

**Hillsborough County Alafia River BMAP
Wastewater Treatment and OSTDS Remediation Plans
Clean Waterways Act – Senate Bill 712**

The below information satisfies the requirements provided in subparagraph 403.067(7)(a)9 for developing a wastewater treatment plan and onsite sewage treatment and disposal system (OSTDS) remediation plan for areas located within the Alafia River Basin BMAP.

Hillsborough County Wastewater Treatment Plan

The Falkenburg Advanced Wastewater Treatment Facility (AWTF) and the Valrico Advanced Wastewater Treatment Facility (AWTF) serve WBIDs identified within the Alafia River Basin BMAP. These two facilities are both currently operating within permit conditions. A capacity analysis including projected future conditions through the year 2045 was completed in April 2023 which includes both the Falkenburg and Valrico AWTF.

Falkenburg Advanced Wastewater Treatment Facility

- 1) The permitted capacity for this facility is 12 MGD.
- 2) The facility has a permitted TN annual total effluent limit of 45 tons per year and a 5-year average limit of 30.40 tons per year. There is no phosphorus limit imposed by the permit. The permit was not issued for a single facility and instead combines the Falkenburg, South County, and Valrico advanced wastewater treatment facilities.
- 3) Permitted concentrations and annual TN and TP loads discharged by the Falkenburg AWTF for the previous five years are provided in Tables 1 and 2 below.

Table 1. Falkenburg AWTF Effluent Limitations and Monitoring Requirements

Parameter	Units	Max/Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number
Nitrogen, Total	mg/L	Max	3.0	Annual Average	5 Days/Week	24-hr FPC	EFA-01
		Max	3.75	Monthly Average			
		Max	4.5	Weekly Average			
		Max	6.0	Single Sample			
Phosphorus, Total (as P)	mg/L	Max	Report	Monthly Average	5 Days/Week	24-hr FPC	EFA-01
		Max	Report	Single Sample			

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Table 2. Falkenburg AWTF Annual Effluent Averages

Year	Annual Avg TN (mg/L)	Annual Avg TP (mg/L)	Annual Avg TN (tons)	Annual Avg TP (tons)
2019	1.973	0.226	15.588	1.973
2020	1.784	0.222	16.532	1.583
2021	1.931	0.288	13.961	1.802
2022	1.729	0.466	13.210	3.613
2023	2.086	0.456	11.584	2.611

4) A capacity analysis was completed for the South-Central Advanced Wastewater Treatment Facilities in April 2023, which includes the Falkenburg and Valrico AWTFs (South-Central CAR 2023). This analysis estimates that the Falkenburg AWTF will reach its permitted capacity by 2028. To prevent exceedance of the permitted capacity, 2.0 MGD will be diverted to the City of Tampa as needed based on flow conditions until an additional treatment facility comes online.

5) There are no facility improvements recommended at this time to meet water quality, statutory, or other regulatory requirements. This is an advanced wastewater treatment facility operating within permitted conditions. An additional treatment facility is planned to be developed to address projected future capacity issues within the South County service area.

6) No improvements are scheduled to be made.

Valrico Advanced Wastewater Treatment Facility

Since July of 2022, elevated concentrations of TKN influent have resulted in this facility not meeting criteria for surface water discharge. All surface water discharge from the Valrico AWTF has been ceased. All effluent is currently distributed as Public Access Reuse or is discharged into one of the South Hillsborough Aquifer Recharge Program wells. Additional information regarding potential causes of the increased TKN concentrations and measures to be taken to address the loading can be found in the South-Central Capacity Analysis Report.

1) The permitted capacity for this facility is 12 MGD.

2) The facility has a permitted TN annual total effluent limit of 45 tons per year and a 5-year average limit of 30.40 tons per year. There is no phosphorus limit imposed by the permit. The permit was not issued for a single facility and instead combines the Falkenburg, South County, and Valrico advanced

wastewater treatment facilities.

3) Permitted concentrations and annual TN and TP loads discharged by the Valrico AWTF for the previous five years are provided in Tables 3 and 4 below.

Table 3. Valrico AWTF Effluent Limitations and Monitoring Requirements

Parameter	Unit	Max/Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number
Nitrogen, Total	mg/L	Max	3.0	Annual Average	5 Days/Week	24-hr FPC	EFA-01
		Max	3.75	Monthly Average			
		Max	4.5	Weekly Average			
		Max	6.0	Single Sample			
Phosphorus, Total (as P)	mg/L	Max	1.0	Annual Average	5 Days/Week	24-hr FPC	EFA-01
		Max	1.25	Monthly Average			
		Max	1.5	Weekly Average			
		Max	2.0	Single Sample			

The Valrico AWTF did not discharge through its' outfall during the 2023 year.

Table 4. Valrico AWTF Annual Effluent Averages

Year	Annual Avg TN (mg/L)	Annual Avg TP (mg/L)	Annual Avg TN (tons)	Annual Avg TP (tons)
2019	2.60	0.30	6.68	0.886
2020	1.7	0.35	5.0	0.948
2021	2.2	0.40	3.1	0.486
2022	2.2	0.30	2.02	0.192
2023	NA	NA	NA	NA

4) A capacity analysis was completed for the three South-Central Advanced Wastewater Treatment Facilities in April, 2023, which includes the Falkenburg and Valrico AWTFs. Improvements for nitrification

capacity due to unexpected TKN content of influent may be needed. An investigation is being conducted to determine potential causes of the increased TKN loading. Recommended improvements will be suggested following the completion of the investigation. The South-Central Capacity Analysis Report provides additional information regarding this issue.

5) Current TKN concentrations entering the facility consistently exceed the designed treatment condition. As such, this facility does not currently meet surface water discharge criteria. However, this facility is still operating within permit conditions by discontinuing surface water discharge. Recommended improvements to address this issue will be made following the completion of an investigation to locate and mitigate the source of elevated TKN.

6) Recommendations for improvements will be made, including timelines and costs, following the investigation of elevated TKN concentrations in influent.

Onsite Sewage Treatment and Disposal System Remediation Plan

Hillsborough County consultants completed the Hillsborough County Septic Tank Conversion – Neighborhood Prioritization document in 2018 (Hazen Septic to Sewer Final Report). The prioritization method described in the document has been used to assist in selecting potential conversion areas for septic to sewer conversion projects.

7) An inventory of likely occupied parcels which do not have wastewater utility connections has been completed for Hillsborough County. This inventory includes areas outside of the Alafia River BMAP and totals 100,011 parcels which are likely utilizing OSTDS. Two separate shapefiles have been included within the report package depicting OSTDS parcels throughout Hillsborough County, both inside and outside the Hillsborough County wastewater service area (Shapefiles 1&2). The total number of parcels with potential OSTDS units located within the Alafia River BMAP is 10,610. Two additional shapefiles have been included with the report package depicting OSTDS parcels within the Alafia River BMAP areas both inside and outside the Hillsborough County wastewater service area (Shapefiles 3&4).

8) Hillsborough County conducted a population growth estimate for Alafia River BMAP areas outside of the Hillsborough County wastewater service area over the next 20 years which resulted in an estimated increase of 44,004.6. This number was then divided by 2.61 to account for estimated household size to determine newly occupied households requiring OSTDS. This resulted in an estimated 16,860 new households requiring OSTDS within the Alafia River BMAP area over the next 20 years.

9) There are five septic to sewer conversion projects currently in planning/design and one project in construction within Hillsborough County. These projects are the following:

Gibsonton Area Septic to Sewer Conversion Program

Palm River Utility Expansion Program (Septic to Sewer)

Ruskin and Wimauma Sewer System Project

Town & Country Rocky Creek Troydale and S Lagoon Septic to Sewer Conversion Project

Town & Country Rocky Creek Bay Path Lane and Brunswick Lane Septic to Sewer Conversion Project

University Area Septic to Sewer (Innovation Area) Project

The Gibsonton Area Septic to Sewer Conversion Program is the only project currently underway which will eliminate OSTDS units within the Alafia River BMAP area. This project is expected to eliminate 792 OSTDS units (Shapefile 5).

10, 11) The Gibsonton Master Implementation Plan and Project Phasing Technical Memorandum have been included within the report package. These documents provide information regarding the project scope. Schedules for the planned septic to sewer projects may be found in the spreadsheet titled "Schedule – S2S Gantt Chart" within the report package. The estimated cost of the Gibsonton Area Septic to Sewer Conversion Program project is \$110,110,668.

12) There are an estimated 5,885 parcels located within the Alafia River BMAP which meet the one acre or less requirement for upgrade and are not to be addressed by the planned Gibsonton Septic to Sewer Conversion Program (Shapefiles 6&7). Additionally, there are an estimated 16,860 households which will require the installation of an OSTDS within the next 20 years.

13) Costs for the installation of a single upgraded ENR-OSTDS are estimated to be between \$25,000 and \$30,000. Based on this information the estimated cost range for upgrading potential OSTDS units within the Alafia River BMAP, which will not be addressed by the existing Gibsonton Area Septic to Sewer Conversion Program, over the next 20 years is \$568,625,00 to \$682,350,000.

14) Currently, septic to sewer conversion projects are the only method proposed to address OSTDS concerns within the Alafia River BMAP. Hillsborough County is in the process of completing multiple septic to sewer conversion projects throughout the County to address growing OSTDS concerns. Although only one of these projects currently includes the Alafia River BMAP area, future projects are expected to include additional BMAP regions. No other projects to address nutrient loading within the Alafia River BMAP areas are in development at this time.