

4AM DEVELOPMENT LLC- 6439 BURKHALTER ROAD

WATER FEASIBILITY MANAGEMENT PLAN

Purpose

This Water Management Plan presents the anticipated water usage and water management approach for the proposed data center development at the Burkhalter Road site. It documents projected water demand, benchmarks that demand against the residential development permitted by right under the existing zoning and describes the measures in place to protect local water resources. The plan comprises three components: (1) Projected Monthly Average and Peak Water Consumption, estimating domestic and cooling-system water demand; (2) Residential Equivalent Demand, comparing the projected demand to the permitted high-density residential use that this property is zoned for; and (3) Water Resource Protection, Wastewater Management, and Chemical Use, addressing groundwater and surface water protection, wastewater handling, and closed-loop chemical management.

PROJECTED MONTHLY AVERAGE AND PEAK WATER CONSUMPTION

The project is expected to employ an average of twelve (12) permanent employees as a part of normal operations. Typical domestic need is estimated at 25 gallons per day (GPD) per employee, per Appendix J of the Georgia Department of Public Health On-Site Sewage Management Systems Manual.

- **Average Daily Domestic Need**
 - 12 employees × 25 GPD/employee = 300 GPD

The cooling system is a closed-loop glycol-based system with an estimated total volume of approximately 6,000 to 10,000 gallons. Under normal operation, water demand is limited to minor system losses, estimated at approximately 0.5% to 1% of system volume per day. This corresponds to approximately 30 to 100 gallons per day of makeup water.

- **Average Daily Makeup Water (Cooling System)**
 - 6,000 – 10,000 gallon system × 0.5% – 1% loss rate = 30 – 100 GPD
- **Average Daily Demand (Cooling + Domestic)**
 - 30 – 100 GPD (Cooling) + 300 GPD (Domestic) = 330 – 400 total GPD
- **Peak Daily Demand (Cooling + Domestic)**
 - 400 GPD × 2.5 Peaking Factor = 1,000 Peak GPD
- **Projected Monthly Average**
 - 400 GPD × 30 days = 12,000 gallons/month

The initial system fill and refill volume is not included in the projected average or peak daily demand because it represents a one-time startup condition rather than a recurring operational demand. Following initial commissioning, the system operates as a closed loop with only minor makeup water required. Ongoing consumption more accurately reflects long-term impacts to the municipal water system. Assuming that the coolant needs to be replaced every 12 months, the yearly average use is calculated below:

- **Projected Yearly Average**
 - $400 \text{ GPD} \times 365 \text{ days} = 146,000 \text{ gallons/year}$
 - 10,000 gallons/year for coolant system
 - Total Estimate of 156,000 gallons/year

RESIDENTIAL EQUIVALENT DEMAND

It is anticipated that the utility demand from data center development would be much less than a high-density residential development, currently allowed by right in the existing R-4 zoning. Assuming 240 multi-family attached apartment units were developed, as proposed in the Burkhalter Residential Traffic Study, a projected water demand is calculated below.

- **Average Daily Domestic Need (Residential)**
 - $240 \text{ units} \times 300 \text{ GPD/unit} = 72,000 \text{ GPD}$
- **Projected Monthly Average (Residential)**
 - $72,000 \text{ GPD} \times 30 \text{ days} = 2,160,000 \text{ gallons/month}$
- **Projected Yearly Average**
 - $72,000 \text{ GPD} \times 365 \text{ days} = 26,280,000 \text{ gallons/year}$

An average of 300 GPD/unit is assumed, representing a two-bedroom apartment at 150 GPD/bedroom per Appendix J of the Georgia Department of Public Health On-Site Sewage Management Systems Manual.

This number represents approximately 170 times greater water demand than the anticipated yearly demand of the proposed data center development.

WATER RESOURCE PROTECTION, WASTEWATER MANAGEMENT, AND CHEMICAL USE

The proposed facility operations will be conducted in a way not to endanger or adversely affect the quantity or quality of local groundwater or surface water supplies, in accordance with industry best practices. No on-site wells are proposed; the facility will be served entirely by the municipal water system, and no cooling water is discharged to the ground or to surface waters. Cooling is achieved through a closed-loop system, which eliminates the need for evaporative cooling and significantly reduces overall water demand.

Wastewater generation is limited to domestic sanitary flows associated with a small on-site staff, which will be discharged to the municipal sanitary sewer system in accordance with applicable regulations. The cooling system itself does not generate continuous non-domestic wastewater; instead, spent glycol solution is removed approximately every 12 to 18 months and transported offsite for recycling or proper disposal given the high cost of this reusable component for the cooling system. Georgia Glycol, Inc. in Valdosta, Georgia is an example of a facility that will coordinate the pickup, hauling, and recycling of glycol through state-of-the-art Ultra and Nano membrane technology. The specific vendor may vary depending on the end-user.

Glycol functions as a treatment chemical within the closed-loop system, stabilizing the circulating water and reducing its corrosive potential to protect system components and prolong equipment life. These treatment chemicals are used in limited quantities and remain within the system during normal operations. The closed-loop system does not have a discharge to the municipal sewer system. It is typical that the cooling system utilizes a 25% glycol mixture, meaning approximately 1,500 – 2,500 gallons could potentially be deployed in the system. All chemical handling, storage, and disposal practices will comply with applicable local, state, and federal regulations. Please see the attached reference draft of Safety Data Sheets.

The closed-loop cooling system continuously recirculates and reuses its water and glycol charge, minimizing makeup demand; spent glycol solution is recovered and transported offsite for recycling as mentioned above.

All projected water usage values, system characteristics, and operational assumptions are conceptual in nature and will be confirmed upon final engineering design and end-user operating conditions. However, this illustrates the reduced use of a data center with closed loop cooling system vs residential water/wastewater usages.