



STATE OF DELAWARE

**DEPARTMENT OF NATURAL RESOURCES AND  
ENVIRONMENTAL CONTROL**

DIVISION OF WATER

RICHARDSON & ROBBINS BUILDING

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STORMWATER, &  
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**Public Notice FACT SHEET – September 24, 2025**

Greenville Country Club.  
201 Owl's Nest Road, P.O. Box 3920  
Wilmington, Delaware 19807

NPDES Permit No. DE 0021709  
State Permit No. WPCC 30791/75

Greenville country club has applied for reissuance of its National Pollutant Discharge Elimination System (NPDES) permit to discharge treated wastewater from its sanitary wastewater treatment facilities to a tributary of Red Clay Creek.

## **Proposed Changes**

1. Changed pH monitoring frequency from daily to five times per week to improve efficiency of operation.
2. Changed Dissolved Oxygen limit.

## **Facility Location**

The facility is located at 201 Owl's Best Road in New Castle County, Delaware.

## **Activity Description**

Greenville country club operates 15,000 gallons per day (GPD) sanitary wastewater treatment plant to serve a private country club. It is designated a minor facility.

## **Discharge Description**

This facility has a single discharge (Outfall 001) to a tributary of Red Clay Creek. The wastewater treatment process includes a flow equalization tank, bar screen, aeration plant, and UV disinfection.

## **Receiving Stream Classification**

The facility discharges to a non-tidal freshwater tributary of Red Clay Creek. The Red Clay Creek is classified for the following designated protected uses: public water supply; industrial water supply; primary contact recreation; secondary contact recreation; the propagation and maintenance of fish, aquatic life & wildlife; cold water fisheries (put-and-take); agricultural water supply, and fish consumption. 91% of Red Clay's total stream miles are listed as impaired on the Clean Water Act Section 303(d) list which needs

TMDLs. Once listed, a TMDL regulation or alternative must be developed that will return the waterbody to supporting the designated use. The low dissolved oxygen concentration indicates nutrient loading is impacting the surface water quality, as nutrient buildups ultimately suffocate oxygen and lead to eutrophication. The total phosphorus concentration has been decreasing along Red Clay Creek but was still found to exceed the EPA limit of 0.1 mg/L 30% of the time during the past decade. DNREC assess water of the State including Red Clay Creek water using 0.2 mg/L as threshold concentration for total phosphorus, which has been met along Red Clay Creek most of the time.

In addition to nutrients, DNREC established a TMDL for Zinc discharge to Red Clay Creek in 1999 because the release of zinc from the National Vulcanized Fiber in Yorklyn. DNREC recent 2024 assessment showed Zinc concentration in Red Clay Creek are decreasing and in the recent report DNREC has reported Zinc as “meeting criteria”, thus attaining water quality for Zinc.

The Department adopted EPA TMDLs for nutrients and low dissolved oxygen for the Christina River Basin in January 2001. The TMDLs, as revised in 2006, contain waste load allocations for 5-day carbonaceous biochemical demand (CBOD<sub>5</sub>), Ammonia Nitrogen (NH<sub>3</sub>-N), Total Nitrogen (TN), Total Phosphorus (TP), and dissolved Oxygen (DO). The Waste Load Allocations (WLAs) for Greenville country club specified in the Red Clay Watershed are as follows:

- CBOD<sub>5</sub> 2.504 lb/day
- NH<sub>3</sub>-N 0.188 lb/day
- TN 1.252 lb/day
- TP 0.25 lb/day
- DO 0.626 lb/day

## Statutory and Regulatory Basis

The Delaware Department of Natural Resources and Environmental Control (DNREC) proposes to reissue an NPDES permit to discharge the wastewater subject to certain effluent discharge limitations, monitoring requirements and other terms and conditions identified in the draft permit. Section 402 of the federal Clean Water Act, as amended, and 7 Del. C. Chapter 60 provide the authority for permit issuance. Federal and state regulations promulgated pursuant to these statutes are the regulatory bases for permit issuance.

## Bases for Effluent Limitations

DNREC has examined the application, recent discharge monitoring data, and related information. Data reported in both the application and discharge monitoring report is used to perform the reasonable potential (RP) analysis. With a design capacity of 15,000 GPD and only treating sanitary waste, this facility is only required to report conventional pollutants in the permit application. The nutrient parameters in the permit are TMDL-based. RP analysis was therefore not performed.

The Department proposes to reissue the facility’s NPDES permit for a period not to exceed five (5) years, subject to the effluent discharge limitations and monitoring requirements shown in the attached permit.

The following table indicates the bases for effluent limitations for Outfall 001:

Bases for Effluent Limitations – Outfall 001					
Parameter	Water Quality-Based <sup>(1)</sup>	Technology Based		Performance Based <sup>(4)</sup>	Monitoring Only
		RGCWP <sup>(2)</sup>	DRBC <sup>(3)</sup>		
Flow					X

pH		§7.7.1			
BOD <sub>5</sub>				X	
Oil & Grease				X	
Dissolved Oxygen	TMDL				
Enterococcus	§4.5.7.1		X		
Total Suspended Solids (TSS)	TMDL				
CBOD <sub>5</sub>	TMDL				
Ammonia Nitrogen	TMDL				
Total Nitrogen	TMDL				
Total Phosphorus	TMDL				
1. State of Delaware, Surface Water Quality Standards (SWQS) 2. State of Delaware, Regulations Governing the Control of Water Pollution (RGCWP) 3. Delaware River Basin Commission (DRBC) 4. Performance-based limits are based on the provisions of 40 CFR 122.45(b)(2)(I)					

**Flow:** The hydraulic design discharge rate of 15,000 GPD was used in determining the effluent limitations for this outfall. Compared to the actual flow, the design flow was used to determine loads for the following two reasons. First, use of the design flow is consistent with the TMDL. The concentration limits of all TMDL parameters are based on the waste load allocation and design flow. Second, both BOD<sub>5</sub> and Oil & Grease limits are concentration based, which are much more stringent than the limits on the RGCWP. The current limits provide enough protection.

**pH:** Technology-based pH limits have been retained from the current permit. These limits are based on Section 7.7.1 of RGCWP. Once daily monitoring requirement is proposed to change to five times per week to improve operation efficiency.

**Enterococcus:** The average daily effluent limit for Enterococcus has been retained from the current permit. Delaware amended its water quality standards on July 11, 2004. EPA approved the revised standards for enterococci bacteria in November 2004. The Delaware bacterial geometric mean water quality criteria for enterococcus is 100 cfu/100 ml for primary contact freshwater recreation. The current permit limit for Enterococcus (33 cfu/100 mL), based on most strict Delaware River Basin Commission (DRBC) standard, is much more stringent than the Delaware Surface Water Quality and TMDL allocation. According to DRBC, the effluent limits for Enterococcus of 33 cfu/100mL as a geometric average for freshwater is equivalent to the fecal coliform limit for the purpose of demonstration effective disinfection. In addition to the daily average effluent limitation, a daily maximum effluent limitation for enterococcus has been added based on the Single Sample Value criteria in §4.5.7.1 of the SWQS. Monitoring frequency here shall be once monthly.

**Oil and Grease:** Based on Section 7.3.1.15 of the RGCWP, effluent limitations for Oil and Grease should be 10 mg/L, which is less stringent than the current limits. The basis for the current Oil & Grease effluent limitation is uncertain. The permittee is consistently meeting the current effluent limitations. The current limits are proposed to be retained as performance-based limits. The current load limits are based on the concentration limits and the design flow of 15,000 GPD. Once monthly monitoring requirement has also been retained from current permit.

**TSS and BOD<sub>5</sub>:** Based on Section 7.7.1 of RGCWP, both BOD<sub>5</sub> and TSS limits should be 30 mg/L daily average and 45 mg/L daily maximum. The current concentration limit for TSS (15 mg/L) is based on WLAs under high-flow condition TMDL. The basis of the current concentration limits for BOD<sub>5</sub> is uncertain. The permittee is consistently meeting the more restrictive effluent limits. The current concentration for BOD<sub>5</sub> limits is proposed to be retained as performance-based limits. The current load limits are based on the concentration limits and the design flow of 15,000 GPD.

40CFR §133.102(a)(3) and (b)(3) require a minimum of 85% reduction in the raw waste BOD<sub>5</sub> and TSS on a monthly average basis prior to discharge. Further, based on our review of the RGCWP, §7.7.1 of the regulations also requires 85% removal of BOD<sub>5</sub> and TSS for facilities employing secondary treatment and disinfection. This requirement has been added to the permit in Part III.A Special Condition No.8.

**Dissolved Oxygen, CBOD<sub>5</sub>, NH<sub>3</sub>-N, TN, and TP Limits:** The Department adopted TMDLs for nutrients and low dissolved oxygen for the Christina River Basin Watershed in January 2001. The TMDL for low-flow condition was revised in April 2006 and the TMDL for high-flow conditions was revised in September 2006. The low-flow TMDL contains waste load allocations (WLAs) for the Greenville Country Club specified in the Red Clay Watershed for CBOD<sub>5</sub> (20 mg/L), NH<sub>3</sub>-N (1.5 mg/L), TN (10.0 mg/L), TP (2.0 mg/L), and DO (5.0 mg/L). The high-flow TMDL contains the same WLAs for CBOD<sub>5</sub>, NH<sub>3</sub>-N, TN, and TP. The high flow TMDL also contains WLAs for TSS (15 mg/L) for this facility. The DO allocation is to be implemented as a minimum concentration. Since Delaware freshwater dissolved oxygen criteria is 5.5 mg/L for the protection of aquatic life, we propose to adopt it as the DO limits here.

For this facility with design flow greater than 10,000 gpd, the CBOD<sub>5</sub> and NH<sub>3</sub>-N limits in high-flow TMDL are summer limits and apply from May 1 to Oct 31 and the summer TP limits apply from Apr 1 to Oct 31. During the winter season from Nov 1 to Apr 30, the CBOD<sub>5</sub> limit is 2 times the summer limit and the NH<sub>3</sub>-N limit is 3 times the summer limit. The winter TP limit is 2 times the summer limit and applies from Nov 1 to Mar 31. Based on the small size of the facility, the monitoring frequency shall be set at twice annually except CBOD<sub>5</sub>, NH<sub>3</sub>-N and TP. An additional monitoring shall be added for CBOD<sub>5</sub>, NH<sub>3</sub>-N and TP during winter months. Twice annual monitoring for the rest parameters must be performed between May 1 and October 31 to assess conditions during the more critical summer months.

## Special Conditions

**Special Condition No. 1** states that this permit supersedes NPDES Permit DE 0021709 and State Permit WPCC 3079H/75, issued on August 23, 2019, with an effective date of October 1, 2019.

**Special Condition No. 2** is a standard permit reopener clause. This special condition allows the Department to reopen and modify the permit if the discharger is causing water quality problems.

**Special Condition No. 3** outlines requirements for compliance with oil and grease limits.

**Special Condition No. 4, 5, and 6** require proper disposal of sludge in accordance with State and Federal requirements.

**Special Condition No. 7** outlines wastewater treatment plant operator licensing requirements for this facility.

**Special Condition No. 8** requires the permittee to demonstrate a minimum of 85% reduction in the raw waste TSS and BOD<sub>5</sub> concentrations on a monthly average basis prior to discharge.

**Special Condition No. 9** requires the permittee to use EPA-approved analytical methods that are capable of detecting and measuring the pollutants at, or below, the applicable water quality criteria or permit limits pursuant to 40 CFR Part 136.

## Antidegradation Statement

The proposed effluent limitations included in this NPDES permit comply with the applicable portions of the State of Delaware Surface Water Quality Standards, Section 5: Antidegradation and ERES Waters Policies.

## Public Notice and Process for Reaching a Final Decision

The public notice of the Department's receipt of the application and of reaching the tentative determinations outlined herein will be published in the Wilmington News Journal and the Delaware State News on **September 24, 2025**. Interested persons are invited to submit their written views on the draft permit and the tentative determinations made with respect to this NPDES permit application. The Department will not hold a public hearing on this application unless the Department receives a meritorious request to do so or unless the notice of this proposal generates substantial public interest. A public hearing request shall be deemed meritorious if it exhibits a familiarity with the application and a reasoned statement of the permit's probable impact. The request for a public hearing shall be in writing and shall state the nature of the issues to be raised at the hearing. All comments received by 4:30 p.m. on **October 23** will be considered by the Department in preparing the final permit.

## Department Contact for Additional Information:

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