features

Siting the Cloud

Permitting Data Centers

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Data centers have become the backbone of the modern digital economy. From cloud computing and artificial intelligence to streaming and financial transactions, virtually every aspect of contemporary life depends on these facilities. They also can be a lifeline for communities seeking capital investment and tax revenue. Yet in 2025 alone, a Data Center Watch analysis found that at least $156 billion across 48 publicly disclosed projects was blocked or stalled amid coordinated local opposition. Lydia DePillis, *Local Opposition Is Slowing A.I. Data Centers. Wall Street Has Noticed.*, N.Y. Times, Mar. 26, 2026, at B1. Resource demands bring data centers within the ambit of environmental regulators, utility commissions, local zoning boards, and organized community groups.

Understanding the full scope of regulatory requirements—and developing a permitting strategy that accounts for both compliance and genuine community engagement—is essential. This article offers a practical roadmap for navigating common permitting challenges facing data center developers. It addresses federal environmental review, air quality and water-use constraints, grid interconnection, and local land-use approvals. The goal is not merely to survive the permitting process but to move through it efficiently, with timelines and community relationships intact.

Siting Decisions Drive Permitting Outcomes

The most consequential permitting decision a developer makes is where to build. Siting determines which regulatory frameworks apply, which agencies have jurisdiction, and how difficult permitting will be. A site selected without rigorous regulatory due diligence can become a years-long ordeal, whereas a well-chosen site can dramatically compress timelines.

Early due diligence should assess factors that often become permitting checkpoints. Proximity to transmission infrastructure is critical because a site requiring new transmission lines may trigger environmental reviews, often under the National Environmental Policy Act (NEPA) or state equivalents. Water availability is increasingly determinative, especially in drought-prone areas where authorities have restricted new large-scale water users. Wetlands, floodplains, endangered species habitat, or cultural resources can trigger federal processes—such as consultation under Section 7 of the Endangered Species Act (ESA), review under Section 106 of the National Historic Preservation Act (NHPA), or Clean Water Act (CWA) Section 404 permitting—that can add months or years to a project schedule.

ESA Section 7 consultation deserves particular attention. Where a site or associated infrastructure—new transmission lines, water intake structures, or access roads—may affect a listed species or its designated critical habitat, the federal agency authorizing or funding the project must consult with the U.S. Fish and Wildlife Service or the National Marine Fisheries Service. Formal consultation can take months or longer if biological opinions require project modifications or critical habitat designations are contested. Developers should commission early biological surveys and engage the relevant service informally before potentially triggering formal consultation.

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In July 2026, the Services rescinded the regulatory definition of "harm," so habitat modification alone no longer supports an incidental take statement, though Section 7 consultation requirements remain in effect. Rescinding the Definition of "Harm" Under the Endangered Species Act, 91 Fed. Reg. 43,300 (July 14, 2026). Parties with pending consultations should reassess how the new interpretation affects their ESA authorization needs.

Section 106 of the NHPA similarly requires federal agencies to consider the effects of their undertakings on historic properties and to consult interested parties, including State Historic Preservation Officers and Indian tribes that attach religious and cultural significance to properties within a project's area of potential effects. For projects on or near federal land in the West, tribal consultation can be a significant, sometimes unpredictable, timeline driver, particularly when cultural landscapes or traditional cultural properties are identified during review. Early engagement with affected tribes can surface concerns and lay the groundwork for mitigation measures without derailing schedules.

Jurisdictional screening should occur before any site is selected, mapping the applicable federal, state, and local requirements for each candidate site and comparing them in terms of complexity and timeline. A site with a streamlined environmental review process, sufficient water, and nearby transmission capacity may command a premium over a cheaper site facing regulatory hurdles.

Developers also should account for growing local hostility, which may not follow familiar partisan lines. Recent reporting describes developers shifting toward less populated areas in Texas and New Mexico after facing resistance in Wisconsin, Oregon, and Michigan. But even traditionally business-friendly states are pushing back. In March 2026, the Texas Republican Party passed a resolution calling for a halt to new construction until safeguards for water and electricity use are in place. DePillis, *supra*. Opposition has become, as one Wisconsin commentator put it, "the most bipartisan issue since beer." Sabrina Tavernise, *"The Most Bipartisan Issue Since Beer": Opposition to Data Centers*, N.Y. Times, May 1, 2026, at A13. Siting due diligence therefore must account not only for a site's current regulatory posture but for the trajectory of local sentiment.

Federal Environmental Review: NEPA Triggers and Scope

NEPA review generally applies to "major Federal actions," defined as actions "subject to substantial Federal control and responsibility." 42 U.S.C. § 4336e(10)(A). Whether an agency must prepare an environmental document, and which one, depends on the action's reasonably foreseeable effects. *Id.* § 4336(b). The most common NEPA triggers are federal land-use authorizations, federal permits such as CWA Section 404 permits, and federal financing carrying substantial federal control. Projects on federal land, particularly in states with significant Bureau of Land Management or U.S. Forest Service holdings, are likely to require NEPA review.

The level of review depends on the significance of anticipated environmental impacts. *Id.* § 4336(b)(1)–(2). According to the U.S. Department of the Interior, an environmental assessment (EA) typically takes about a year and yields either a finding of no significant impact (FONSI) or a determination that a full environmental impact statement (EIS) is required. An EIS can take two years or more and involves extensive public comment, interagency coordination, and detailed alternatives analysis. For most projects, the goal is to avoid an EIS through careful siting and design or, if one is unavoidable, to build a defensible record.

Avoiding impacts to wetlands, jurisdictional waters, and sensitive habitats can reduce the likelihood that a project will require federal permits that trigger NEPA.

Several strategies reduce NEPA risk. Avoiding impacts to wetlands, jurisdictional waters, and sensitive habitats can reduce the likelihood that a project will require federal permits that trigger NEPA. Siting on previously disturbed land—such as brownfields, former industrial sites, or areas already served by transmission infrastructure—also can limit significant impacts. Where federal review is unavoidable, early coordination with the lead agency can help define the scope of review and establish a realistic timeline. NEPA litigation remains a well-established tool for project opponents. *See, e.g.*, *Seven Cnty. Infrastructure Coal. v. Eagle Cnty., Colo.*, 605 U.S. 168 (2025). A robust administrative record, thorough alternatives analysis, and genuine engagement with public comments are the best defenses. Cutting corners to save time often invites litigation that costs far more time than was saved.

State environmental review laws, sometimes called "little NEPAs," add another layer of complexity. California's Environmental Quality Act (CEQA), New York's State Environmental Quality Review Act, and similar statutes impose independent requirements that can be more demanding than federal NEPA. *See, e.g.*, Cal. Pub. Res. Code §§ 21000–189; N.Y. Env't Conserv. Law §§ 8-0101–8-0117. In California, CEQA is a frequent vehicle for project opposition and a significant risk for large projects. Developers working in states with robust environmental review laws should consider potential administrative and judicial challenges early.

Air, Water, and On-site Power

Air permitting has become a rapidly evolving challenge, arising primarily from backup generators and, increasingly, from on-site natural gas generation. Large facilities may deploy many

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generators, each capable of emitting significant quantities of nitrogen oxides (NOx), particulate matter, and other pollutants. Aggregate emissions can push a facility past major source thresholds under the Clean Air Act (CAA), triggering new source review (NSR) requirements for a preconstruction permit, a lengthy, complex process. Developers should calculate potential emissions from all sources before finalizing site selection and consider whether operational restrictions or emissions controls can keep the facility below major source thresholds.

On-site natural gas generation presents a newer pressure point. As data center demand has surged, some developers facing grid constraints have proposed on-site generation to manage power-supply risk. Ivan Penn & Karen Weise, *State and Federal Lawmakers Want Data Centers to Pay More for Energy*, N.Y. Times, Jan. 15, 2026. These are not small systems: Project Baccara, a proposed natural gas plant paired with data centers in Arizona's West Valley, would carry a gross generating capacity of roughly 744 megawatts—on the scale of a utility power plant and, depending on how often it runs, enough to power several hundred thousand average homes. *See* Maricopa Cnty. Planning & Zoning Comm'n, Minutes of the Meeting of April 9, 2026; U.S. Energy Info. Admin., *FAQs: How Much Electricity Does an American Home Use?* (Jan. 8, 2024). These projects raise air permitting questions that go well beyond traditional data center permitting and have begun to attract scrutiny from utilities, regulators, and environmental advocates.

Perhaps no permitting challenge is more frustrating than grid interconnection, the process of connecting a new resource, such as a data center's large load, to the public grid.

In 2026, three Arizona utilities filed comments with the Maricopa County Air Quality Department regarding a proposed CAA operating permit for the Baccara facility. They questioned the legal authority for certain permit conditions, the potential duplication of operational limits, and the relationship between mass- and concentration-based emission limits. This proceeding signals a broader trend: Utilities are now actively participating in air permitting for data center projects, and their involvement is likely to increase. Depending on state law and project structure, a data center generating its own power may raise utility-regulatory questions beyond air permitting. Developers proposing on-site generation should evaluate whether their projects will be characterized as utility-scale generation and engage state regulators early.

For projects subject to Title V permitting, permits must include enforceable emission limitations with clear citations to the applicable regulatory authority. 40 C.F.R. § 70.6(a)(1). As the Baccara comments illustrate, permit conditions that lack a clear legal basis (or that exceed applicable requirements without explanation) create uncertainty for permittees and third parties alike. Developers should work with air-permitting counsel to ensure draft permits accurately reflect applicable requirements.

Water creates a separate but equally consequential constraint. Large data centers use water primarily for cooling, and consumption is among the most visible issues driving local opposition. One facility in Georgia reportedly uses about 500,000 gallons of water per day—a substantial share of a small county's total consumption—and some proposed projects would use far more. The regulatory framework for water use varies significantly by state. In western states governed by the prior appropriation doctrine, water rights must be acquired before operations begin, and unappropriated water is often scarce. Developers in these states must conduct thorough water-rights due diligence, assess the reliability of supplies under drought conditions, and sometimes acquire existing rights through purchase or lease. Permitting new appropriations can take years and invite challenges from existing rights holders. In eastern states where the riparian rights doctrine generally applies, water use may be allocated less rigidly, but large withdrawals still can trigger permits, groundwater restrictions, or drought-response limits. Some states have imposed moratoria on new large-scale withdrawals in stressed basins.

Water use is a significant community-relations issue that consistently ranks among residents' top concerns. Developers should evaluate water-efficient cooling technologies, including air cooling, closed-loop systems, and advanced heat-exchange technologies, for their environmental, permitting, and community-relations benefits. A demonstrated commitment to efficiency can build community support and may be required by regulators as a condition of approval.

Wastewater discharge is a related concern. Direct discharges of cooling water or process water to waters of the United States generally require a CWA permit under the National Pollutant Discharge Elimination System (NPDES). In contrast, discharges to municipal systems may trigger pretreatment or local industrial-user requirements. These permits impose effluent limitations, monitoring requirements, and reporting obligations. Developers should assess discharge requirements early and consider whether zero-liquid-discharge or water recycling systems can reduce complexity.

Grid Interconnection: The Long Queue

Perhaps no permitting challenge is more frustrating than grid interconnection, the process of connecting a new resource, such as a data center's large load, to the public grid. The queue for interconnection studies at regional transmission organizations (RTOs) and independent system operators (ISOs) has grown dramatically, driven by the simultaneous surge in renewable generation and large-load growth. Waits of three to five years for interconnection studies are now common, and interconnection costs have risen substantially. *See* Eliza Beckerman-Lee,

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How the Interconnection Queue Backlog Is Slowing Energy Growth, Univ. of Chi. Sustainability Dialogue (July 15, 2025).

The generator interconnection process is generally governed by tariffs filed with the Federal Energy Regulatory Commission (FERC) and administered by RTOs, ISOs, or individual utilities. It typically involves a series of studies assessing the new load's impact on the transmission system and identifying required upgrades—which can prove significant and costly—with long lead times for necessary components.

Developers can manage interconnection risk in several ways. Early engagement with the transmission provider is essential; developers should request pre-application meetings to understand the queue and likely timeline. Sites with existing high-voltage transmission nearby may face lower costs and shorter timelines than sites requiring new construction. Developers also should scrutinize interconnection agreements—particularly cost responsibility for network upgrades—and engage experienced counsel to negotiate favorable terms.

The developer-utility relationship is evolving rapidly. Some developers have moved toward accommodation, publicly committing to pay their own way so that their data centers do not raise electricity prices for other customers; others have cited research suggesting that large data center loads can reduce rates for other customers by spreading fixed grid costs over more users. These positions signal an industry that views the utility relationship as not merely technical but also political, with direct implications for permitting.

As the Baccara proceeding illustrates, utilities may view large data center loads—particularly those proposing on-site generation—as threats to their service territories. Where a utility cannot supply sufficient power within a project's timeframe, behind-the-meter generation may be the most feasible path, but it raises its own regulatory issues. States treat behind-the-meter generation differently, some protecting the incumbent's territory and others taking a more permissive view. Developers should approach utility relationships strategically and, where possible, frame development as an opportunity for mutual benefit.

FERC has acted to address interconnection backlogs through recent rulemaking. In Order No. 2023 (Improvements to Generator Interconnection Procedures and Agreements, 88 Fed. Reg. 61,014 (Sept. 6, 2023)), the Commission replaced the legacy "first-come, first-served" serial process with a "first-ready, first-served" cluster study process; imposed firm study deadlines; and adopted stricter financial-readiness requirements to screen out speculative projects.

FERC also has approved expedited interconnection procedures for RTOs, including the Midcontinent Independent System Operator (MISO) and the Southwest Power Pool (SPP). FERC also has praised innovative approaches, such as SPP's Consolidated Planning Process. *Southwest Power Pool, Inc.*, 194 FERC ¶ 61,192 (2026). That process aims to eliminate the traditional silos between transmission planning and generator interconnection by combining them into a single, recurring three-year planning cycle that builds transmission ahead of demand, reduces duplicative study costs, and gives developers greater cost certainty.

While generation interconnection reform and flexible state behind-the-meter policies will advance capacity, load interconnection faces its own regulatory developments. Load interconnection—the process of connecting a large electricity consumer, such as a data center, to the transmission system—is governed by state regulation. That may be changing. In October 2025, the U.S. Secretary of Energy directed FERC to consider standardizing the interconnection of large loads (generally those exceeding 20 megawatts) connecting directly to the interstate transmission system, and FERC opened Docket No. RM26-4-000 in response. The ensuing advance notice of proposed rulemaking drew more than 3,500 pages of comments.

Because extending FERC's framework to large loads raises a contested jurisdictional question, the reforms may draw legal challenge, and developers should monitor these proceedings closely.

FERC acted in June 2026. On June 18, the Commission issued show cause orders under Section 206 of the Federal Power Act to all six jurisdictional grid operators and their transmission owners, preliminarily finding their tariffs unjust and unreasonable for lacking clear, consistent provisions for large and co-located loads. FERC, *Fact Sheet: FERC Takes Action to Supercharge America's Grid for Efficiency, Reliability, and a Bold Energy Future* (June 18, 2026); RTO/ISO Show Cause Orders, Docket Nos. EL26-67-000, et al. Each operator must justify its current tariffs within 60 days or propose changes, and file an informational report within 30 days on measures to ensure adequate generation for existing and new large loads.

The orders identify five reform categories: efficient transmission-service application and study processes; preventing cost shifting and requiring transparency into transmission costs; accommodating co-location arrangements and behind-the-meter generation; new transmission services for flexible large loads; and a process to study generation serving electrically proximate and co-located loads. Stressing regional flexibility over a one-size-fits-all rule, the Commission preserved state authority over generation siting and retail rates. Because extending FERC's framework to large loads raises a contested jurisdictional question, the reforms may draw legal challenge, and developers should monitor these proceedings closely.

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Local Land Use and a Practical Permitting Strategy

Local land-use approvals are often the most unpredictable step in data center permitting. Beyond the federal and state permitting described above, required approvals may include zoning changes, conditional use permits, building permits, and local environmental review. Standards can vary widely across jurisdictions.

Data centers do not always fit neatly into traditional zoning categories, and many codes lack specific provisions for them. That ambiguity can help if it allows approval in multiple zones, but it can hurt if officials exercise broad discretion without clear standards. Some jurisdictions have responded to the surge in data centers with specific zoning regulations, design standards, and permitting procedures. Developers should assess the local regulatory framework early and engage planning staff to learn how a project will be characterized before proceeding.

Community opposition is a significant risk at the local level. Common concerns include noise, construction traffic, visual impacts, electricity and water use, and a perceived mismatch between local burdens and job creation. Effective engagement means identifying key stakeholders—elected officials, planning staff, neighborhood associations, environmental groups, and utilities—and being specific about a project's impacts and benefits.

Noise warrants particular attention as both a regulatory constraint and a community flashpoint. Cooling systems, backup generators, and mechanical equipment can produce sustained low-frequency noise affecting neighboring properties. Many jurisdictions impose quantitative noise limits, and discretionary approvals may include conditions limiting facility capacity.

In Chandler, Arizona, years of complaints about a data center's constant hum prompted a 2022 zoning amendment restricting where data centers may be sited. And in December 2025, the city council unanimously rejected a proposed AI data center, with noise concerns prominent in the opposition. Neighbors also have begun pursuing private and public nuisance claims against data center operators. Developers should commission acoustic modeling during project design and incorporate noise mitigation measures, such as sound walls and setback buffers, early in the process.

Successful data center permitting requires more than technical compliance. It demands a coherent strategy integrating regulatory, community, utility, and business considerations from the earliest stages—before a site is selected—and a multidisciplinary team that communicates across workstreams and maintains a realistic schedule. Delays often stem not from a single permit denial but from inadequate tracking, delayed engagement, or predictable opposition left unaddressed.

Adapting to a Shifting Political Landscape

Developers should expect permitting to remain politically charged, especially in jurisdictions that require discretionary land-use approvals. Third-party participation by utilities, environmental groups, and neighboring landowners is increasingly common and can significantly affect outcomes. The ability to adapt—to modify project design, adjust operational parameters, or accept reasonable permit conditions—can determine whether a project advances or stalls.

At the same time, data center permitting does not exist in a political vacuum. Federal pressure against restrictive state regulation has become part of the debate over AI infrastructure. Jenna Russell, *The First Statewide Ban on Data Centers Is on the Verge of Becoming Law*, N.Y. Times, Apr. 16, 2026. State and local resistance is moving just as quickly, with moratorium proposals in multiple jurisdictions. Tavernise, *supra*. Maine illustrates the volatility: Its legislature passed a statewide data center pause, but the governor later vetoed the bill because it failed to exempt a planned mill-site redevelopment project. Jenna Russell, *Maine Governor Vetoes Bill That Would Have Paused New Data Centers*, N.Y. Times, Apr. 24, 2026. Developers who monitor these developments closely and meaningfully engage local stakeholders will be best positioned to advance their projects.

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