



VILLAGE OF BALD HEAD ISLAND

2021 Wastewater Report

Report submitted: December 2022

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 2021 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, 2021 until December 31, 2021. 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 facility is monitored by David A. Suther, (ORC) Operator in Responsible Charge.

The wastewater treatment facility began its initial operation 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.

By 2002 plans were underway to expand treatment capacity to 400,000 gallons per day. This capacity upgrade would be achieved by the addition of a pre-equalization basin, batch reactor and improving tertiary treatment.

The most recent improvements were to the wastewater treatment “process” to achieve reuse quality effluent. This project was completed in phases over several years. Upgrades consist of piping that conveys the reuse effluent to the Club Irrigation lagoon, equipment for chemical additions, monitoring, pH / DO control and an increase in blower capacity to meet higher dissolved oxygen requirements. Unfortunately, treatment capacity was decreased to 300,000 gallons per day to achieve this process improvement.

Please be assured that our Utilities Department is committed to exploring for new and innovative ideas to improve the treatment process for both performance and capacity. The following chart represents regulated wastewater effluent monitoring during 2020, some limits were exceeded:

WQ0000193	Limit	Monthly avg. for year	Limits Exceeded
Fecal Coliform	Daily Max 25 and Monthly 14 CFU/100 mL	1.72 CFU/100mL	N/A
Ammonia as Nitrogen (NH3)	Daily Max 6 mg/L and Monthly 4 mg/L	.67 mg/L	3/31/21-13.7 mg/L 7/12/21-6.05 mg/L
Total Suspended Solids	Daily Max 10 mg/L and Monthly 5mg/L	.32 mg/L	N/A
Biological Oxygen Demand (BOD)	Daily Max 15 mg/L and Monthly 10mg/L	1.46 mg/L	N/A
Total Phosphorus (P)	Monthly 2 mg/L	1.24 mg/L	N/A
Total Nitrogen (N)	Monthly 10 mg/L	6.7 mg/L	N/A

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

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 David A. Suther, (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	3.25 ug/L	06/2021-16 ug/L , 10/2021-23 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, we are happy to report no reportable spills during 2021.

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

12/20/2022

Joseph P. McCann, Public Services Director

Date