

Executive Summary: Data Center Zoning Ordinance

Amendment to the Franklin County Zoning Code - Section 80.06.09: Data Center Regulations

Purpose & Legislative Intent

Pursuant to IC § 36-7-4-601, this Ordinance establishes supplemental development standards for Data Center developments in Franklin County. Recognizing data centers as high-impact industrial land uses, the code creates a regulatory framework to protect public health, safety, rural character, local water resources, road infrastructure, and electrical grid stability while ensuring compliance with state mandates (e.g., HEA 1210 / IC § 6-2.5-15-15.5).

Key Regulatory Framework & Performance Standards

- Zoning District & Approval Process:
 - Permitted only as a Class 3 Conditional Use within the I-1 (Enclosed Industrial) zoning district.
 - Requires a two-stage review by the APC and BZA: Preliminary Development Plan (concept and baseline impact studies) and Final Development Plan (binding commitments and engineering designs).
 - Cost Recovery: Applicants must fund third-party, independent technical reviews and escrow fees to cover the County's legal, engineering, and environmental evaluation costs.
- Site Design, Setbacks & Buffers:
 - Setbacks: Standard minimum 300-foot setback from all public street frontages and property lines (reducible to 200 feet along active industrial boundaries).
 - Screening: Requires a 100-foot multi-layered landscape buffer yard (evergreen core, understory, canopy) and an 8–12 ft. earthen berm when within 500 feet of residential districts or rights-of-way.
 - Height & Shadows: Primary structures capped at 75 feet. Mandatory shadow-impact studies are required to protect adjacent cultivated farmland.
 - Existing Dwellings: Lawfully established residential dwellings within industrial zones receive full residential setback, noise, and lighting protections based on the application completion baseline date.
- Noise, Vibration & Environmental Controls:
 - Acoustic Limits: Strict decibel limits at property lines. For non-industrial boundaries: 55 dBA / 70 dBC (Day) and 50 dBA / 65 dBC (Night). Imposes

penalties for low-frequency rumble ($LC_{eq} - LA_{eq} \geq 15$ dB) and prominent discrete tones (5 dB penalty).

- Vibration: Maximum ground-borne Peak Particle Velocity (PPV) capped at 0.005 in/sec.
- Lighting: Dark-sky compliant Full Cutoff fixtures only (U0 upright rating), maximum color temperature of 3000K, and maximum building material Light Reflectance Value (LRV) of 40.
- Energy Efficiency, Water & Thermal Management:
 - Power Usage Effectiveness (PUE_1): Rolling 12-month PUE_1 target capped at 1.35 for grid-powered facilities and 1.25 for on-site powered facilities, reported quarterly.
 - On-Site Power Limitations: Prohibits continuous simple-cycle gas turbines (>500 hours/year). Continuous on-site generation is restricted to Combined-Cycle (CCGT), Cogeneration (CHP), Fuel Cells, or other technologies meeting strict thermal efficiency standards. Emergency standby generators are capped at 500 hours/year and restricted from commercial peak-shaving.
 - Zero-Loss Water Cooling: Mandates dry-cooling or zero-loss closed-loop systems for routine heat rejection. Expressly prohibits open-loop evaporative cooling towers and potable water consumption for routine cooling. Imposes binding annual, daily, and hourly volumetric water caps.
- Hazardous Materials, Safety & Fuel Logistics:
 - Fuel Storage: Double-walled tanks or secondary containment (110% capacity). Setbacks include 500 ft. from residential/civic districts and 1,500 ft. from public wellfields/water sources.
 - Battery Energy Storage Systems (BESS): Requires NFPA 855 compliance, a Hazard-Mitigation Analysis, an Emergency Response Plan (coordinating with local Fire/EMA), and asset lifecycle tracking for electronic waste (landfill disposal prohibited).
 - Logistics & Traffic: Requires dedicated heavy-vehicle truck routing, on-site staging (no idling on county roads), and a comprehensive Traffic Impact Analysis.

- On-Site & Grid Electrical Power & Air Quality Standards:
 - Electrical Power Pathways & Infrastructure: Establishes clear operating boundaries between the public utility grid supply, permanent on-site primary generation (behind-the-meter assets operating > 500 hours/year), emergency standby units (≤ 100 non-emergency hours/year for testing/maintenance), and temporary or portable mobile generation restricted to a strict 24-month cap.
 - On-Site Generation & Efficiency Mandates: Prohibits continuous simple-cycle combustion turbines. Restricts continuous on-site generation to high-efficiency configurations (Combined-Cycle Gas Turbines meeting a maximum 6,300 Btu/kWh HHV baseline, Cogeneration/CHP at $\geq 65\%$ total system efficiency, regulated fuel cells, or advanced modular nuclear technologies).
 - Air Quality & Federal Alignment: Requires all combustion units, RICE engines, boilers, and temporary assets to obtain all required EPA and IDEM permits prior to operation. Anchors local air emission protections directly to federal NSPS baselines (40 CFR Part 60, Subpart KKKKa), mandating Best Available Control Technology (BACT) such as Dry Low NO_x (DLN) and Selective Catalytic Reduction (SCR) for NO_x , and oxidation catalysts for CO, while maintaining independent local authority for zoning enforcement and operating hour caps.
- Decommissioning, Financial Assurances & Officer Liability:
 - Decommissioning Plan: Requires full site restoration back to agricultural/original condition, backed by a 125% performance bond or letter of credit (reviewed every 5 years).
 - Personal Guaranty: Requires an executed, legally binding Personal Guaranty from a principal executive officer (CEO/CFO/President) of the operating entity/parent company, guaranteeing full performance of decommissioning obligations.
 - Insurance: Mandatory Commercial General Liability, Environmental & Pollution, Cyber/Network Security, and Umbrella policies naming Franklin County as an additional insured.
- Enforcement & Post-Construction Audits:
 - Commissioning: Grants a 180-day Temporary Certificate of Occupancy (TCO) exclusively for load testing and field commissioning.
 - Post-Construction Audits: Requires independent third-party audits for Noise, Vibration, Lighting, and Thermal impacts under full load prior to receiving a Final Certificate of Occupancy.

- Penalties: Establishes a tiered violation structure (Level 1 Administrative: up to \$500/day; Level 2 Operational: up to \$2,500–\$7,500/day; Level 3 Safety/Resource: immediate emergency order/action) subject to Indiana Code statutory limits. Declares uncorrected non-compliance a common nuisance.

Application Checklist Summary (Section L)

The ordinance includes a comprehensive, multi-stage administrative job aid to verify compliance at every phase of development:

1. Administrative & Initial Filing: Application fee, third-party review escrow deposit, project overview, GIS coordinates, and preliminary utility letters of availability (water, electric, and secondary energy sources).
2. Preliminary Development Plan Submittals: Campus layout, infrastructure and fiber maps, landscape buffer/berm details, Fire/EMS access, Traffic Impact Analysis, Fuel Logistics Plan, Agricultural Shadow Study, Pre-Development Acoustic Analysis, Low-Frequency/Vibration Model, EMI/RFI Statement, Thermal Impact Analysis, Air Quality Model, and BESS Hazard-Mitigation Analysis.
3. Final Development Plan Submittals: Binding site plan, final Development Agreements (Road Use, Drainage, Decommissioning), utility Will-Serve letters, phase-specific PUE and Water Use Plans, Drought Contingency Plan, Fluid Disposal Plan, Emergency Response Plan (EMA/Fire), and E-Waste Lifecycle Plan.
4. Improvement Location Permit (ILP) Requirements: Executed Officer Personal Guaranty, performance bonds/letters of credit (125%), proof of active insurance policies, IDEM Construction Stormwater General Permit (CSGP) / SWPPP, pre-construction sediment control verification, and IDEM air permit documentation.
5. Temporary & Final Certificate of Occupancy (TCO/CO) Audits: Submission of detailed emergency as-built maps, BESS Operations Plan, and mandatory third-party post-construction audits (Noise, Vibration, Lighting, and Thermal) under full operational load.
6. Ongoing Reporting & Audits: Quarterly PUE and Water Resource reports, annual insurance certificates, 5-year decommissioning financial reviews, continuous operational logging (5-year retention), and periodic/complaint-driven independent compliance audits.

Key Ordinance Definitions

To ensure unambiguous enforcement and clarity for applicants, key terms are defined within three specific categories:

- System Definitions:
 - Data Center: Buildings housing computer servers, including supporting air conditioning, backup power generators, and water-cooling systems.
 - Power Infrastructure Classifications: Categorizes power systems into *Primary Utility Grid Supply*, *Onsite Primary Power Systems* (continuous behind-the-meter generation), *Energy Storage Systems (ESS/BESS)*, and *Emergency/Standby Power Systems* (backup power strictly for outages and testing).
 - Buffer Yard & Berm Standards: Defines the 100-foot buffer composition (3-tier: Evergreen core, Understory, Canopy overlay) and Earthen Berm construction (undulating 8–12 ft height, max 3:1 side slopes, 4 ft flat crest).
- Procedural & Party Definitions:
 - Applicant / Responsible Parties: Holds corporate owners and facility operators jointly and severally liable for structural liability, operational compliance, and performance obligations.
 - Complete-Application Date: Establishes the baseline date for fixing residential protection standards; requires all studies, fees, and escrow deposits to be fully submitted.
 - Full Operational Load: The maximum permitted electrical and cooling consumption when all servers are energized at 100% capacity.
 - Will-Serve Letter / Letter of Availability: Formal utility commitments confirming available system capacity without requiring the utility to guarantee rates or external customer reliability.
- Technical Reference Standards:
 - Power Usage Effectiveness (PUE₁): Quantifies facility efficiency per ISO/IEC 30134-2 Category 1 (Total Facility Energy divided by UPS Output IT Energy).
 - Federal Air Standards (40 CFR Part 60, Subpart KKKKa): Incorporates federal New Source Performance Standards for Stationary Combustion Turbines as the technical and performance baseline for continuous on-site power generation control technologies, BACT requirements, and emission operational frameworks.

- Acoustic Metrics (dBA / dBC / L_{eq}): Differentiates standard human ear sensitivity (dBA) from low-frequency bass impact (dBC) and continuous equivalent energy (L_{eq}).
- Prominent Discrete Tone & BUG Rating: Technical acoustic threshold for hums/whines (per ANSI/ASA S12.9) and lighting ratings for Backlight, Uplight ($U0$), and Glare.

Action Requested

1. Favorable Recommendation: Motion to certify a favorable recommendation for the Data Center Zoning Ordinance (Section 80.06.09) as presented.
2. Publication: For ease of user access and efficient document management, post the ordinance, checklist and definitions as a separate document on the Franklin County Area Plan website.
3. Forwarding: Direct staff to forward the recommendation and ordinance text to the Franklin County Board of Commissioners for final legislative adoption.