Executive Summary

The New Florence data center will source water from the Cambrian-Ordovician aquifer underlying Montgomery County for drinking water use and cooling servers. The data center is designed to minimize water consumption through an energy-efficient cooling strategy that relies primarily on natural air cooling throughout most of the year, significantly reducing dependence on water-based cooling systems.

To obtain water, wells will be drilled at depths reaching 1,500 feet to avoid interfering with local private wells. The Missouri Department of Natural Resources (MoDNR) has studied this aquifer, which holds more than 23 trillion gallons of groundwater, and determined that recharge to the aquifer in 2060 (35 years in the future) will still significantly exceed the amount of water withdrawn by all other users. MoDNR estimates that in 2060, nearly five times more water will flow into the system than will be used by all other expected water users. This demonstrates plenty of water is available for the data center water use, which will be a very small fraction of the sustainable supply now and well into the future.

Data Center Site: Montgomery County, Missouri

The New Florence data center is south of Hudson Road and west of Ellis Road, on the eastern side of New Florence, Missouri. The data center needs water for two main ongoing uses: cooling the center's computer servers and drinking water. To supply the data center's water needs for cooling, water will be sourced from deep within the Cambrian-Ordovician aquifer. The data center developer will install new wells drilled as deep as 1,500 feet to avoid interfering with existing local private wells. The planned water supply system will meet all state and local regulations for drilling water wells to protect the local aquifers and surrounding water supplies.

Massive Water Supply with Stable or Increasing Levels

The Cambrian-Ordovician aquifer is made of limestone and dolomite sedimentary rock in which water can be tapped by installing groundwater wells. The aquifer is extensive and occurs throughout the northern part of Missouri, including Montgomery County where the data center is located. The aquifer holds an incredible amount of water—more than 23 trillion gallons in the region of the data center. This is equivalent to more than 1.5 million Olympic-sized swimming pools.

According to MoDNR, long-term water-level monitoring of the Cambrian-Ordovician aquifer within the region of the data center shows that overall water levels are stable, with some monitoring locations even experiencing increases. These trends indicate the aquifer is being used sustainably, meaning that the water is being used in a way that is not depleting it. Water levels for the bedrock well closest to New Florence included in the MoDNR report (in Vandalia, Audrian County, about 30 miles north of New Florence) show an increase of about 5 feet between 2007 and 2017, demonstrating that the aquifer is recharging at volumes greater than volumes being withdrawn, safeguarding the long-term sustainability of the water resource. The water level in the Vandalia well is shown in Figure 1.

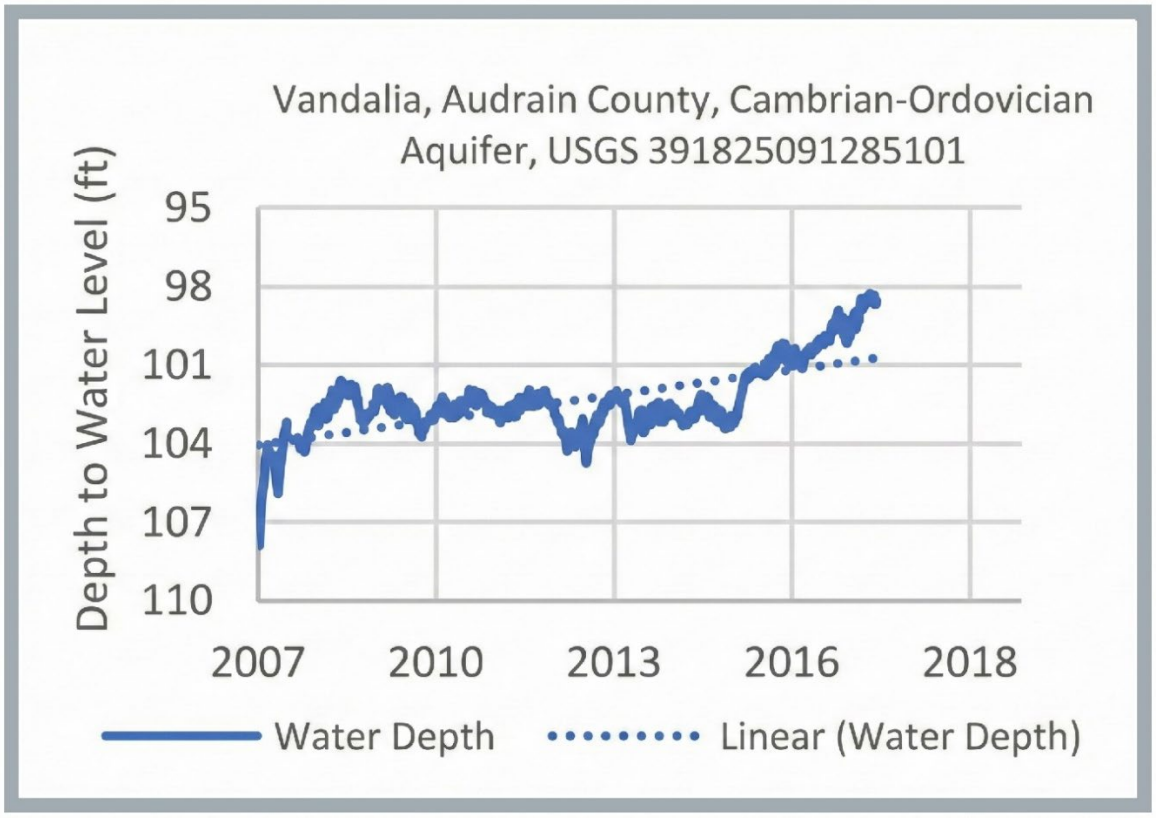

Figure 1. Cambrian-Ordovician Aquifer Water Level in Vandalia showing Increase Between 2007 and 2017, as Recorded by USGS and Reported by MoDNR

Sustainable Long-Term Use

The Cambrian-Ordovician aquifer receives enough natural refill each year to support additional water use. Current MoDNR data show this sustainable trend is already in place; current water withdrawal from the aquifer in Montgomery County represents only 8 percent of the natural recharge rate. Further, New Florence data center operations represent only a very small fraction of the yield of the aquifer; the data center will primarily use natural air cooling most (>92 percent) of the year, creating minimal aquifer impact.

Even looking ahead to 2060, MoDNR predicts that only about 17 percent of the water naturally flowing into the aquifer each year will be used in the region where the data center is located[1]. The data center's water use will only be a very small fraction of the total water used from the aquifer, as shown in Figure 2. This means that the data center's water supply will be sustainable, with the aquifer continuing to refill much faster than water is used.

MoDNR projections show that by 2060, the aquifer will naturally refill at a rate of 406 million gallons per day, while total water withdrawals from all other wells using this aquifer, not including the data center, will be only 71 million gallons per day. The aquifer will essentially gain more than 600 Olympic-sized

[1] https://dnr.mo.gov/water/what-were-doing/water-planning/missouri-water-resources-plan

swimming pools of water each day, while only about 100 pools will be pumped out for all other uses. combined, aside from the data center use.

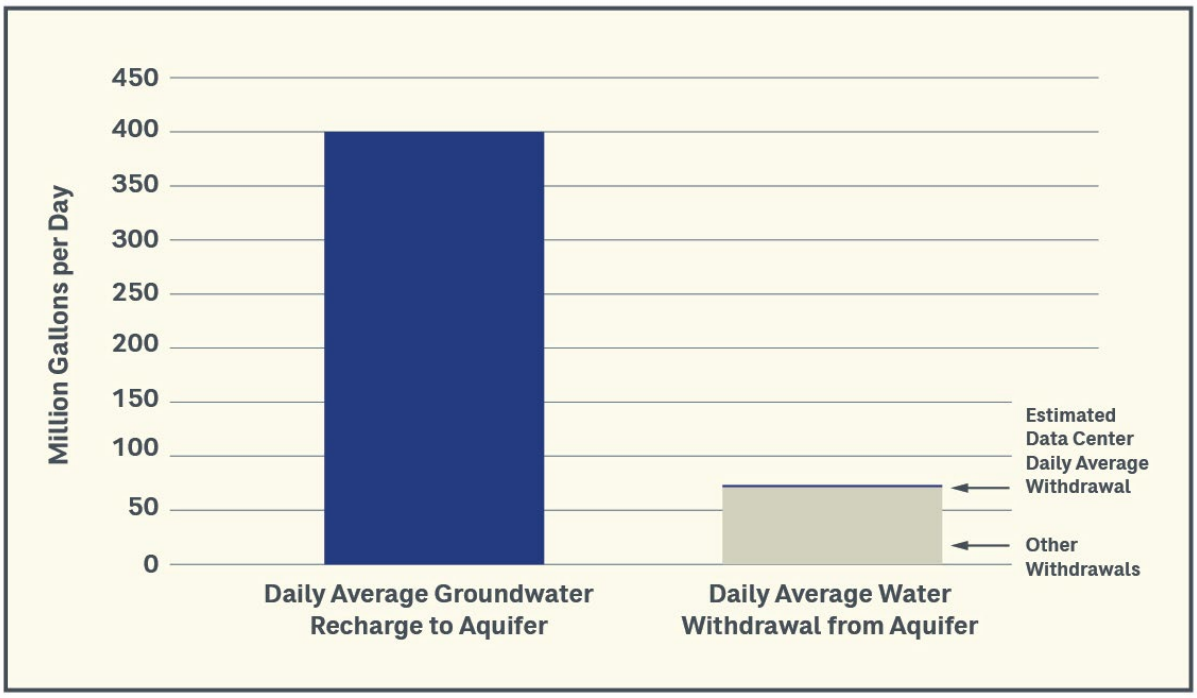

Figure 2. Comparison of Estimated Average Daily Aquifer Recharge vs. Estimated 2060 Total Daily Aquifer Withdrawal Based on MoDNR 2020 Data

Minimal Data Center Impact

The data center operations represent a very small fraction of the safe sustainable yield of the aquifer and will operate with minimal water impact by using natural air cooling >92% of the year, requiring water-based cooling for less than 8% of annual operations, ensuring minimal impact on local water resources.

Water Source Sustainability Assessment

The data center developer conducted extensive research on local and regional water sources through water providers and State of Missouri and U.S. Geological Survey (USGS) published records, to determine the most sustainable water supply alternatives for the data center. This research included reviewing long-term USGS water-level records for the aquifer and reviewing estimates and projections compiled by MoDNR regarding the amount of water flowing into and being used from the aquifer (Figure 2). Based on the research and analysis of the data, it is estimated that the Cambrian-Ordovician aquifer can sustain the data center's water needs with minimal impacts to the water resources within the region.

This fact sheet was prepared by CDM Smith, a global engineering and construction firm specializing in water, environment, transportation, energy, and facilities. The document was developed by a team of experienced hydrogeologists and scientists. The information presented is based on published MoDNR 2020 data and USGS aquifer water-level data, reflecting the conditions at the time of publication. This factsheet was prepared in December 2025.