



VILLAGE OF BALD HEAD ISLAND

2023 Wastewater Report

Report submitted: April 2024

House Bill 1160, the Clean Water Act of 1999, was ratified by the North Carolina General Assembly on July 20 and signed into law by the Governor on July 21, 1999. This legislation placed significant reporting requirements on those entities that own or operate wastewater treatment and collection systems. In compliance with this Act, the Village Utilities Department provides an annual report to its users and the NC Department of Environment & Natural Resources. This report will be made available to the public each year. To reach all our customers, we are posting a copy of this 2023 report on the Village Website, villagebhi.org. Additional copies can be obtained in person or by contacting the Village Utilities Department at 910-457-7350.

This report summarizes the waste treatment works, collection system and their performances from January 1, 2023, to December 31, 2023. The report details the extent to which any terms of its permits, federal laws, state laws, regulations or rules related to the protection of water quality have been violated.

The Village of Bald Head Island wastewater treatment facility operates in accordance with permit number WQ0000193 based on provisions of Article 21 of Chapter 143, General Statutes of North Carolina as amended and other applicable Laws, Rules, and Regulations. This wastewater treatment plant (WWTP) is monitored by Nathan Lindsay, (ORC) Operator in Responsible Charge.

The wastewater treatment facility began its initial operation in November 1996 and was capable of processing 200,000 gallons per day of domestic waste. This facility was designed by McKim & Creed Engineers Inc. with all process equipment provided by Aqua-Aerobic Systems Inc.

In 2002 design was underway to expand treatment capacity to 400,000 gallons per day (gpd). This capacity upgrade would be achieved by the addition of a pre-equalization basin, batch reactor and improving tertiary treatment. In 2015, treatment capacity decreased to 300,000 gallons per day. Due to projected growth on the Island, a WWTP upgrade from 300,000 gpd to 650,000 gpd is currently underway.

Please be assured that our Utilities Department is committed to exploring new and innovative ideas to improve the treatment process for both performance and capacity. The following chart represents regulated wastewater effluent monitoring during 2023, some limits were exceeded:

WQ0000193	Limit	Monthly avg. for year	Limits Exceeded
Fecal Coliform	Daily Max 25 and Monthly 14 CFU/100 mL	1.294 CFU/100mL	Daily- July/2023-299 CFU/100mL; October 3,2023-85CFU/100mL
Ammonia as Nitrogen (NH3)	Daily Max 6 mg/L and Monthly 4 mg/L	2.27 mg/L	Daily-January 3 -16.8 mg/L, 1-4 6.7 mg/l April 4-7.4 mg/L,5- 9.8 mg/L, 11-16.7 mg/L,12-13.4mg/L.; July 5-30.1 mg/L, 6-32.8 mg/L,11-10.1 mg/L; Nov 22- 11.3 mg/L; December 29-8 mg/L; Monthly- April 13.4 mg/L
Total Suspended Solids	Daily Max 10 mg/L and Monthly 5mg/L	.112 mg/L	N/A
Biological Oxygen Demand (BOD)	Daily Max 15 mg/L and Monthly 10mg/L	2.215 mg/L	Daily- March21-24 mg/L, 29-17mg/L
Total Phosphorus (P)	Monthly 2 mg/L	1.031 mg/L	Monthly- Aug.-4.31mg/L
Total Nitrogen (N)	Monthly 10 mg/L	7.492 mg/L	Monthly-April-13.5 mg/L, July-16.26 August-13.67

mg/L - milligram per liter CFU/100 mL – Colony Forming Units/ 100 mL

Our water treatment facility consists of three (3) reverse osmosis water purifying systems that produce a waste called “reject”. This reject water is discharged to the Bald Head Island Marina under permit number NC0085553 and operates in compliance with North Carolina General Statute 143-215.1. The water treatment facility and reject produced is monitored by Nathan Lindsay, (ORC) Operator in Responsible Charge. The waste (reject) from water treatment is monitored for certain regulated contaminants.

NC0085553	Limit	Monthly avg. for year	(Monthly/Daily) Limits Exceeded
Total Arsenic	10 ug/L	1.25 ug/L	

ug/L - microgram per liter mg/l - milligram per liter

The Village wastewater collection system has approximately 180,000 feet of sewer mains, size ranging from 1.5” to 10” in diameters and (38) various sized lift stations, which collect and convey domestic waste to our treatment facility for processing. This collection system operates in accordance with permit number WQCS00276 and it is monitored by David P Mintz, ORC, there were no reportable spills during 2023.

Our staff is committed to protecting the environment and providing excellent customer service. We look forward to meeting your wastewater needs in the future.

The information supplied in this report is complete and accurate to the best of my knowledge.

Joseph P McCann, Public Services Director

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03/27/2024

 Date