

System Performance Annual Report

Fiscal Year 2023 (July 2022 - June 2023)

I) General Information

Town of Franklin Wastewater Treatment Plant

399 Sierra Drive

Franklin, NC 28734

Wastewater ORC

William L. Deal

828-524-2516

Permit Number

NC0021547

II) Description of Facility

The Town of Franklin Wastewater Treatment Plant (WWTP) is rated for 1.65 million gallons per day (MGD) serving the Town of Franklin and extended service areas. For fiscal year 2023 an average 0.7244 million gallons of flow were treated. The majority of the flow treated is from residential customers. Other flows such as commercial and industrial along with inflow and infiltration (I&I) are also treated.

The design of the wastewater treatment plant is a modified activated sludge biological treatment process which relies on an oxidation ditch to provide much of the treatment process. It consists of three rings; an outside, middle, and inside. It's a process that utilizes long solids retention time (SRT) to remove biodegradable organics. The lifeblood of the treatment system are the microorganisms (bugs). These microorganisms treat the wastewater and make the treatment process possible. Here is a detailed layout of the treatment system.

Preliminary Treatment

HydroDyne Band Screen – screening with compactor and auger.

Aerated Grit Chamber – 2 Gorman – Rupp grit pumps and auger grit removal system.

1.5 MGD Equalization Basin – with fine bubble air diffusion.

ScreenCo Maxi Screen 400. – Offloading of domestic septic only at septic receiving station.

Primary Treatment

3 Ring Oxidation Ditch – utilizes 9 S&N Airflo aerators to maintain correct oxygen content and to maintain adequate mixing.

Secondary Treatment

2 - Rex Secondary clarifiers (50 feet in diameter each)

2 - Fairbanks Morse Return Sludge Pumps

Disinfection Treatment

Sodium Hypochlorite Solution with dechlorination of effluent prior to exiting the treatment facility.

Residual Handling Equipment

Aerobic Digester 85 feet in diameter, with coarse bubble diffusion;

1 - Moyno E Z Strip Transfer Pump

1 - Meter Komline Sanderson Belt Press

1 - Fairbanks Morse Waste Sludge Pump

Back Up Power Supply

Headworks and EQ with (80KW generator)

Wastewater Treatment Plant (600KW generator)

Bio solids / Sludge Removal

The Town of Franklin presses sludge and is disposed into the Macon County Landfill.

Automation

SCADA provides some automation controls of the treatment facility and emergency notification when operators are not on site.

III) Improvements to the Facility and Equipment

Facility

The Town of Franklin had a compliance inspection conducted by NC DEQ on November 17th 2022, to verify that the facility was operating in compliance and conditions and limitations specified in the NPDES Permit. There were no issues or findings during the inspection.

Equipment

Converted 1 S&N aerator from belt drive to a direct drive system.

A new gear box was installed on the ban screen on January 24th 2023.

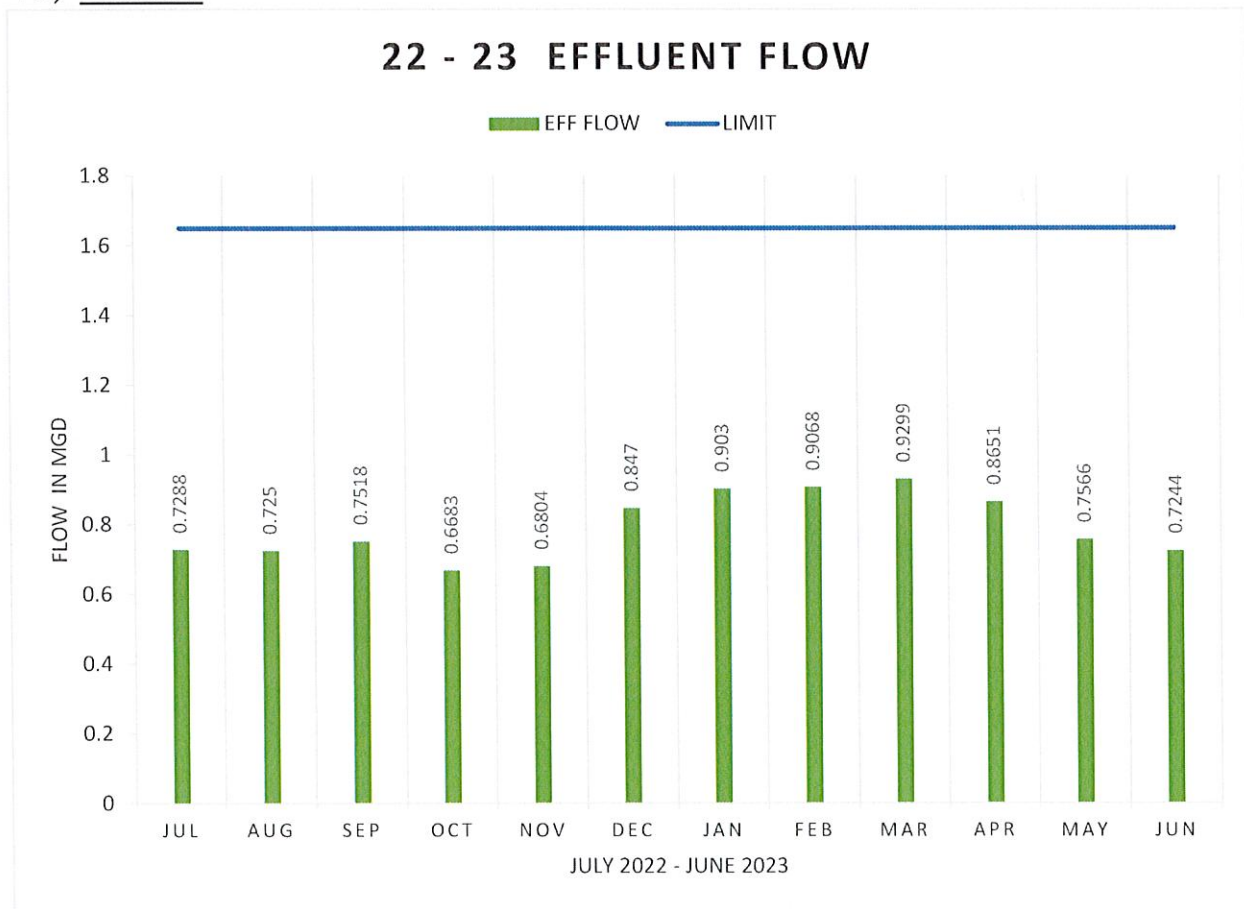
IV) System Performance Measures

The Town of Franklin wastewater treatment plant has achieved high performance levels for the 2023 fiscal year. The Town of Franklin continues to provide effective/efficient treatment services to the Town. Average wastewater BOD & TSS removal efficiencies of 99.1% and 99.4% respectively (state permit requires a minimum of 85% removal rates for compliance). See attached charts removal efficiencies.

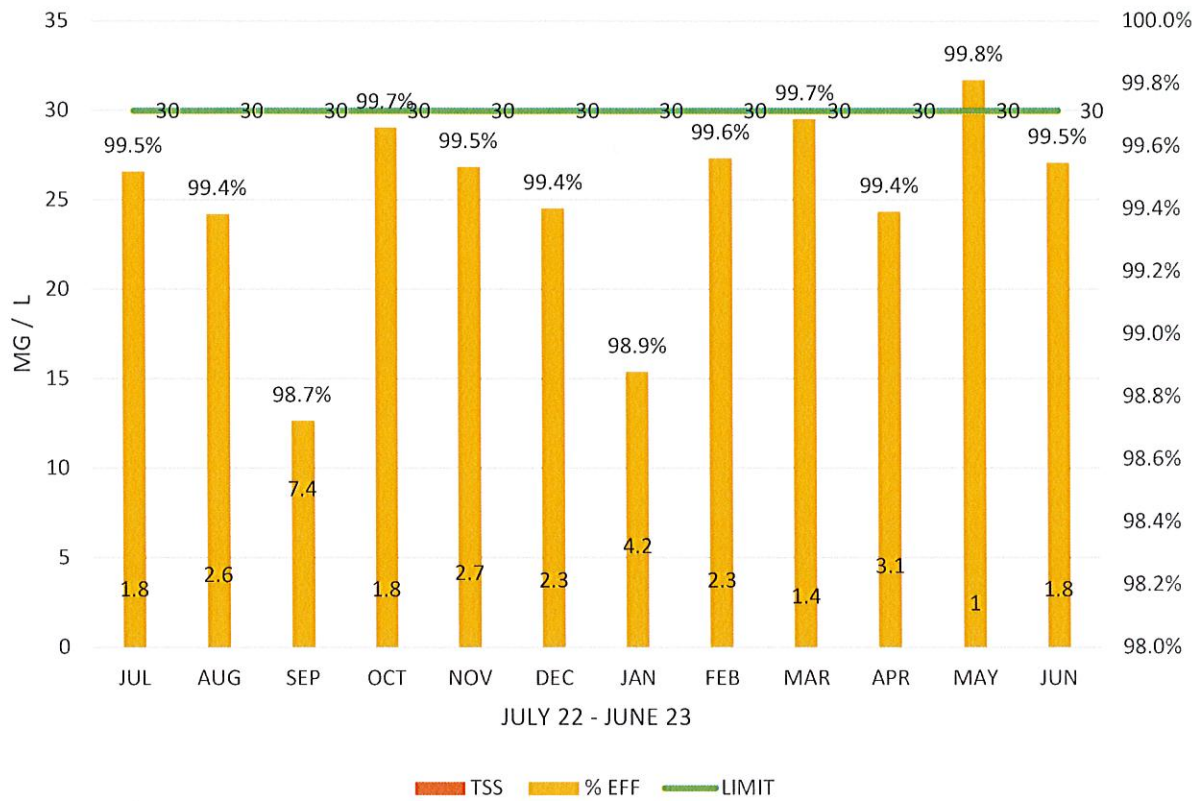
V) Violations

The Town of Franklin wastewater treatment plant did not have any violations for 2022 - 2023.

VI) Charts



22 - 23 TSS AVERAGES & PERCENT EFFICIENCY





VII) Summary

Effluent Flow

The wastewater treatment plant treated a total flow of 269,362,000 gallons for the 22-23 fiscal year.

Belt Press Sludge

The wastewater treatment plant pressed a total of 1021.76 tons or 2,043,520 pounds for the 22-23 year.

Domestic Septic Treated

The wastewater treatment plant treated a total of 1,030,400 gallons of domestic septic for fiscal year 22-23.

Leachate Treated

The wastewater treatment plant treated a total 2,890,221 gallons of leachate for fiscal year 22-23.

Sodium Hypochlorite Bleach

The wastewater treatment used 4610 gallons of bleach for the 2022 - 2023 year which is equal to 12.6 gallons per day of bleach used.

Calcium Bisulfite Solution

The wastewater treatment plant used a total of 440 gallons of sodium bisulfite 40-43% to dechlorinate the final effluent water before entering the Little Tennessee River. This is an average of 1.2 gallons per day.

VIII) NOTIFICATION

The Town of Franklin will advertise in The Franklin Press, Macon County's largest general circulation newspaper, that the System Performance Annual Report will be available for review at the Town office or online at www.franklinnc.com.

IX) Certification

I certify under penalty of law that this report is complete and accurate to the best of my knowledge. I further certify that this report has been made available to the user and customers of the Town of Franklin and that those users have been notified of its availability.

William Logan Deal, 7/19/23

Town of Franklin WWTP ORC / Pretreatment Coordinator