



Caroline County Water Supply Project

Draft VWPP No. 20-0514

Eric Seavey, Office of Water Withdrawal Permitting Manager

September 10, 2025

Public Hearing Agenda

- **5:30 pm** - Information meeting
- **6:00 pm** - Start of the public hearing
- **No later than 9:00 pm** - Close of public hearing

Information Briefing Overview

- Summary timeline of permit processing
- Proposed project overview
- Additional information requested and received
- Changes to the draft permit
- Next steps: permitting process

Summary Timeline of VWP 20-0514 Permit Processing

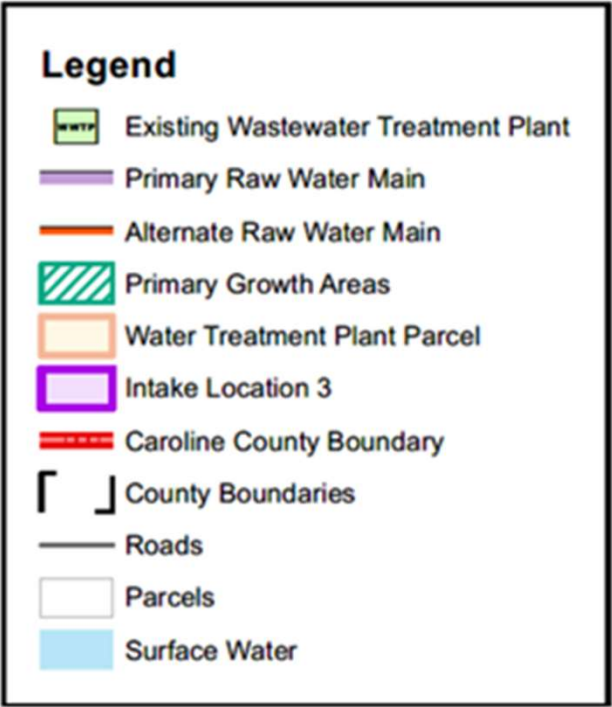
Pre-Application Panel	May 20, 2019	2nd Draft Permit Issued	April 11, 2024
Application Received	March 27, 2020	Public Comment Period	May 18, 2024 – June 18, 2024
Agency Comments Requested	April 17, 2020	Public Comment Period	August 25, 2024 – October 11, 2024
Notification to Riparian Landowners	April 17, 2020	Initial Public Hearing	September 25, 2024
Tribal Comments Requested	April 27, 2020	3rd Draft Permit Issued	June 17, 2025
Permit Fee Paid	May 21, 2020	4th Draft Permit Issued	July 11, 2025
VIMS Modeling Received	February 14, 2023	Public Comment Period	August 10 – September 25, 2025
1st Draft Permit Issued	March 13, 2024	Public Hearing	September 10, 2025

Proposed Project Overview

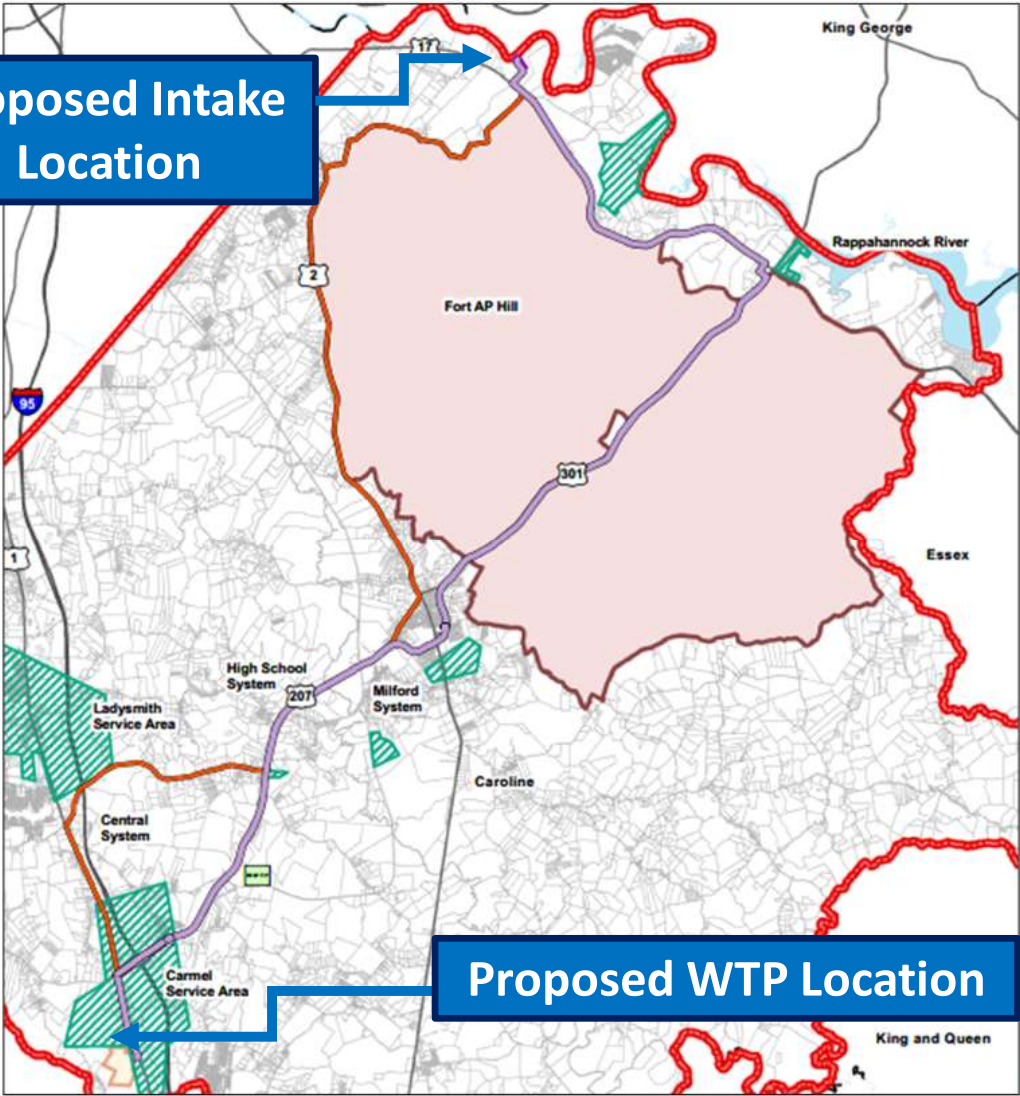
- Draft VWP 21-0514 would authorize the following:
 - Operation of a new surface water withdrawal intake on the Rappahannock River
 - Impacts to wetlands and surface waters during the construction of supporting water system infrastructure
 - Intake structure
 - New Water Treatment Plant
 - New Pump Station
 - Raw water line
 - Total impact = 0.76 acre of surface waters
 - 0.06 acre of permanent impacts
 - 0.70 acres of temporary impacts

All other local, state, and federal requirements apply

Location of Facilities



Proposed Intake Location



Proposed WTP Location

Surface Water Source Alternative

- Caroline County's public water supply systems are currently supplied by groundwater wells
- Significant declines in groundwater levels over the past two decades have triggered initiatives to identify alternative water sources to reduce reliance on groundwater resources and meet existing and future water demands

Public Comment Topics of Previous Draft VWP 20-0514

- Interbasin transfer
- Water quality & salinity
- Rappahannock water withdrawal
- Impact to aquatic life/wildlife/habitat
- Environmental justice
- Stormwater management
- Alternative water sources

As a result of public comments received, DEQ requested additional information from the applicant including:

- Water demand justification
- Water quality & salinity analysis
- Aquatic life & beneficial uses

Additional Information Provided: Water Demand Justification

Board of Supervisors Directs Staff to Remove Industrial Cooling as a Use in Permit Application to Withdraw Water from Rappahannock River

At its November 14, 2024, meeting, the Caroline County Board of Supervisors directed staff to completely remove industrial cooling as a use in its application to the DEQ for a permit to withdraw water from the Rappahannock River. This change, intended to remove the use of potable water to cool data centers, enables the County to reduce its proposed water withdrawal rates to 5.1 million gallons per day (Mgal/d) with a peak withdrawal of 9.0 Mgal/d. For comparison, the original withdrawal rates were 7.9 Mgal/d and 13.9 Mgal/d, respectively.

From November 15, 2024, Caroline County Press Release

Additional Information Provided: Water Quality & Salinity Analysis

Rappahannock River Hydrologic and Salinity Analysis Report

Received May 20, 2025

- Additional information was requested from the applicant to further evaluate potential salinity changes within the Rappahannock River including agricultural uses, protection of fish and wildlife habitat, maintenance of waste assimilation, recreation, navigation, and cultural and aesthetic values.
- Simulation period included a 76-year period from 1943-2019, capturing significant drought periods.

Additional Information Provided: Water Quality & Salinity Analysis

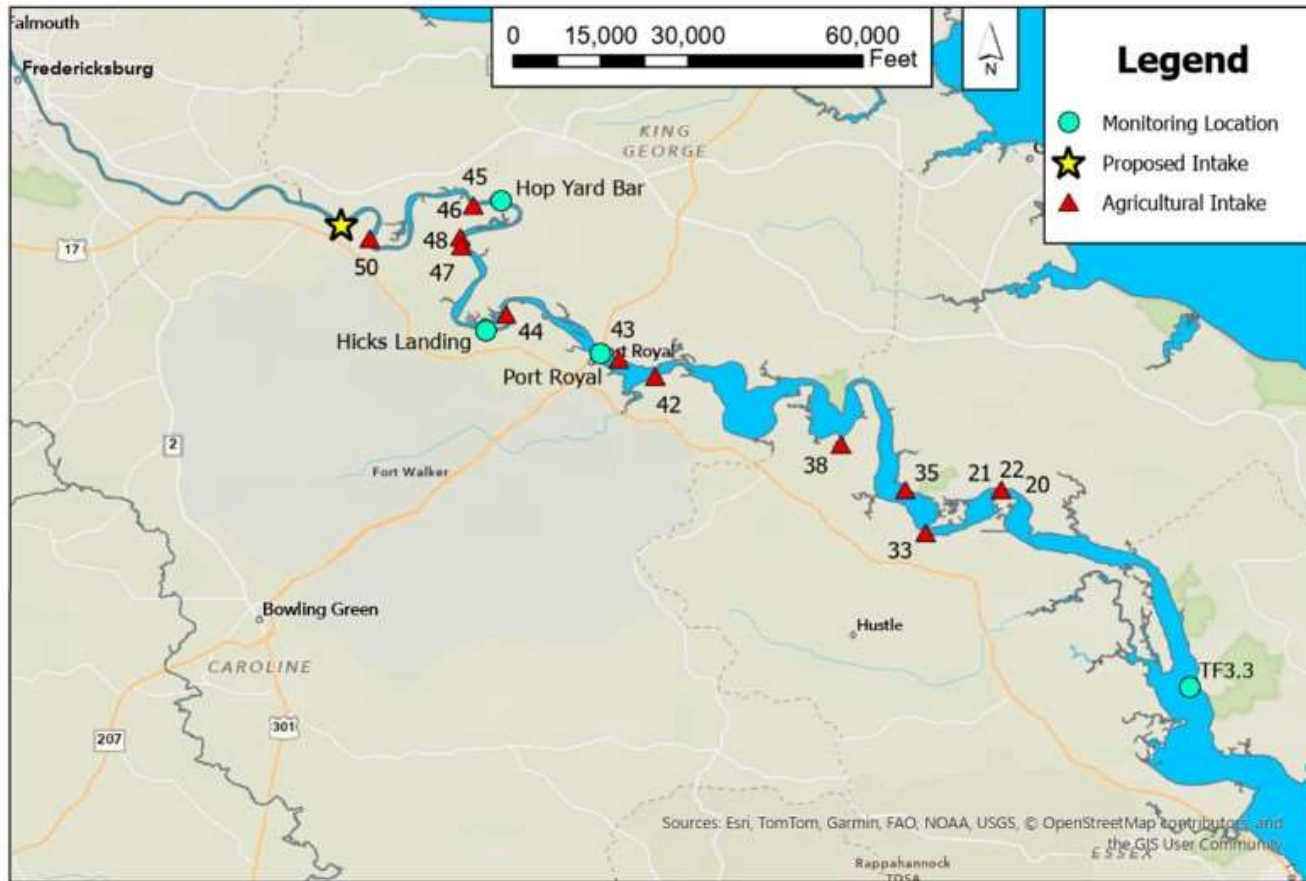
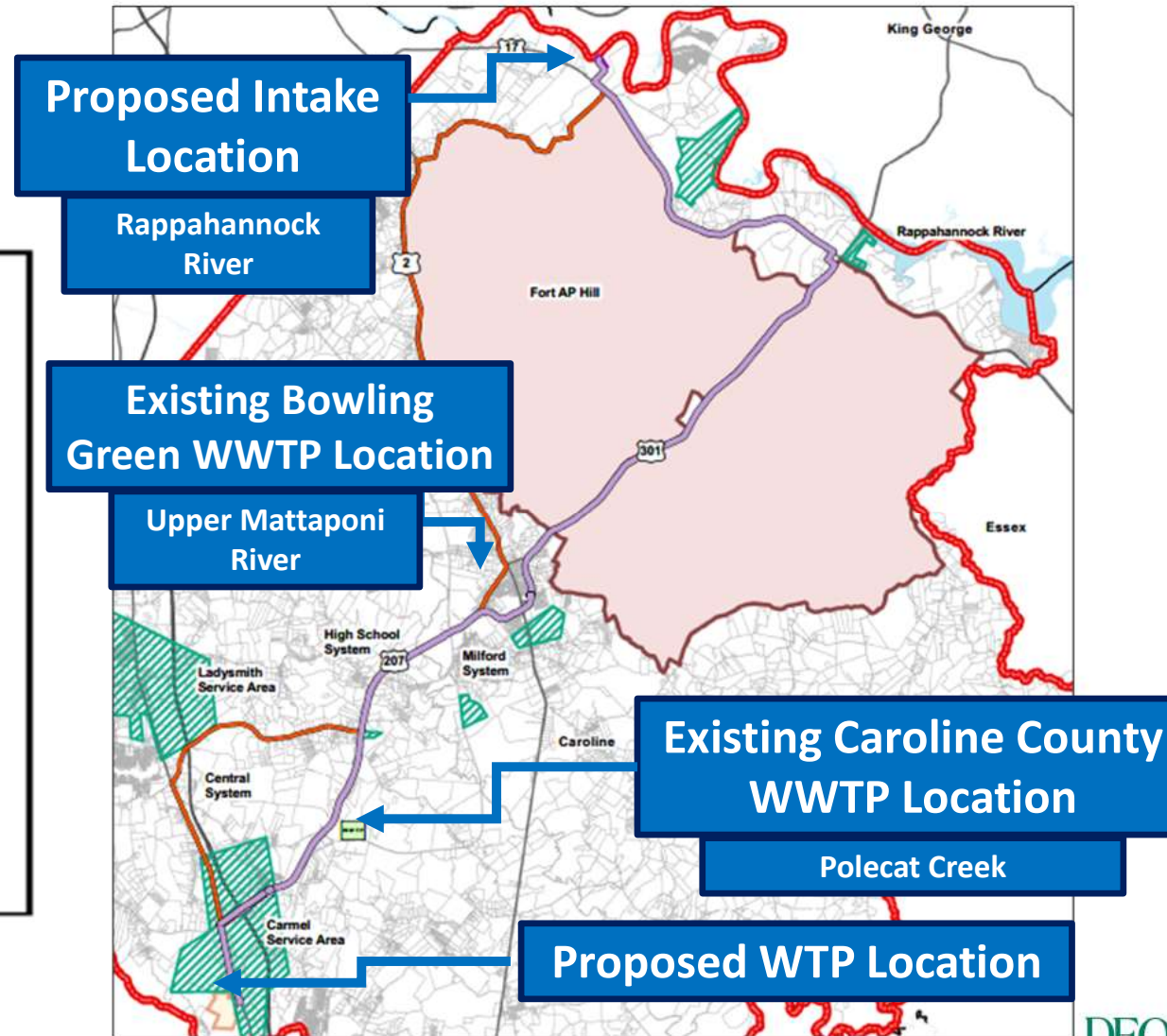
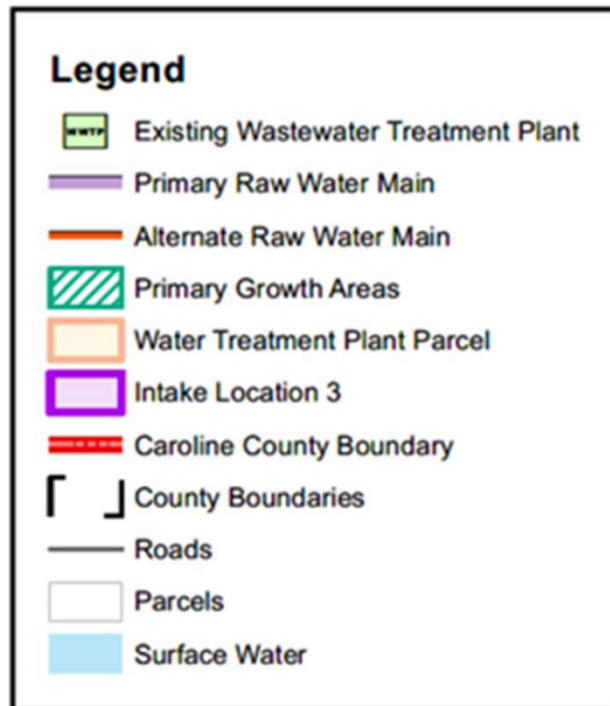


Figure 4-6: Map of Agricultural Intakes along the Mainstem of the Rappahannock River in Relation to Monitoring Locations and the Proposed Intake

Updated Salinity Modeling - Rappahannock:

- The number of days with salinity levels above the most conservative salinity level for irrigation of corn (i.e., 1,100 uS/cm) is simulated to increase by up to 0.28% at these locations
- Salinity levels were not predicted to increase above the maximum tolerable salinity level for irrigation of corn (i.e., 6,700 uS/cm) at any known irrigation withdrawal locations

Interbasin Transfer – WWTP Locations



Additional Information Provided: Interbasin Transfer Beneficial Use Analysis– Mattaponi River

- Return flows to the Mattaponi River basin would not increase salinity levels
- Proposed average discharge volumes (4.1 Mgal/d) are approximately 0.1 - 0.2% of flow at flood stage, no impact to additional flood risks
- Maintaining freshwater conditions are not projected to contribute to salinity stress on freshwater wetlands or aquatic species

Additional Information Provided: Interbasin Transfer Beneficial Use Analysis– Polecat Creek

- Proposed discharges to Polecat Creek simulated no additional impacts to erosion or flood risks
- Proposed discharges resulted in no more than 0.07-foot increase in water surface elevation and no more than 0.007 feet per second in cross section velocity
- No anticipated or simulated impacts to beneficial uses

Summary of Changes to Draft VWP 20-0514

- Reduction of Water Withdrawal Limits
 - Removal of Cooling Water Demands
 - Drought Declaration Restrictions
- Water Loss Audit Plan
- Leak Detection & Repair Plan
- Feasibility Study
 - Evaluation of returning water to the Rappahannock River

Change to Draft VWP 20-0514: Reduction of Requested Water Withdrawal Limits

The applicant requested a reduction in the water withdrawal limits to reflect the removal of the demands associated with industrial cooling water

Water Withdrawal Limits in Million Gallons	Previous Request	Current Proposed
Average Daily Volume	7.9	5.10
Maximum Day Volume	13.90	9.00
Maximum Monthly Volume	337	237
Maximum Annual Volume	2,884	1,862

Change to Draft VWP 20-0514: Reduction of Water Withdrawal Limits During Drought Declarations

Water Withdrawal Limits in Million Gallons	
Maximum Daily	9.0
Maximum Daily (Drought Warning)	7.0
Maximum Daily (Drought Emergency)	6.0
Maximum Monthly	237
Maximum Annual	1,862

Change to Draft VWP 20-0514: Water Loss Auditing Plan and Leak Detection and Repair Plan

- The permittee shall submit a *Water Loss Auditing Plan* to the Department for review and approval. Once approved the plan becomes an enforceable part of the permit
- The permittee shall submit a *Leak Detection and Repair Plan* to the Department for review and approval. Once approved the plan becomes an enforceable part of the permit

Change to Draft VWP 20-0514: Feasibility Study

Permittee is required to submit a feasibility study, within five years of permit issuance, that evaluated the feasibility of reducing or eliminating the interbasin transfer from the Rappahannock River to the Mattaponi River & Polecat Creek

Next Steps

Public comment period closes **September 25, 2025**

Submit comments to Allison Major

- **Email:** Allison.Major@deq.virginia.gov
- **Mailing Address:**
Department of Environmental Quality
Office of Water Withdrawal Permitting
1111 East Main Street, Suite 1400,
Richmond 23219

