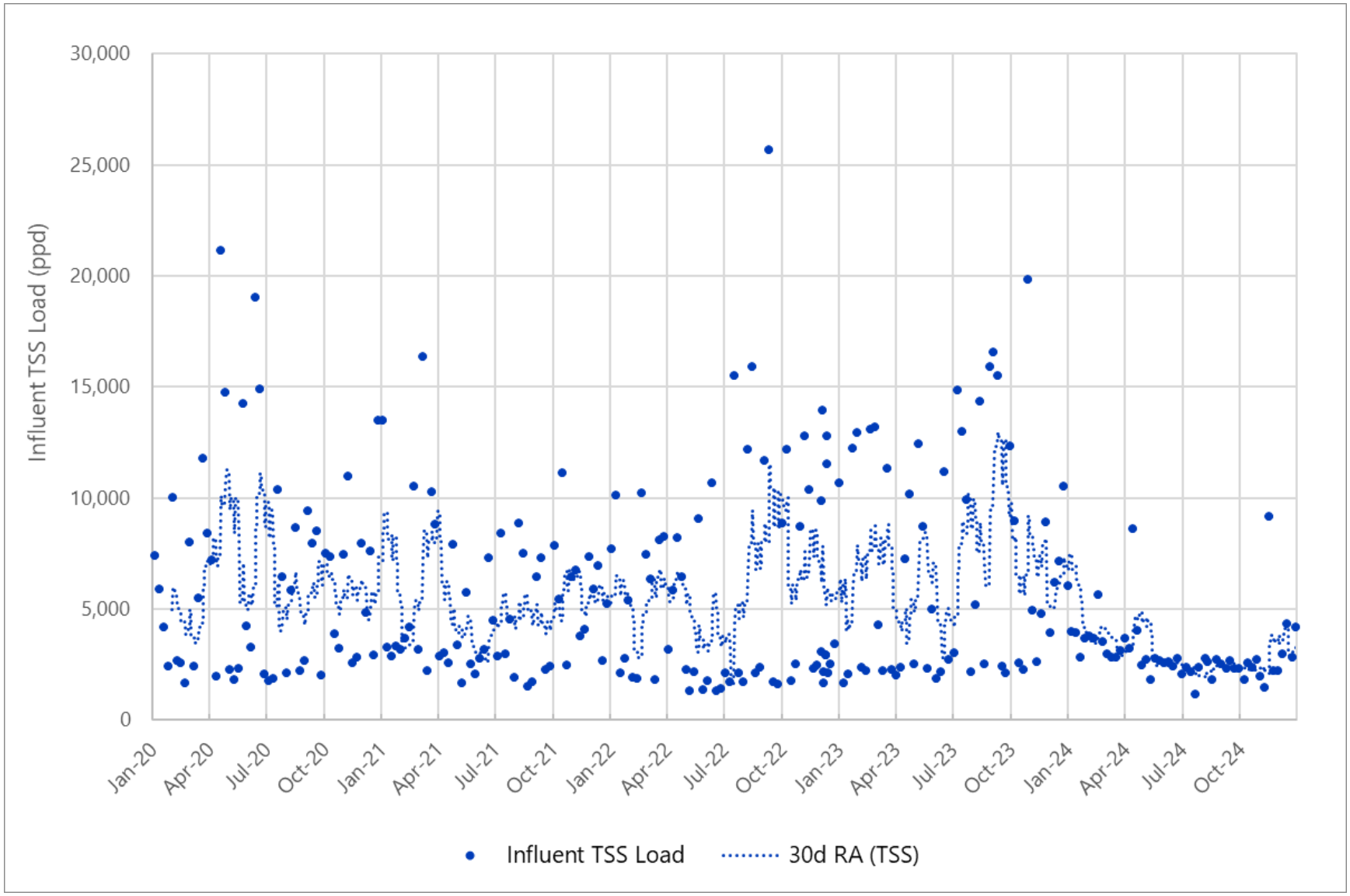

Figure B3 Historical influent TSS load time series

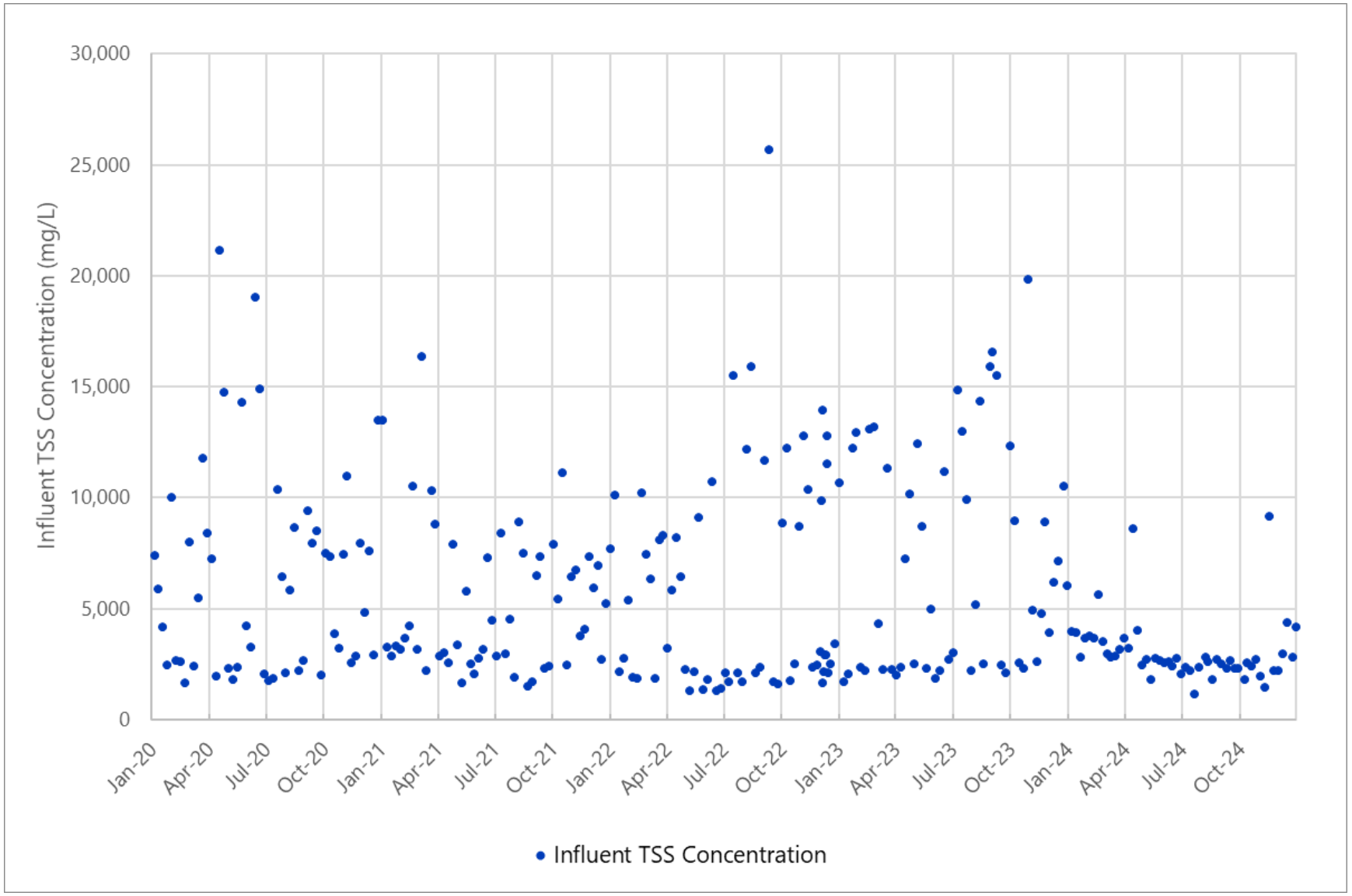

Figure B4 Historical influent TSS concentration time series

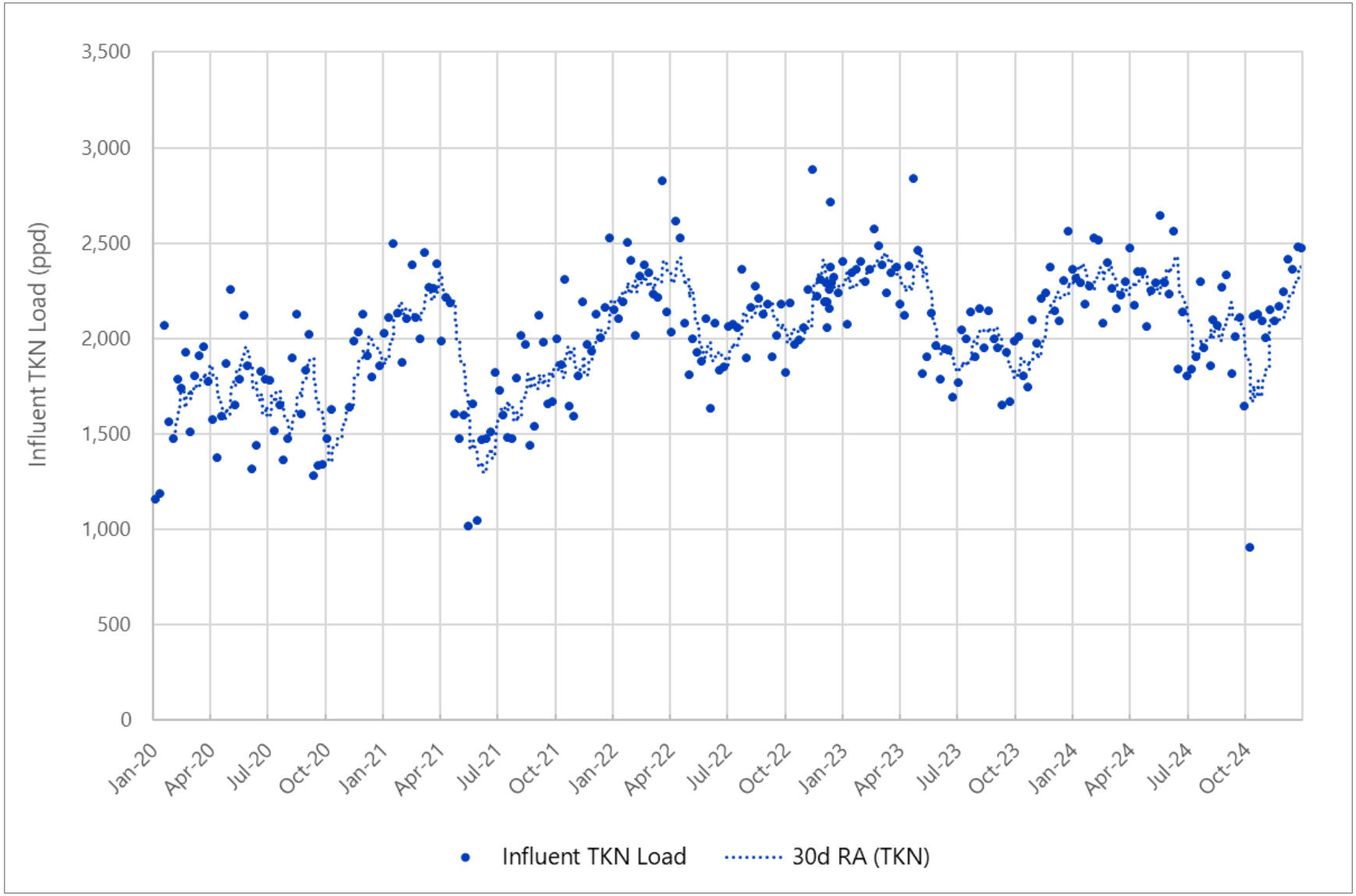

Figure B5 Historical influent TKN load time series

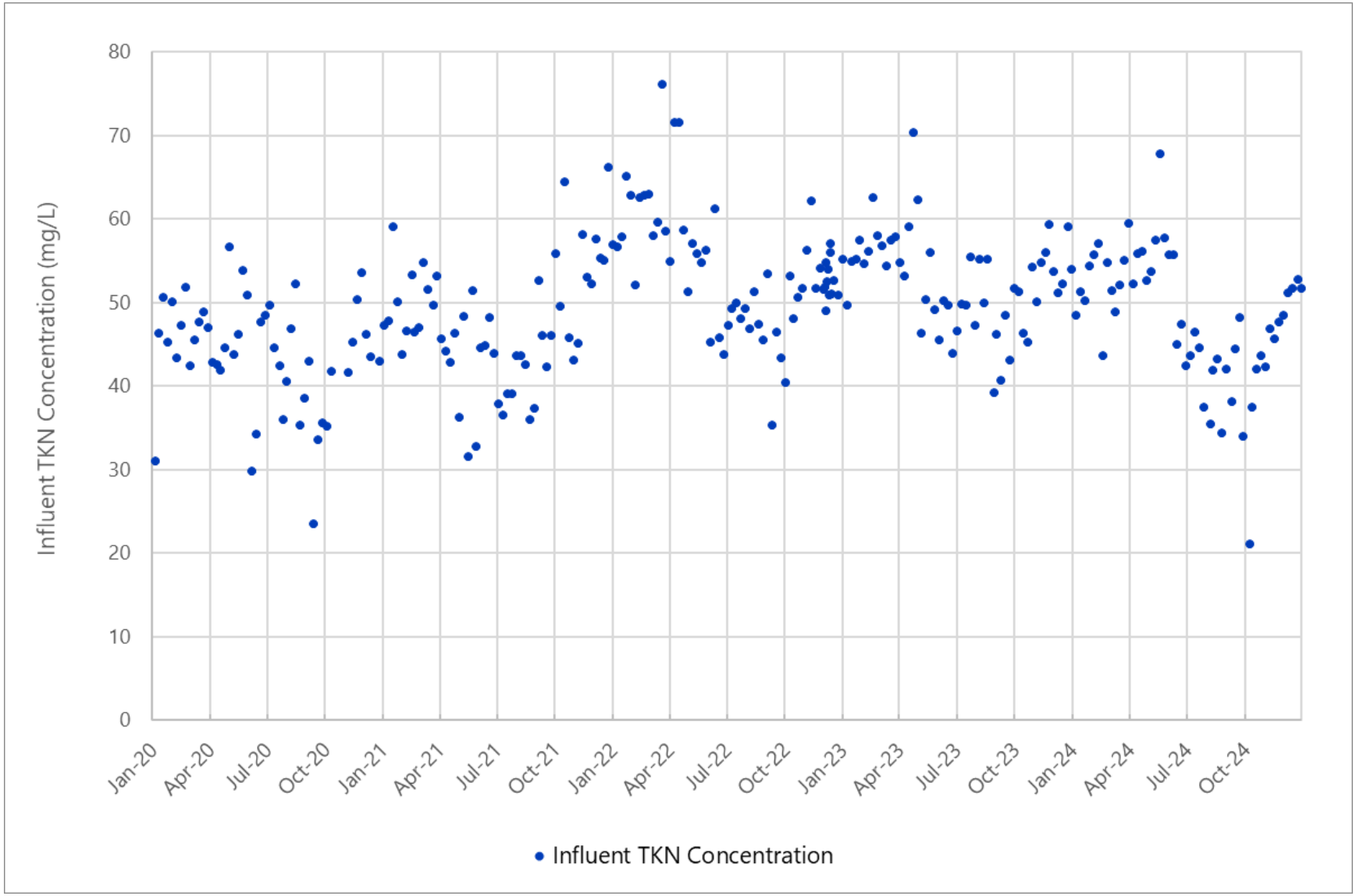

Figure B6 Historical influent TKN concentration time series

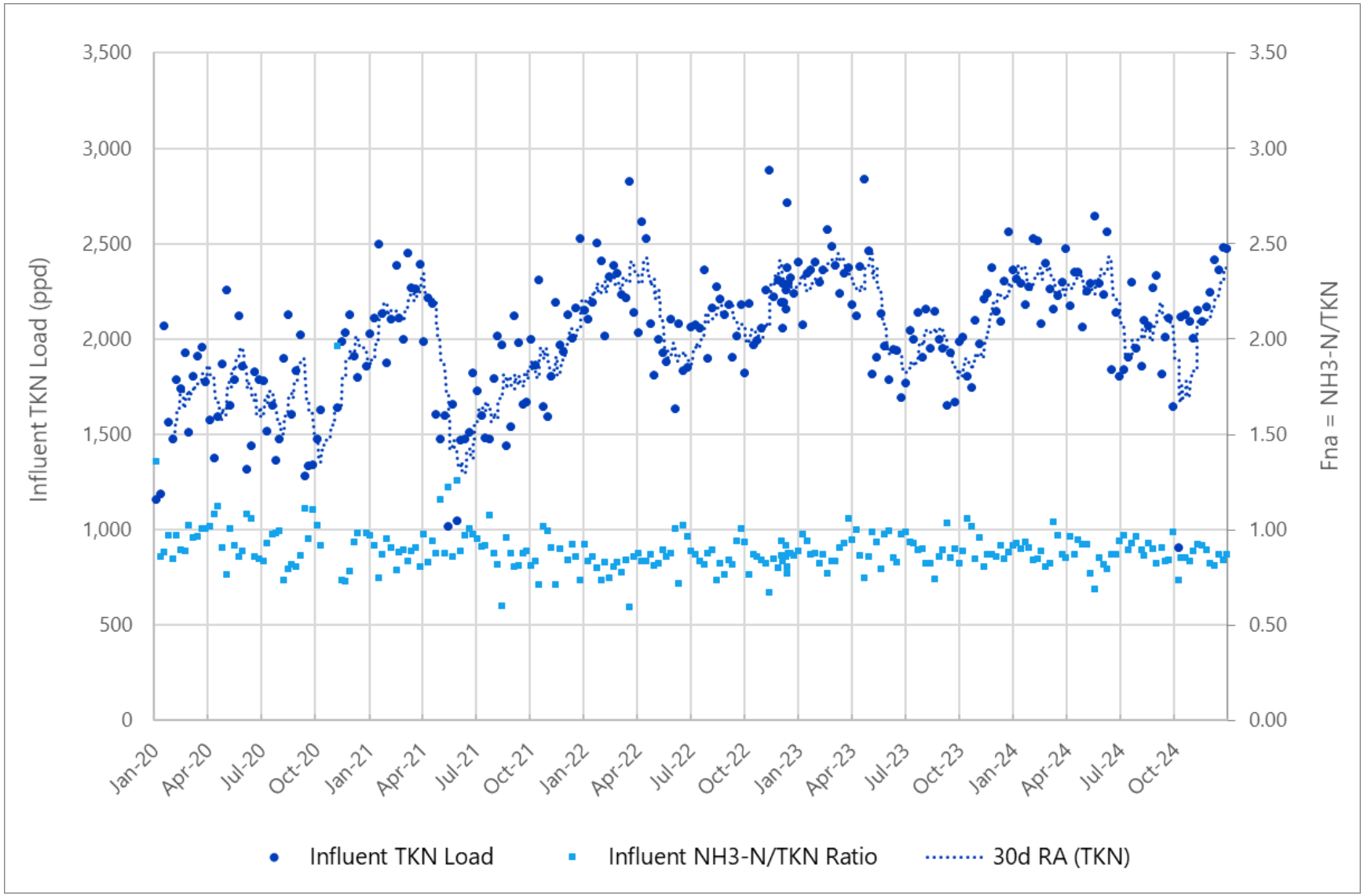

Figure B7 Influent TKN Loads and Ammonia to TKN Ratios

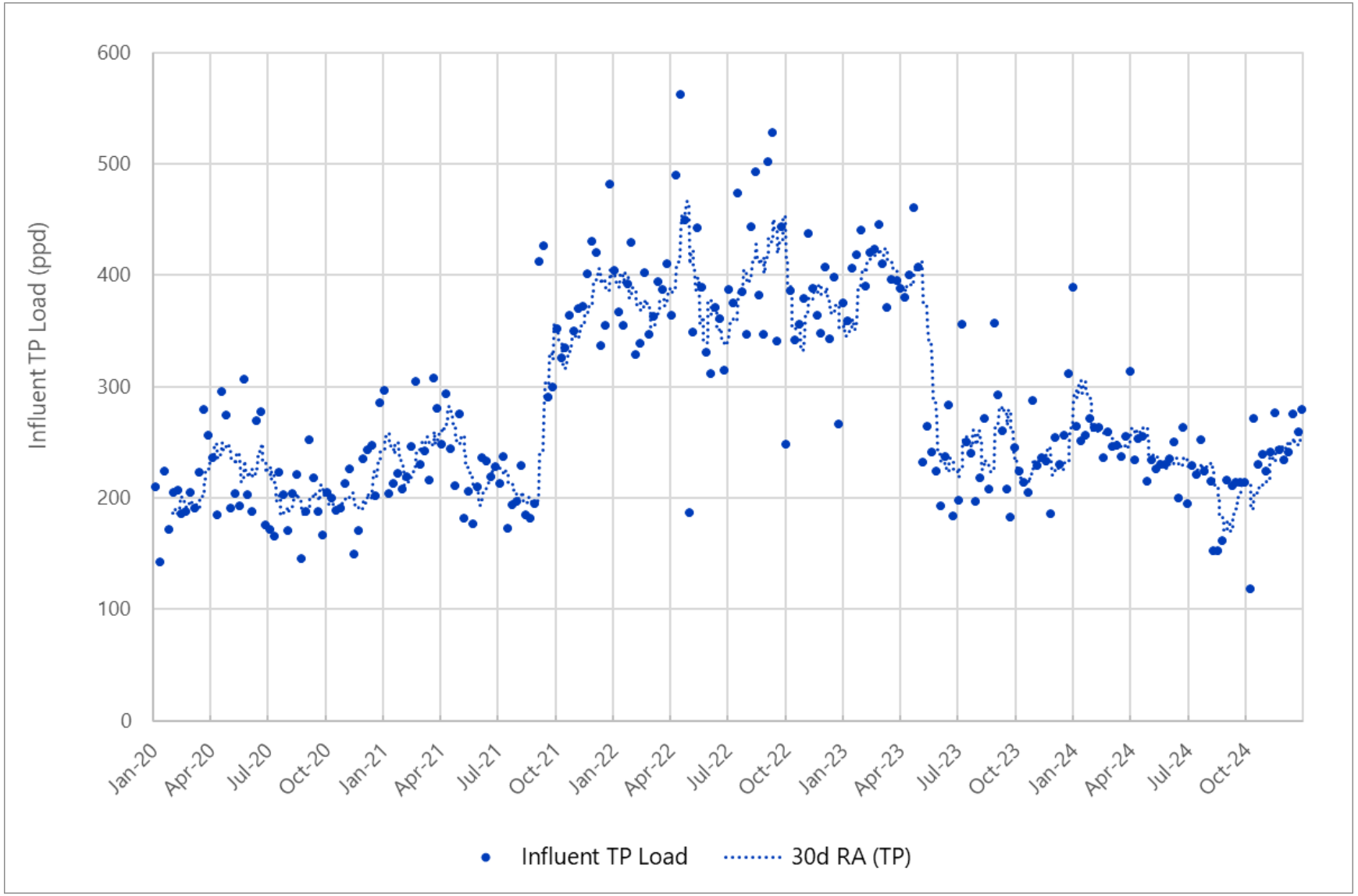

Figure B8 Historical influent TP load time series

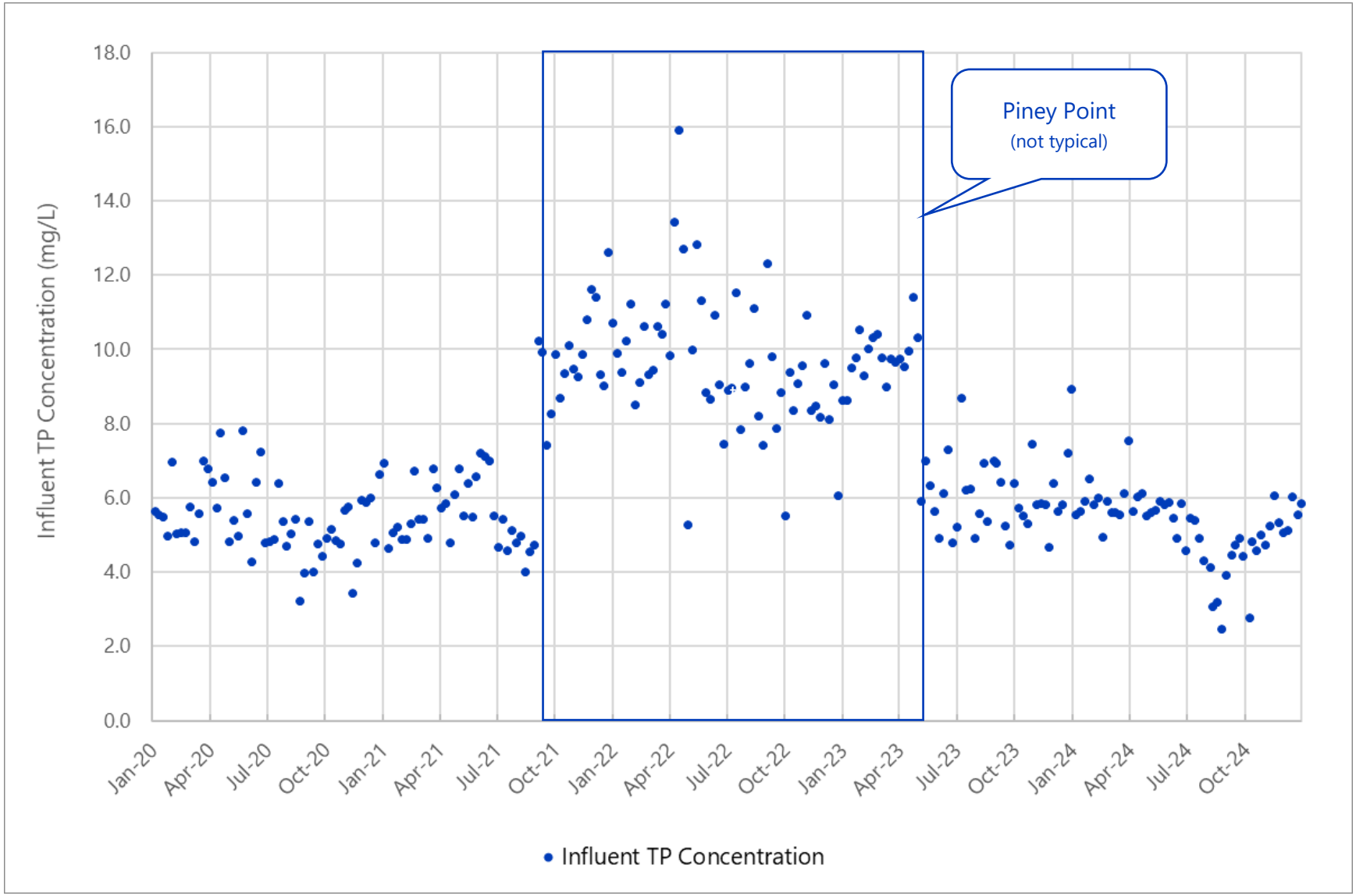

Figure B9 Historical influent TP concentration time series

APPENDIX C

TECH MEMO POPULATION AND FLOW PROJECTIONS

PROJECT MEMORANDUM

MANATEE COUNTY

North Regional WRF Facility Plan and Near-Term Improvements

Project No.: 203912
Date: July 1, 2025
Prepared By: Raphael Knickerbocker
Reviewed By: Laura Baumberger
Subject: NRWRF Population and Flow Projection Analysis Results

1.0 INTRODUCTION

In April 2025, the County provided updated GIS and Excel data that included equivalent dwelling units (EDUs) for existing sewersheds as well as projected future EDUs within planned developments at the end of 2025, 2030, 2040, and 2050. The dataset also included the number of EDUs at build-out for each existing and future development. This technical memorandum outlines the methodologies and results of Carollo's analysis of this data to estimate population growth and wastewater flow projections for the North Regional Water Reclamation Facility (NRWRF). The purpose of this effort is to support the long-term planning for capacity needs and infrastructure improvements at the NRWRF.

2.0 DATA RECEIVED AND ANALYSIS

The County provided a dataset that included existing sewersheds and planned developments for the years 2025, 2030, 2040, 2050, and build-out. The data was provided in Excel spreadsheets and GIS shapefiles. A summary table of all existing and future sewersheds, including planned future developments, is available in Appendix A.

2.1 Population Estimate

Each row in the dataset represented an existing lift station sewershed or future development, with fields indicating the name, status (e.g., existing, future, under construction, abandoned), and anticipated number of EDUs for each planning year. Potential future developments in the adjacent area outside the future development area boundary (AAOFDAB) were included in the GIS and Excel files but not included in the flow projections evaluated for the NRWRF Facility Plan since these are outside the County's existing service area.

The dataset provided a breakdown of EDUs by category, such as single-family residential, multi-family residential, commercial, school, church, hospital, and hotel for 2025 and build-out only. Projections for other future planning years (2030, 2040, 2050) included only total EDUs but lacked a breakdown by category. To fill this gap and refine the data for population and flow estimates, an adjustment approach was developed.

To address the absence of category breakdowns for the intermediate years (2030, 2040, and 2050), data was interpolated between the 2025 and build-out number of EDUs. This interpolation distributed the residential EDUs for each planning year, with a linear progression in residential development over time.

After determining the number of EDUs anticipated in each future planning year, population estimates were calculated using historical population and household data. A housing unit is defined differently than a household, with households defined as the number units occupied by permanent residents. Based on 2024 estimates provided by the U.S. Census, the number of households was approximately 71% of the total number of housing units in Manatee County. Therefore, the number of housing units was adjusted to account for 71% occupancy by permanent households. After calculating the adjusted number of residential housing units, the final population estimates were determined by multiplying the number of households by the Bureau of Economic and Business Research (BEBR 2024) average household size in Manatee County of 2.33 people per household.

2.2 Level of Service

The calculation of the level of service for this analysis was based on a review of historical population data from the County's Wastewater Collection System Master Plan and population projections provided by the Southwest Florida Water Management District (SWFWMD). By comparing historical NRWRF wastewater flow data with the population estimates over the previous five years, the average level of service was calculated as 65 gallons per capita per day (gpcd).

3.0 RESULTS

The refined data and methodology discussed in the previous section were used to develop population and wastewater flow projections for the NRWRF service area. Table 3.1 summarizes the projected population figures for each planning horizon, culminating in an estimated population of approximately 209,000 people by 2050.

Table 3.1 Population and Flow Projections

	Sewersheds/ Developments	2025	2030	2040	2050	Build-out
Existing Sewersheds	182	78,425	81,283	86,135	89,088	93,626
Future Developments	190	11,218	45,723	88,220	119,864	172,164
Total Population		89,643	127,006	174,355	208,952	265,790
Projected Flow (mgd AADF)		5.8	8.3	11.3	13.6	15.6

This 2050 population projection serves as the target for the facility design capacity. Based on the level of service of 65 gpcd, the projected flow for 2050 is approximately 13.6 mgd.

The facility is permitted at 7.5 mgd on a three-month rolling average daily flow (TMRADF) basis. The permit renewal due in August 2025 will apply for a rerating of basis to annual average daily flow (AADF) to facilitate planning and to follow the same basis adopted by the Southwest and Southeast WRFs.

Considering the flow projections between 2025 and 2030, the facility will reach 7.5 mgd of AADF capacity by approximately mid-2028, approximately three years before the facility permit renewal application is submitted.

Although not part of this project scope, the data provided revealed that the developments in the AAOFDAB account for a separate total population of nearly 148,900 people, equivalent to a flow of approximately 9.7 mgd at the same level of service of 65 gpcd. Currently, there is no forecast regarding

when these developments will come online (build-out data only), and this flow was not included in the projections for the NRWRF Facility Plan.

4.0 CONCLUSIONS

Based on the refined population estimates and the 65 gpcd flow factor, the anticipated wastewater flow at the NRWRF by the end of 2050 is projected at approximately 13.6 mgd.

Additionally, based on Rule 62-600.405 F.A.C, because the permitted capacity will be exceeded within the next 3 to 4 years, a statement signed and sealed by a professional engineer registered in Florida must be submitted along with the permit renewal application due in August 2025. This statement should confirm that plans and specifications for the necessary expansion are being prepared. The same rule also requires that since the permitted capacity will be exceeded within the next 10 years, updated capacity analysis reports must be submitted annually to the FDEP for compliance and to provide updates on the progress of the necessary expansion.

NRWRF - FACILITY PLAN
APPENDIX A - POPULATION AND FLOW PROJECTIONS

			2025		Build-out	
RTU / I.D. #	Name	Status	SF (Units)	MF (Units)	SF (Units)	MF (Units)
EXISTING DEVELOPMENTS						
500	GULF COAST CORPORATE PARK	EXISTING				
501	TIDEVIEW 1	EXISTING	1	278	1	278
502	TIDEVIEW 2	EXISTING		149		149
503	TIDEVIEW 3	EXISTING		248		248
504	RIVERVIEW PLANTATION PLAZA	EXISTING				
505	NSK1	EXISTING				
506	POPI'S PLACE IV	EXISTING				
507	WOODLAWN LAKES	EXISTING	153		163	
508	OAKWOOD ESTATES	EXISTING		120		120
509	SYLVIAN OAKS	EXISTING	164		164	
510	IMPERIAL LAKES	EXISTING		310		310
511	PORT MANATEE 1	EXISTING				
512	PORT MANATEE 2	EXISTING				
513	N1H	EXISTING				
514	PLANTATION BAY	EXISTING	87		87	
515	RIVER WILDERNESS 5	EXISTING	317		317	
516	THOUSAND OAKS	EXISTING	200		200	
517	COLONY COVE 1	EXISTING		260		301
518	COLONY COVE 2	EXISTING		72		72
519	COLONY COVE 3	EXISTING	2	357	2	357
520	COLONY COVE 4	EXISTING		134		134
521	COLONY COVE 5	EXISTING		21		21
522	COLONY COVE 6	EXISTING		1,017		1,017
523	COLONY COVE 7	EXISTING		200		200
524	COLONY COVE 8	EXISTING		386		386
525	COLONY COVE 9	EXISTING		305		305
526	COLONY COVE 10	EXISTING		311		648
527	TERRA SIESTA 1	EXISTING		357		357
528	TERRA SIESTA 2	EXISTING		77		77
529	RIVER WILDERNESS 1	EXISTING	100		100	
530	RIVER WILDERNESS 2	EXISTING	11	14	11	14
531	RIVER WILDERNESS 3	EXISTING	185		185	
532	RIVER WILDERNESS 4	EXISTING				
533	TIDEVUE 4 MASTER	EXISTING	18	236	37	236
534	MEMPHIS ROAD	EXISTING	287	50	288	17
535	N3A	EXISTING	142		142	
536	N4A	EXISTING	186	36	210	36
537	N5A	EXISTING	186	2	194	2

			2025		Build-out	
RTU / I.D. #	Name	Status	SF (Units)	MF (Units)	SF (Units)	MF (Units)
538	N6A	EXISTING	24		27	
539	N8A	EXISTING	12		15	
540	N10A	EXISTING	9		20	
541	VERANDA SPRINGS	EXISTING		352		352
542	FOX CHASE	EXISTING	100		100	
543	N8B	EXISTING	96	42	283	42
544	N3B	EXISTING	11	101	15	200
545	Gulf Coast Shops	EXISTING	365	350	575	482
546	N1C	EXISTING	305	67	305	534
547	REGENCY OAKS 1	EXISTING	182		182	
548	N2B	EXISTING	946	161	1,217	206
549	N1B Master	EXISTING	516	457	1,182	1,731
550	N4B	EXISTING	124	30	176	30
551	N4E	EXISTING	18	2	23	2
552	N5B	EXISTING		365		365
553	N6B	EXISTING	80	42	80	266
554	N7A	EXISTING	207		213	
555	N9A	EXISTING	331	12	331	12
556	PORT MANATEE STOCKADE	EXISTING		708		708
557	WEST MEMPHIS (M-1)	EXISTING	89	10	100	10
558	ANNA MARIA OYSTER BAR (ELLENTON)	EXISTING				
559	BUFFALO CREEK	EXISTING				
560	HEATHER GLENN	EXISTING	409		409	
561	N1E	EXISTING	1	12	105	12
562	NSK2	EXISTING				
563	PORT MANATEE 3 (N1-G)	EXISTING				
564	RIVER WOODS 1	EXISTING	258		258	
565	MANATEE COUNTY JAIL	EXISTING		1,007		1,007
566	PARKWOOD LAKES	EXISTING	197		197	
567	PORT MANATEE 4	EXISTING				
568	OAK CREEK	EXISTING	97		97	
569	RIVER WOODS 2	EXISTING	200		200	
570	RIDGEWOOD 1	EXISTING		733		733
571	FOSTER'S GROVE	EXISTING	174		174	
572	KINGSFIELD GROVES 1	EXISTING	197		197	
573	SUNKIST ACRES	EXISTING	19		31	
574	PORT MANATEE 5	EXISTING				
575	KINGSFIELD GROVES 2	EXISTING	263		263	
576	KEW GARDENS	EXISTING	26		26	
577	PARC IMPERIAL	EXISTING	63		63	
578	Omega 10	EXISTING				
579	NORTH ORANGE	EXISTING	65		65	
580	COVERED BRIDGE 1	EXISTING	120		120	

			2025		Build-out	
RTU / I.D. #	Name	Status	SF (Units)	MF (Units)	SF (Units)	MF (Units)
581	PORT MANATEE 6	EXISTING				
582	REGENCY OAKS 2	EXISTING	17		24	
583	FAIRWAY IMPERIAL	EXISTING	239		239	
584	SPANISH POINT	EXISTING		48		48
585	River Wilderness 6	EXISTING	65		65	
586	SUGAR MILL LAKES	EXISTING	246		246	
587	PORT MANATEE 7	EXISTING				
588	ANCIENT OAKS	EXISTING	249		249	
589	KINGSFIELD LAKES	EXISTING	340		340	
590	MEADOWBROOK ESTATES	EXISTING	31		31	
591	COVERED BRIDGE 2	EXISTING	179		179	
592	WHITNEY MEADOWS	EXISTING	90		90	
593	WATERFORD	EXISTING	185		185	
594	COVERED BRIDGE 3	EXISTING	177		177	
595	TWIN RIVERS 1	EXISTING	168		168	
596	TWIN RIVERS 2	EXISTING	82		82	
597	LEXINGTON 1	EXISTING	254	97	254	97
598	CHELSEA OAKS	EXISTING	210		210	
599	NORTH OAKS	EXISTING	107		107	
801	MILLS ELEMENTARY SCHOOL	EXISTING				
802	NORTHWOOD PARK	EXISTING	110		110	
803	COVERED BRIDGE 4	EXISTING	251		251	
804	ABERDEEN	EXISTING	199		199	
805	TWIN RIVERS 3	EXISTING	89		89	
806	RIVER PLANTATION 1	EXISTING	287		287	
807	NORTH RIVER ESTATES	EXISTING		92	96	107
808	CRYSTAL LAKES	EXISTING	249		249	
809	OAKLEAF HAMMOCK 1	EXISTING	46		46	
810	OAKVIEW	EXISTING	198		198	
811	RIVER PLANTATION 2	EXISTING	170		170	
812	OLD TAMPA ESTATES	EXISTING	33		33	
813	TWIN RIVERS 4	EXISTING	123		123	
814	FOREST CREEK 1	EXISTING	432	32	432	32
815	HARRISON RANCH 1	EXISTING	513		513	
816	PORT MANATEE 8	EXISTING				
817	LEXINGTON 2	EXISTING	34		34	
818	LAKESIDE PRESERVE	EXISTING	171		171	
819	GAMBLE CREEK ESTATES	EXISTING	161		161	
820	HARRISON RANCH 2	EXISTING	61		61	
821	HARRISON RANCH 3	EXISTING	69	30	69	270
822	RIVER'S REACH	EXISTING	124		124	
823	PALMETTO ESTATES	EXISTING	200		200	
824	COPPERSTONE 1	EXISTING	304		304	

			2025		Build-out	
RTU / I.D. #	Name	Status	SF (Units)	MF (Units)	SF (Units)	MF (Units)
825	COPPERSTONE 2	EXISTING		118		118
826	CHIN ROAD SHOPPING CENTER	EXISTING				
827	MCKINLEY OAKS	EXISTING	36		36	
828	GILLETTE GROVE	EXISTING	141		141	
829	WOODS OF MOCCASIN WALLOW	EXISTING	54		54	
830	SHEFFIELD GLENN	EXISTING	99		99	
831	COTTESBROOK ESTATES	EXISTING	45		45	
832	TWIN RIVERS 5	EXISTING	103		103	
833	CYPRESS POND	EXISTING	78		78	
834	PORT MANATEE 9	EXISTING				
835	OLD MILL PRESERVE	EXISTING	196		196	
836	RIVER WILDERNESS 7	EXISTING	115		177	
837	CROSS CREEK	EXISTING	336		673	
838	ARTISAN LAKES MASTER	EXISTING	200		200	
839	BUCKEYE INDUSTRIAL PARK	EXISTING				
840	WINTERLAND ESTATES	EXISTING	69		69	
841	OAKLEAF HAMMOCK 2	EXISTING	181		181	
842	HARRISON RANCH 4	EXISTING	479		479	
843	BUFFALO CREEK FIELD OFFICE	EXISTING				
844	FORT HAMER PARK	EXISTING				
845	ANIMAL SERVICES	EXISTING				
846	CIVIC CENTER	EXISTING				
847	COPPERSTONE 3	EXISTING	200		200	
848	RIVER'S REACH 2	EXISTING	186		186	
851	ARTISAN LAKES 2	EXISTING	275	192	275	192
852	ARTISAN LAKES 3	EXISTING	409	2	415	20
853	OAKLEAF HAMMOCK 3	EXISTING	100		100	
855	BLACKSTONE PARK	EXISTING				
857	SILVERLEAF 1	EXISTING	228	120	252	125
860	NORTH COUNTY MAINT. BLDG	EXISTING		1		1
862	HERON CREEK	EXISTING	135		135	
869	WILLOW WALK	EXISTING	710		710	
871	WOODS OF MOCCASIN WALLOW 2	EXISTING	63	280	65	280
875	TREVESTA	EXISTING	450		498	
876	WILLOW HAMMOCK	EXISTING	299		299	
877	NALANDA ESTATES	EXISTING	78		78	
878	GRAND OAK PRESERVE	EXISTING	98		98	
879	TWIN RIVERS 6	EXISTING	336		370	
880	ARTISAN LAKES 4	EXISTING	833	288	961	554
884	TWIN RIVERS 7	EXISTING	76		93	
885	SILVERLEAF 2	EXISTING	322		338	
886	CANOE CREEK	EXISTING	445	108	915	108
888	CYPRESS GLEN	EXISTING	33		47	

			2025		Build-out	
RTU / I.D. #	Name	Status	SF (Units)	MF (Units)	SF (Units)	MF (Units)
889	FLORIDA INT'L TRADEPORT	EXISTING				
890	SOUTHERN OAKS	EXISTING	139		139	
891	SUMMERWOODS	EXISTING	472		472	
895	WILLOW BEND	EXISTING	229		279	
896	BLACKSTONE PARK 2	EXISTING				
897	SILVERLEAF 3	EXISTING	61		61	
901	TREVESTA 2	EXISTING	242		338	
905	RIVERFIELD	EXISTING	158	150	380	150
907	DEL WEBB AT BAYVIEW	EXISTING	448	54	950	100
908	ISLES AT BAYVIEW	EXISTING	340		397	
909	SILVERSTONE NORTH 1	EXISTING	381		513	
910	CROSSWIND POINT	EXISTING	368	18	477	114
911	PRAVELA	EXISTING	172		172	
930	DEL WEBB AT BAYVIEW 2	EXISTING	258		416	
999	PARRISH MASTER PUMP STATION	EXISTING				
Private Stations						
PVT1001	THE GARDENS 1	EXISTING		276		276
PVT1002	NORTH RIVER HIGH SCHOOL	EXISTING				
PVT1003	PINEY POINT 1	EXISTING		583		583
PVT1004	PARRISH CHARTER SCHOOL	EXISTING				
PVT1005	ANNIE LUCY WILLIAMS ELEMENTARY SCHOOL 1	EXISTING				
PVT1006	THE GARDENS 2	EXISTING		306		306
PVT1007	THE GARDENS 3	EXISTING		58		58
PVT1008	PINEY POINT 2	EXISTING		163		163
PVT1009	SUN KEY VILLAGE	EXISTING		199		199
PVT1010	ANNIE LUCY WILLIAMS ELEMENTARY SCHOOL 2	EXISTING				
PVT1117	SPACEBOX @ PALMETTO	EXISTING				
FUTURE DEVELOPMENTS						
F1001	CROSSWIND POINT	UNDER CONSTR.	*COUNTED WITH RTU 910			
F1002	PROSPERITY LAKES	UNDER CONSTR.	122	65	2,162	
F1003	SUMMERWOODS PH. 3 & 4	UNDER CONSTR.	360		501	
F1004	OAKFIELD TRAILS	FUTURE			2,150	286
F1005	FUTURE ARTISAN LAKES	UNDER CONSTR.	146	134	471	
F1006	SILVERSTONE NORTH PHASE 2	UNDER CONSTR.	195		287	
F1007	BUCKHEAD TRAILS	UNDER CONSTR.	29		2,100	400
F1008	ROBINSON GATEWAY	FUTURE			320	1,168
F1008.1	CARLTON AT ROBINSON GATEWAY	FUTURE				610
F1008.2	CBPP BAYCARE MANATEE HOSPITAL	FUTURE				
F1008.3	ABRAZO AT ROBINSON GATEWAY	FUTURE				258
F1008.4	BOOS DEVELOPMENT RETAIL	FUTURE				
F1008.5	EPOCH ROBINSON GATEWAY	FUTURE				300
F1009	PINEY POINT (REJECT WATER)	ABANDONED	*ABANDONED			
F1010	NEWPORT ISLES	FUTURE			3,108	

			2025		Build-out	
RTU / I.D. #	Name	Status	SF (Units)	MF (Units)	SF (Units)	MF (Units)
F1011	MANDARIN GROVES	UNDER CONSTR.	72		301	
F1012	PARRISH LAKES	UNDER CONSTR.	165		3,600	400
F1012.1	BAINBRIDGE PARRISH LAKES	FUTURE				378
F1012.2	ALDI 177 - MOCCASIN WALLOW RD	FUTURE				
F1013	CURIOSITY CREEK	FUTURE			1,704	256
F1014	CONE RANCH	SUPERSEDED	*SUPERSEDED			
F1015	SALTMEADOWS	UNDER CONSTR.	280		561	
F1016	WELLINGTON LAKE MANOR	FUTURE			169	
F1017	NORTH RIVER RANCH	UNDER CONSTR.	178	42	3,842	
F1018	RYE RANCH	UNDER CONSTR.	6		3,500	
F1019	RYE CROSSING	UNDER CONSTR.	88		118	
F1020	HERON BAY	UNDER CONSTR.	147		148	
F1021	CHARLES MASSEY SUBDIVISION	FUTURE			73	
F1022	PASCHAL PROPERTY	FUTURE	*COUNTED WITH RTU 910			
F1023	STONEGATE PRESERVE	UNDER CONSTR.	165		790	
F1024	ELLENTON LANDINGS	FUTURE				136
F1025	LUNA LAKES	FUTURE			101	
F1026	SOUTHPOINTE	FUTURE			550	
F1027	RESERVE AT MANATEE FOREST	FUTURE			295	
F1028	POPE RANCH	FUTURE			440	
F1029	WINDWATER	UNDER CONSTR.	38		231	
F1030	CHEYANNE PRESERVE	UNDER CONSTR.	10		186	
F1031	TERRA CEIA RV EXPANSION	FUTURE				190
F1032	WILLIS ROAD SUBDIVISION	UNDER CONSTR.	73		75	
F1033	1140 DEVELOPMENT	FUTURE				122
F1034	SYMPHONY LAKES	FUTURE			220	
F1035	MATTAMY CANAL RD	FUTURE			80	
F1036	NGUYEN PROPERTY	FUTURE			58	
F1037	MAPLE RIDGE	FUTURE			221	
F1038	COTTAGES @ AVIGNON VILLAGE	FUTURE			98	
F1039	MAGNOLIA RESERVE	FUTURE			93	
F1040	OUR LIVES COMMUNITY	FUTURE				720
F1040.1	OURLIVES	FUTURE				590
F1041	SUGAR OAKS TOWNHOMES	FUTURE			21	
F1042	ELLENTON COVE	FUTURE			132	608
F1043	FUTURE WOODS OF MOCCASIN WALLOW	FUTURE				
F1044	IMPERIAL LAKES RESIDENTIAL	UNDER CONSTR.	29		66	
F1045	FIRETHORN	FUTURE			1,540	
F1046	JONES FARM	FUTURE			1,833	
F1047	STONEWOOD ESTATES	FUTURE			61	
F1048	BEVERLY FINANCIAL	FUTURE			945	
F1049	PARRISH CENTRE	FUTURE			3,200	
F1050	SCF PARRISH CAMPUS	FUTURE				

			2025		Build-out	
RTU / I.D. #	Name	Status	SF (Units)	MF (Units)	SF (Units)	MF (Units)
F1051	GREEN BULL SUBDIVISION	FUTURE			531	
F1052	COVENTRY PARK	FUTURE			176	
F1053	PARRISH OAK / 301 OXFORD	UNDER CONSTR.		90		168
F1054	RIVER FRONT	FUTURE				250
F1055	FORT HAMER COMMONS	FUTURE			156	
F1056	ESTATES AT RIVERS EDGE	FUTURE			126	
F1057	GAMBLE CREEK FARMS	UNDER CONSTR.	45		289	
F1058	RAWLS PROPERTY	FUTURE			125	
F1059	SM RANCH	FUTURE			452	
F1060	FUTURE CROSS CREEK	FUTURE			595	
F1061	TWIN RIVERS PHASE IV-C-B	FUTURE			27	
F1062	RIVER CHASE	FUTURE			733	
F1063	RUTLAND PARCEL	FUTURE			380	
F1064	FORT HAMER CROSSING	FUTURE				
F1064.1	PARRISH SELF STORAGE	FUTURE				
F1065	MCCLURE MWR MIXED USE	FUTURE				360
F1066	SAWGRASS LAKES	UNDER CONSTR.	168		262	
F1067	BAYSIDE COMMUNITY CHURCH - NORTH RIVER	BUILT				
F1068	FLORIDIAN AT MOCCASIN	FUTURE				284
F1069	RIVERSONG	FUTURE			1,485	
F1070	FUTURE RYE RANCH (AAOFDAB)	AAOFDAB			3,700	
F1071	CREEKSIDE AT RUTLAND RANCH	FUTURE			95	
F1072	WINSTEAD COMMONS	FUTURE			70	24
F1073	FOXTAIL PLACE	FUTURE			16	
F1074	THE RIVER PRESERVE ESTATES	FUTURE			161	
F1075	FUTURE NORTH RIVER RANCH/AMAZON SOUTH	UNDER CONSTR.	1,406		3,158	
F1076	GAMBLE CREEK VILLAGE (AAOFDAB)	AAOFDAB			7,200	
F1077	CHRISTOPHER TODD COMMUNITIES AT ARTISAN LAKES	FUTURE				192
F1078	PROJECT HUDOR	ABANDONED	*ABANDONED			
F1079	WATERMARK / SPRNGS AT ELLENTON	UNDER CONSTR.		361		361
F1080	CROSSWIND RANCH	SUPERSEDED	*SUPERSEDED			
F1081	GAGNE	SUPERSEDED	*SUPERSEDED			
F1082	MCCLURE 1,200 EDU	FUTURE			1,200	
F1083	CREEKSIDE AT RUTLAND RANCH PHASE 2	FUTURE			100	
F1084	FACTORY SHOPS APARTMENTS	FUTURE	*COUNTED WITH RTU 545			
F1085	RIVERSET	FUTURE			71	
F1086	ARTISAN LAKES PARCEL I	FUTURE	*COUNTED WITH RTU 880			
F1087	PROVEN LOCKS - BUCKEYE INDUSTRIAL PARK LOTS 3 AND 4	FUTURE	*COUNTED WITH RTU 839			
F1088	WILDCAT COMMERCIAL	FUTURE				
F1089	PEPPER GROVE	FUTURE			264	
F1090	CIRQUE DE ITALIA - PALMETTO	FUTURE				
F1091	TERRA CEIA APARTMENTS	FUTURE	*COUNTED WITH RTU 548			

			2025		Build-out	
RTU / I.D. #	Name	Status	SF (Units)	MF (Units)	SF (Units)	MF (Units)
F1092	ALTERA PALMETTO	FUTURE				264
F1093	CANAL ROAD SOUTH	FUTURE			94	
F1094	THE MITCHELL AT TERRA CEIA	FUTURE				183
F1095	ALTON TERRA CEIA	FUTURE				276
F1096	DEER PARK	FUTURE			261	
F1097	HERON GLEN	FUTURE			119	
F1098	YARDLEY AT PALMETTO	FUTURE				268
F1099	TIMBERLY	FUTURE	*COUNTED WITH RTU 546			
F1100	HICKORY POINT ON GAMBLE CREEK	FUTURE	*COUNTED WITH RTU 886			
F1101	CANOE CREEK PHASE IV	UNDER CONSTR.	*COUNTED WITH RTU 886			
F1102	SHOPS AT HARRISON RANCH EAST PARCEL	FUTURE	*COUNTED WITH RTU 821			
F1103	SHOPS AT HARRISON RANCH WEST PARCEL	SUPERSEDED	*SUPERSEDED			
F1104	HIDDEN HARBOR PARK	FUTURE			1	
F1105	SAWGRASS RIDGE	FUTURE			300	760
F1106	INNOVATION BUSINESS PARK AT SEAPORT MANATEE	FUTURE				200
F1107	SR 62 RV PARK	FUTURE				324
F1108	GERSHONI OUTPARCEL	FUTURE	*COUNTED WITH RTU 545			
F1109	ALDRICH DOLPHIN MEDICAL OFFICE	FUTURE	*COUNTED WITH RTU 546			
F1110	NORTH COUNTY MIDDLE SCHOOL	FUTURE				
F1111	MOCCASIN WALLOW TOWNHOMES	FUTURE			68	
F1112	ERIE ROAD RESIDENTIAL	FUTURE			8	
F1113	WOODS OF MOCCASIN WALLOW C1 STANDALONE CAR WASH	FUTURE	*COUNTED WITH RTU 871			
F1114	RENAISSANCE CHARTER K-12 SCHOOL AT PARRISH	FUTURE				
F1115	69TH STREET MIXED USE DEVELOPMENT	FUTURE	*COUNTED WITH RTU 549			
F1115.1	NORTHBROOKE COMMONS	FUTURE	*CONSTITUENT OF F1115			
F1115.2	69TH STREET MIXED USE (COMMERCIAL)	FUTURE	*CONSTITUENT OF F1115			
F1115.3	69TH STREET MIXED USE (HOTEL)	FUTURE	*CONSTITUENT OF F1115			
F1116	SKYWAY 41 BOAT AND RV STORAGE & COMMERCE CENTER	FUTURE				
F1117	CREEKSIDE COMMONS OUTPARCELS	FUTURE	*COUNTED WITH RTU 546			
F1118	GROOVER GROVE	FUTURE			100	
F1119	THE AVIARY	UNDER CONSTR.	434		784	
F1120	MANATEE COUNTY SHERIFF FLEET FACILITY	FUTURE	*COUNTED WITH RTU 839			
F1121	BUCKEYE INDUSTRIAL LOTS 10, 11, 12	BUILT	*COUNTED WITH RTU 839			
F1122	BUCKEYE PARK LOT 5	FUTURE	*COUNTED WITH RTU 839			
F1123	BUCKEYE INDUSTRIAL PARK LOT 2	BUILT	*COUNTED WITH RTU 839			
F1124	PALMVIEW COUNCIL GDP	FUTURE	*COUNTED WITH RTU 549			
F1125	STORAGE OP6 - GATEWAY COMMONS	FUTURE	*COUNTED WITH RTU 577			
F1126	NAPIOR AND SONS AUTOMOBILE RESTORATION PHASE I	FUTURE	*COUNTED WITH RTU 534			
F1127	NAPIOR AND SONS AUTOMOBILE RESTORATION PHASE II	FUTURE	*COUNTED WITH RTU 534			

			2025		Build-out	
RTU / I.D. #	Name	Status	SF (Units)	MF (Units)	SF (Units)	MF (Units)
F1128	NORTH RIVER SELF STORAGE	FUTURE				
F1129	CROSS CREEK PHASE ID, IE, & I F	UNDER CONSTR.	54		330	
F1130	CROSS CREEK FORT HAMER II MULTI-FAMILY	FUTURE				300
F1131	SMARTY PANTS PRE-SCHOOL	FUTURE				
F1132	ZAMETZ DEVELOMENT	FUTURE	*COUNTED WITH RTU 548			
F1133	LITTLE OAKS DAYCARE	FUTURE				
F1134	NVA NORTH RIVER ANIMAL HOSPITAL EXPANSION	FUTURE				
F1135	48 ACRE MULTI-FAMILY	FUTURE				576
F1136	RACETRAC - MOCCASIN WALLOW AND US 41	FUTURE				
F1137	ATLANTIC PRO BOAT DEALERSHIP	FUTURE	*COUNTED WITH RTU 553			
F1138	LONE VALLEY	FUTURE			2,049	
F1139	SERENITY GARDENS	FUTURE			45	
F1140	16401 GOLF COURSE RD	FUTURE			70	
F1141	NORTH AAOFDAB AREA 0	AAOFDAB	*SUPERSEDED			
F1142	NORTH AAOFDAB AREA 1	AAOFDAB	*SUPERSEDED			
F1143	NORTH AAOFDAB AREA 2	AAOFDAB			5,586	
F1144	NORTH AAOFDAB AREA 3	AAOFDAB			6,016	
F1145	NORTH AAOFDAB AREA 4	AAOFDAB			7,197	
F1146	NORTH AAOFDAB AREA 5	AAOFDAB			3,451	
F1147	NORTH AAOFDAB AREA 6	AAOFDAB			3,072	
F1148	NORTH AAOFDAB AREA 7	AAOFDAB			1,438	
F1149	NORTH AAOFDAB AREA 8	AAOFDAB			5,804	
F1150	NORTH AAOFDAB AREA 9	AAOFDAB			679	
F1151	NORTH AAOFDAB AREA 10	AAOFDAB			579	
F1152	NORTH AAOFDAB AREA 11	AAOFDAB			3,627	
F1153	NORTH AAOFDAB AREA 12	AAOFDAB			784	
F1154	NORTH AAOFDAB AREA 13	AAOFDAB			3,597	
F1155	NORTH AAOFDAB AREA 14	AAOFDAB			1,266	
F1156	NORTH AAOFDAB AREA 15	AAOFDAB			2,420	
F1157	NORTH AAOFDAB AREA 16	AAOFDAB			5,137	
F1158	NORTH AAOFDAB AREA 17	AAOFDAB			2,362	
F1159	MIA BELLA PALMETTO	FUTURE			30	
F1160	CONTARINO REZONE	FUTURE			5	
F1161	ARMSTRONG ACRES DAYCARE	FUTURE				
F1162	ROSE PARK MARATHON REBUILD	FUTURE	*COUNTED WITH RTU 566			
F1163	PALMETTO OUTDOOR STORAGE	FUTURE				
F1164	ELLENTON SPRING HILL SUITES	FUTURE	*COUNTED WITH RTU 561			
F1165	ABC FINE WINE AND SPIRITS STORE 113	FUTURE	*COUNTED WITH RTU 871			
F1166	YARDLEY OXFORD LANDING	FUTURE				194
F1167	GAMBLE CREEK	FUTURE			110	
F1168	YOUNG ESTATES	FUTURE			8	
F1169	JEFFERS SUBDIVISION	FUTURE			5	

RTU / I.D. #	Name	Status	2025 SF (Units)	2025 MF (Units)	Build-out SF (Units)	Build-out MF (Units)
F1170	WILLOW BEND	BUILT	*COUNTED WITH RTU 895			
F1171	THE EDDY AT HARRISON RANCH	FUTURE	*COUNTED WITH RTU 821			
F1172	CROSSWIND RANCH	UNDER CONSTR.	112		3,658	
F1173	69TH STREET CONVENIENCE STORE WITH FUELING	FUTURE	*COUNTED WITH RTU 549			
F1174	FIT BUILDINGS 18-19-20-21	FUTURE				
F1175	HILTON LIVSMART & WOODSPRING SUITES HOTELS	FUTURE	*COUNTED WITH RTU 545			
F1176	TREVESTA COMMERCIAL OUTPARCELS 8-9-10	FUTURE	*COUNTED WITH RTU 875			
F1177	MORGAN'S GLEN	UNDER CONSTR.	*COUNTED WITH RTU 905			
F1178	WILLOW BEND PHASE V	FUTURE	*COUNTED WITH RTU 895			

	2025 SF (Units)	2025 MF (Units)	Build-out SF (Units)	Build-out MF (Units)
SUBTOTAL EXISTING + PRIVATE	24,682	12,606	28,876	15,878
SUBTOTAL FUTURE	4,322	692	54,868	11,406
SUBTOTAL AAOFDAB	N/A		63,915	0
TOTAL (EXISTING+PRIVATE+FUTURE)	29,004	13,298	83,744	27,284

POPULATION ESTIMATES	2025	Build-out	AAOFDAB
Household Factor (HHF) (Census)	71.2%		
People per Household (PPH) (BEBR 2024)	2.33		
Total Population (SF+ MF*HHF)*PPH	89,643	240,393	148,922

FLOW ESTIMATES	2025	Build-out	AAOFDAB
Level of Service (gpcd)	65		
Flow Estimate (mgd)	5.8	15.6	9.7

APPENDIX D

MEETING NOTES

MEETING NOTES

MANATEE COUNTY

North Regional WRF Facility Plan and Near-Term Improvements

Prepared By:	Andrew Gilmore, Raphael Knickerbocker	**Issued Date:**	February 27, 2025
Meeting Date:	February 21, 2025	**Project No.:**	203912
Location:	NRWRF Maintenance Building No 2 / Teams		
Subject:	Project Kickoff Meeting		
Attendees:	Manatee County: Donnie Adams Jr., Anthony Benitez, Joel Burchard, Tyler Cerven, Chris Collins, Chuck Froman, Brent Laudicina, Rick Svec		
	Carollo: Laura Baumberger, Dharmin Desai, Andrew Gilmore, Raphael Knickerbocker, Matt Love		

The following is our understanding of the subject matter. If this differs from your understanding, please notify us. A copy of the project kickoff presentation is attached to these minutes for informational purposes.

Objective

Kickoff meeting with Manatee County Utilities (County) to discuss project objectives, scope details, schedule, preferred ways of communication, and data request items.

Action Items

1. County (Tyler) will reach out to Jeff Keen at FPL to obtain power consumption data (note, Tyler connected with Jeff Keen immediately, via email, after the kickoff meeting and included Carollo).
2. County (Donnie) will review the electronic O&M manual (EOM) and provide any updates or missing information. Carollo (Laura and Stephen Snell) will verify if Carollo still has access to the EOM.
3. Carollo (Andrew) will schedule a workshop on lessons learned and best practices for the progressive design-build approach and coordinate with Anthony virtual monthly progress meetings.
4. Carollo (Laura) will coordinate with Tom Cady to obtain the latest information on planned developments and service agreements for areas outside the future development area boundary (FDAB).

Decision Items

1. The County will provide guidance on if/ how to include areas outside the FDAB in the planning framework moving forward.

Discussion

1. **Introductions and Agenda Overview**
    a. Andrew introduced the meeting as the kickoff for the North Regional Water Reclamation (NRWRF) Facility Planning and Near-Term Improvement Project.
    b. The agenda included introductions, goals, scope, schedule, communication plan, data request list, and next steps.

c. Andrew mentioned that they had walked through the plant earlier in the morning and started evaluating the RAS and WAS pump stations.
d. Team members introduced themselves and their roles in the project.

2. **Project Goals and Task Overview (Tasks 1 and 2)**
   a. Andrew outlined the project goals:
      i. Define expansion capacity and timing, assess flow data, and determine potential capacity impacts or expansion needs.
      ii. Identify and estimate costs for process and non-process improvements and recommend near-term upgrades for operational flexibility.
      iii. Explore expansion options and optimal project delivery methods, with a focus on progressive design-build (PDB).
   b. The project includes providing workshop materials, documentation, and a final facility plan report.
3. **Discussion on Progressive Design-Build (PDB)**
   a. Brent suggested setting up a Q&A or Lunch and Learn session to discuss the PDB process.
   b. Andrew agreed and mentioned the possibility of a workshop on lessons learned by adapting the scope to include a workshop on PDB and alternative delivery methods.
4. **Planning Framework (Task 4)**
   a. Laura discussed the planning framework task, focusing on determining future capacity needs and timing of flow increases. She mentioned the project will look at level of service standards and capacity needs per person and per EDU.
   b. Historical population and wastewater flow data from 2021 will be updated with the latest 3 years of data.
   c. The historical per capita flow data has been around 60 gallons per person per day up until 2020-2021. However, in 2020 and 2021, the per capita flow increased to around 70 gallons per person per day. This was due to a change in how the population served by the North plant was calculated, moving from the County's planning sub-areas to a parcel-based methodology using census data. This resulted in a lower estimated population being served, leading to a higher per capita flow.
   d. The level of service used to be 95 gallons per person per day until 2015, when it was readjusted to 80 gallons per person per day.
   e. The historical peaking factors had max month peaking factor typically below 1.2, but the max day peaking factor ranged from 1.8 to 2.0.
   f. Laura showed a map with the current service area boundary and potential future development areas outside the boundary. She explained that three developments outside the FDAB were included in the Wastewater Collection System Master Plan, as the County had already agreed to serve them.
      i. In a separate effort apart from the Master Plan, Carollo evaluated a broader area outside the FDAB and how much flow this could contribute to the NRWRF if the County agreed to serve these areas.
      ii. Carollo asked the County for guidance whether to account for the flow from these outside areas in the current capacity evaluation or just focus on the existing service area.
   g. A workshop will be held to review flow projections and capacity needs to determine the necessary capacity for the CIP project.

5. **Facility Evaluation and Expansion Options (Task 5)**
    a. Andrew discussed the facility evaluation, stating Carollo will focus on analyzing the biological and hydraulic capacity, as well as identifying any potential bottlenecks. He mentioned the team will look at near-term improvements that could help with operational flexibility, as well as explore the long-term expansion options.
    b. Brent inquired about the impact of higher concentrations of BOD on capacity needs.
    c. Laura and Andrew explained the difference between hydraulic capacity and biological treatment capacity, noting that new development often has less diluted wastewater. She mentioned the need to look at the strength of wastewater as part of the project and design processes to accommodate higher BOD.
    d. Andrew Gilmore added that ammonia levels usually increase in newer communities, posing challenges for denitrification at the plant.
    e. Regarding expansion alternatives, Andrew noted that the plan was to use AGS (Aerobic Granular Sludge) technology for the expansion. Laura mentioned that during a previous discussion, Chris had requested they explore other treatment alternatives beyond just assuming AGS, to see if there may be more cost-effective options.
    f. Brent stated that while AGS is the current plan, they are open to considering other alternatives if the team can identify something significantly better and cost-effective.
    g. The group agreed that the team should take a high-level look at other potential treatment alternatives during the expansion options workshop, in addition to the AGS evaluation.
    h. The group shifted the discussion to the Cost Estimate and CIP update. Andrew stated that Carollo will perform a Class 4 cost evaluation as part of this effort to ensure the CIP project sheet reflects up-to-date cost information. One challenge for this task will be dealing with volatility in costs, especially for materials and equipment sourced overseas.
    i. The goal is to have the draft CIP sheet ready by late May or early June, so it can be incorporated into the County's fiscal year planning process. Laura mentioned the CIP sheet information will be delivered to the County as soon as it is ready, even if the full facility plan report comes later.

6. **RAS Pump Station (Task 6)**
    a. Andrew discussed the RAS pump station issues that have been reported by the County, specifically the limitations of pumping capacity back to the headworks.
    b. The team will analyze the RAS pump station and provide Class 3 cost estimates for improvements.
    c. Tyler raised concerns about electrical capacity and the need to resolve electrical capacity issues before proceeding with other improvements that will increase electrical loads.
    d. MCU discussed the current electrical situation, noting that the existing MCCs and electrical distribution equipment have been in place for over 15 years.
    e. Brent explained that the available funding for electrical improvements is limited, around $1.7 to $1.8 million from a previous pilot study and emphasized that due to the limits in this budget, the team should focus on identifying cost-effective RAS pump alternatives that can work within the current electrical system, rather than pursuing major RAS pump upgrades including electrical that may need to be replaced again in a few years.
    f. Andrew suggested reviewing the single line diagrams and getting pictures of the existing electrical gear to better understand the current conditions and limitations.
    g. The team agreed that obtaining the electrical load data from FPL would be helpful in assessing the current electrical capacity and historical usage.

7. **Communications**
    a. The communication plan includes email updates and coordination for scheduling meetings and workshops.
        i. All emails to Carollo should copy Andrew Gilmore and Raphael Knickerbocker.
        ii. All emails to the County should copy Anthony Benitez and Brent Laudicina.
8. **Data Request List (Task 3)**
    a. Raphael reviewed the Data Request List, noting that most items are complete, and clarifying questions about some of the other items.
    b. Regarding grit and screening data, Brent stated they had done some historical analysis but could not locate the specific reports.
    c. Joel mentioned the historical EQ data was previously encrypted and not easily accessible.
    d. Donnie Adams was tasked with reviewing the electronic O&M manual to identify any updates or missing information that could be provided.
    e. Andrew stated that the existing BioWin model provided by McKim & Creed was based on default assumptions and not calibrated to the plant's actual operating conditions. Matt Love agreed to evaluate the BioWin model and update to include the facility's most recent data and operating parameters where possible.
    f. The group discussed obtaining power consumption data directly from FPL through their account manager.
9. **Preliminary Schedule and Deliverables**
    a. Andrew reviewed the project schedule.
    b. The Planning Framework Workshop (Task 4) is targeted for mid-April to discuss the population and flow projections, timing, and future plant capacity.
    c. The facility evaluation (Task 5) and RAS/ WAS pump station analysis (Task 6) were discussed, with the possibility of the RAS/ WAS work progressing a bit faster.
    d. A draft technical memo will be submitted in late June, with a final workshop and report delivery targeted for July.
    e. Carollo plans to deliver the CIP sheets for the County's fiscal year planning by the end of May.
10. **Next Steps and Action Items**
    a. The group agreed to hold monthly progress calls via Teams to review updates and discuss any relevant matters.
    b. A list of action items was reviewed, and the meeting was adjourned.

MEETING NOTES

MANATEE COUNTY

North Regional WRF Facility Plan and Near-Term Improvements

Prepared By:	Andrew Gilmore, Raphael Knickerbocker	**Issued Date:**	April 29, 2025
Meeting Date:	April 22, 2025	**Project No.:**	203912
Location:	Utilities Building Coral Room / Teams		
Subject:	Project Kickoff Meeting		
Attendees:	Manatee County: Anthony Benitez, Thomas Cady, Chris Collins, Chuck Froman, Brent Laudicina, Kate Quilty, Jim Renneberg, Pat Shea, Nick Wagner		
	Carollo: Laura Baumberger, Natalie Beach, Andrew Gilmore, Raphael Knickerbocker, Matt Love		

The following is our understanding of the subject matter. If this differs from your understanding, please notify us. A copy of the project kickoff presentation is attached to these minutes for informational purposes.

Objective

The objective of this workshop was to discuss Task 4 planning framework results and provide progress updates on the facility evaluation (Task 5) and RAS/WAS pump assessment (Task 6).

Action Items

1. Carollo (Andrew) will schedule a workshop for the end of May to discuss the results of Tasks 5 and 6, the feasibility to implement advanced wastewater treatment (AWT), and the CIP sheet development.
2. The County will review their internal process for capacity reservation and FDEP permitting for new developments, as the County's Comprehensive Plan no longer requires a specific per capita flow level of service (LOS). The historical average per capita flow is approximately 65 gallons per capita per day (gpcd), but the County has historically reserved capacity at 80 gpcd which creates a substantial amount of unused capacity reservation.

Decision Items

1. The County confirmed a planning per capita flow of 65 gpcd for development of flow projections.
2. The County agreed on 2050 as the facility planning horizon targeting 13 million gallons per day (mgd) annual average daily flow (AADF) capacity.

Discussion

1. **Planning Framework Summary and Population Projection Methods:**
    a. After introduction of the attendees, Laura presented the meeting objectives and the summary of the planning framework task.
    b. The annual average flow has increased by 55 percent in the past 10 years, and the influence of weather events on the historical peaking factors was reviewed.
    c. Two methodologies for population projection were presented.

   i. The first methodology consisted of using the County's existing sewershed and planned development EDU data, multiplied by BEBR's most recent population per household figure to calculate the estimated population in existing and future development areas.
   ii. The second methodology consisted of using SWFWMD parcel-level population data within the County's existing sewershed and future development areas, subtracting the areas known to have or likely to have septic systems according to the DOH Onsite Sewage Program maps. It was assumed that future developments falling in areas that currently have septic tanks will be converted to sewer once the developments take place.

d. Both projections result in similar populations in 2025 and at build-out of the planned development areas. However, the estimated growth using SWFWMD's methodology is slower. Therefore, it was recommended to adopt the County's EDU projection methodology for calculating the future population.

2. **Level of Service and Flow Projections:**

   a. The flow per capita over the last 10 years was calculated and shown to remain relatively consistent over this time period, with an average of 65 gpcd.
   b. Laura discussed the changes in Policy 9.1.1 that happened in 2022. The policy previously required a minimum level of service of 80 gpcd for the NRWRF service area. However, the policy was redacted, and it no longer requires a minimum per capita flow level of service.
   c. Carollo presented flow projections based on different per capita flow factors.
   d. The facility's permit is based on a TMRADF basis, which based on data is approximately 10 percent higher than the AADF flows. The County would like Carollo to evaluate the possibility of rerating the facility basis to AADF in the next permit renewal currently being completed by Carollo. Note, the County is in the process of renewing the permits as their other WRFs to an AADF capacity basis.
   e. Based on the anticipated population projections, the projected flow to the NRWRF will be between 13 and 16 mgd AADF, assuming a per capita flow of 65 to 80 gpcd, respectively.

3. **Task 4 Decision Items:**

   a. The County agreed upon 65 gpcd as the per capita flow factor to be used for future projections.
   b. The timeframe for the NRWRF Facility Plan and expansion project was agreed to be 2050, which will require a facility capacity of 13.0 mgd AADF.

4. **Facility Plan and RAS/WAS Evaluation Progress:**

   a. Carollo is evaluating the capacity of each treatment unit, identifying hydraulic bottlenecks. Results show that while the headworks and contact chambers can handle flows above 12.5 mgd, the traveling bridge filters are not able to handle this flow with one unit out of service (Class I reliability).
   b. The team reviewed current settling characteristics and explored strategies to improve capacity. Brent shared results from recent operational changes, including reducing the SRT to around 10 days and achieving better settling performance.
   c. The RAS/WAS pump performance was also discussed, with an analysis of pump curves, head conditions, and potential limitations. There are challenges with the current pump performance, particularly with achieving expected flow rates. The increased elevation of the new headworks (about 4 feet higher) has impacted pump performance.
   d. Brent shared the facility currently is running three pumps instead of the expected two-pump configuration. Carollo will update the evaluation account for three pumps in service.

e. It was discussed that the capacity of the EQ facilities and Solids Handling will be evaluated and presented to the County at the next workshop.

5. **Capacity Reservations:**
   a. The conversation then shifted to capacity reservations and FDEP permits for new developments. The County's current practice is using 80 gpcd for capacity reservations, even though this is no longer a requirement of the County's Comprehensive Plan.
   b. Permits for new developments have been considering the 80 gpcd to be consistent with the reservation database to assess capacity, which has led to complications in permitting new developments.
   c. The County recognizes that the current system is problematic. Considering changing the internal planning flow factor to 65 gpcd would free up capacity. However, for developments that have already been approved it may be difficult to change their existing capacity reservation.
   d. The County will be addressing their internal processes to remedy this situation and avoid future unused reserve capacity.
6. **Next Steps and Action Items:**
   a. The group agreed to hold a workshop at the end of May to discuss the results of Tasks 5 and 6 for the NRWRF Facility Plan. The workshop content will include considerations to convert the facility to AWT, capacity expansion options for various unit processes, and evaluation of the new capacity to be treatment with aerobic granular sludge (AGS) technology.
   b. A list of action items was reviewed, and the meeting was adjourned.

MEETING NOTES

MANATEE COUNTY

North Regional WRF Facility Plan and Near-Term Improvements

Prepared By:	Andrew Gilmore, Raphael Knickerbocker	**Issued Date:**	June 4, 2025
Meeting Date:	May 28, 2025	**Project No.:**	203912
Location:	Utilities Building Coral Room / Teams		
Subject:	Facility Evaluation Workshop		
Attendees:	Manatee County: Chris Collins, Brent Laudicina, Jim Renneberg, Paul Haas		
	Carollo: Laura Baumberger, Natalie Beach, Andrew Gilmore, Raphael Knickerbocker, Matt Love		

The following is our understanding of the subject matter. If this differs from your understanding, please notify us. A copy of the meeting presentation is attached to these minutes for informational purposes.

Objective

The objective of this workshop was to discuss the results of the facility evaluation (Task 5) and RAS/WAS pump assessment (Task 6).

Action Items

1. Carollo – Develop influent sampling plan to address influent quality inconsistencies.
2. Carollo – Evaluate RAS pumping directly to the anoxic reactors of each BNR oxidation ditch train.
3. Carollo - Meet with County to review the indirect cost assumptions for the cost estimates and update if needed considering the County's typical CIP cost estimating methodology.

Decision Items

1. Update facility planning to include longer belt filter press (BFP) operational durations (24 hours a day, 5 days a week) and defer the installation of new BFP.
2. RAS improvements can include new piping, valves, and metering directly to each oxidation ditch anoxic zone to improve pumping capacity by lowering the TDH.
3. RAS improvements should be deferred until the NRWRF Expansion Project.
4. WAS improvements can be funded from the County's 402 budget (maintenance/R&R).
5. The packaged cloth media filter, being used at the Southwest WRF, can be relocated to the NRWRF to increase filtration capacity for a potential re-rate.
6. Consider permit modification to reclassify 49 MG reclaimed water pond to reject storage to increase reject storage volume for future capacity increase.

Discussion

1. **Procurement Strategy and Schedule**
   a. The team discussed developing the RFP for a Progressive Design-Build (PDB) project.
   b. Laura noted that the design criteria package (DCP) can be treated as a "study" under CCNA dollar thresholds to avoid requiring a separate procurement for a DCP engineer. Or, the County can

develop the DCP in-house by its Utilities engineering staff. The County elected to develop the DCP in-house in order to accelerate the RFP schedule.

c. The County intends to issue the solicitation in July 2025, with selection of the PDB firm in September or October, and Board approval in November 2025.
d. Options for accelerating the schedule include eliminating interviews or requiring only informal Q&A instead of formal presentations.
e. A PDC contract negotiation window of 21 days was discussed, though the team recognized the challenge of negotiating a scope of work and the associated fee within that timeframe.
f. A small initial scope for Phase 1 services could streamline the execution of the contract, given the design scope might be subject to change depending on the selected technology based on an early evaluation by the PDB firm. It was recommended that the PDB firm consider aspects such as future AWT.

2. **Capacity Planning**

a. The planning horizon was reaffirmed through 2050, with an annual average daily flow (AADF) target of 13 mgd. A per capita flow of 65 gallons per capita per day (gpcd) was confirmed for planning purposes.
b. Based on current population trends and flow data, the facility may reach the existing facility capacity by 2027–2028.
c. Treatment capacity of the various treatment units was discussed. The existing headworks and grit system are not current capacity constraints. The grit system includes eight trays with room for 4 additional trays (12 total per unit), which would allow treatment of the projected peak of 32.5 MGD.
d. The clarifiers have a hydraulic capacity of 10.1 mgd AADF. The group considered whether adding another clarifier would be needed for immediate capacity, but recognized this would not align with the County's approach to standardize around AGS technology at all their facilities.
e. Recalibrating the process model (mass balance and biological loading) would help to support a potential re-rating application; however, additional sampling is required to verify influent concentrations.
f. The current filters would not be able to handle additional flows. A temporary/packaged 12-disk cloth media filter filter (rated at 6 MGD peak) is available from the Southwest facility and could be deployed for redundancy. Long term upgrades may include replacing the existing filters with diamond cloth media filters, depending on selected treatment alternatives.
g. The current sludge holding tanks provide 8–11 days of storage at 13 MGD, sufficient for extended holidays. Adding thickening through a gravity belt thickener (GBT) could improve the percent solids and extend holding capacity.
h. Existing EQ capacity is not sufficient at 32.5 mgd peak flows to attenuate to AADF. Expansion may be required based on future process selection. Future EQ configuration and control automation were also discussed.

3. **Reject Pond Reclassification**

a. The County will explore reclassification of the existing 49 MG reclaimed water pond to reject storage during the current permit renewal effort. The current reject pond is unlined and provides limited usable volume due to its elevation.
b. Staff reported the pond overflows within 24 hours of a plant upset, and volume is less than estimated due to elevation limitations.

c. The reclassification of the 49 MG pond will be part of the permit renewal as a redundancy and reliability enhancement to provide additional reject storage. There is sufficient reclaimed water storage in the north pond (which is part of the MCMRS permit).
d. It may be possible to reclassify the pond under a compliance schedule, with future lining tied to facility expansion.

4. **RAS/WAS Pumping**
   a. Brent reported that with two RAS pumps running, the system achieves approximately 6.1 mgd flow. However, adding a third pump only results in a small increase, with a maximum around 6.3 mgd regardless of the number of pumps engaged. The flat head curve of the pumps is the major contributor to the limited incremental flow capacity when engaging additional pumps.
   b. Two RAS pumps have already been replaced and the third has been fully rebuilt with a new impeller and coatings.
   c. The current RAS piping layout may be restricting maximum flow rates due to friction losses and backpressure effects, rather than mechanical pump limitations.
   d. Re-routing the RAS pipes directly to the anoxic zones of each oxidation ditch would reduce the head required by the RAS pumps and increase the flow rates. New piping to each oxidation ditch could include flow meters and valves along the concrete walls for ease of access.
   e. RAS pumping reconfiguration or upgrades should be included the NRWRF Expansion Project (not a separate/earlier project).
5. **Cost Evaluation**
   a. Three main expansion options were considered: AGS, expanding existing oxidation ditches, and an MBR option. The cost estimates for these approaches were discussed in broad terms and noted as preliminary estimates.
   b. The team acknowledged that previous CIP cost estimates were around $265 million, developed two years ago. The presented cost estimates were escalated to midpoint-of-construction (2028).
   c. Pros and cons of each approach were discussed comparing AGS, the existing MLE process, and MBR.
   d. Carollo noted that phasing of the improvements by adding capacity via re-rate could help to defer major capital costs.
   e. While the MBR alternative may be a lower cost expansion alternative, the long-term operational costs would be higher than AGS. In addition, the County has decided to standardize around AGS at all their facilities.
6. **Next Steps**
   a. A list of action items was reviewed, and the meeting was adjourned.