



March 13, 2023

Mike Rolband, Director  
Virginia Department of Environmental Quality  
1111 East Main Street  
Richmond, VA 23218

Subject: Public Comment for Groundwater Withdrawal in Accomack, VA - GW0044601

Dear Director Rolband,

At Aqua Virginia, Inc. ("Aqua"), a subsidiary of Essential Utilities, Inc., we know that water is a precious resource – one that plays a critical role in sustaining life. That's why we take seriously our mission: protecting and providing Earth's most essential resource.

The draft permit for Aqua to withdraw groundwater in the Eastern Shore Groundwater Management Area is a prime example of Aqua's commitment to deliver safe, quality drinking water to our customers in the Captain's Cove community. This permit will allow Aqua to withdraw water in the Upper Yorktown-Eastover aquifer with better water quality, thus improving the color, taste, and odor of the water produced. In addition to the water quality benefits that the water systems will realize in the short-term, the system will also have the security of a reliable water system that will meet the service needs for projected water demand that is in alignment with local water supply and land use plans.

Water quality and continuous service are our highest priorities. We strive every day to listen to our customers and invest in system improvements and enhancements that benefit our customers and their daily lives. In December 2015, Aqua purchased the Captain's Cove system and immediately began to rehabilitate the failing infrastructure that had long been overlooked by the system's previous owner. Aqua has invested over \$4 million dollars in capital investments since acquiring the system to bring it into compliance with local, state, and federal regulations.

We are committed to ongoing system enhancements to improve both the quality of water and reliability of service. Over the years Aqua has completed many impactful water quality projects including the addition of new filters in the system and removing a well from the system that had elevated Total Dissolved Solids ("TDS") levels. Aqua is currently engaging a consultant to begin scoping a system-wide infrastructure improvement program, essentially a master plan. This will include evaluating a looping study to determine what improvements can be made to the distribution system to minimize water age and maximize efficiency of the transmission network. Once completed, the master plan will be a valuable tool to identify solutions that will continue to improve water quality and manage system capacity and efficiency.

In late 2022, Aqua became aware of the Captain’s Cove Ground Water and Residential Water Supply Report, dated October 2022, by the Eastern Shore of Virginia Ground Water Committee and the questions raised therein regarding Aqua’s commitment and level of service provided to its customers. Aqua acknowledges the concerns and comments made by our customers in the Captain’s Cove system and feels strongly that their concerns support the purpose and need for approval of Aqua’s application for re-issuance of the Groundwater Withdrawal Permit currently in the public comment process with the Virginia Department of Environmental Quality (“DEQ”). While we understand the customers’ concerns regarding water quality and potential changes to future water quality resulting from additional demand, we have reviewed the committee’s report and identified the following items in the report that are inaccurate, and which misrepresent Aqua’s management of the Captain’s Cove water system.

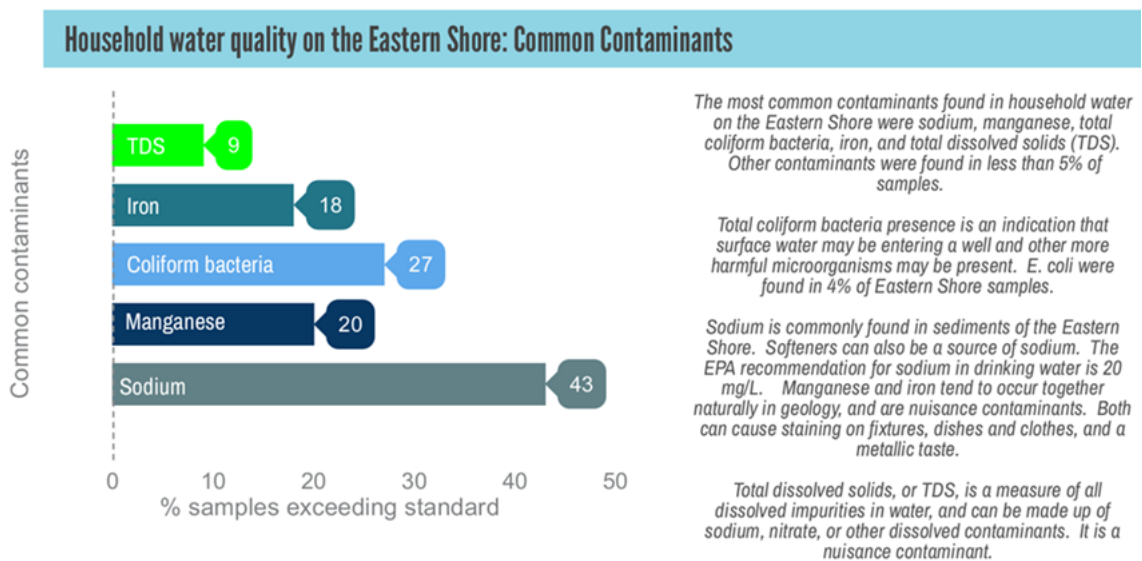
1. Page 3. The report states that the Captain’s Cove expected buildout rate is 100-200 homes/year until full build out. The 100-200 homes/year buildout rate that was submitted in the original August 27, 2019, application has since been revised to a buildout rate of 60-75 homes/year because it is a more appropriate reflection of the growth in the system.
2. Page 4. The Arcadis Figure 3 is incorrect, the wells are depicted in the wrong aquifers. Please note the table below identifying which wells are in each aquifer.

<b>Well Name</b>	<b>Depth (ft.)</b>	<b>Screen Intervals (ft.)</b>	<b>Aquifer</b>
Well-1	290	257-272	Middle Yorktown-Eastover
Well-1U	160	135-155	Upper Yorktown-Eastover
Well-2	200	168-180	Upper Yorktown-Eastover
Well-3	270	255-270	Middle Yorktown-Eastover
Well-3U	217	140-160: 202-212	Upper Yorktown-Eastover
Well-4	295	255-290	Middle Yorktown-Eastover
Well-4U	215	135-155: 200-210	Upper Yorktown-Eastover
OW-4L	461	365.7-400	Lower Yorktown-Eastover

3. Page 5. The report mentions how biofilms impact water quality. Aqua has no evidence to support speculation of bacteria growth caused by biofilms anywhere in the Captain’s Cove System. Aqua collects two bacteriological samples each month from Virginia Department of Health (“VDH”) approved sampling locations. The sample locations are representative of water quality throughout the distribution system and results are reviewed monthly by VDH. VDH monitoring has not indicated biofilms/bacterial growth in the Captain’s Cove water supply.
4. Page 7. The report speculates biofilm is a water quality issue at Captain’s Cove and includes a misleading figure. The figure depicts biofilm and bacteria in a water main and the Groundwater Committee states this is likely a cause of water quality issues at Captain’s Cove. There is no data to support the speculation of biofilm or bacteriological growth as an issue in the Captain’s Cove system. Two bacteriological samples are collected on a monthly from locations that are representative of water

quality throughout the distribution system. Aqua uses sodium hypochlorite at all treatment facilities as a disinfectant to inhibit bacteriological growth in the distribution system.

5. Pages 10-13. Door-to-door and online surveys were used to develop the report. Online survey questions were written in a way to lead customers to give responses that indicate that there are water quality issues. Questions 5-8 and 10 are worded to answer the assumption that customers have water quality issues and need to ‘address observations.’ As a result, the survey responses found on pages 11-13 are subjective.
6. Page 15. Household water quality results were published in the report. We have the following concerns related to the information used in the report as outlined below:
  - a. Virginia Cooperative Extension water quality reports are not official documentation of water quality.
  - b. It appears that homeowners collected the samples themselves in uncommon sampling locations, whereas Aqua employs licensed waterworks operators for sampling.
  - c. There was an Eastern Shore Household Water Quality Sampling official program from 2014-2017 (Northampton and Accomack Counties).
  - d. The 2014-2017 Eastern Shore Household Water Quality Sampling report summarizes 340 samples. The report indicates that TDS, Iron, coliform bacteria, manganese, and sodium are common contaminants on the Eastern Shore.
  - e. The analytes from this 2014-2017 initiative are summarized below and are comparable to the household water quality results summarized in the Groundwater Committee report for Captain’s Cove.



- f. Bacteriological samples are easily contaminated. The coliform bacteria results indicated in the report are likely related to improper sample collection procedure, poor sampling location (contamination by dirty fixtures), and/or poor sample handling after collection. The samples were collected by



12. Page 24. The report states the Turbidity is potentially caused by Biofilm and then insinuates Turbidity as the source of taste and odor issues; causing consumers to question the safety of their drinking water. Aqua's compliance results from a State Certified Lab show Turbidity levels being less than 1 NTU.
13. Page 25. The Upper Yorktown-Eastover aquifer has better water quality, so increasing the apportionment from the aquifer will improve water quality in the system.
14. Page 26. All recent samples from the system's entry points do not indicate any issues. Aqua is not required, nor is it standard practice, to collect these samples at a homeowner's residence. Aqua has invested over \$4 million in capital investments since acquiring the system in 2015. The Captain's Cove waterworks used to have issues with disinfection byproduct ("DBP") formation that led to violations of the primary maximum contaminant level. Aqua installed treatment to reduce total organic carbon which mitigated DBP formation. Upgrades installed by Aqua also removed arsenic, total dissolved solids, and color.

Thank you for the opportunity to share our plans to improve and maintain water quality in the Captain's Cove water system; we will continue to share our plans with the community as part of this permitting process.

Sincerely,



John J. Aulbach II, P.E.  
President, Aqua Virginia, Inc.

cc: Accomack-Northampton Planning District Commission, Eastern Shore Ground Water  
Committee  
Emma Butler, Water Withdrawal Permit Writer, Virginia Department of Environmental Quality