

UPPER MOUNT BETHEL TOWNSHIP
NORTHAMPTON COUNTY, PENNSYLVANIA
ORDINANCE NO. 2026-

AN ORDINANCE AMENDING-THE-TOWNSHIP'S-ZONING ORDINANCE By
ADDING A NEW CONDITIONAL USE CLASS 8A-DATA CENTERS AND DATA CENTER
CAMPUSES, DEFINITIONS, AND SUPPLEMENTARY REGULATIONS TO THE TOWNSHIP
ZONING ORDINANCE IN ORDER TO FURTHER IMPLEMENT THE INTENT OF GENERAL
INDUSTRIAL USES OF THE EXISTING TOWNSHIP ZONING ORDINANCE

WHEREAS Upper Mount Bethel Township is a political subdivision situated within the County of Northampton, Commonwealth of Pennsylvania, is a Township of the Second Class and has offices located at 387 Ye Olde Highway, Mt. Bethel, PA 18343; and,

WHEREAS the Township has in effect a Zoning Ordinance (hereinafter "Ordinance") which was revised and completely restated and readopted on March 15, 2004, and has since been amended; and,

WHEREAS and by Township Ordinance No. 2020-02, the Zoning Ordinance was amended to allow for the development of new Industrial Parks, attractively developed and designed to attract new industry. See Ordinance Section Use Class 8-General Industrial Uses, Subsection 8(e);and,

WHEREAS the Township believes that creating a Conditional Use Application by adding and defining data centers and data center campuses, and adding supplementary regulations for those uses is in the Township's best interests as it promotes the health, safety and welfare of the Township's residents; and,

WHEREAS the PA Second Class Township Code (hereinafter referred to as "Code") provides that the Board may adopt ordinances in which general or specific powers of the Township may be exercised and can include the protection of the health, safety and welfare of the Township residents (53 P.S. Section 66506); and,

WHEREAS the Code also authorizes the Township to adopt land use regulations, 53 P.S. Section 66516; and,

WHEREAS and pursuant to Section 609 of the Pennsylvania Municipalities Planning Code, 53 P.S. §10609, the Township is authorized and empowered to enact amendments to the Upper Mount Bethel Township Zoning Ordinance after public hearing thereon pursuant to public notice; and,

WHEREAS and pursuant to the Pennsylvania Municipalities Planning Code, both the Township Planning Commission and the Lehigh Valley Planning Commission have reviewed the proposed amendments; and,

WHEREAS the Upper Mount Bethel Township Board of Supervisors has conducted a public hearing pursuant to public notice concerning the aforesaid amendments to the Upper Mount Bethel Township Zoning Ordinance; and,

WHEREAS after holding a public hearing, the Upper Mount Bethel Township Board of Supervisors desires to ordain, adopt and enact the amendments to the Upper Mount Bethel Township Zoning Ordinance; and

NOW, THEREFORE, BE IT ENACTED AND ORDAINED, and it is hereby ENACTED AND ORDAINED by the Board of Supervisors of Upper Mount Bethel Township, Northampton County, Pennsylvania, as follows:

Section 1. ARTICLE 2-DEFINITIONS, SECTION _____, APPLICABLE DEFINITIONS are amended by adding the following definitions:

Cooling System: Any mechanical, evaporative, liquid, air-cooled, hybrid, geothermal, or other systems used to dissipate heat generated by Data Center Accessory Uses/Structures or Data Center Equipment.

Data Center: A commercial use, either on-premises or co-location, designed and intended primarily to house computer, networking and communication systems, equipment and components, such as routers, switches, firewalls, servers, storage systems and application-delivery controllers, for storing, processing, managing, transmitting and backing up electronic data necessary for the operations of a business, enterprise, institution, or other similar organizational entity. This shall also include cryptocurrency mining, blockchain transaction processing, and server farms. This shall not include:

1. Customary office uses where data processing is incidental to administrative functions;
2. Personal or consumer telecommunications equipment accessory to residential or commercial uses;
3. Facilities regulated as public utilities under Pennsylvania law; or
4. Wireless communications facilities regulated under federal telecommunications laws for commercial uses.

Data Center Accessory Uses/Structures – Ancillary uses or structures associated with data centers including but not limited to: utilities; utility lines; administrative, logistical, fiber optic, storage, and security buildings or structures; electrical substations; domestic and non-contact cooling water and waste-water treatment facilities; water holding facilities; pump stations; water towers; environmental controls (air conditioning or cooling towers, fire suppression, and related equipment); redundant data communications connections; and security features, provided such data center accessory uses/structures are located on the same tract or assemblage of adjacent parcels developed as a unified development for a data center campus.

Data Center Campus – An integrated development of multiple data centers, whether initially or cumulatively, that may include data center accessory uses/structures and data center equipment. The definition of data center campus shall also include a) the development of individual data centers that are located within 500 feet of a parcel that contains an existing data center, b) the cumulative development of individual data centers on one parcel, and c) the cumulative development of individual data centers on individual parcels under the same ownership.

Data Center Equipment – Data Center Equipment or DCE includes any Data Center Accessory Uses when in an un-muffled state that generates noise in excess of the permitted maximum 55 dBA at the point of generation. DCE shall be accessory to the Data Center and be located on the same tract or assemblage of adjacent parcels developed as a unified development for a Data Center. This definition

shall include all equipment related to Data Center Accessory Uses/Structures.

Data Center Campus Master Plan – A plan for land development for a data center campus as set forth in the Township’s Ordinances.

Backup Generators – Natural Gas, Diesel, Power Storage System or other non-coal equipment used to generate electricity during a power outage or similar emergency. Backup generators are only to be used during periods of outages, natural disasters or similar ‘emergency events’ for power generation and for regular reliability testing and exercising. Backup generators shall not exceed 55 dBA, including during times of testing. This definition shall not include hydrogen fuel cells UPC.

Electrical Energy Storage System, Stationary – One or more devices, assembled together, capable of storing energy in order to supply electrical energy at a future time which is installed as fixed or stationary electrical equipment in a permanent location. This shall not be construed to apply to single-family residential generators, and generators intended for use in the event of a power outage by other residential or commercial uses, provided they are only used in the event of a power outage.

Footcandle – A unit of illuminance equal to one lumen per square foot.

Fuel Cell Power System, Stationary – A stationary energy generation or energy storage system that converts the chemical energy of a fuel and oxidant to electric energy (DC or ACE electricity) by an electrochemical process. This use shall not apply to equipment associated with the generation, control, transformation, transmission or distribution of energy installations that are under the exclusive control of an electric utility or lawfully designated agency.

Pennsylvania Data Center Reporting Requirements – Article XVIII-B, Sub-Article B. Sections 1811-B through 1816-B of the Act of April 9, 1929 (P.L. 343, No. 176 known as *The Fiscal Code*, as added by Section 29.4 of the Act of July 12, 2026 (P.L. 265, No. 21), together with any duly promulgated regulations and binding orders issued thereunder, in each case as amended, restated, replaced or superseded from time to time.

Power Generation Plant – A power generation plant fueled by natural gas, combined or single cycle power plant, or natural gas linear generation, or similar non-oil or non-coal-based power generation systems and equipment, which creates electricity to be used by the Data Center or on the Data Center Campus, sold to or by a utility company, or in some combination of sale or purchase.

Power Storage System – A power storage system and the infrastructure systems and processes used to efficiently store, distribute and manage the power generated within the Data Center Campus. Power Storage System may also include a BESS (Battery Energy Storage System), which provides support to the local, regional or overall power grid by storing energy during off-peak hours and releasing it back into the grid as demand warrants.

Sensitive Receptors – All residential uses, agricultural uses including farm animals and wildlife, schools (including commercial schools), preschools, daycare facilities, nursing homes and assisted living facilities, recreational facilities (public or private), places of worship, public parks (including trails), campgrounds, restaurants with outdoor dining, municipal/government facilities with outdoor recreation facilities, and scenic byways.

Thermal Impact Mitigation Plan (TIMP) – A report prepared by a qualified professional engineer evaluating thermal generation, cooling systems, environmental impacts, and mitigation measures associated with a proposed Data Center Development.

Waste Heat – Heat generated by computing equipment, cooling systems, generators, substations, transformers, switchgear yards, transformer banks, or associated infrastructure and released into the surrounding environment.

Section 2. ARTICLE 4 – BASIC DISTRICT REGULATION, _____ USE CLASSES IN ZONING DISTRICTS, USE CLASS 8.A, PLANNED INDUSTRIAL PARKS, SECTION 1.A. USES SHALL BE PERMITTED BY CONDITIONAL USE IN THE I-2 and I-3 DISTRICT is amended as follows by adding:

- (15) Data Center
- (16) Data Center Campus.
- (17) Data Center Accessory Uses

Section __: Conditional Use Regulations Applicable to Data Centers and Data Center Accessory Uses are as follows:

Conditional Use Regulations Applicable to Data Centers and Data Center Accessory Uses. Data Centers and their Accessory Uses shall comply with the following requirements in addition to the general Conditional Use standards contained in the Township Zoning Ordinance. The Applicant shall bear the burden of proving, at the Conditional Use hearing stage, that the proposed use can satisfy all performance standards identified therein. Where a phased development is proposed, the Applicant must demonstrate that such standards can be satisfied at the time of completion of the first phase as well as all subsequent phases of development. If the Applicant fails to affirmatively demonstrate compliance with any required standard through competent, substantial, and credible evidence, the proposed use shall be deemed not permitted in the I-2 and I-3 Districts and the Conditional Use application shall be denied. Demonstration of future or speculative compliance, promises of future compliance, or reliance on potential third-party upgrades not contractually secured shall not satisfy this requirement.

The following requirements are objective land-use performance criteria intended to evaluate site-specific impacts and shall not be construed to regulated telecommunications services, utility rates, or energy markets:

- a. Electrical Demand Disclosure, Infrastructure Capacity, and Impact Standard.
 - 1. The Applicant shall disclose the total electrical demand of the proposed facility at full build-out, expressed in megawatts (MW), including IT load, cooling systems, and all supporting infrastructure. Disclosure of electrical demand shall be used solely for land-use impact evaluation and shall not be deemed approval or denial of utility service.
 - 2. No Data Center or Data Center Accessory Use shall be approved unless the Applicant demonstrates, through competent and credible studies, that adequate infrastructure capacity exists to serve the proposed facility at full build-out without creating adverse impacts to public health, safety, or welfare in Upper Mount Bethel Township.
 - 3. The Township shall evaluate adequacy with phased energization based on utility capacity

confirmation.

- b. Utility Infrastructure Impact. The Applicant shall identify any required new or expanded electrical substations, transmission lines, or utility upgrades and shall provide written documentation identifying financial responsibility for such improvements and any anticipated capacity issues. Nothing herein shall require the Township to approve or deny utility interconnections.
- c. Backup Power Generation and Fuel Storage. The Applicant shall disclose:
 - 1. The number of backup generators;
 - 2. The combined standby generation capacity (MW);
 - 3. Anticipated generator testing hours; and
 - 4. Total on-site fuel storage volume, expressed in gallons. This fuel storage area shall be no closer than one thousand (1,000') feet from any property line.
- d. Noise Standards. The Applicant shall demonstrate an ability to comply with the decibel limitations identified in this Ordinance.
- e. Cooling Systems and Water Use. The Applicant shall identify the type of cooling system utilized and disclose the maximum anticipated annual water consumption, expressed in gallons per year.
- f. Traffic and Construction Impacts. The Applicant shall submit a traffic impact analysis addressing construction-phase traffic, including oversized equipment deliveries. Where impacts are identified, the Township may require reasonable traffic management or mitigation measures.
- g. Emergency Coordination Plan. The Applicant shall submit an emergency services coordination plan addressing fire protection, HAZMAT response, battery systems, and fuel storage. Site design shall provide adequate emergency access and safety features consistent with applicable adopted Township codes.
- h. Compliance with Use Regulations. The Applicant shall demonstrate an ability to comply with the use regulations applicable to Data Centers and Data Center Accessory Uses, as applicable, identified in this Ordinance.

Section __. ARTICLE __ SUPPLEMENTARY REGULATIONS is amended by adding **Section 350-37 DATA CAMPUS DEVELOPMENT** as follows:

A. Data Center Development. Data center and/or data center campus development shall be permitted in Use Class 8.A. as a Conditional Use, subject to the requirements applicable to planned industrial park except to the extent modified by this Amendment. In the event of a conflict between the Data Center Ordinance and the Zoning Ordinance or the SALDO, this Data Center Ordinance shall control. Data Centers and Data Center Campuses shall be separated by a minimum distance of 100 feet.

B. Accessory Uses/Structures. Data center equipment shall be permitted by right in support of a data center or data center campus. Data center accessory uses/structures shall be permitted by Conditional Use in support of a data center campus. For purposes of the minimum distance between buildings, data center equipment and data center accessory uses/structures shall be deemed as auxiliary buildings that are not subject to the 25-foot setback between buildings.

C. Sound and Air Quality. Sound from a data center or a data center campus shall not exceed:
(i) 55 dB(A) during daytime hours (6:00 a.m. to 6:00 p.m.) and 45 dB(A) during nighttime hours (6:00 p.m. to 6:00 a.m.) at an abutting residential land use; (ii) 65 dB(A) during daytime hours (6:00 a.m. to 6:00 p.m.) and 55 dB(A) during nighttime hours (6:00 p.m. to 6:00 a.m.) at an abutting parks land use; and (iii) 65 dB(A) during daytime hours (6:00 a.m. to 6:00 p.m.) and 60 dB(A) during

nighttime hours (6:00 p.m. to 6:00 a.m.) at any other land use. Sound shall be measured 1.5 meters above ground at the property line per ANSI S3.1-2002 (American National Standard - Measurement of Sound Pressure Levels in Air). and assume full operational load (cooling equipment at full capacity). The developer will provide a sound assessment with its preliminary land development plan application for a data center or preliminary master plan application for a data center campus establishing how it will comply with the above sound standards. The sound assessment will be performed by a professional acoustic engineer that can demonstrate qualifications by delivery of a resume to the Zoning Officer. A post-construction noise study shall be performed six (6) months after the issuance of a Certificate of Occupancy to confirm compliance with maximum noise levels. Final escrow to be released to the satisfaction of the Zoning Officer and/or Township Engineer. Notwithstanding the foregoing provisions of this Section, all sound produced by: (i) the lawful regular operation of facilities/utilities and electrical power generation and transmission facilities (to include substations), and (ii) required periodic testing of data center equipment, and (iii) emergency use of data center equipment are exempt from the requirements of this Section and the Zoning Ordinance with exceptions noted above.

Backup generator testing shall be performed between 7:00 am and 9:00 pm for up to 2 hours per day (5:00 pm to 9:00 pm during the period May 1 to September 30 to minimum impacts on air quality). Tier IV generators, or best available/highest standard technology, are recommended to limit emissions.

D. Off Street Loading. A minimum of 1 off-street loading space/dock shall be provided for a data center. Loading docks shall be screened from residential zone(s).

E. Utility Lines. To the extent practical, utility lines, including but not limited to electronic, fiber optic, cable, and telephone lines, from sub-station(s) to a data center shall be placed under-ground. This requirement shall not apply if the utility company requires above-ground lines or the placement of underground lines is not feasible. Utility lines to the substations from off-site may be placed above ground.

F. Emergency Access. It shall be demonstrated that there is an adequate second means of ingress and egress suitable for emergency access to the site. Written approval from the Fire Chief shall be provided demonstrating there is adequate emergency access, truck turning, fire suppression, fire hydrants availability on the site.

G. Height. Data Center buildings shall not exceed 65 feet in height, measure in accordance with the Township's definition of building height. Mechanical equipment, cooling towers, generators, screening, antennas, or other rooftop appurtenances may extend up to 10 feet above the roof surface when functionally required. Under no circumstances shall the total height of the building and any rooftop equipment appurtenances exceed 75 feet. Rooftop projections permitted under this section shall be limited to mechanical equipment and associated screening only and shall not contain habitable or occupiable floor area.

H. On-Site Energy Generation. Any form of on-site energy generation, including substations and fuel cell power stations or batteries, shall be approved by the Township Fire Chief. The Applicant shall submit a safety plan for the on-site energy generation to the satisfaction and approval of the Upper Mount Bethel Township Fire Chief. The property owners shall annually recertify the safety plan and allow for a site inspection by the Fire Chief to identify any emergency response vulnerabilities and to identify compliance with the safety plan. On-site energy generation shall comply with the following standards:

1. The Applicant shall submit a Safety Plan for the satisfaction and approval of the Upper Mount Bethel Township Fire Chief addressing all of the elements set forth in the safety plan as determined by the Fire Chief.
2. The property owner shall annually recertify the Safety Plan identified in Paragraph “i.” above and allow for a site inspection by the Fire Chief or his designee to identify any emergency response vulnerabilities and to identify compliance with the Safety Plan.
3. The Applicant’s Safety Plan must be informed by any and all applicable laws, regulations, ordinances, and codes including but not limited to the relevant provisions regarding Fuel Cell Power Systems as established by standards approved by the American National Standards Institute (“ANSI”), and guidance from the American Society of Mechanical Engineers (“ASME”), American Society for Testing and Materials (“ASTM”), International Electrotechnical Commission (“IEC”), Chapter 12 of the International Fire Code (“IFC”), the National Fire Protection Association (“NFPA”), the National Renewable Energy Laboratory (“NREL”), the National Electrical Code (“NEC”) and any other guidance that is relevant to the Applicant’s particular proposed Stationary Fuel Cell Power System.
4. Setback requirements for Stationary Fuel Cell Power Systems shall be equal to the setback requirements of the principal use of the property as classified in the Zoning Ordinance date of application for a Stationary Fuel Cell Power System or the setback requirement generally applicable to the relevant zoning district. The applicable setbacks for new Stationary Fuel Cell Power Systems do not refer to the setbacks applicable to the principal use of a property when initially approved for development.
5. The Applicant shall certify that construction and design of a Stationary Fuel Cell Power System is under the authority of a certified design professional and is in accordance with the authority listed in Subsection iii above.
6. Stationary Fuel Cell Power Systems shall be permitted as a conditional use, accessory to Data Centers.

I. Location/Dimensional Standards.

1. Unless specifically pre-empted, Data Centers must comply with the lot area and bulk regulations of the District.
2. Minimum Lot Area:
 - a. Buildings less than 50,000 square – 10 acres
 - b. Buildings 50,000 square feet to 100,000 square feet – 20 acres
 - c. Buildings 100,001 square feet to 250,000 square feet – 30 acres
 - d. Buildings more than 250,001 square feet – 50 acres
3. Parking, loading and interior driveway setbacks shall be 50 feet from any public street right-of-way and 25 feet from any other lot line. No parking for a Data Center shall be located within fifty (50) feet of a property line abutting a residential district or having a residential use.
4. Off Street Loading/Parking. A minimum of 1 off-street loading space/dock shall be provided for a Data Center. A minimum of 1.5 off-street parking spaces per on-site employee of the largest shift shall be provided.
5. Truck parking and truck idling setbacks shall be 300 feet from a residential district or existing occupied residential dwellings. Truck parking, and truck idling setbacks are permitted to be 250 feet from a residential district or existing occupied residential dwelling provided is demonstrated through the required sound studies prepared that they will not exceed the sound limit of 55 dBA without considering any sound mitigation measures.
6. Buildings shall be sited and oriented to:
 - a. Minimize visual impacts of the bulk of the building when examined on a line-of-sight bases from adjacent public streets, residential use buildings, and sensitive receptor areas.

- b. Provide safe and convenient vehicular access to the site, including sufficient on-site queuing areas at security gates.
- c. Accommodate adequate parking.
- d. Minimize impacts to natural resources.
- e. Incorporate appropriate stormwater management practices. Data Center campuses containing more than one building are encouraged to provide a variety in building size, massing, siting, and appearance by transitioning from smaller or lower buildings along street frontages to larger and taller structures on the interior of the site. Consideration of topography shall be given to avoid the placement of larger, taller, or more massive buildings in a prominent location, such as the high point of the property, or along a public street.

J. Setbacks and Buffer Strips.

1. Data Center sites abutting sensitive receptors, residential uses, residential districts, or collector/arterial roads must include an enhanced buffer strip with required plantings located on an earthen berm with a grade no steeper than 3:1.
2. Where the combined footprint of the principal use, structure or structures is less than 100,000 square feet:
 - a. A minimum 300-foot buffer strip shall be provided along the entire length of any public street frontage of any property upon which the Data Center is located and along any property line which abuts or is within 500 feet of an existing residential property line or district, school, daycare center, hospital, place of worship, designated park, or public open space.
 - b. A minimum front 100-foot buffer strip and a minimum side or rear 50-foot buffer strip shall be provided along any property line adjacent to a non-residential use or zone.
3. Where the combined footprint of the principal use, structure or structures is between 100,000 square feet and 250,000 square feet:
 - a. A minimum 400-foot buffer strip shall be provided along the entire length of any public street frontage of any property upon which the Data Center is located and along any property line which abuts or is within 500 feet of an existing residential or district, school, daycare center, hospital, place of worship, designated park, or public open space.
 - b. A minimum front 100-foot buffer strip and a minimum side or rear 50-foot buffer strip shall be provided along all other property lines.
4. Where the combined footprint of the principal use, structure or structures exceeds 250,000 square feet:
 - a. A minimum 500-foot buffer strip shall be provided along the entire length of any public street frontage of any property upon which the Data Center is located and along any property line which abuts or is within 500 feet of an existing residential property line or district, school, daycare center, hospital, place of worship, designated park, or public open space.
 - b. A minimum front 100-foot buffer strip and a minimum side or rear 50-foot buffer strip shall be provided along all other property lines.
5. Utilities should be located outside of buffer strips to the maximum extent it is feasible to maintain a cohesive buffer strip, protect landscaping, and preserve open spaces.
6. Utilities should be co-located when feasible to minimize the number of utility crossings through the required buffer strip, particularly when such crossings cannot be avoided.
7. Use of existing vegetation for landscaping and screening is strongly encouraged and may be substituted for new berms and plantings if approved by the Upper Mount Bethel Township Board of Supervisors.

8. The required number of plant units shall be calculated in accordance with other municipal screening requirements.
9. Buffer strips along roadways shall be measured from the street right-of-way line.
10. Where a lot line drainage or utility easement is required, the buffer strip shall be measured from the inside edge of the easement.
11. Buffer strips shall not include environmental encumbrances such as, but not limited to, wetlands, wetland transition areas, riparian buffers, and flood hazard areas as may be imposed by outside agencies.
12. The buffer strip shall include a dense landscape buffer consisting of the following:
 - a. One (1) large evergreen tree per 25 linear feet of buffer. The size of large evergreen trees shall be a minimum of eight (8) feet in height at the time of planting. Narrow/upright evergreen species may also be used within buffers at a ratio of 3:1. No more than 25% of the total required large evergreen species can be substituted with narrow/upright species.
 - b. One (1) canopy (shade) tree per 75 linear feet of buffer. The size of canopy (shade) trees shall be a minimum of 2½ inch caliper at the time of planting.
 - c. One (1) ornamental/flowering tree per 50 linear feet of buffer. The size of ornamental/flowering trees shall be a minimum of eight (8) feet in height for multi-stemmed varieties, or 2½ inch caliper at the time of planting for single-stemmed varieties.
 - d. Five (5) shrubs per 25 linear feet of buffer. Shrubs shall be fully branched and a minimum of three (3) feet in height at the time of planting. Shrubs shall be a combination of evergreen and deciduous species, with a minimum of 50% evergreen.
13. The landscape buffer shall be located along the outer edge of the buffer strip, unless a more interior portion of the buffer strip provides more effective screening due to topography.
14. Plant material within buffer planting shall meet the following requirements;
 - a. Be resistant to diesel exhaust.
 - b. Not identified on the most current DCNR invasive species or watch lists
 - c. Be hardy within the USDA Hardiness Zone 6(b).
 - d. Shall be planted on the top and exterior of any berm in order to provide effective screening.
 - e. Shall be arranged in groupings to allow for ease of maintenance and to provide a natural appearance.
 - f. Shall provide a diversity in plant species, such that no one species accounts for more than 25% of each plant type.
 - g. The plantings shall be arranged to provide a complete uninterrupted year-round screen of the property that is at least 12 feet in height, measured in addition to the height of any required berm, within three (3) years.
15. The buffer strip may be located within the required building setback lines. No impervious surface is permitted within the buffer strip aside from access drives, sidewalks, and associated improvements.
16. Landscaping plans, along with a landscape management plan, shall be submitted at the time of application for conditional use. The plans shall demonstrate compliance with the applicable screening and buffer strip requirements. The landscape management plan shall provide for financial security for the ongoing maintenance of the landscape buffer.

K. Substations

1. Substations are considered accessory uses to Data Centers and shall not be located within 500 feet of a residential district or existing occupied residential dwelling. Substations, where to be utility-owned, shall be included in the required sound studies prepared.

L. Utility Connections

1. Power
 - a. Burying power lines serving the property is strongly encouraged. On-site power lines of 34.5 kV and below must be buried.
 - b. At the time of Conditional Use Application, the applicant shall provide written verification from the applicable service provider stating the following:
 - Adequate capacity is available on the applicable supply lines and substation to ensure that the capacity available to serve the other needs to the service area is consistent with the normal projected load growth envisioned by the provided,
 - Utility supply equipment and related electrical infrastructure are sufficiently sized and can safely accommodate the proposed use,
 - Any system designed for cooling and operation of the facility (electricity, water, or other means) will be adequate and will not negatively impact the surrounding region,
 - The use will not cause electrical interference or fluctuations in line voltage on and off the operating premises, and
 - The electrical work has passed a third-party final inspection.
 - c. Facilities shall comply with all application North American Electric Reliability Corporation (“NERC”) reliability standards, as approved by the Federal Energy Regulatory Commission.

M. Aesthetic Standards

1. Data Centers shall not have blank exterior walls on any side of a building. There shall be adequate fenestration as well as horizontal and vertical breaks every 35 lineal feet. Building materials shall be durable, consisting of brick or other context sensitive masonry materials with variation of color. Rooflines shall have variation throughout.
2. Data Centers must include a main entrance feature that is differentiated from the remainder of the building façade by a change in building material, pattern, texture, color, or accent material. The entrance feature must also either project or recess from the adjoining building plane.
3. All building facades must include:
 - a. A change in the façade surface for every 150-horizontal feet of at least one of the following: building material, pattern, texture, color or accent material; and
 - b. Windows, doors, or similar fenestration design features such as faux windows, which must be distributed horizontally and vertically across the façade and comprise a minimum of 30% of the individual façade.
4. Loading bays located in building facades that face adjacent public roads or adjacent residential uses shall be screened from view.
5. Equipment used for cooling, ventilating, or powering the facility, including emergency power generators and other emergency power supply equipment, when located closer to an adjacent public road or adjacent residential use than a principal building, must be contained within an enclosed building or be encompassed on three sides by an opaque barrier extending at least 12 inches in height above the mechanical equipment and screened from view with dense vegetation.
6. Any proposal for a Data Center shall include architectural depictions of the proposed building and associated equipment as viewed from all lot lines and street lines.

N. Rooftop

1. All rooftop-mounted equipment shall be screened by a parapet wall, equipment penthouse, or

visually solid screen on all four sides that is constructed of materials complementary to those used in the exterior construction of the Data Center Principal Building. This shall be accomplished by setting the penthouse or screened area back from the façade of the building such that the top of the penthouse or screen is below a 45-degree line drawn from the top of the parapet.

2. Rooftop-mounted equipment to be screened includes, but is not limited to, the following: cooling, ventilation, and power supply machinery.
3. Rooftop-mounted equipment that is visible above the parapet wall shall be set back from the exterior or parapet wall a distance no less than the height of said equipment.
4. Rooftop-mounted equipment shall be placed on the farthest part of the rooftop from any residential use or zone or any sensitive receptor to the maximum extent feasible.

O. Lighting

1. The lighting for all Data Center uses must comply with the Performance Standards set forth in SALDO Article IV Design Standards, wherever not specifically addressed in this section. In the event of any conflict, more restrictive provisions shall be deemed to apply.
2. Horizontal Surfaces.
 - a. For the lighting of predominantly horizontal surfaces, such as, but not limited to, parking areas, roadways, vehicle and pedestrian passage areas, loading docks, building entrances, sidewalks, bicycle paths, and site entrances. Luminaires shall be aimed down and shall meet Illuminating Engineering Society of North America ("IESNA") full cut-off/fully shielded criteria.
3. Non-Horizontal Surfaces.
 - a. For the lighting of predominantly non-horizontal surfaces, such as, but not limited to, facades, landscaping, and signs, luminaires shall be shielded and shall be installed and aimed to not project their output into the windows of neighboring residences, adjacent uses, past the object being illuminated, skyward or onto a public roadway.
4. Adjacent Residential Uses.
 - a. The illumination projected onto a residential use shall at no time exceed 0.1 footcandle, measured line-of-sight and from any point on the receiving residential property. Adjacent Non-Residential Uses.
5. Adjacent Non-Residential Uses
 - a. The illumination projected from any property onto a non-residential use shall at no time exceed 0.5 footcandle, measure line-of-sight from any point on the receiving property.
6. LED Lights.
 - a. LED light sources shall have a correlated color temperature that does not exceed 3000K.
7. Luminaries
 - a. Luminaries shall not be mounted more than 20 feet above the finished grade of the surface being illuminated.
 - b. No pole-mounted lighting on the roof shall be permitted.

P. Fire

1. The equipment used in any Data Center operation shall be housed in a metered, electrically grounded, and pre-engineered metal-encased structure with a fire rating designed to resist an internal electrical fire for at least 30 minutes. The containment space shall contain baffles that automatically close in the event of fire, independent of a possible electric system failure.
2. An applicant for a Data Center must prove compliance with the National Fire Protection Associations' (NFPA) Relevant Standards. The application for conditional use and any

subsequent land development plans must be submitted to the Upper Mount Bethel Township Fire Chief for review and comment.

3. Specifically, an applicant for a Data Center must prove compliance with NFPA-75 (Fire Protection of Information Technology Equipment), as amended, and NFPA-76 (Standard for the Fire Protection of Telecommunications Facilities), as amended.
4. The applicant will be responsible for providing any specialized fire-fighting equipment required for the Data Center to the local fire emergency services.

Q. Performance Standards

1. Unless otherwise expressly pre-empted, all Data Center uses must comply with the Standards set forth in §298 of the Upper Mount Bethel Township SALDO.
2. Any use or activity producing air, dust, smoke, glare, vibration, exhaust, heat, or humidity in any form shall be carried on in such a manner that it is not perceptible at or beyond the property line.
3. Electromagnetic Field (EMF)
 - a. The purpose of this section is to protect public health and safety and ensure that electromagnetic field (EMF) emissions from Data Center Equipment and associated electrical infrastructure do not exceed levels generally accepted as safe for human exposure and do not interfere with nearby electronic devices or communication systems.
 - b. All Data Centers and associated electrical transmission or distribution equipment shall comply with the exposure limits established by the Institute of Electrical and Electronics Engineers (IEEE) Standard C95.6 and the International Commission on Non-Ionizing Radiation Protection (ICNIRP) guidelines, as adopted or updated from time to time.
 - c. Measurement and Monitoring.
 - EMF levels shall not exceed 2 milligauss (mG) above ambient background levels, measured at the nearest property line or at any point accessible to the general public.
 - Measurements shall be taken by a qualified professional using calibrated instrumentation and consistent with recognized IEEE or ICNIRP measurement protocols.
 - The applicant shall provide pre-construction baseline measurements and post-construction verification demonstrating compliance with the standards herein.
 - d. Design and Mitigation.
 - Electrical equipment, substations, switchgear, transformers, and cables shall be designed and configured to minimize EMF emissions through appropriate shielding, grounding, and separation of conductors.
 - To the extent practicable, underground cable routing, phase balancing, and equipment orientation shall be used to reduce EMF exposure at adjacent properties.
 - The applicant shall submit an EMF management plan identifying expected field strengths, mitigation measures, and monitoring protocols at the time of application for conditional use.
 - e. Data Centers shall be operated and maintained so as not to cause electromagnetic interference (EMI) with radio, television, telecommunications, or other electronic equipment on nearby properties. Any interference complaints verified by the Township require immediate corrective action by the operator.
 - f. If EMF or EMI levels exceed the thresholds specified in this section, the operator shall immediately implement corrective measures, which may include equipment shielding, rerouting of cables, modification of grounding systems, or other mitigation methods approved by the Township Engineer.

4. Vibration

- a. No construction activity or Data Center operation shall cause ground vibration levels to exceed a peak particle velocity (PPV) of 0.2 inches per second measured at the nearest property line or at any point on an off-site structure.
- b. Vibration Monitoring Requirements.
 - Pre- and Post-Construction Studies. For any Data Center and Data Center Equipment located within 1,000 feet of any residential use or zone, or any sensitive receptor, the applicant shall submit pre-construction and post-construction vibration studies prepared by a qualified professional, as approved by the Township, to establish baseline conditions and demonstrate compliance. The pre-construction vibration study must be submitted at the time of application for conditional use. The initial post-construction vibration study must be submitted no later than six (6) months after issuance of a certificate of occupancy and start of commercial operation.
 - Operational Monitoring. The Township shall require continuous or periodic vibration monitoring during construction, commissioning, and continuous operation to verify compliance.
- c. All ground-mounted mechanical, electrical, and power generation equipment shall be mounted on anti-vibration foundations, isolation pads, or equivalent devices designed to minimize vibration transmission to the ground and nearby structures.
- d. If it is determined by the post-construction sound study that there is a violation of the aforesaid vibration limits, then the owner or occupant of the Data Center shall immediately remediate the violation to achieve compliance with the aforesaid vibration limits.

R. Water and Sewer Standards

1. If the use will be served by a public water supply or sewer, the applicant shall submit documentation from the public authority providing that such water and/or sewer service that certifies that said public authority can and will supply such water/sewer service.
2. In the absence of a public water supply the applicant shall submit a water feasibility study containing, at a minimum, the following information:
 - a. The projected water demands of the use;
 - b. The source of the water to be provided for the use; A description of how water will be used, including the amount or proportion of water to be used for each purpose (e.g., cooling, humidity control, fire suppression, and domestic usage). Proposed extraction wells shall be accompanied by detailed hydro geological studies by qualified independent engineers in compliance with the Township's Well Ordinance.
 - c. The long-term safe yield of the water source may require a detailed aquifer study.
 - d. A description of the amount or portion of water withdrawn that will be recycled or discharged and by what means;
 - e. A hydrogeological map and detailed study of the areas with a radius of at least one (1) mile from the parcel containing the use;
 - f. The location of all existing and proposed wells within one thousand feet (1,000') of a boundary line of the parcel containing the use, with a notation of the capacity of all high yield wells;
 - g. The location of all surface waters, including perennial and intermittent streams, rivers, lakes, reservoirs, ponds, wetlands, springs, natural seeps within one thousand feet (1000') of the property boundary;

- h. A determination of the effects of the proposed water supply system on the quantity and quality of water in wells, surface waters, and the groundwater table located within one thousand feet (1000') of the property boundary; and
 - i. A statement of the qualifications and the signature(s) of the independent professional engineer, must be approved by the Township.
3. The Applicant shall provide proof of review and approval from the Delaware River Basin Commission (DRBC) for projects proposing water withdrawals of one hundred thousand gallons per day (100,000 gpd) or more over a thirty-day (30-day) average from any source or combination of sources within the Delaware River Basin; or any consumptive water use of twenty thousand gallons per day (20,000 gpd) or more over a 30-day average from any water source.
4. The Applicant shall demonstrate the adequate means of domestic wastewater disposal have been provided and approved by the Township Sewage Enforcement Officer,
5. The Applicant shall demonstrate that adequate means of disposal of industrial coolant water have been provided and approved by the Pennsylvania Department of Environmental Protection (PADEP).

S. Emergency Responders

1. The applicant shall coordinate with the Township Emergency Management Coordinator and Fire Chief to ensure there is adequate radio coverage for emergency responders within the building based upon the existing coverage levels of the Township Public Safety Radio Communications System at the exterior of the building and shall install enhancement systems as needed to meet compliance.

T. Fiber and Telecommunications Infrastructure Disclosures

1. Disclosure requirement. All data center applications shall provide information concerning on-site and off-site fiber-optic facilities necessary to serve the data center.
2. Minimum Disclosures. The Applicant shall disclose the following:
 - a. Identification of required fiber routes, conduit, vaults, handholes, and interconnection points;
 - b. Location of any new or expanded fiber corridors within Township rights-of-ways or easements;
 - c. Construction methods, including trenching, boring, or aerial installation;
 - d. Anticipated impacts on roadways, sidewalks, drainage facilities, and other public infrastructure;
 - e. Restoration methods for disturbed rights-of-way or private property; and
 - f. Identification of responsible parties for installation, maintenance, and restoration.
3. Non-Regulation Clause. Nothing herein shall be construed to regulate telecommunications services or providers. The Township's review shall be limited to physical infrastructure and land-use impacts.

U. Environmental Impact Assessment

1. An Environmental Impact Assessment shall be performed and submitted with the conditional use application. The assessment shall be prepared by a professional engineer, ecologist, environmental planner, or other qualified individual. An assessment shall include a description of the proposed use, including location, relationship to other projects or proposals, with adequate data and detail to assess the environmental impact. The assessment shall also include a

comprehensive description of the existing environment and probable future effects of the proposal. The description shall focus on the elements of the environment most likely to be affected as well as potential regional effects and ecological interrelationships. At a minimum, the assessment shall include an analysis of the items listed below regarding the impact of the proposed use and the mitigation of any such impacts. The assessment shall also include a detailed examination of public resources most likely impacted by the development plan and include the following focus areas:

- a. Air pollution impacts from emissions from any primary or backup power sources, power equipment, and vehicle operations, including from truck engines during idle time. The applicant shall identify all stationery and mobile sources of fine particulate matter (PM_{2.5}), volatile organic compounds, and nitrogen oxides at the site. The applicant shall specify best management practices for preventing and reducing the concentration of air-polluting emissions at the site. The applicant shall also provide the Township with copies of any air quality permit applications to any state or federal agencies at the time of submission of the conditional use application. The applicant should provide copies of final air quality permits to the Township prior to issuance of occupancy for any buildings or structures requiring such permits.
- b. The potential for public nuisance to residents resulting from operations and truck traffic, including noise, glare, light, and visual obstacles, exists.
- c. A stormwater management plan will be required and shall be in compliance with the Township's Act 167 Stormwater Management Ordinance.
- d. A PA-Share Report will be required to ensure the Data Center does not disrupt important and protected Pennsylvania heritage or archeological sites.
- e. The applicant shall submit an assessment report of the impact of the proposed use on the goals of the respective County and Township comprehensive plans. Where the proposed use conflicts with the comprehensive plan, the assessment report shall identify mitigation measures that may be undertaken to offset any degradation, diminution, or depletion of public natural resources.
- f. Additional considerations. The following shall also be addressed:
 - Alternative analysis. A description of alternatives to the impacts.
 - Adverse impacts. A statement of any adverse impacts that cannot be avoided.
 - Impact minimization. Environmental protection measures, procedures, and schedules to minimize damage to critical impact areas during and after construction, including design considerations.
- g. Critical impact areas. In addition to the above, plans should include any area, condition, or feature that is environmentally sensitive or that, if disturbed during construction, would have an adverse impact on the environment.
 - Critical impact areas include, but are not limited to, floodplains, riparian buffers, streams, wetlands, slopes greater than 15%, highly acid or highly erodible soils, hydric soils, hydrologic soil groups, areas of high-water table, and mature stands of native vegetation and aquifer recharge and discharge areas.
 - A statement of impact upon critical areas and of adverse impacts that cannot be avoided.
 - Environmental protection measures, procedures, and schedules to minimize damage to critical impact areas during and after construction.

V. Threatened and Endangered Species

1. Pennsylvania Natural Diversity Inventory study (PNDI Report) dated within two years of the submission of an application for conditional use or subdivision and land development, whichever

is first, as well as any state agency clearance letters required thereby, shall be provided to the municipality.

2. The applicant shall comply with all measures directed by the clearance letters to avoid, minimize, or mitigate impacts to endangered, threatened, and special concern species and their habitat.

W. Closed-LOOP Cooling Operational System Standards

1. Closed-Loop Cooling Preference. All Data Centers shall utilize closed-loop cooling systems to the maximum extent feasible, such that cooling water is recirculated and reused, and cooling operations do not rely on continuous once-through withdrawal and discharge.
2. Cooling System Disclosure. The applicant shall identify the type of cooling system utilized, including whether cooling will occur through evaporation, blowdown, or other mechanisms, and the maximum anticipated annual water consumption (gallons/year) associated with said cooling system.
3. Infrastructure Compatibility. The applicant shall demonstrate that proposed cooling and water use are compatible with available infrastructure and environmental constraints. .
4. Prohibition on Once-Through Cooling Unless Proven Necessary. Once-through cooling systems are prohibited unless the applicant demonstrates, through engineering documentation, that:
 - a. A closed-loop cooling system is not feasible due to specific site or operational constraints;
 - b. Proposed withdrawal and discharge will not adversely affect local water resources; and
 - c. All non-contaminated cooling water system water must be discharged into a surface naturalized basin with aerators before being discharged offsite or into the ground.
5. Any processed water, coolant, or chemical-containing liquids associated with facility operations shall be managed in a manner that prevents discharge to the ground or stormwater system including:
 - a. Secondary containment for chemical storage;
 - b. Spill prevention and response procedures; and
 - c. Compliance with all applicable state and federal requirements.
6. The applicant shall provide a plan describing how water will be reused or recycled on-site to minimize total withdrawal demand and discharge.
7. Stormwater System Resiliency and Cooling Return Flows
 - a. To ensure that stormwater systems remain resilient where Data Center operations involve cooling systems that may generate blowdown, return flows, or process water.
 - b. Applicant shall disclose
 - Cooling system type,
 - Expected return flow volumes (gallons/day and gallons/year)
 - Temperature and water quality characteristics; and
 - Discharge points and timing.
 - c. Design Standards. Stormwater facilities shall be designed to:
 - Isolate cooling return flows from stormwater.
 - Prevent thermal or water-quality impacts to receiving systems;
 - Accommodate peak return flows without reducing stormwater capacity; and
 - Maintain function during design storm events.
 - d. Applicants shall demonstrate;
 - Redundant containment for processing water;
 - No adverse interaction between cooling return flows and stormwater during extreme weather events; and
 - Emergency shutdown and containment protocols.

X. Solar

1. All building roofs shall be solar-ready, which includes designing and constructing buildings in a manner that facilitates and optimizes the installation of a rooftop solar photovoltaic (PV) system at some point after the building has been constructed.
2. Any portion of a building's rooftop that is not covered with solar panels or other utilities shall be constructed with light colored roofing material with a solar reflective index of not less than 78. This shall be the minimum solar reflective rating of the roof material for the life of the building.
3. On buildings over 200,000 square feet, prior to the issuance of a certificate of occupancy, Upper Mount Bethel Township shall ensure rooftop solar panels are installed and operated in such a manner that they will supply as much power as needed to operate the facility as is feasible.

Y. Decommissioning

1. Applicability
 - a. This Section applies to any facility permitted under this Zoning Ordinance that is used primarily as a Data Center.
 - b. A Data Center is deemed to have ceased operations when data processing or storage functions (or all server operations) have been discontinued for a continuous period of twenty (20) months, and the owner/operator fails to demonstrate to the zoning officer in writing that good-faith efforts are underway to resume operations within a reasonable time.
 - c. This Section also applies upon change of ownership, change of lessee, abandonment, insolvency, or as otherwise triggered by the decommissioning plan required herein.
2. Decommissioning Plan
 - a. At the time of application for Land Development for a Data Center, the applicant shall submit for review and approval a decommissioning plan.
 - b. The decommissioning plan shall be reviewed by the Township Engineer, recommended by the Planning Commission if applicable, and approved by the Board of Supervisors as part of the subdivision and land development approval.
 - c. Required Contents
 - Identification of conditions or events that trigger decommissioning. At a minimum, the conditions that trigger decommissioning shall be twenty-months of non-operational status with no redevelopment plans submitted for approval within that time period.
 - Proposed methods and schedule for removal or beneficial reuse of all structures, equipment, foundations, fencing, impervious surfaces, utility lines, and associated infrastructure.
 - Methods for disconnection, capping, or removal of utilities (electric, telecommunications, water, sanitary, storm) and site stabilization.
 - Schedule for completing decommissioning and site restoration, including final grading, re-vegetation or landscaping, debris removal, and final inspection if required by the Township.
 - Site restoration plan showing how disturbed areas will be re-graded, impervious surfaces addressed, and vegetation established.
 - Cost estimate prepared, sealed, and signed by a professional engineer licensed in Pennsylvania.
 - Identification of responsible party(ies), including name, address, contact

information, and statement accepting responsibility for decommissioning and restoration.

- Statement describing how financial security will be maintained and updated over time.

d. The decommissioning plan shall be updated every five (5) years, or upon major change in ownership or facility operations.

3. Financial Security

a. As a condition of issuance of land development approval, the owner/operator shall post financial security acceptable to the Township Solicitor (e.g., performance bond, irrevocable letter of credit, or escrow account).

b. The financial security shall equal 110% of the estimated decommissioning cost, without adjustment for salvage value of any equipment, as approved by the Township Engineer.

c. Security shall remain in effect for the life of the facility and shall be adjusted every five (5) years or sooner if required.

d. If the owner/operator fails to complete decommissioning and restoration, the Township may draw on the security and undertake the work, recovering any additional costs in accordance with the Pennsylvania Municipalities Planning Code and Township ordinances.

4. Decommissioning and Restoration Requirements.

a. All above- and below-ground structures, equipment, foundations, fencing, and associated impervious surfaces shall be removed unless the Board of Supervisors approves a reuse plan. Below-ground foundations shall extend to a minimum of three (3) feet below final grade unless approved otherwise.

b. Utilities: All utilities shall be properly disconnected and capped per applicable codes and standards.

c. Site Grading/Stabilization: Disturbed areas shall be re-graded to stable slopes and stabilized with sod, groundcover, or native vegetation until fully established.

d. Vegetation: Disturbed soils shall be revegetated with native species. Buffers and screening shall be restored if required.

e. Hazardous Materials: All hazardous or regulated materials must be removed and disposed of according to applicable federal, state, and local laws, including PA DEP regulations, with proof of disposal submitted to the Zoning Officer.

f. Final Inspection/Certification: Upon completion, a Certificate of Restoration shall be submitted to the Zoning Officer. The Township Engineer may inspect and verify completion before releasing financial security.

5. Enforcement

a. The Township may exercise rights under the security to complete decommissioning and restoration and recover additional costs from the owner/operator, successors, or assigns.

Z. Construction Transportation Plan

1. Any proposal for a Data Center shall include a construction transportation plan.

2. At a minimum, the Construction Transportation Plan shall include the following:

a. An estimated construction timeline, including anticipated start and completion dates, major construction phases, and periods of peak construction traffic.

b. Identification of all proposed routes and access points to be used by construction vehicles, including delivery trucks, concrete trucks, cranes, and oversized loads. Designated routes shall minimize travel through residential areas and by sensitive receptors to the maximum extent feasible.

c. An estimate of the average daily and peak-hour number of construction-related vehicle

- trips, including inbound and outbound truck trips.
- d. Proposed hours during which construction vehicle traffic will occur, including any limitations in early morning, evening, weekend, or holiday activity, consistent with Township ordinances.
 - e. Proposed traffic control and safety measures, including but not limited to temporary signage, flaggers, signal modifications, pavement markings, or other measures necessary to maintain safe traffic flow and pedestrian safety.
 - f. Identification of measures to prevent damage to Township roads, shoulders, bridges, and drainage facilities, including wheel-wash facilities, street sweeping, and dust control.
 - g. Identification of on-site staging areas for construction vehicles, equipment, and materials, and provisions to prevent on-street parking of construction vehicles unless expressly authorized by the Township.
 - h. Measures to ensure that construction activities do not impede emergency vehicle access to surrounding properties and roadways.
 - i. Evidence of coordination with PennDOT, Northampton County, emergency services, school districts, and other affected agencies, where applicable.
 - j. Identification of a designated construction transportation coordinator responsible for implementing and maintaining the plan and responding to Township or public concerns.
3. The Construction Transportation Plan may be modified during construction with the approval of the Township Engineer to address unforeseen conditions, traffic safety concerns, or changes in construction phasing.
 4. All construction traffic and site traffic shall access the site via River Road.

AA. Additional Criteria

1. **Phased Development.** A data center campus may be developed in one or more phases.
2. **Data Center Campus Master Plan.** Data center campus development shall be subject to a data center campus master plan which covers the full site. For any development that meets the definition of land development under the Pennsylvania Municipalities Planning Code, a data center campus master plan shall be submitted with a land development application for purposed of developing a data center campus, akin to a preliminary plan for multi-phased subdivision. The process and procedures for data center campus master plan application shall follow the land development process under §298 of the current Upper Mount Bethel Township SALDO for separate Preliminary Plan and Final Plan review and approval.
3. An individual Site Plan and Grading Plan for each data center identified on the data center campus Master Plan or each phase of the development of the data center campus demonstrating compliance with the data center campus master plan shall be submitted to the Township prior to the issuance of a building permit. Copies of any applicable third-party permits shall be submitted to the Township prior to the issuance of a building permit. Applicable third-party permits may include, but are not limited to, highway occupancy permits, NPDES permits, and ESCGP permits.
4. An individual site plan for each data center or each phase of the development of the data center campus shall be found to be consistent with the approved data center campus master plan if it is clearly identified in the approved data center campus master plan or if the site plan is found to be a minor modification to the approved data center campus master plan. The procedure for a major modification to the approved data center campus master plan shall be the same as a new master plan under this section.
5. A minor modification to an approved data center campus master plan is development that results in any of the following:
 - a. A rate of stormwater discharge and runoff from the site equal to or less than rates

- identified in the stormwater management plan approved in connection with the data center campus master plan.
- b. Minor shifts in building locations that do not substantially deviate from the originally approved plans.
 - c. Addition or relocation of data center accessory uses/structures or data center equipment within the approved development area.
 - d. Adjustments to internal road layouts that do not substantially modify overall traffic patterns or materially alter ingress and egress access points.
 - e. Adjustments to utility line routes within the approved development area.
 - f. Building adjustments that increase the square footage of a data center or accessory uses/structures by up to 5% or any adjustment that decreases or eliminates the square footage of a planned data center or data center campus.
 - g. Any adjustment to the approved plan required by a third-party governmental agency including but not limited to PennDOT or DEP necessary for approval under their permitting process.
6. A major modification to an approved data center campus master plan is any modification to an approved data center campus except as listed above. Major modifications shall require review by the Planning Commission and approval from the Board of Supervisors as a modification of an approved plan.
7. The Applicant may submit to the township (either with the site plan or at the request of the Township) any additional plan, studies, or reports demonstrating that individual site plan for each data center or each phase of the development of the data center campus is a minor modification of the data center campus master plan.

BB. Thermal Impact Mitigation Requirements.

1. Purpose and Intent. The purpose of this section is to protect the public health, safety, and welfare by minimizing adverse thermal, environmental, and neighborhood impacts associated with data centers and similar high-intensity computing facilities. These regulations are intended to:
 - a. Mitigate excessive heat generation and discharge;
 - b. Protect groundwater, surface water, stormwater systems, and public infrastructure from thermal impact;
 - c. Reduce adverse microclimate and urban heat island effects;
 - d. Minimize impacts from cooling systems, mechanical equipment, and associated infrastructure;
 - e. Ensure compatibility with surrounding land uses;
 - f. Promote sustainable and efficient cooling technologies and site design.
2. Applicability. The requirements of this section shall apply to:
 - a. Any new Data Center, including a conversion into a Data Center;
 - b. Any expansion of an existing Data Center increasing gross floor area by more than twenty-five percent (25%);
 - c. Any facility containing server farms, cloud computing infrastructure, cryptocurrency mining operations, artificial intelligence processing infrastructure, or similar high density computing operations exceeding:
 - 10,000 square feet of gross floor area; or
 - 2 megawatts (MW) of projected electrical demand.
 - d. The Township may require compliance for smaller facilities when the Zoning Officer, Township Engineer, or Board of Supervisors determines that the proposed facility includes cooling equipment, electrical infrastructure, or operational characteristics likely to generate thermal impacts comparable to facilities otherwise subject to this section.

3. Thermal Impact Mitigation Plan Required. A Thermal Impact Mitigation Plan (TIMP) shall be submitted as part of the conditional use application for a Data Center development plan. The TIMP shall be prepared and sealed by a Professional Engineer licensed in the Commonwealth of Pennsylvania and practicing in the fields of mechanical, environmental, electrical, thermal, or energy systems engineering.
4. Required Contents of Thermal Impact Mitigation Plan:
 - a. Facility Description: A description of proposed operations, total floor area, anticipated server capacity, projected electrical demand, backup power systems, and operating characteristics.
 - b. Cooling System Analysis: Identification and description of cooling technologies, cooling capacity, cooling equipment locations, anticipated operating temperatures, exhaust methods, redundancy systems, emergency cooling systems, cooling tower specifications, and refrigerant systems.
 - c. Heat Generation Analysis: Quantification of projected heat generation, heat rejection rates, peak thermal output, seasonal operating conditions, and anticipated thermal discharge characteristics.
 - d. Thermal Impact Assessment: Assessment of impacts upon adjacent properties, residential uses, vegetation, wildlife habitat, groundwater, streams, wetlands, stormwater facilities, and public infrastructure. The assessment shall include calculations, manufacturer data, modeling, or other engineering analyses sufficient to quantify projected heat generation and thermal impacts.
 - e. Water Consumption and Discharge Analysis: Estimated daily and peak water usage, source of water supply, maximum daily water demand, wastewater discharge characteristics, blowdown management practices, anticipated discharge temperatures, drought contingency measures, and water conservation measures.
 - f. Stormwater Thermal Impact Analysis: Evaluation of heated runoff impacts and proposed mitigation measures.
 - g. Heat Island Mitigation Measures: Measures intended to reduce localized heat accumulation including reflective roofing, tree canopy coverage, landscaping, reduced impervious coverage, vegetated buffers, green roofs, and building orientation strategies.
 - h. Noise and Mechanical Equipment Coordination: Demonstration of coordination between thermal mitigation measures and compliance with Township noise regulations.
 - i. Emergency Operations, generator-related thermal impacts, contingency measures for cooling system failure, and procedures during utility interruptions or extreme weather events.
5. Thermal Performance Standards. The applicant shall demonstrate through the Thermal Impact Mitigation Plan that the proposed Data Center will not create adverse thermal impacts upon adjacent properties, public infrastructure, environmentally sensitive resources, or the general public. The Thermal Impact Mitigation Plan shall demonstrate compliance with the following standards:
 - a. The applicant shall demonstrate that thermal emissions will not create material adverse impacts to neighboring properties, public infrastructure, or environmentally sensitive resources.
 - b. Thermal discharges shall not cause adverse impacts to:
 - Groundwater;
 - Streams;
 - Wetlands;
 - Storm water management facilities;
 - Public utilities;
 - Roadways; or

- Other Public infrastructure.
 - c. Cooling system exhausts, cooling towers, condensers, and other heat-rejection equipment shall be designed and located to minimize impacts on adjacent properties and public rights-of-way.
 - d. The facility shall incorporate reasonable and feasible measures to reduce localized heat accumulation and urban heat island effects.
 - e. The Board of Supervisors may require additional mitigation measures upon the recommendation of the Township Engineer when it is determined that projected thermal impacts may adversely affect public health, safety, welfare, infrastructure, natural resources, and neighboring properties.
6. Mitigation Measures. As a condition of approval, the Board of Supervisors may require mitigation measures including but not limited to:
- a. Increased setbacks for cooling infrastructure;
 - b. Equipment screening;
 - c. Berms or landscaping;
 - d. Enhanced buffering;
 - e. Limitations on specific cooling technologies where demonstrated by the Thermal Impact Mitigation Plan or peer review to be necessary to mitigate adverse impacts;
 - f. Heat-reducing construction materials;
 - g. Green infrastructures;
 - h. Alternative cooling systems;
 - i. Reduced impervious coverage;
 - j. Thermal discharge controls;
 - k. Water reuse systems;
 - l. Energy recovery systems;
 - m. Phased operations limitations;
 - n. Monitoring systems;
 - o. Additional environmental studies.
7. Peer Review. The Township may retain qualified consultants to review the Thermal Impact Mitigation Plan. All consultant review costs shall be reimbursed by the applicant in accordance with the PA Municipalities Planning Code and Township Ordinances.
8. Ongoing Compliance. The Township may require post-construction verification, operational monitoring, annual reporting, thermal performance testing, and corrective action measures where actual impacts exceed approved projections. Failure to maintain compliance with the approved mitigation measures shall constitute a violation of this Ordinance.
9. Waivers. The Township may waive specific submission requirements where the applicant demonstrates to the Township Engineer's or Board of Supervisors satisfaction that the requirement is not applicable to the proposed facility or equivalent information has been provided through other required studies.
10. Relationship to Other Regulations. Compliance with this section shall not relieve the applicant from compliance with stormwater regulations, environmental regulations, other zoning requirements, subdivision and land development regulations, building codes, utility requirements, or state and federal permitting requirements.

CC. Fences and Security

Fencing height shall be adequate to provide for secured facilities. Fences for a data center or data center campus shall be setback a minimum of 10 feet from the property line. Area between fence and property line shall be maintained regularly by the data center and/or data center campus owner. Vehicular access control (i.e. gates and/or bollards) shall be situated to avoid queuing of stopped vehicles on public roads.

Manned security stations shall be subject to accessory structure setback requirements.

DD. Outdoor Lighting

Lighting fixtures that are 25 feet or less in height shall not be located closer than 30 feet from any boundaries of residential or institutional areas. Lighting fixtures that are between 25 feet and 30 feet in height shall not be located closer than 60 feet from any boundaries of residential or institutional areas. Fixtures shall be full cut-off and energy-saving technology.

EE. Construction Hours

Construction and related operation of heavy machinery, operating or permitting the operation of any tools, equipment or heavy machinery used in construction, drilling, or demolition work for a data center campus may occur between the hours of 7:00 a.m. and 6:00 pm Monday through Friday and 8:00 am and 6:00 pm on Saturdays. The zoning officer may permit additional construction hours by administrative modification upon request by an applicant.

FF. Electrical Service Capacity

An applicant must demonstrate, through competent evidence, that adequate electric infrastructure capacity is available or will be available to serve the proposed data center or data center campus at full build-out. Such demonstration shall include appropriate documentation from applicable electric utilities and electricity providers and shall be submitted by the applicant with its building permit application.

OO. Data Center Reporting

For so long as the Data Center or Data Center Campus is operating, the applicant shall provide the Township with a copy of any and all reports filed with DEP to comply with the Pennsylvania Data Center Reporting Requirements, or any other regulatory body that may have jurisdiction and requirements in the future. To the extent that the report includes proprietary information exempt from public disclosure (as defined in the Pennsylvania Data Center Reporting Requirements, or any other regulatory body that may have jurisdiction and requirements in the future), then that information shall be redacted from the version provided to the Township.