

Brunswick County Public Utilities

St. James Q & A

Major Facilities

Water Treatment

Northwest WTP (24 MGD)

211 WTP (6 MGD)

Wastewater Treatment

Northeast Regional

West Brunswick

Shallotte

Ocean Isle Beach

Sea Trail

Carolina Shores



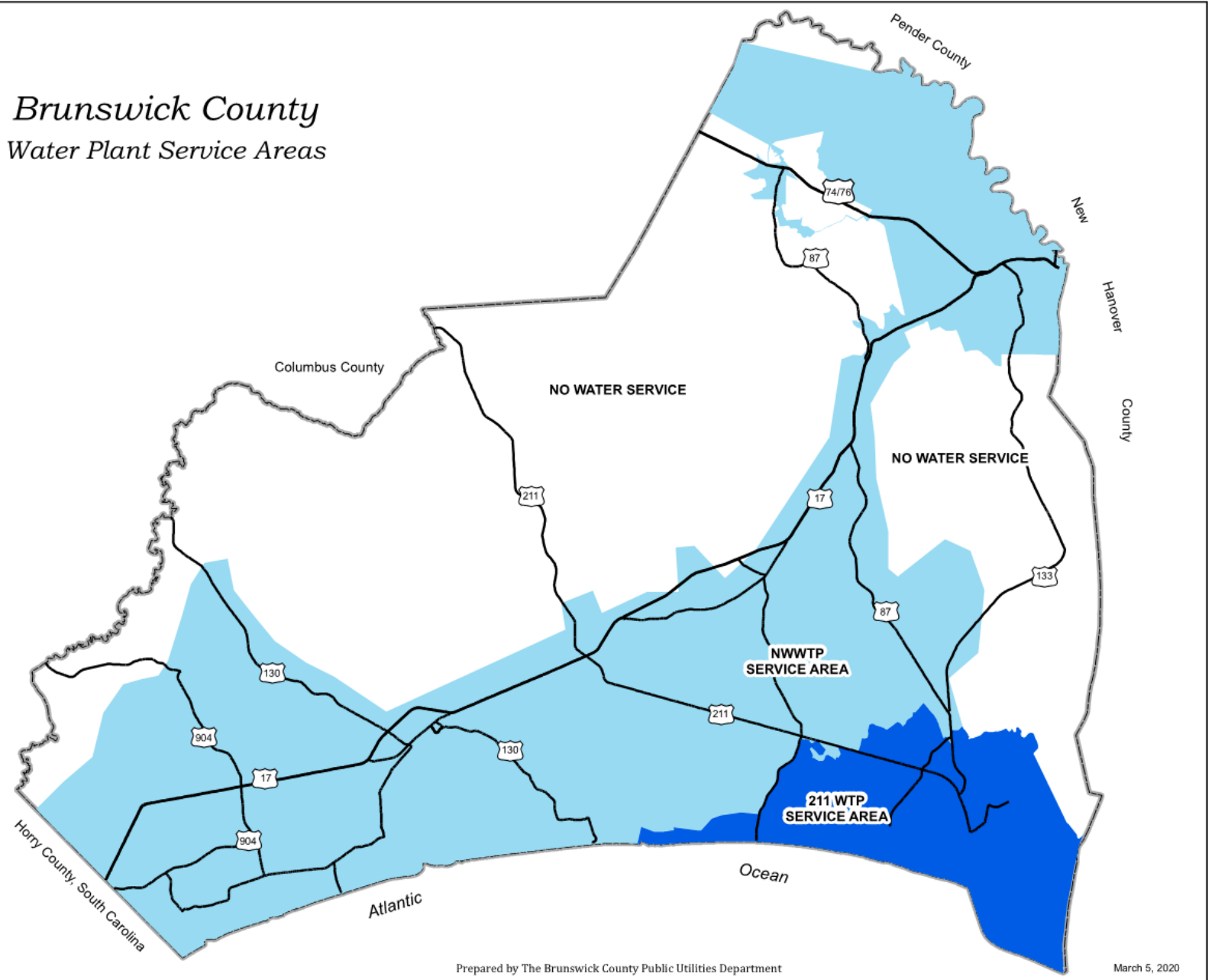
THE NAVY-BLUE
AREA IS SERVED
BY BOTH WTPs,

THE REST OF THE
COUNTY IS SERVED
BY THE NORTHWEST
WTP (light blue)

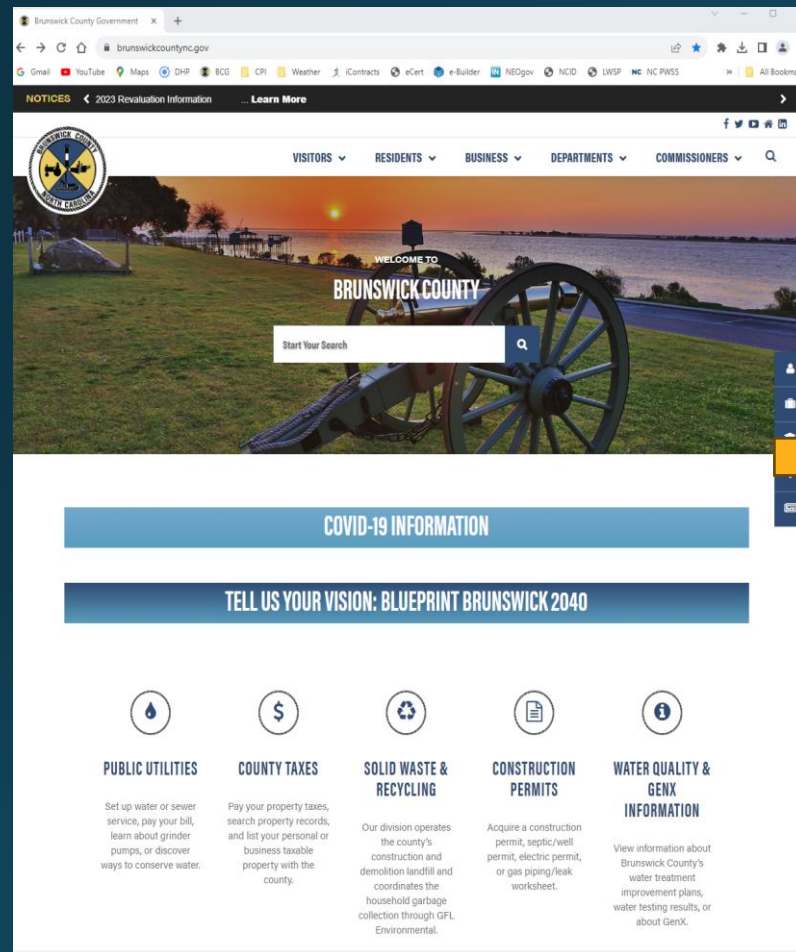
Visit the County website for
more information on Water
Quality.

<https://www.brunswickcountyn.c.gov/utilities/annual-reports-facilities-information/>

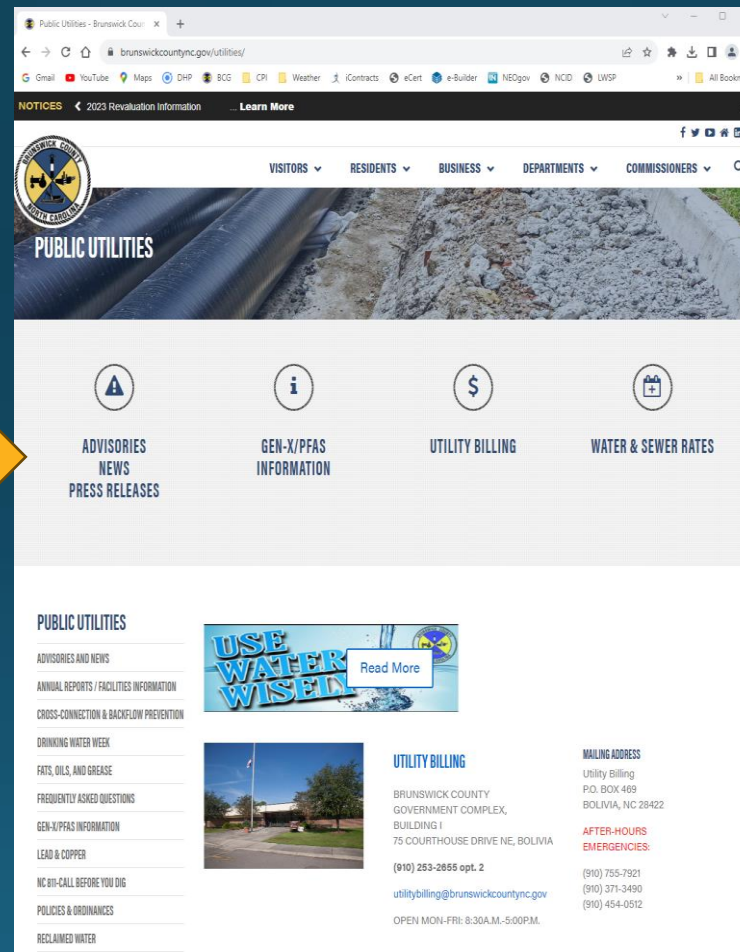
Brunswick County Water Plant Service Areas



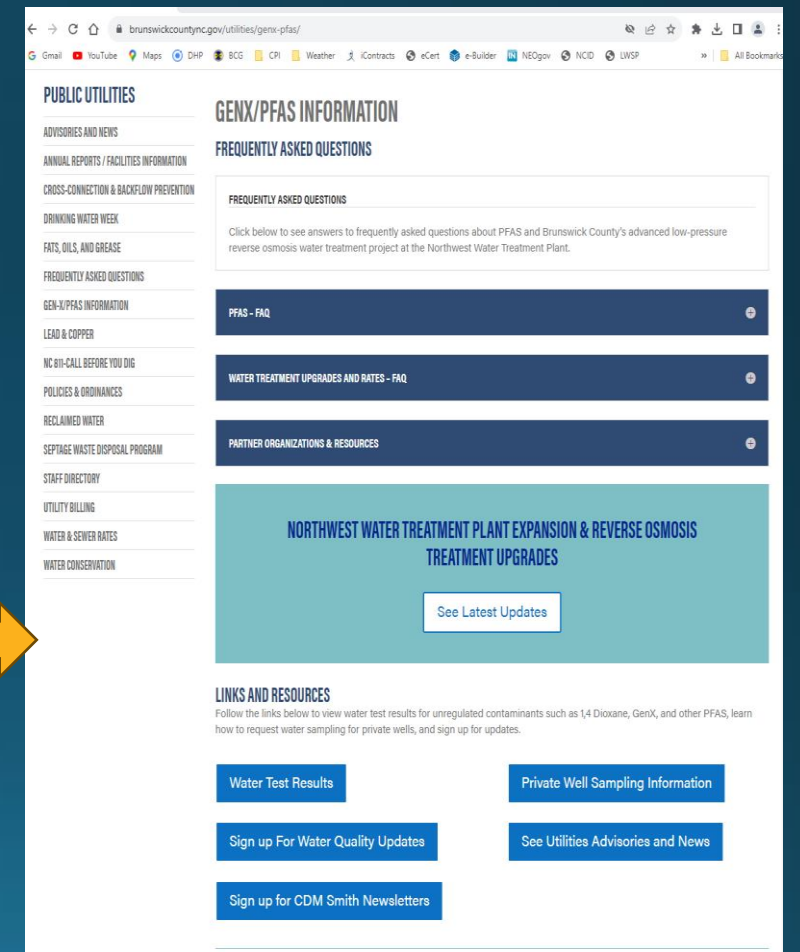
BCPU Navigating the Website



Brunswickcountync.gov



Brunswickcountync.gov/utilities/



Brunswickcountync.gov/utilities/genx-pfas/

Northwest WTP Low Pressure Reverse Osmosis Construction Update

Constructing the best and most protective barrier to PFAS



← October 2022



October 2023 →

LPRO Feed Pumps and Skid Assembly



LPRO Training Space and Chemical Systems Construction



211 Water Treatment Plant

Upflow Clarifiers



High-service Pump Room

Table 3: Hydrostratigraphic Setting of the WHPAOD^a.

^aBased on information from Harden et al. (2003) and Brunswick County well logs.

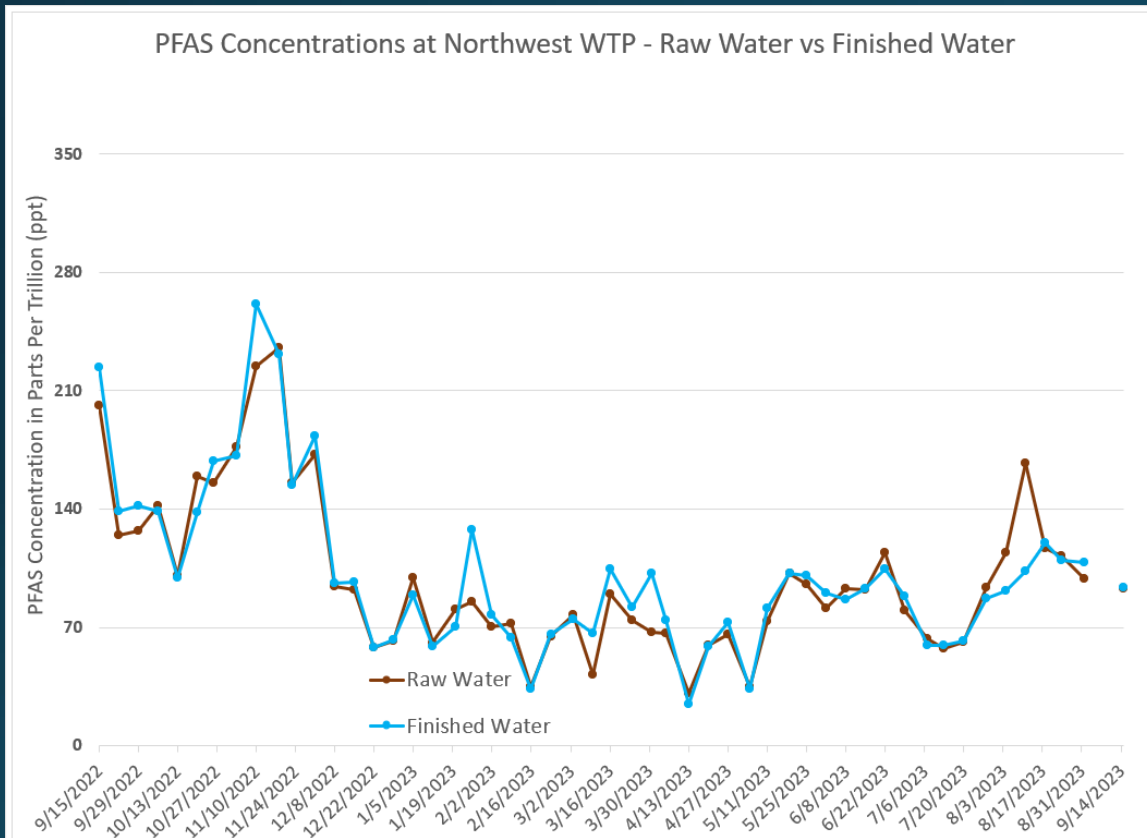
Wellhead Protection Update

- October 2nd-Contract has been established with ECS Limited Southeast
- Early November- Draft guidance for performance standards.
- Community Meetings to Follow

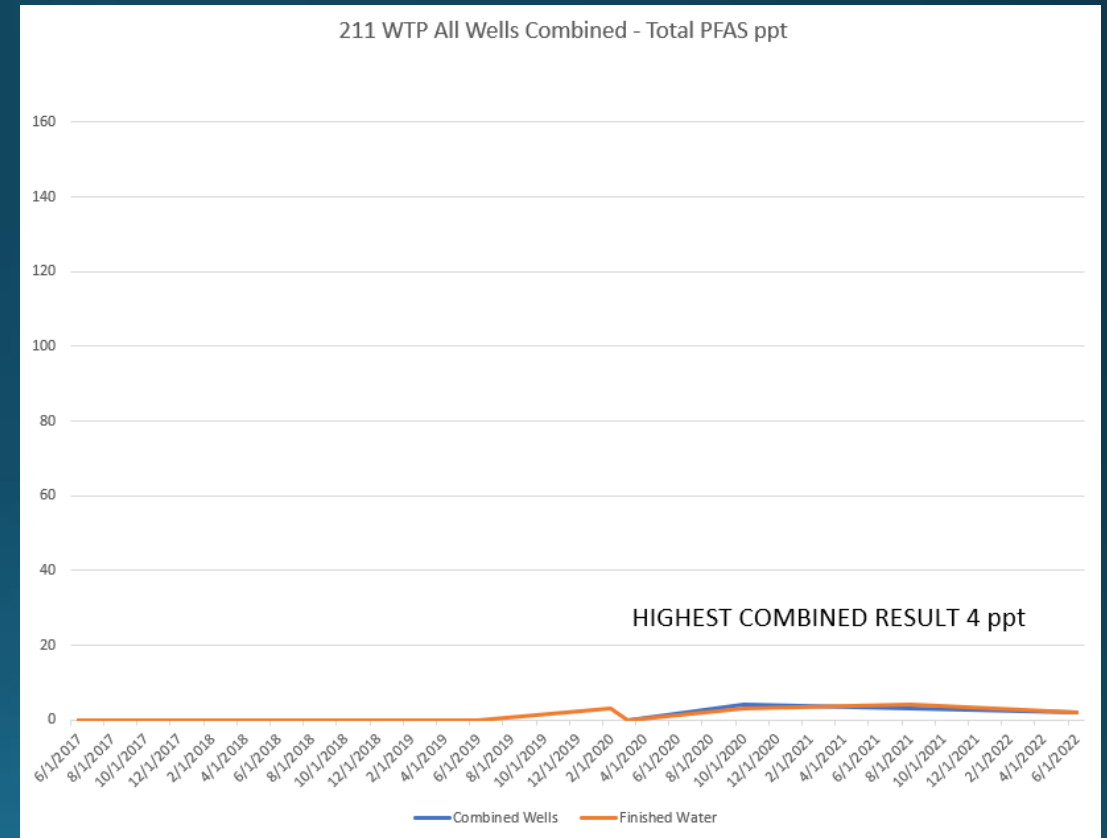
Hydrogeologic Unit	Depth to Upper Surface (feet bgs)	Estimated Thickness (feet)
Surficial Aquifer	0	52–68
Castle Hayne Confining Unit	Variable	Variable
Castle Hayne Aquifer	60	120
Peedee Confining Unit	170	30
Lower Aquifers (youngest to oldest): Peedee, Black Creek, Upper Cape Fear, and the Lower Cape Fear	Variable	Variable

PFAS Results: Latest Trends

Cape Fear River



Castle Hayne Aquifer



EPA's Proposed Action for the PFAS NPDWR

Compound	Proposed MCLG	Proposed MCL (enforceable levels)
PFOA	zero	4.0 ppt*
PFOS	zero	4.0 ppt*
PFNA		
PFHxS	1.0 (unitless)	1.0 (unitless)
PFBS	Hazard Index	Hazard Index
HFPO-DA (commonly referred to as GenX Chemicals)		

EPA Moves to Regulate PFAS

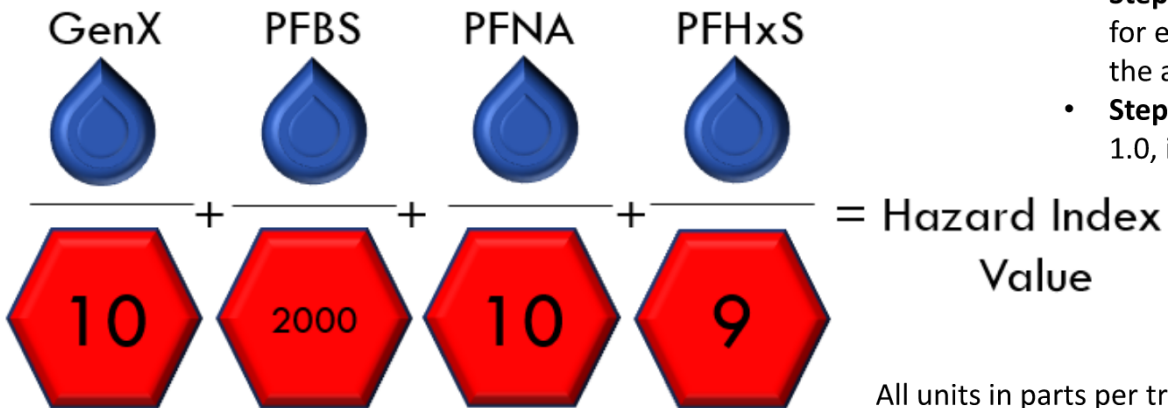
Proposed MCLs are much lower than previous Health Advisories

How do I calculate the HI?

The Hazard Index (HI) is used to understand health risks. For the PFAS NPDWR Proposal, the HI considers the combined toxicity of PFNA, GenX Chemicals, PFHxS, and PFBS in drinking water.

What is a Hazard Index?

The Hazard Index is made up of a sum of fractions. Each fraction compares the level of each PFAS measured in the water to the level determined not to cause health effects.



Steps:

- **Step 1:** Divide the measured concentration of **GenX** by the health-based value of **10 ppt***
- **Step 2:** Divide the measured concentration of **PFBS** by the health-based value of **2000 ppt**
- **Step 3:** Divide the measured concentration of **PFNA** by the health-based value of **10 ppt**
- **Step 4:** Divide the measured concentration of **PFHxS** by the health-based value of **9.0 ppt**
- **Step 5:** Add the ratios from steps 1, 2, 3, and 4 together
- **Step 6:** To determine HI compliance, repeat steps 1-5 for each sample collected in the past year and calculate the average HI for all the samples taken in the past year
- **Step 7:** If the running annual average HI greater than 1.0, it is a violation of the proposed HI MCL

Planned Improvements in Your Area



Recommended Water System Improvements

Request for Proposals advertisement
November 2023

Execute Design Build Agreement
February 2024

Construction to Begin
August 2024

Construction Completion Estimate
August 2025

