



## • USE PERMIT APPLICATION •

DEPARTMENT OF DEVELOPMENT • WWW.CULPEPERCOUNTY.GOV • (540) 727-3404 • (540)727-3461 Fax

**Conditional Use Permit- Agricultural use in R1 (Residential) Zoning District:** subject to securing a use permit as provided for in Article 17. (Application Fee: \$500.00; plus mailing & advertising costs)

**Conditional Use Permit:** Any use that may be permitted in a given district, subject to securing a use permit as provided for in Article 17. (Application Fee: \$2000.00 for first acre of proposed use area plus \$50.00 per acre for each additional acre or fraction thereof; plus mailing & advertising costs)

**Manufactured Home Use Permit** A use that may be permitted in a given district, subject to securing a use permit as provided for in Article 28.(Application Fee: \$350.00)

**Telecommunication Tower** A use that may be permitted in a given district, subject to securing a use permit as provided for in Article 17. (Applicant pays third-party consultant expense)

### Permit Type

- Conditional Use Permit- Agricultural use in R1 (Residential) Zoning District (Application Fee: \$500.00; plus mailing & advertising costs)
- Conditional Use Permit (Application Fee: \$2000.00 for first acre of proposed use area plus \$50.00 per acre for each additional acre or fraction thereof; plus mailing & advertising costs)
- Manufactured Home Use Permit (Application Fee: \$350.00)
- Telecommunication Tower (Third-party Review Fee: applicant pays consultant expense)

### Property Owner or Applicant Contact

**Information** First name

Town of Culpeper

Last name

Street address

400 S. Main St

Street address line 2

Suite 301

City

Culpeper

State

VA

Zip code

22701

Phone number

(540) 829-8260

Email Address

\*contact regarding your permit will be primarily via email\*  
ahopewell@culpeperva.gov

Tax Map and Parcel Number [ONLINE GIS](#)

41-106F

### Parcel Information

Street address (if different from above)

Magisterial District

LI

Stevensburg

**Statement of Intent**

I  We  The Owner(s)  Contract Owner(s)

Of (Address or Tax Map and Parcel Number)

Parcel ID 41-106F

Containing (Total sq. ft. or acres) of land

Magisterial District

20.48

Stevensburg

Do hereby apply for a Use Permit as required by Article

Article 17 (Conditional Uses)

Of the Zoning Ordinance of the County of Culpeper for the Purpose of

Constructing a Town of Culpeper public utility reuse water tower (per County Code Article 7.1A-2-3.8 Public Utilities/Utilities) at a total height of 205 feet above grade. The tower will store treated effluent from the Town of Culpeper's Water Pollution Control Facility (WPCF) that can be transferred to customers as non-potable water.

**Please submit any additional documentation that you feel will assist in processing your application**

**By signing this application, I acknowledge that on any matter before the Planning Commission for determination, the Applicant, or a representative of the Applicant who is fully authorized, able, and willing to act on behalf of the Applicant and to answer the Commission's questions, fails to appear before the Commission in its proceeding on the Applicant's matter, the Commission may deem the absence of the Applicant or representative, to be a request by the Applicant for a tabling of the matter.**

Please Print this application and Sign Below

Date Submitted

*James S. Vecchiarelli* James S. Vecchiarelli

9/17/2024

*TPC Freedom LLC, a Virginia limited liability company By AWP Management a Virginia limited liability company, its Manager*

Pursuant to VA State Code Section 15.2-2316.4:1, Determination on this application must be made by the Culpeper County Board of Supervisors within the lesser of 150 days of receipt of the completed application: (DATE) \_\_\_\_\_

## **NOTICE**

**Culpeper County does not discriminate - against religions or on the basis of sex, age, race, national origin, or a disability - in its planning and land use processes. If you believe that you have been discriminated against or that the Religious Land Use & Institutionalized Persons Act (“RLUIPA”) has been violated, please ask for a complaint form.**

**Under the laws of the United States and the Commonwealth of Virginia, no government may discriminate against religions or on the basis of sex, age, race, national origin, or a disability - in its planning and land use processes.**

**Under RLUIPA, no government may apply its zoning or land use laws, or its policies and procedures in a manner that unjustifiably imposes a substantial burden on the religious exercise of a person, including a religious assembly or institution.**

**RLUIPA also provides that no government may apply its zoning or land use laws in a manner that treats a religious assembly or institution on less than equal terms that a non-religious institution or assembly.**

**Finally, RLUIPA provides that no government may impose or implement a land use regulation in a manner that discriminates against a religious assembly or institution.**

**Culpeper County does not discriminate against religions in its planning and land use processes. If you believe that you have been discriminated against or that the Religious Land Use & Institutionalized Persons Act (“RLUIPA”) has been violated, please ask for a complaint form.**

## Town Reuse Water Tower Conditional Use Permit Application

1. Narrative
  - a. What is a reclaimed water system and why is an elevated tank necessary?
  - b. What are the benefits of a reclaimed water system?
  - c. What siting considerations have been made?
  - d. How does the tower and reclaimed water system relate to the Culpeper County Comprehensive Plan?
2. Potential Conditions
3. Conceptual Plan Sheets (4 Sheets)
4. Tower Location Within McDevitt Drive Technology Zone
5. Viewshed Analysis of Site A (Town Location) and Site B (County Location)
6. Photograph of Comparable Tower

## **Narrative**

Recent developments have created a pathway for implementing a Reclaimed Water System in Culpeper. The Culpeper Technology Campus (CTC) has expressed a desire to utilize reclaimed water for cooling processes, thereby reducing energy demands. Anticipated customer uptake will also support operations and maintenance expenses, ensuring sustainability. For these reasons, the Town of Culpeper is requesting a conditional use permit to expand its existing public utility operations to incorporate a reclaimed water system, including a new water tower of up to 205 feet in height. Additionally, the Town is also requesting that a Comprehensive Plan Conformity Review be conducted to permit this public utility that is not specifically depicted within the existing Culpeper County Comprehensive Plan.

### **A. What is a reclaimed water system and why is an elevated tank necessary?**

A Reclaimed Water System is infrastructure designed to treat and transfer effluent from the Water Pollution Control Facility (WPCF) to designated customers. This system operates similarly to a potable water distribution system, with several key components:

- Treatment Facilities - These ensure that reclaimed water meets stringent environmental and health safety standards.
- Pump Station - This component generates the necessary pressure to facilitate water movement throughout the system.
- Distribution Piping - This network transmits reclaimed water from the WPCF to end-users.
- Elevated Storage Tank - This structure provides storage capacity, maintains pressure, and enhances system reliability.

The reclaimed water is reused for non-potable purposes like cooling of a data center facility, and an elevated tank is necessary within this system to maintain consistent water pressure and ensure reliable distribution throughout the service area, especially during peak demand periods, by utilizing gravity to deliver the water. The reclaimed water is wastewater that has gone through advanced treatment to remove pollutants, making it safe for non-drinking uses. The purpose of the elevated tank is that by storing reclaimed water at a higher elevation, gravity naturally pushes the water through the distribution pipes, providing adequate pressure to reach all distribution points without the need for excessive pumping. The benefits of elevated tanks include the ability to provide constant pressure, reduced pumping needs, the storage of reclaimed water from times of low demand that can be used to supplement plants flows at times of peak demands, and allows the continuous provision of service during times of equipment or other failures.

### **B. What are the benefits of a reclaimed water system?**

Implementing a Reclaimed Water System offers numerous advantages for the Culpeper community, including:

- Maximized Resource Utilization - Efficient use of existing wastewater effluent creates an additional revenue stream.
- Energy Reduction - Decreased power consumption for end-users contributes to overall sustainability.
- Environmental Protection - Reduces wastewater discharge into Mountain Run, mitigating nutrient and pollutant loading.
- Nutrient Allocation - Helps preserve and potentially increase Culpeper's nutrient allocation for future development.

Utilizing an elevated tank within the system has the following benefits:

- Consistent pressure: Ensures even water distribution during high demand periods.
- Reduced pumping needs: Less energy required to pump water as gravity assists in distribution.
- Storage capacity: Allows for storage of reclaimed water during periods of low usage to be used during peak demand times

Despite these benefits, the town had previously declined to implement such a system due to a lack of customers and prohibitive costs, which rendered the project financially unviable. At this time, CTC has committed to cover 100% of the costs associated with permitting, designing, and constructing the system, making it financially viable.

### **C. What siting considerations have been made?**

The selection of a site for the elevated tank and associated infrastructure involves several critical factors that were examined relative to two potential locations – Site A that is within Town limits, and Site B that is outside Town limits:

1. View Shed Impact - Minimizing visibility to enhance community aesthetics.
  - Site A: More visible in town and east of Route 29; less visible in the McDevitt Drive Technology Zone.
  - Site B: Less visible overall, particularly in the town and east of Route 29; more visible in the technology zone.
2. Operations and Maintenance - Ensuring ease of management for the town.
  - Site A: Infrastructure located within a data center, complicating ownership and maintenance.
  - Site B: Infrastructure positioned outside the controlled data center space, facilitating town ownership and management.
3. Reliability - Ensuring operational dependability.
  - Site A: Complicated by internal data center restrictions.
  - Site B: Allows for easier maintenance and reliability through external accessibility.
4. Hazard and Environmental Mitigation - Assessing potential risks.
  - Site A: Overflow lines do not facilitate gravity flow to the WPCF.
  - Site B: Overflow lines designed for gravity flow back to the WPCF, enhancing safety.
5. Future Expandability - Enabling regional system development.
  - Site A: Prohibitive for town ownership due to its location.

- Site B: Supports town ownership and regional system expansion possibilities.

For these reasons, Site B is the preferred location for the tank. At this location, the proposed tank will have the following specifications:

- Height: 195 feet to overflow (205 feet overall).
- Diameter: 92 feet 6 inches.
- Bowl Height: 45 feet.
- Shaft Diameter: 52 feet.

Comparative statistics for tank elevations of other towers within Culpeper include:

- Proposed Reclaimed Water Tank (Site B): 195 feet to overflow, HGL 640.
- Existing Elevated Tank: 179 feet to overflow, HGL 620.
- Existing High Pressure Zone (HPZ) Tank: 159 feet to overflow, HGL 690.

#### **D. How does the tower and reclaimed water system relate to the Culpeper County Comprehensive Plan?**

In looking at the proposal relative to the Culpeper County Comprehensive Plan, two chapters are particularly relevant for analysis. Chapter 4 – Environmental and Historic Resources, and Chapter 5 – Economic Development. The Environmental and Historic Resources Chapter’s stated aims are to provide an overview of the County’s existing environmental and historic resources, an analysis of current and future environmental and historic preservation concerns and trends, and a list of the goals, objectives, and action items that will address these identified concerns.

Goal 2 expresses a desire to *“Work on creating a more environmentally sustainable community.”* Reclaimed water systems are environmentally sustainable because they:

- Reduce wastewater discharge - Reclaimed water systems reduce the amount of wastewater that is discharged into the environment. This helps to reduce pollution and improve the quality of water in lakes, streams, and aquifers.
- Conserve freshwater - Reclaimed water systems reduce the need to divert water from sensitive ecosystems and local surface and groundwater. This helps to preserve freshwater for wildlife and natural habitats.
- Help communities adapt to climate change - Reclaimed water systems can help communities adapt to climate change by reducing the discharge of polluted water into rivers, lakes, and streams. This can help communities prepare for increased population demands and the impacts of climate change

Goal 3 states that Culpeper County wishes to *“Work on creating a more environmentally resilient community.”* Reclaimed water systems aid in environmental resiliency for the reasons listed above as well as by:

- Reduce the risk of drought - Reclaimed water systems reduce the use of freshwater from surface water and underground sources, which helps to reduce the risk of drought.
- Protect ecosystems - Reclaimed water systems help to protect aquatic environments and biodiversity by reducing pollution and preserving renewable resources.
- Save energy - Reclaimed water systems can save energy through their utilization in the transfer of heat from industrial processes to reused water, which reduces the energy required for cooling.

In looking at the Economic Development Chapter, Goal 1 states an aspiration for the County to “*Continue to expand the economic base of Culpeper County in a manner that complements existing businesses and the County character.*” Both Pathway 1, “*Facilitate new economic development.*” and Pathway 2, “*Ensure future economic development is compatible with the existing land use fabric.*” come into play in relation to a potential reclaimed water system as:

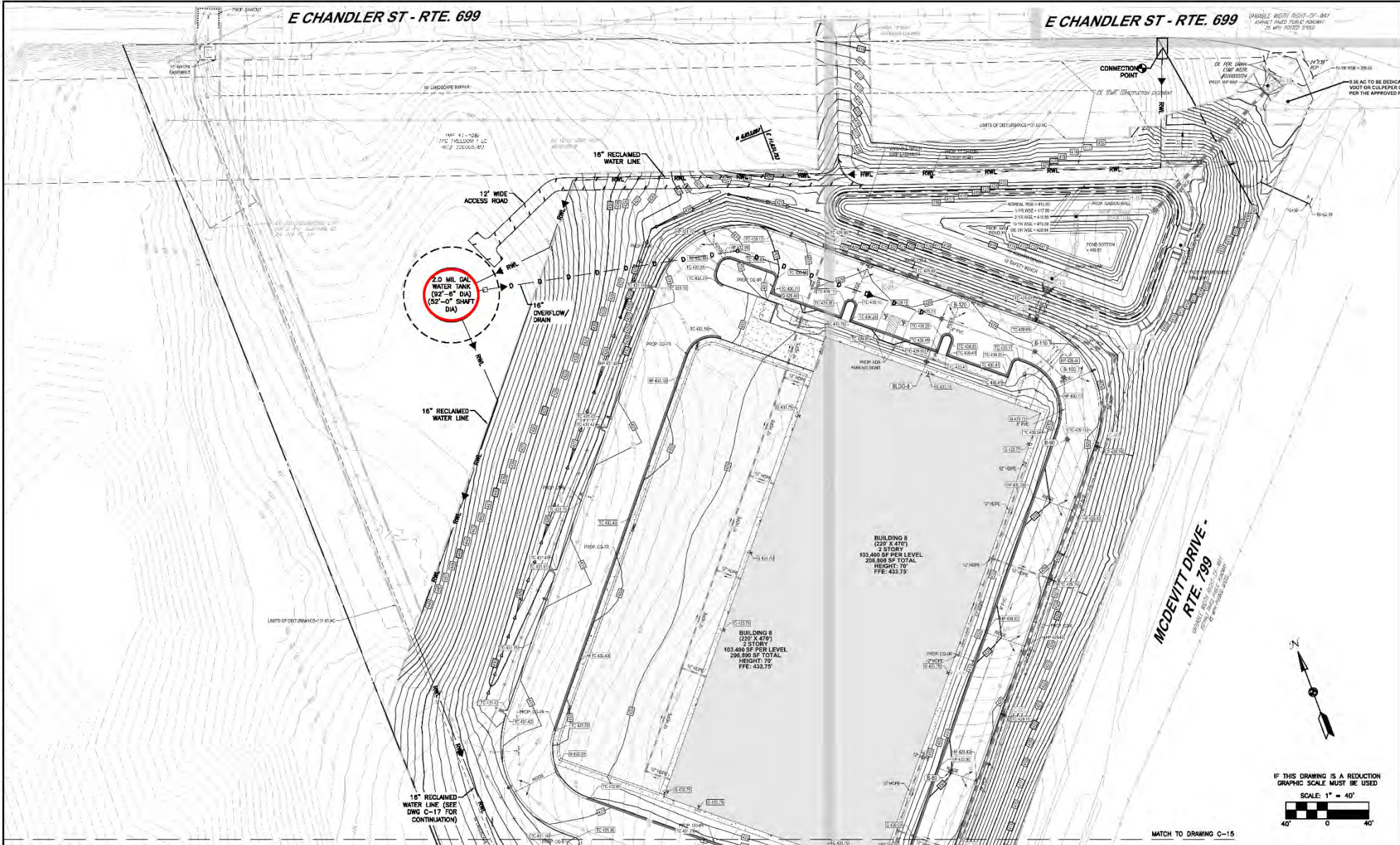
- Creating jobs – Reclaimed water can aid in providing the water necessary to aid in the development of a data center cluster within the McDevitt Drive Technology Zone and create jobs within that cluster.
- Cluster similar intensity industries – Reclaimed water can aid in incentivizing the clustering of data centers within the McDevitt Drive Technology Zone by offering reclaimed water for cooling to multiple potential users.

In summary, the development of the Reclaimed Water System in Culpeper stands as a forward-thinking initiative that aligns with sustainability goals while enhancing economic viability and environmental protection.



### **Potential Conditions**

1. Development of the reclaimed water system shall be in general conformance with the following conceptual plan sheets submitted as part of the application: WW Associates Preliminary Diagram dated 9/6/2024; and WW Associates Elevated Water Tank Plan & Sections dated 9/6/2024.
2. Tower height shall not exceed 205 feet in height.
3. The tower and supporting infrastructure shall be situated on a Town-owned parcel of land.
4. The Town of Culpeper shall operate the reclaimed water system as a public utility.



M:\224008 Peterson\_Culpeper\_Tech\_Campus\_Reclaimed\_Water\224008.02 Design\400802L\_SP-1.dwg

NO.	DATE	BY	CHKD.	REVISION

PRELIMINARY



DESIGNED BY: **HFV**  
 DRAWN BY: **DJC**  
 CHECKED BY: **HFV**  
 WBA NUMBER: **224006.02**

PROJECT: **PETERSON COMPANIES RECLAIMED WATER PROJECT CULPEPER TECHNOLOGY CAMPUS CULPEPER, VIRGINIA**  
 TITLE: **ELEVATED TANK SITE PLAN**  
 DATE: **9/6/2024**

SCALE: **1" = 40'**  
 DRAWING NUMBER: **C-14**  
 DATE: **9/6/2024**



IF THIS DRAWING IS A REDUCTION GRAPHIC SCALE MUST BE USED





New 2.0 MG Above Ground Storage Tank

New 16" Reclaimed Water Line

New 4.0 MGD Reclaimed Water Pump Station

New Electrical & Chemical Building

New Parshall Flume

Post Aeration Tank

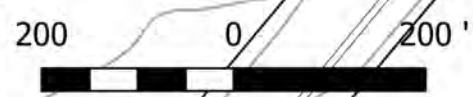
New Hypochlorite Tank

Town of Culpeper WWTP

New 16" Reclaimed Water Line Connection to Onsite Utilities

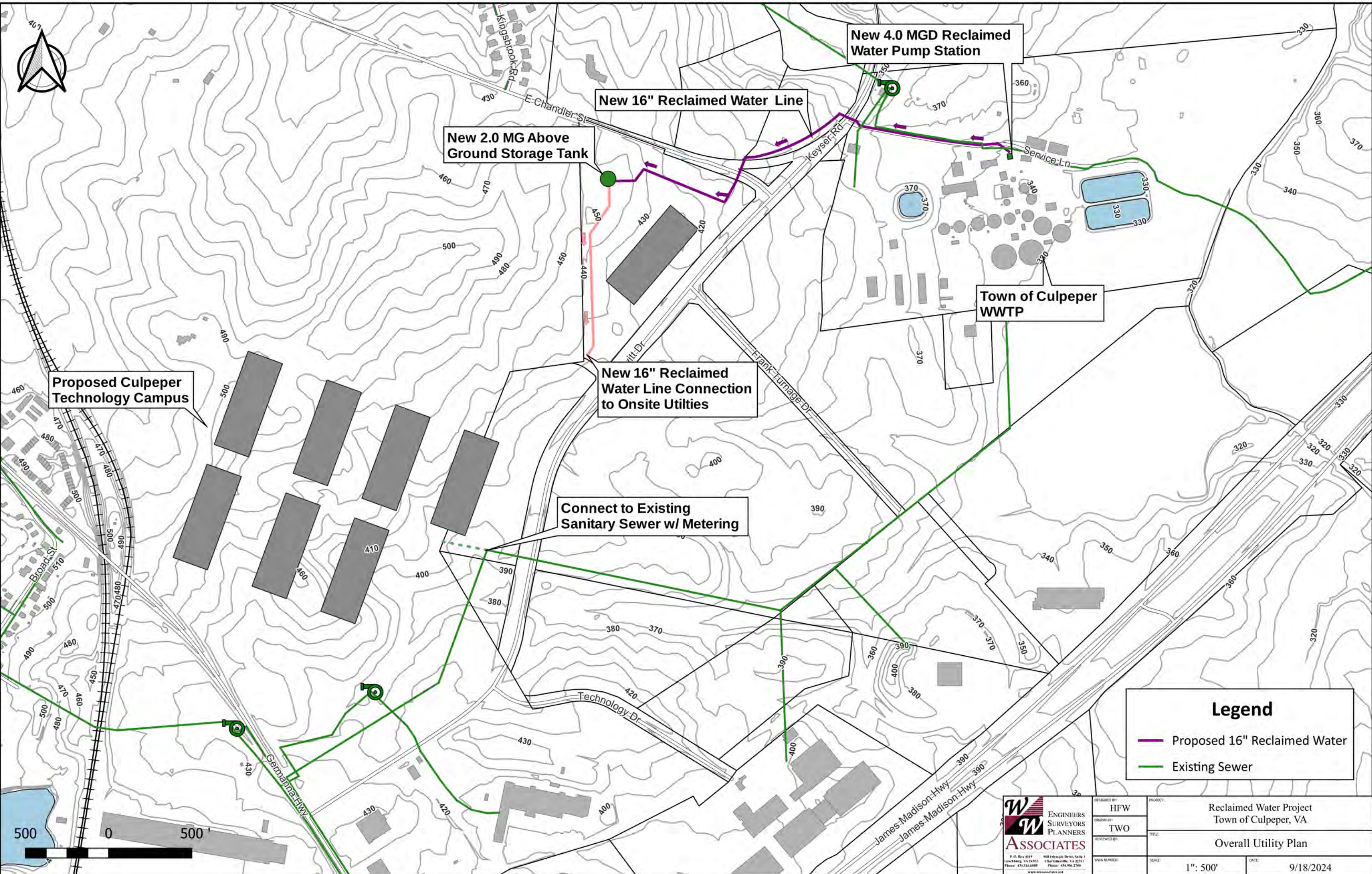
**Legend**

- Proposed 16" Reclaimed Water
- Existing Sewer



<p><b>W ASSOCIATES</b> ENGINEERS SURVEYORS PLANNERS</p> <p>P. O. Box 4147    904 Fritchburg Drive, Suite F Fritchburg, VA 22432    Fritchburg, VA 22431 Phone: 541.316.6888    Phone: 541.984.2700 www.wassociates.com</p>	DESIGNED BY:	HFV	PROJECT:	Reclaimed Water Project Town of Culpeper, VA
	DRAWN BY:	TWO	TITLE:	Town Utility Plan
	REVIEWED BY:		SCALE:	1" = 200'
	DATE:		DATE:	9/18/2024





New 4.0 MGD Reclaimed Water Pump Station

New 16" Reclaimed Water Line

New 2.0 MG Above Ground Storage Tank

Town of Culpeper WWTP

New 16" Reclaimed Water Line Connection to Onsite Utilities

Connect to Existing Sanitary Sewer w/ Metering

Proposed Culpeper Technology Campus

**Legend**

- Proposed 16" Reclaimed Water
- Existing Sewer



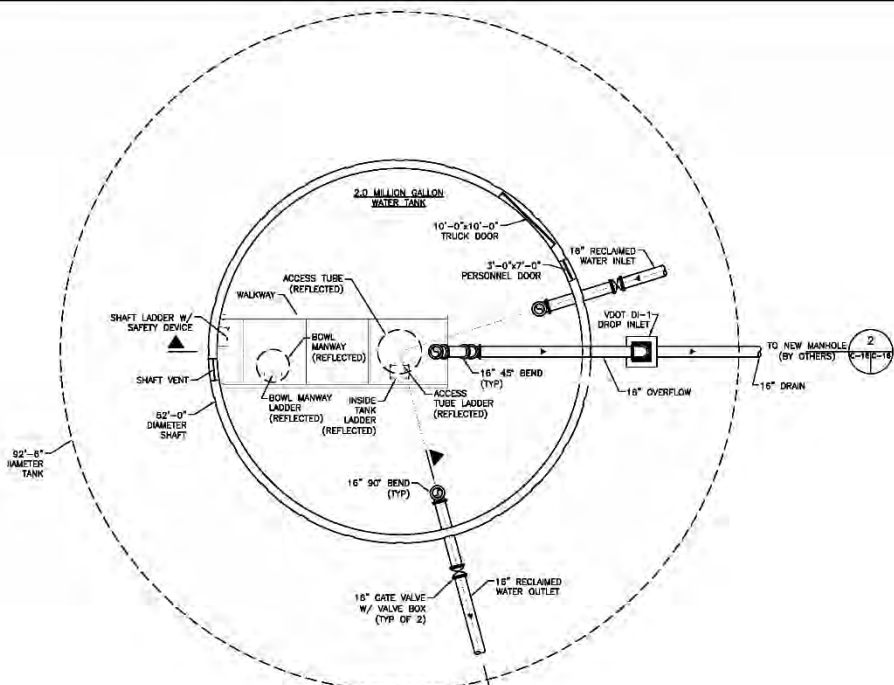
**W**  
ENGINEERS  
SURVEYORS  
PLANNERS  
**ASSOCIATES**

P. O. Box 4119  
Farmingdale, VA 22402  
Phone: 541.315.4888  
www.wassociates.com

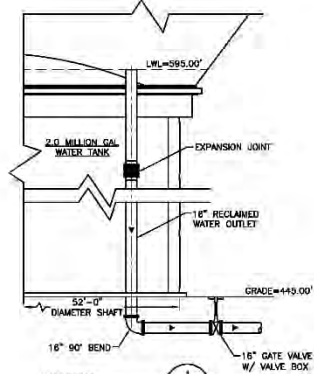
1001 Kingsport Drive, Suite 1  
Charlottesville, VA 22911  
Phone: 434.984.2700

DESIGNED BY:	HFW	PROJECT:	Reclaimed Water Project Town of Culpeper, VA
DRAWN BY:	TWO	TITLE:	Overall Utility Plan
REVIEWED BY:		SCALE:	1" = 500'
DATE:	9/18/2024		



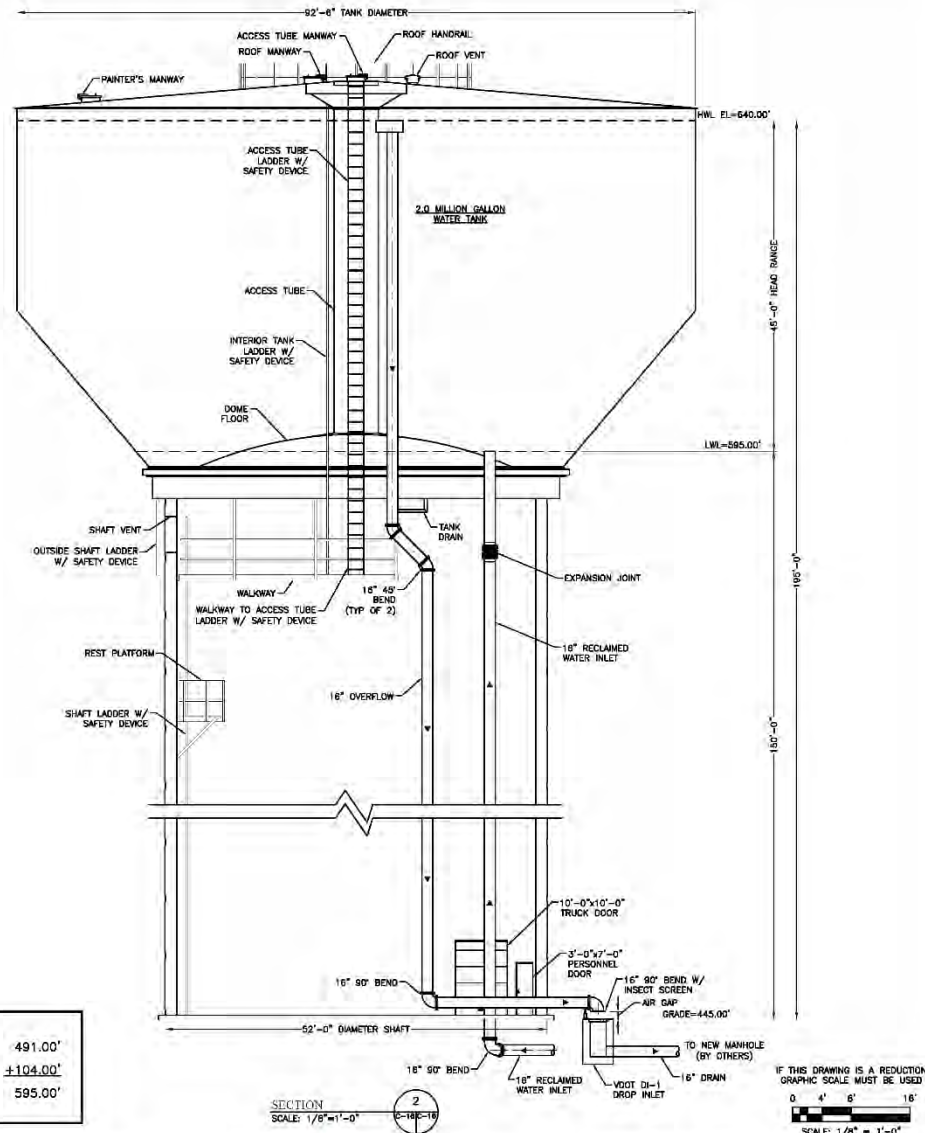


PLAN  
SCALE: 1/8"=1'-0"



SECTION  
SCALE: 1/8"=1'-0"

BUILDING #1 HIGHEST FLOOR ELEVATION	491.00'
45 PSI	+104.00'
MINIMUM ELEVATION	595.00'



IF THIS DRAWING IS A REDUCTION GRAPHIC SCALE MUST BE USED

0 4' 8' 16'

SCALE: 1/8" = 1'-0"

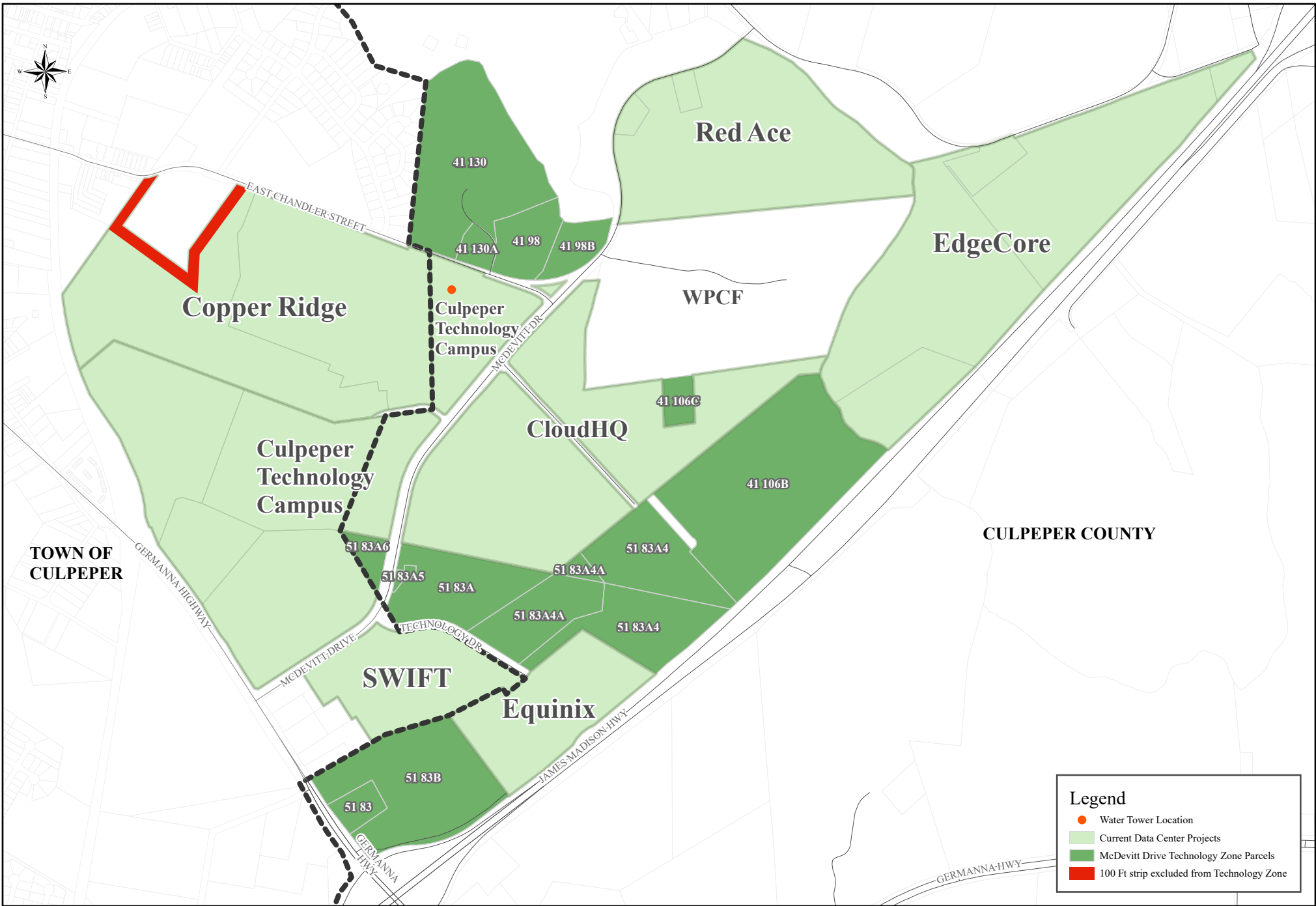
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NO.	DATE	BY	CHKD	APP'D	REVISION

PRELIMINARY

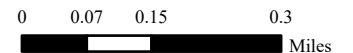


DESIGNED BY: HW	PROJECT: PETERSON COMPANIES RECLAIMED WATER PROJECT CULPEPER TECHNOLOGY CAMPUS CULPEPER, VIRGINIA	SET REV. NO. -
DRAWN BY: DJC		DRAWING NUMBER: C-16
DATE: HW	ELEVATED WATER TANK PLAN & SECTIONS	DATE: AS SHOWN
APP. NUMBER: 224006.02	SCALE NAME: 40002L_DET-1.dwg	DATE: 9/6/2024
	DISSEMINATE: CML	SCALE: N/A



# McDevitt Drive Tech Zone Data Center Map

Map created by Town of Culpeper GIS Department on September 25, 2024

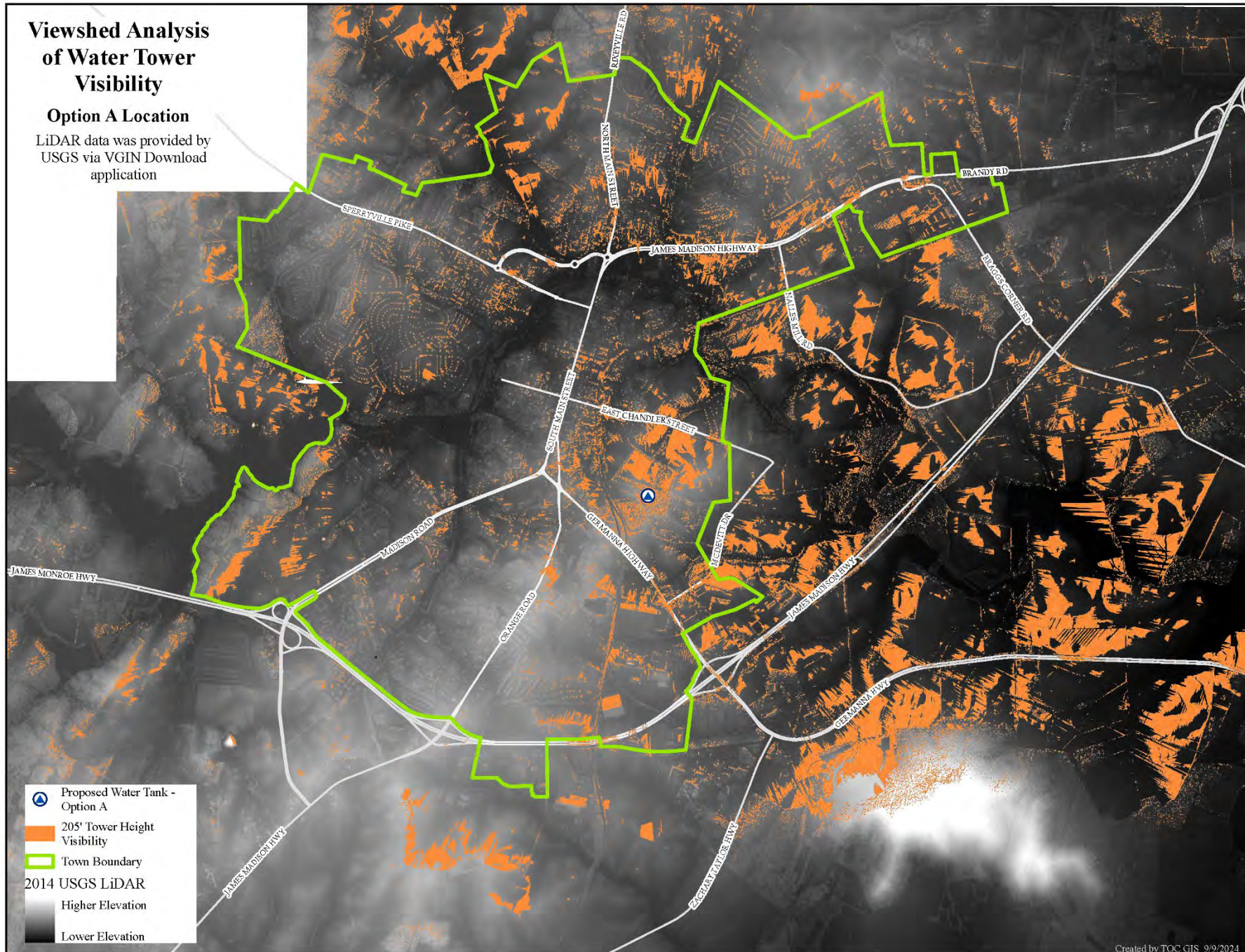




# Viewshed Analysis of Water Tower Visibility

## Option A Location

LiDAR data was provided by  
USGS via VGIN Download  
application





# Viewshed Analysis of Water Tower Visibility

## Option B Location

LiDAR data was provided by  
USGS via VGIN Download  
application

