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May 1, 2026

RE: Rivanna Water and Sewer Authority
Airport Rd Pump Station and Storage
Tank Improvements SDP 2021-56/ARB
2021-68 Major Amendment
Application
SEH No. 189740 14.00

Department of Community Development
County of Albemarle
401 McIntire Rd
Charlottesville, VA, 22902

Enclosed is the application for Albemarle County Architectural Review Board (ARB) Major ARB Amendment approval for the construction of two ground storage tanks at the existing Airport Road Pump Station located at 4384 Berkmar Dr. in Albemarle County, VA. The ARB Amendment to a Site Development Plan Checklist are provided in Enclosure A.

The Rivanna Water and Sewer Authority (RWSA) is proposing to install ground storage tanks at Airport Road Pump Station (ARPS) located at 4384 Berkmar Rd Albemarle County, VA (Parcel 03200-00-00-041A2). For this project, the RWSA proposes a major amendment to both the site plan SDP #2021-56 and the ARB 2021-68, project title Rivanna Water and Sewer Authority Airport Road Pump Station. This letter provides background to the project and outlines the proposed changes to the site as a result of the proposed construction. There are no changes to the existing building materials or colors and no modifications are proposed to the exterior of existing structure.

Two pre-application meetings were held with Albemarle County staff in attendance. The initial pre-application meeting (PREAPP-2025-00118) was held on 12/15/2025 between RWSA and the County. The second meeting (PREAPP-2026-00021) was held 3/5/2026 with the addition of SEH as the project consultant. Notes from the 3/5/2026 meeting are enclosed as part of this packet as Enclosure A.

Background

The RWSA owns and operates the Airport Rd Pump Station (ARPS) which receives drinking water from the South Rivanna Water Treatment Plant (SRWTP) and distributes it to the Northern service area of Albemarle County. The original pump station was constructed to allow for upgrade of pumping capacity and installation of two ground storage tanks to accommodate future drinking water demands. Recent commercial development plans for the northern service have accelerated the need for these improvements and it is anticipated that tanks are needed to be online by Q4 2027 to continue to supply adequate level of service to the customers in the northern service area.

The ARPS is located on Parcel 03200-00-00-041A2. This parcel is located approximately 524-feet south of Airport Road, approximately 843-feet west of Route 29, and is at the terminus of Berkmar Drive. The parcel is zoned Rural Areas and Entrance Corridor. The parcel is in the Airport Road Entrance Corridor.

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Proposed Improvements

This proposed improvement section serves as written description of the proposed modifications to the site. Please note there are no modifications to the exterior of existing structures onsite, modifications are limited to installation of ground storage tanks and associated site work.

Ground Storage Tanks

Tank Construction

Two one million gallon ground storage tanks will be installed behind the existing pump station along the southeastern side of the site. The tanks are approximately 75' in diameter and have an approximately 40' side wall height with a domed top. The site is designed to accommodate two tanks, however, installation of the second tank may come after installation of the first tank depending on anticipated demand at the time of construction.

Tank renderings and elevations can be found in Enclosure C: Major Site Plan Amendment Drawings following this letter. The tanks are proposed to be painted Gray and constructed of material typical to ground storage tanks as detailed in Enclosure D: Tank Material and Color Memo.

Exterior Mechanical Equipment and Lighting

No additional exterior mechanical equipment or lighting will be added as part of this project.

Site Improvements

Retaining Wall

To accommodate installation of the tanks a retaining wall is needed between the northern tank and existing level spreader. The retaining wall is anticipated to be a maximum height of 9.6' and be modular block construction. The specific wall system will be chosen during construction. There is approximately 135' of retaining wall on the northern portion of the site, no portion of the retaining wall will be visible from Airport Rd.

Stormwater Management

Installation of ground storage tanks will increase the impervious area on site. Underground storage will be installed to reduce Post-development stormwater flow to pre-development conditions. This reduced flow will discharge to an existing level spreader onsite that will convert point source discharge to sheet flow down adjacent slope. As part of this project one level spreader will be removed. All Stormwater improvements will be located within existing access easement.

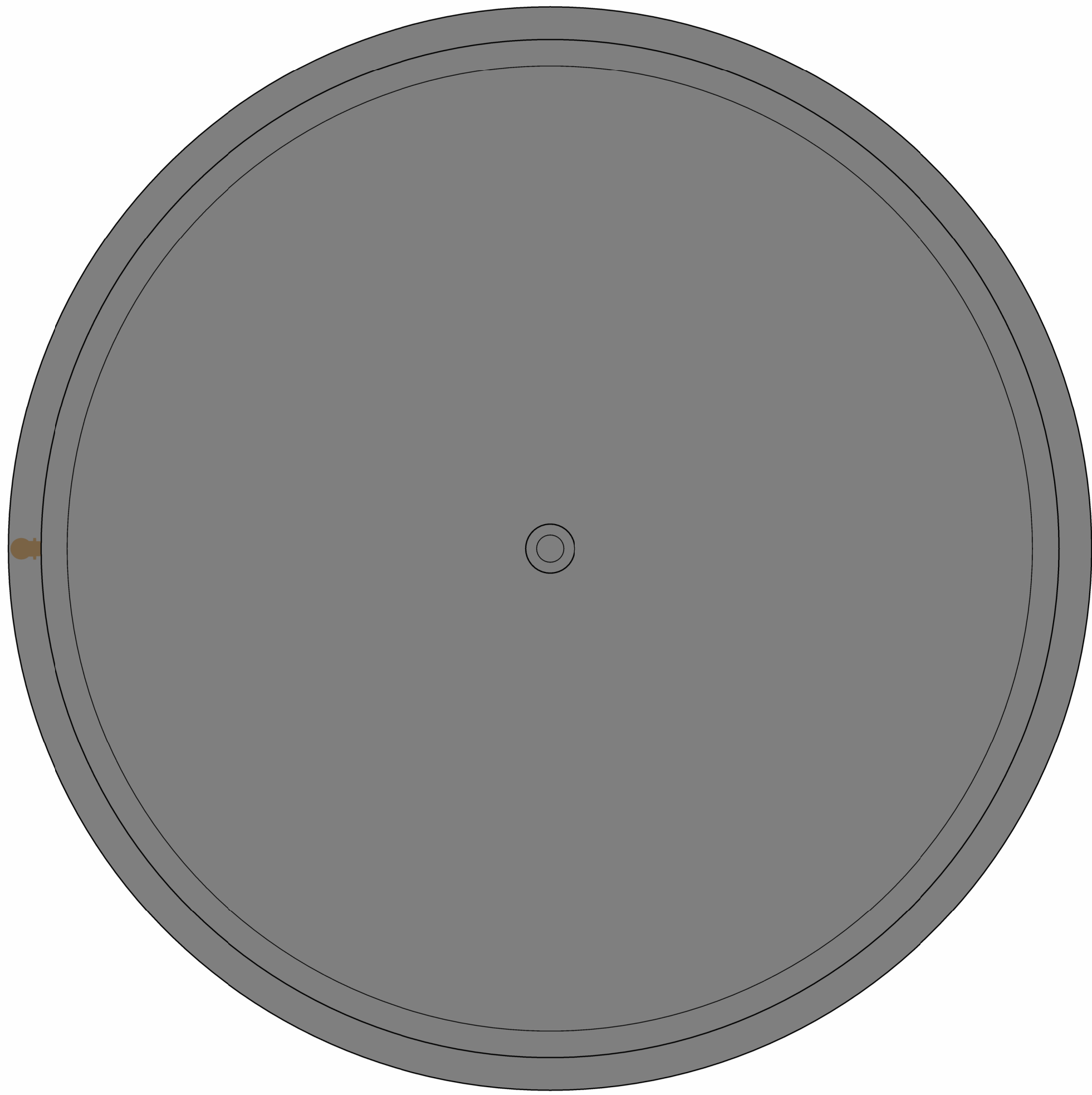
Screening

A 20-foot wide strip of existing vegetation is proposed to remain around the perimeter of the site to provide a screening buffer. In areas where this buffer is disturbed by site construction activities, new plantings are proposed. New plantings are proposed to be American Holly (*Ilex Opaca*) which is prevalent on the site.

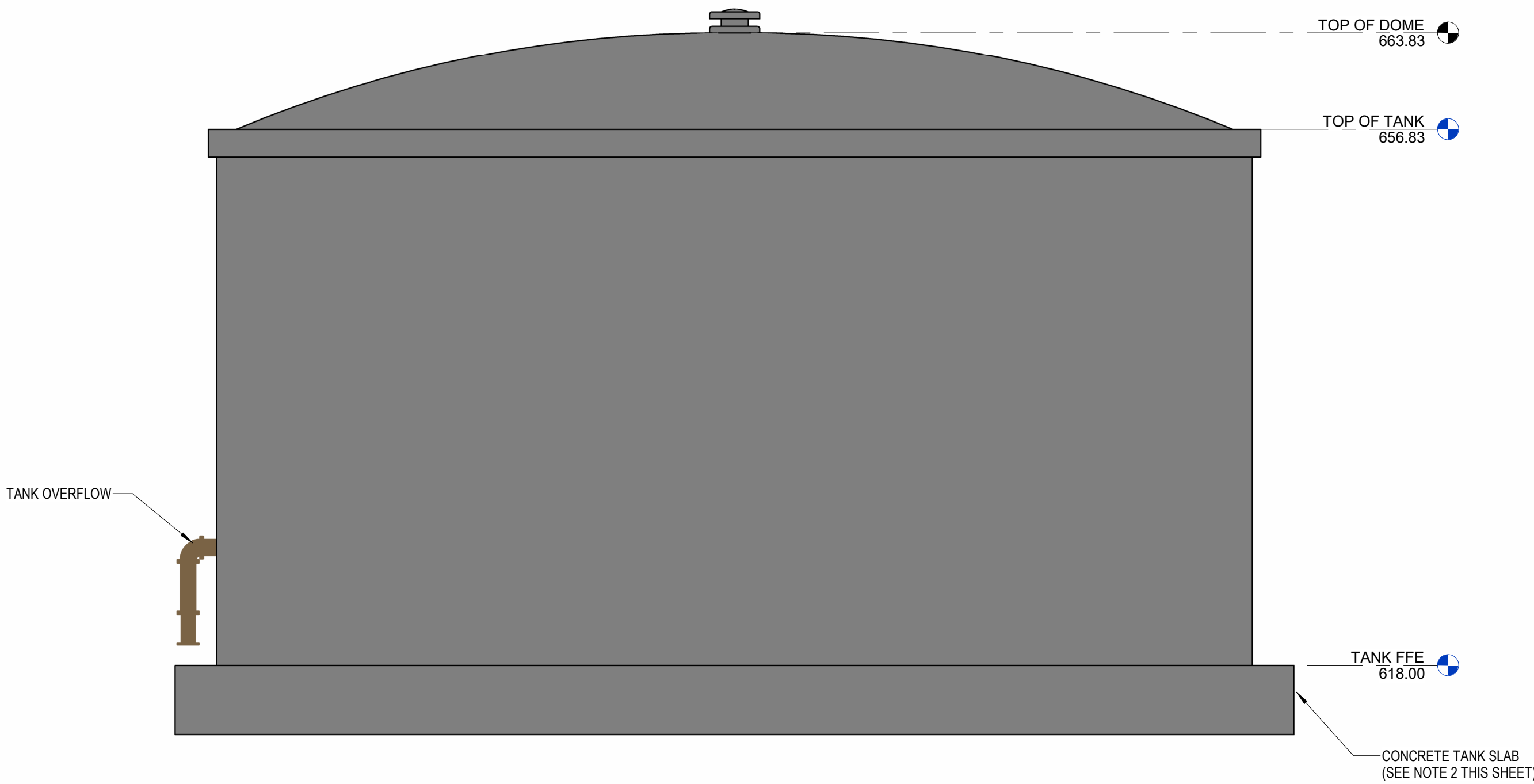
Viewshed Analysis

The parcel is located within the Airport Road entrance corridor. A GIS viewshed analysis was performed on the site to assess building visibility from Airport Road. This viewshed analysis and photos of the existing site conditions, taken from Airport Road, are provided following this letter in Enclosure E. As shown in this enclosure the tops of the tanks will be visible from portions of the Airport Road entrance corridor. Additional photo simulation of the tank view from Airport road are included within this enclosure

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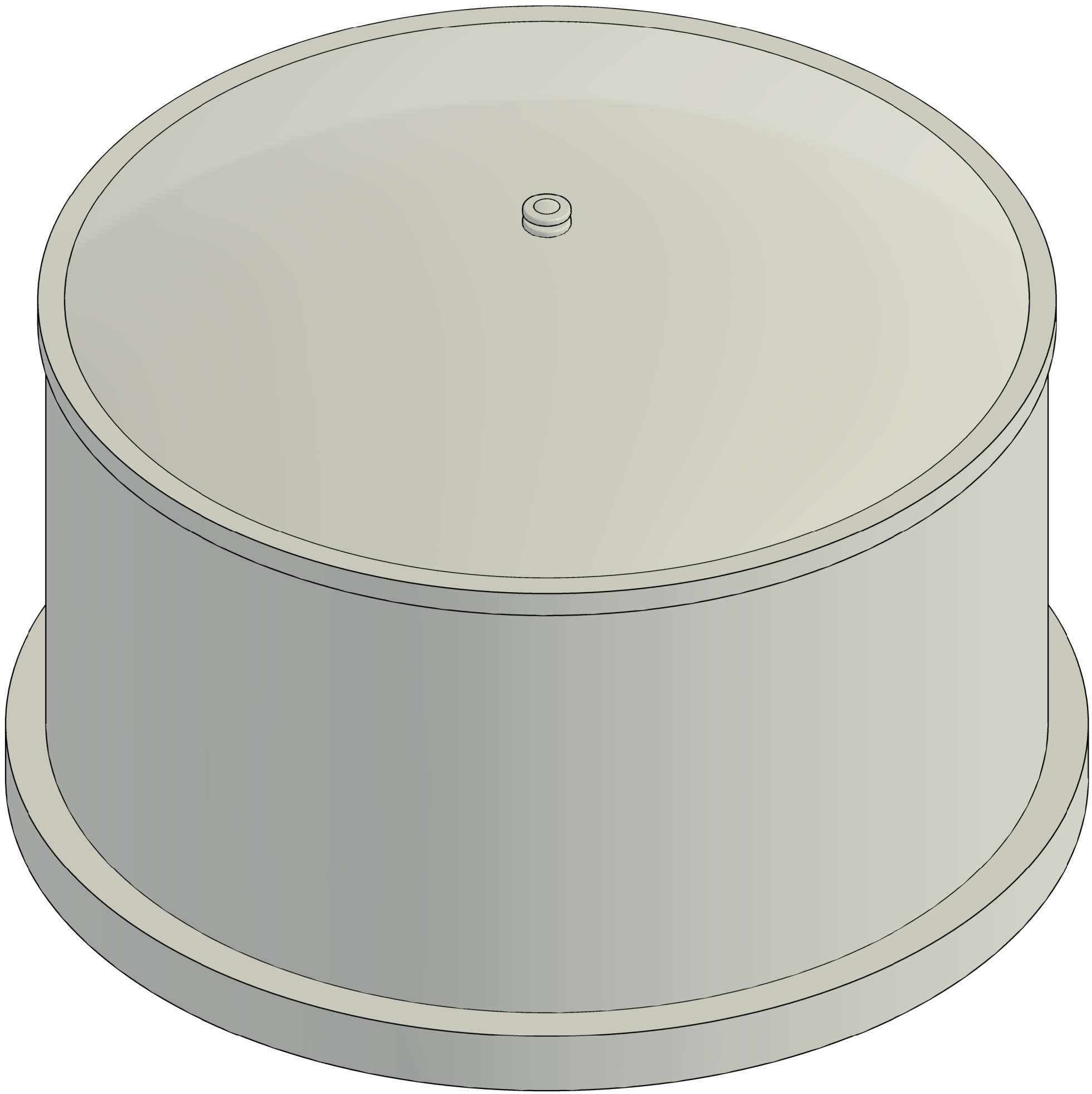
1 WATER STORAGE TANK - PLAN
1/8" = 1'-0"
0 4' 8' 16'



3 WATER STORAGE TANK - SECTION
1/8" = 1'-0"
0 4' 8' 16'

GENERAL NOTES

- TANK MANUFACTURER SHALL PROVIDE DETAILED SHOP DRAWINGS AND STAMPED ENGINEERING CALCULATIONS FOR REVIEW AND APPROVAL BY ENGINEER.
- TANK MANUFACTURER SHALL PROVIDE DETAILED SLAB SHOP DRAWINGS AND STAMPED ENGINEERING CALCULATIONS FOR REVIEW AND APPROVAL BY ENGINEER.
- TANK DIMENSIONS SHOWN MAY VARY SLIGHTLY BY MANUFACTURER BUT ARE ANTICIPATED TO BE APPROXIMATELY 75' DIAMETER WITH ELEVATIONS AS SHOWN ON DRAWING.
- ALL TANK PENETRATIONS SHALL BE TANK MANUFACTURERS REPRESENTATIVE.



2 ISOMETRIC
NOT TO SCALE



Project Owner
RIVANNA WATER & SEWER AUTHORITY
695 MOORES CREEK LANE
CHARLOTTESVILLE, VA 22902

RIVANNA WATER AND SEWER AUTHORITY
AIRPORT ROAD PUMP STATION AND STORAGE TANK
IMPROVEMENTS
6384 BERKMAR DRIVE
CHARLOTTESVILLE, VA 22902

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SEH Project RIVAN 189740
Checked By NDN
Drawn By WSW

Project Status Issue Date
ARB/SDP SUBMITTAL 05/01/2026

REVISION SCHEDULE		
REV. #	DESCRIPTION	DATE

WATER STORAGE TANK -
PLAN, SECTION &
ISOMETRIC

P102



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TECHNICAL MEMORANDUM

TO: Department of Community Development – Albemarle County

FROM: Nate Nickerson PE

DATE: May 1, 2026

RE: Water Tank Material and Color Selection: Major ARB Amendment to 2021-68
SEH No. RIVAN 189740 14.00

The purpose of this memorandum is to provide the Architectural Review Board (ARB) with background information on the Rivanna Water and Sewer Authority's (RWSA) ground storage tank design process and key architectural considerations for the Airport Road Pump Station and Storage Tank Improvements Project. The project includes construction of an initial one (1) million-gallon (MG) ground storage tank, with site planning considerations to allow for a second future tank to accommodate projected increases in water service demand.

RWSA has evaluated three ground storage tank materials of construction—welded steel, bolted steel, and concrete—which are discussed further in this memorandum with respect to architectural appearance. Final material selection will be made prior to construction and will consider factors such as long-term maintenance requirements, tank lead time and construction schedule.

Welded Steel Storage Tank

Welded steel tanks are constructed by joining prefabricated steel plates through field welding to create a unified, monolithic structure. The resulting monolithic shell provides a smooth exterior with minimal visible joints, contributing to a clean and uniform appearance. Interior and exterior coatings are field-applied, and recoated at approximately 15-25 year intervals, to maintain protection from environmental exposure and corrosion.



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Bolted Steel Storage Tank

Bolted steel tanks are constructed onsite by mechanically fastening factory-fabricated steel panels together using bolts and gaskets. This construction method results in more visible panel seams, bolts, and joint lines that give the tank a more segmented appearance. Steel panels are typically factory-coated, providing consistent coating quality that lasts the lifetime of the tank. A domed roof will be installed to cover the tank and have a similar segmented appearance that can be painted to match tank walls. Over time, exposed bolts, seams, and joints may need to be replaced to prevent leakage.



Concrete Storage Tank

Concrete storage tanks (AWWA DN 110) are field constructed and present a solid, seamless exterior with no visible joints. Concrete structures provide excellent structural rigidity, inherent corrosion resistance, and natural insulating properties that allow them to withstand environmental exposure; therefore, these tanks do not require exterior coating for functional purposes. Coating can be applied and periodically reapplied to enhance and maintain visual appearance.



Tank Color Selection

SEH/RWSA reviewed standard tank color palettes and finish options from multiple manufacturers to understand available offerings and the color selection process. Most welded steel and concrete tank alternatives provide a range of standard colors, with the option to match specific color swatches as these coatings are field applied. Bolted steel tanks are typically factory-coated and therefore offer a more limited selection of available colors. Light colors are generally preferred for tanks of this size to help them blend in better with their surroundings and to reflect sunlight to reduce heat absorbed by the tank.

This tank will be visible from the lower elevations of Rt. 29 and its intersection with Airport Rd. From these observation points, the tank will be viewed primarily against the sky; therefore, the selected color was chosen to be as neutral as possible relative to that background.

RWSA reviewed these color inputs and selected Gray to provide a neutral background and reflect sunlight to the extent possible. Example color swatch from coating provided by Euclid Chemical Company is below.



GRAY

A handwritten signature in black ink, appearing to read 'Nate Nickerson'.

Nate Nickerson PE



TECHNICAL MEMORANDUM

TO: Department of Community Development – Albemarle County

FROM: Nate Nickerson PE

DATE: May 1, 2026

RE: Viewshed Analysis: Major ARB Amendment to 2021-68
SEH No. RIVAN 189740 14.00

The purpose of this memorandum is to provide the Architectural Review Board (ARB) with background information on the Rivanna Water and Sewer Authority's (RWSA) ground storage tank design process and key architectural considerations for the Airport Road Pump Station and Storage Tank Improvements Project. The project includes construction of an initial one (1) million-gallon (MG) ground storage tank, with site planning considerations to accommodate a second future tank to meet projected increases in water service demand. The viewshed analysis summarized below provides insight into the visual impacts associated with the first ground storage tank installation.

Viewshed Requirements

The existing pump station is located at 4384 Berkmar Drive in Hollymead, Virginia, near the intersection of Route 29 and Airport Road. As part of the ARB review, a viewshed analysis was required to evaluate the visibility of the proposed ground storage tank from Airport Road. SEH prepared viewshed mapping to satisfy this requirement by analyzing five observation points along Airport Road, as shown in Figure 1 through 6.

Viewshed Analysis Methodology

Viewshed mapping was performed using ArcGIS Pro 3.6 and Trimble Business Center (TBC). LiDAR data was obtained from the Virginia Geographic Information Network; however, the source data had limited classification and did not adequately distinguish vegetation and structures. To improve accuracy, the LiDAR was processed in TBC using automated point-cloud classification to separate ground, buildings, and multiple vegetation height classes. The refined dataset was imported into ArcGIS Pro to generate a Digital Surface Model (DSM) representing existing terrain and surface features. The proposed tank design was incorporated into the model to accurately represent the structure. Viewshed analysis was then completed using ArcGIS Pro's 3D Analyst Viewshed (Geodesic) tool from multiple observation points along Airport Road, applying a 6-foot observer height to represent eye level, with outputs identifying areas from which the tanks would be visible based on topography, vegetation, buildings, and proposed tank height.

Viewshed Analysis Results

Based on the viewshed analysis of five observation points along Airport Road, the proposed tank will be visible from Sites 1, 2, and 3 (Figures 2-4). SEH developed photo-rendered simulations from these three viewpoints where the tank would be visible. The renderings incorporate a 3-dimensional model of the tank

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into site photographs to provide a realistic representation of the proposed tank's appearance from these sites (Figures 7-9).

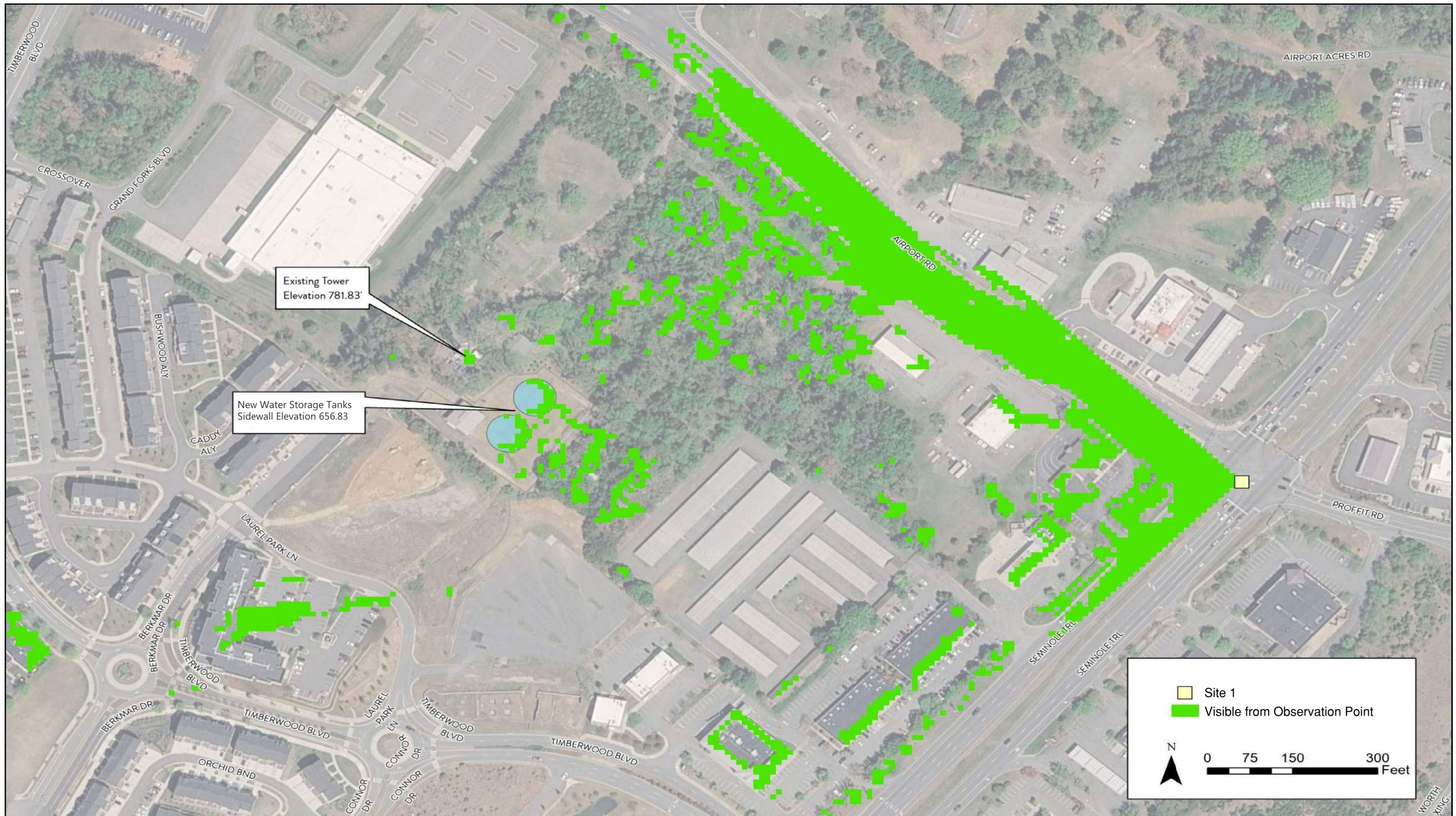
Summary

The tanks are largely screened from view along Airport Road with the tops of the tanks visible above the trees from the Airport Rd/Route 29 intersection and portions of the road immediately Northwest of the intersection. As you move Northwest along Airport Rd towards the airport the tank is no longer visible due to an increase in ground elevation and a localized high point near the cell tower location where screening vegetation fully obscures the tank. No portion of the retaining wall will be visible from Airport Rd.

A handwritten signature in black ink, appearing to read 'Nate Nickerson', is positioned above the printed name.

Nate Nickerson PE (VA, NC, WI, MN, FL, CA, NJ, NY, VT, MA, UT)
Senior Project Manager

nn
Attachment
Figures 1-9



Airport Road Pump Station and Storage Tank Improvements Project
VIEWSHED ANALYSIS - SITE 1
 Hollymead, VA



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Airport Road Pump Station and Storage Tank Improvements Project **VIEWSHED ANALYSIS - SITE 2** Hollymead, VA

Figure
3





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Airport Road Pump Station and Storage Tank Improvements Project **VIEWSHED ANALYSIS - SITE 4** Hollymead, VA

Figure
5



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Airport Road Pump Station and Storage Tank Improvements Project **VIEWSHED ANALYSIS - SITE 5** Hollymead, VA

Figure
6



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Airport Road Pump Station and Storage Tank Improvements Project
VIEWSHED ANALYSIS - SITE 1
Hollymead, VA

Figure
7



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Airport Road Pump Station and Storage Tank Improvements Project
VIEWSHED ANALYSIS - SITE 2
Hollymead, VA

Figure
8



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Airport Road Pump Station and Storage Tank Improvements Project
VIEWSHED ANALYSIS - SITE 3
Hollymead, VA

Figure
9