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Data Center and Mission Critical Facilities

Power & Infrastructure

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Data Center and Mission Critical Facilities

As demand for digital infrastructure grows, data centers play an increasingly important role in supporting business operations, cloud services, and emerging AI applications. The United States currently hosts nearly 40% of the world's data center facilities, highlighting its central position in global digital connectivity. Amid accelerating demand, organizations need partners who can help plan and deliver the reliable infrastructure required to keep pace.

GAI supports this demand with a practical, multidisciplinary approach that helps clients plan, design, and build facilities that are efficient, resilient, and ready for future demands.

Our teams bring together expertise in land development, engineering, environmental planning, power systems, water management, permitting and construction support to address the full range of site and facility needs. From planning to commissioning, we work closely with clients to navigate challenges, streamline schedules, and deliver reliable solutions that meet operational goals.

With decades of experience supporting complex projects, GAI understands the importance of approaching data center/mission-critical projects with an unwavering focus on quality, safety, and long-term performance. Your objectives guide our work—and we're committed to helping you create data center infrastructure that supports your organization today and into the future.





What Sets GAI Apart

- **Multidiscipline data center professionals who collaborate closely with client teams**, supporting design and development efforts while helping maintain schedules for fast-moving projects.
- **Professionals with direct industry experience who bring an owner's perspective**, supplying a high level of quality, reliability, and detail required on data center/mission-critical projects.
- **Specialized technology hubs** focused on delivering water/wastewater management; civil engineering; mechanical, electrical, and plumbing (MEP); and other essential services nationwide.
- **A client-first approach built on long-standing relationships dating back to GAI's founding in 1958**, reflecting the trust, consistency, and commitment we bring to every engagement.
- **A company invested in enhancing clients' competitiveness**, delivering solutions that improve efficiency, resilience, and long-term operational performance across data center facilities.

Data Center Services

Feasibility & Development Strategy

- Early feasibility evaluations integrating land, geotechnical, power, water, and permitting needs to guide long-range data-center planning.
- Scalability assessments that support phased development and future expansion goals.

Land & Site Development

- Master planning, land-use strategy, and site feasibility evaluations.
- Surveying, civil engineering, geotechnical, and brownfield redevelopment support.
- Environmental studies, permitting, and regulatory compliance navigation.

Power Systems & Grid Reliability

- Analysis of local grid and behind-the-meter on-site generation options for dependable supply.
- Substation, distribution, and transmission design, including UPS and emergency backup systems.
- Grid-resiliency services to support uninterrupted performance for mission-critical operations.
- Studies for current and future power demand, including load forecasting, capacity modeling, and growth-scenario planning for scalable infrastructure.

Water & Cooling Infrastructure

- Water sourcing, treatment, and distribution system design.
- Cooling system planning, regulatory permitting, and compliance management.

Building Engineering & Facility Integration

- Mechanical, electrical, and plumbing (MEP) and structural engineering design aligned with architectural requirements.
- Integration of redundancy, cooling efficiency, and facility-hardening measures tailored to data center/mission-critical needs.

Construction Administration

- Construction administration, inspection, and field coordination from bid through project closeout.
- Startup and commissioning support for mechanical, electrical, water, and cooling systems.



Let's Connect

Robert Duero

Data Center Director

412.399.5165

r.duero@gaiconsultants.com



About GAI Consultants, Inc.

Transforming ideas into reality[®] since 1958, GAI Consultants is an engineering, planning, and environmental consulting firm that provides customized solutions and local expertise to clients in the power, transportation, development, government, and industrial markets.



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