

State of North Carolina Department of Environment and Natural Resources Division of Water Resources

WATER QUALITY PERMITTING SECTION NON-DISCHARGE EFFLUENT MONITORING FOR DOMESTIC WASTEWATER

PCS Code	Parameter – PCS Code	Units	Frequency ¹		Sample Type ²		
00310	BOD, 5-Day (20 °C)	mg/L	See Table 2		Composite ³		
00940	Chloride (as Cl) ⁴	mg/L	Same as GW monitoring		Composite ³		
50060	Chloring Total Pasidual 5	mg/L	Major ⁶	Major ⁶ 5 x Week ⁸		Grah ¹⁰	
	Chiofine, Total Residual		Minor ⁷	Weekly ⁹	Grad		
31616	Coliform, Fecal MF, M-FC Broth, 44.5 °C	#/100 mL	See Table 2		Grab ¹⁰		
50050	Flow, in Conduit or thru Treatment Plant ¹¹	GPD	Major ⁶	Continuous	Major ⁶	Recorder	
			Minor ⁷	Monthly	Minor ⁷	Estimate	
00610	Nitrogen, Ammonia Total (as N)	mg/L	See Table 2		Composite ³		
00620	Nitrogen, Nitrate Total (as N)	mg/L	See Table 2		Composite ³		
00625	Nitrogen, Kjeldahl, Total (as N)	mg/L	See Table 2		Composite ³		
00600	Nitrogen, Total (as N)	mg/L	See Table 2		Composite ³		
00400	лЦ	s.u.	Major ⁶	5 x Week ⁸	Grab ¹⁰		
	pn		Minor ⁷	Weekly ⁹			
00665	Phosphorus, Total (as P)	mg/L	See Table 2		Composite ³		
70300	Solids, Total Dissolved – 180 °C ⁴	mg/L	Same as GW monitoring		Composite ³		
00530	Solids, Total Suspended	mg/L	See Table 2		Composite ³		
00076	Turbidity, HCH Turbidimeter ¹²	NTU	Continuous		Recorder		

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1. Permits not matching recommended sampling frequencies shall include documentation in the Cover Letter and Attachment A footnotes supporting this variation.

- For Active Treatment Systems (e.g., extended aeration, anoxic, MBR, etc.), if Q < 30,000 GPD, sample type can be grab (<u>15A NCAC 02B .0505</u>). For Passive Treatment Systems (e.g., facultative lagoons, septic tanks, etc.), sample type shall be grab.
- 3. See <u>15A NCAC 02B .0503(4)</u>.
- 4. Applicable only for facilities with groundwater monitoring wells.
- 5. Applicable only if chlorine is used as a disinfectant.
- 6. $Q \ge 10,000$ GPD.
- 7. Q < 10,000 GPD.
- 8. Lagoon type systems with weekly ORC visits can have a weekly sampling frequency for pH and/or Total Residual Chlorine.
- 9. Total Residual Chlorine / pH can be "Per Event" if Permittee documents that the facility infiltrates/irrigates at a rate less than once per week.
- 10. See <u>15A NCAC 02B .0503(14)</u>.
- 11. Flow thru treatment plant should be monitored at a representative location (i.e., flow monitoring is not acceptable following treatment systems with substantial equalization such as lagoons).
- 12. Applicable only for Reclaimed Water facilities, and facilities complying with the High-Rate Infiltration Policy.

Table 2 – Recommended Sampling Frequencies

Flow (GPD)	Mainland Systems Year-round		Coastal Barrier Island Systems September 1 st to April 30 th		Coastal Barrier Island Systems May 1 st to August 31 st		(e.g., facultative lagoons,
	With BNR ¹	Without BNR	With BNR ¹	Without BNR	With BNR ¹	Without BNR	septic tanks, etc.)
≤ 1000	3 x Year	3 x Year	3 x Year	3 x Year	3 x Year	3 x Year	Annual
> 1,000 to 10,000	Monthly	4 x Year	Monthly	4 x Year	Weekly	Monthly	3 x Year
> 10,000 to 100,000	2 x Month	Monthly	2 x Month	Monthly	Weekly	Weekly	4 x Year
> 100,000 to 500,000	2 x Week	2 x Month	2 x Week	2 x Month	2 x Week	Weekly	Monthly
> 500,000	3 x Week	2 x Week	3 x Week	2 x Week	3 x Week	2 x Week	2 x Month

1. Applies when Total Nitrogen (TN) and/or Total Phosphorus (TP) limits are met by a Biological Nutrient Removal (BNR) process.

Table 3: Minimum Operator of Responsible Charge (ORC) Visitation Requirements for Classified Facilities (15A NCAC 08G .0204)

Treatment Type	Flow Criteria	Classification	Minimum ORC Visitation Schedule
Surface Irrigation Systems with the exception of (a) and (b)	N/A	Surface Irrigation System	Weekly ¹
Domestic systems with septic tank/sand filters; biological lagoons; or constructed wetlands	≤ 1,500 GPD	Surface Irrigation System	2 x Year ²
Domestic systems with ATUs (aerobic treatment units)	\leq 1,500 GPD	Surface Irrigation System	2 x Year ²
Activated sludge or fixed growth	1,500 GPD to 0.5 MGD	Grade II Biological	5 x Week
Activated sludge or fixed growth + BNR required by permit ³	1,500 GPD to 0.5 MGD	Grade III Biological	5 x Week
Activated sludge or fixed growth	0.5 to 2.5 MGD	Grade III Biological	5 x Week
Activated sludge or fixed growth + BNR required by permit ³	0.5 to 2.5 MGD	Grade IV Biological	5 x Week
Activated sludge or fixed growth	> 2.5 MGD	Grade IV Biological	5 x Week
Physical process (DAF, screening, filtration)	N/A	Grade I Phys/Chem	Weekly
Chemical process, RO, electrodialysis, and ultrafiltration	N/A	Grade II Phys/Chem	5 x Week

1. In the event of dual classification as a Surface Irrigation System *and* a Biological Treatment System, the visitation schedule for the surface irrigation system applies only to the irrigation portion of the system. The biological wastewater treatment facility visitation is set by a separate classification.

2. There must be a six month interval between visits.

3. Applies when Total Nitrogen (TN) and/or Total Phosphorus (TP) limits are met by a Biological Nutrient Removal (BNR) process.