

CASE STUDY

Digital Infrastructure

The QTS DFW2-DC5 Data Center in Wilmer, Texas



Executive Summary / Elevator Story

QTS DFW2-DC5 (often referred to in context as part of the DFW DC 5 development) is a flagship building in QTS Data Centers' expanding DFW2 Hyperscale Campus in the Wilmer/Lancaster area of South Dallas County, Texas. This 363,500 sq ft, two-story facility represents QTS's (Blackstone-owned) strategic push to meet surging demand for AI/ML, cloud, and high-density computing in one of North America's, and the World's, fastest-growing Data Center markets. With construction targeted to begin around mid-2026 and operations planned for 2027, DC5 delivers shell-ready Data Halls backed by robust Oncor utility power (campus-scale critical IT load in the tens of MW per building) and enterprise-grade redundancy. It forms part of a multi-building campus that already includes DC1 (operational 2026) and positions QTS to capture hyperscale tenants while delivering significant economic uplift (hundreds of construction and permanent high-tech jobs) to the Lancaster community. In short: scalable, AI-ready power and space in the DFW power corridor at speed.

Background

QTS Data Centers, a leading wholesale and Hyperscale provider with over 2 GW of global critical power capacity under contract, selected the Lancaster/Wilmer area (South of Dallas) for its DFW2 campus due to abundant land, strong fiber connectivity, and access to Oncor's deregulated grid in a region experiencing explosive Data Center growth. The broader DFW2 campus sits on land near Mason Road (DC5 specifically at/near 421 Mason Rd, Wilmer, TX 75172, adjacent to Lancaster). DC5 is one of several phased buildings (alongside DC1 at 303 Mason Rd, DC2, DC3, DC6, DC7, etc.) designed as shell-and-core facilities to allow rapid customer fit-out. This expansion follows QTS's established Irving campus and aligns with the DFW market's status as a top U.S. Data Center hub driven by tech, logistics, and energy availability. The Project underscores QTS's focus on AI-ready infrastructure in a market where hyperscale demand is outpacing supply.

Design and Specifications

- ✓ Building: Two-story structure totaling 363,500 square feet.
- ✓ Configuration: Office space plus shell data hall space (customer-configurable white space for racks, power, and cooling fit-out).
- ✓ Campus Context: Part of the larger DFW2 multi-building campus on ~55+ acres in south Dallas County, allowing for shared infrastructure and future expansion.
- ✓ Key Features: Designed for high-density deployments (AI/ML workloads), with flexible layouts typical of QTS wholesale products. Similar buildings in the campus (e.g., DC1 at 413,725 sq ft, DC3 at 560,000 sq ft) emphasize scalability and rapid deployment.

Detailed Cooling Infrastructure

Publicly available technical details for DC5's cooling systems remain limited as the facility is in the pre-construction/planning phase. However, consistent with QTS standards across the DFW2 campus and industry norms for high-density facilities:

- ✓ Redundant chilled-water or direct-expansion (DX) systems with computer room air handlers (CRAH) or air conditioning (CRAC) units for precise temperature and humidity control.
- ✓ Support for high-density racks (likely 20–50+ kW per rack for AI), including readiness for liquid cooling (direct-to-chip or immersion) to reduce water usage

and handle elevated heat loads, QTS has highlighted liquid-cooling capabilities in related campus filings.



- ✓ N+1 or 2N redundancy for pumps, chillers, and cooling towers, with potential free-cooling economizers leveraging Texas climate where feasible.
- ✓ Campus-wide efficiency focus: Backup diesel generators and UPS systems ensure uninterrupted cooling during power events. Exact PUE (Power Usage Effectiveness) targets are not published for DC5 but align with QTS's enterprise-grade SLAs (Service Level Agreements) emphasizing sustainability and low water usage.

Enterprise-Grade SLA in Data Centers refers to a high-reliability Service Level Agreement (SLA) tailored for Mission-Critical enterprise workloads. It is a legally binding contract between the Data Center Provider / Owner and the customer that guarantees specific performance standards, with meaningful remedies (service credits or penalties) if those standards are not met.

In simple terms, an "Enterprise-Grade" SLA is the premium tier of service commitment designed for large businesses, financial institutions, healthcare, government, or Hyperscale/cloud providers that cannot tolerate downtime. It goes far beyond basic or "retail/colocation-lite" SLAs by emphasizing near-perfect uptime, comprehensive infrastructure guarantees, rapid response, and financial accountability.

Power Availability

- ✓ Critical IT Load: Specific MW figures for DC5 are not yet disclosed, but comparable DFW2 buildings provide context, DC1 is rated at ~72 MW, while DC1/DC2 combined deliver ~75 MW critical power and DC3 is projected at 43 MW. DC5 (similar scale to other 363k sq ft buildings) is expected to support tens of MW of critical load suitable for Hyperscale tenants.

- ✓ Utility Source: Oncor Electric Delivery’s robust grid, with dedicated utility feeds scalable across the campus. Multiple buildings share campus-level substation capacity for reliability.
- ✓ Redundancy: Typical 2N or N+1 UPS systems, diesel generator backup (with fuel storage for extended outages), and seamless failover.
- ✓ Availability: DFW’s deregulated power market and south Dallas County’s “Premier Power Corridor” provide ample capacity for AI-Driven growth; the campus is master-planned for hundreds of MW total.

The term “**Premier Power Corridor**” (sometimes called the “South Dallas power corridor”) specifically describes the south Dallas County area, centered around Lancaster, Wilmer, and nearby communities (e.g., along or near Mason Road and I-35E). This is the zone repeatedly highlighted by major developers like STACK Infrastructure and others as the top-tier location for new large-scale data center campuses.

In short, calling a location a “Premier Power Corridor” signals that it is one of the most attractive spots in the DFW market for Data Center developers who need speed-to-power (the ability to secure and energize massive electrical capacity faster and more reliably than in competing zones). A “Power Corridor” is not just marketing language—it is a practical designation for areas where the local utility (in this case, Oncor Electric Delivery) has:

- ✓ Strong existing high-voltage substations and transmission lines (e.g., 345 kV backbones).
- ✓ Scalable capacity to interconnect new gigawatt-scale loads quickly.
- ✓ Fewer transmission constraints compared to older, denser northern DFW submarkets.

Project Timeline

- Planning/Filings: Campus initiated with DC1 filings in 2024; DC5/DC6 referenced in 2026 expansion plans.
- Construction Start: Expected July 2026 (aligned with DC5/DC6 announcements).
- Completion/Operations: Targeted for 2027 (consistent with DC7’s Dec 2027 launch and campus phasing).

- Phased Campus Rollout: DC1 (Nov 2024 start → Dec 2025 completion/2026 operational); DC2 (May 2025–June 2026); DC3 (Nov 2025–Jan 2027); DC5/DC6 and DC7 follow in 2026–2027. Overall campus investment is in the hundreds of millions per building (e.g., ~\$290M per 363k sq ft structure).

Economic and Strategic Impact

Economically, DC5 and the DFW2 campus are projected to create hundreds of construction jobs during the 12–18-month build phase and over 200 permanent high-tech roles (operations technicians, network engineers, facility managers) per major building. QTS emphasizes community partnerships, local hiring, and tax revenue contributions to Lancaster/Wilmer. The multibillion-dollar campus investment bolsters south Dallas County’s emergence as a Data Center powerhouse.

Strategically, the Project strengthens DFW’s position among the top U.S. markets by providing AI-ready capacity in a power-rich, fiber-dense location with lower latency to major hubs. It supports National Digital Infrastructure Growth, attracts Hyperscale and enterprise tenants, and demonstrates QTS’s ability to deliver at scale in competitive markets. Proximity to logistics corridors (I-35E) and existing fiber networks enhances its appeal for cloud providers and AI innovators.

Conclusion

QTS DFW2-DC5 exemplifies modern Data Center development: a large-scale, flexible, power-dense facility purpose-built for the AI era in a strategically located DFW submarket. While detailed cooling and exact per-building MW figures await final design and commissioning, the Project’s alignment with QTS’s proven campus model, Onco-backed power reliability, and phased delivery timeline positions it for rapid tenant uptake and long-term operational excellence. Beyond technical capabilities, it delivers tangible economic benefits to Wilmer/Lancaster and reinforces Texas’s leadership in digital infrastructure. As the DFW2 campus matures, DC5 will serve as a cornerstone of regional Hyperscale capacity well into the next decade.