1. All ingress and egress shall be from an arterial or collector street, and internal circulation shall be designed to prevent vehicles from backing onto public rights-of-way.
2. The property shall be screened from adjoining residential uses pursuant to §506 and §507.
3. All washing facilities shall be connected to a public or community water supply and sewage disposal system, and drainage shall be directed to approved facilities.

§ 27-456. Data Centers

1. Legislative Findings
    a. The Township finds that data centers generate continuous mechanical noise from cooling systems, backup generators, and electrical equipment, which can exceed rural ambient sound levels and adversely affect nearby residences, agricultural operations, and natural areas. Setbacks and buffers are necessary to mitigate these impacts and protect the quiet rural character of the Township.
    b. The Township finds that data centers require substantial electrical infrastructure, including transformers, switchgear, and high-capacity distribution equipment, which pose safety, heat, and electromagnetic impacts that warrant increased separation from property lines and adjacent uses. Dimensional standards are necessary to ensure safe siting and adequate emergency access.
    c. The Township finds that data centers typically involve large, windowless structures, extensive impervious surfaces, and industrial scale mechanical yards that are visually incompatible with the Township's predominantly rural and agricultural landscape unless adequately separated and screened. Setbacks and buffers are required to preserve the Township's established community character.
    d. The Township finds that the Township contains prime agricultural soils, steep slopes, floodplains, and limited stream corridors that are sensitive to disturbance. Setbacks and buffers are necessary to protect these resources from heat discharge, stormwater impacts, and impervious surface expansion associated with data center development.
    e. The Township finds that data centers are an emerging industrial use with significant infrastructure and environmental impacts. The Township further finds that this ordinance provides a reasonable opportunity for data centers to locate within designated zoning districts, subject to performance standards necessary to protect public health, safety, and welfare.

f. The Township finds that the dimensional standards, including setbacks, represent the minimum necessary to mitigate the documented impacts of data centers and to ensure compatibility with surrounding uses. These standards do not preclude development of data centers on appropriately sized parcels within the Township.
g. Nothing in this ordinance precludes an applicant from seeking dimensional relief through the Zoning Hearing Board pursuant to Section 910.2 of the Pennsylvania Municipalities Planning Code.

2. General Provisions. All regulations applicable to industrial uses shall also apply to data centers. In the event of a conflict between those regulations and the provisions of this section, the more restrictive standard shall control. The following shall also apply to all data centers:
    a. Site Compatibility and Infrastructure Impact Review. All data center applications, regardless of district or size, shall submit a site compatibility and infrastructure impact review prior to zoning approval. Review components shall include:
        i. Utility and Infrastructure Overview. Electrical demand, transformer/substation compatibility, water use (source, daily/peak, cooling method), required upgrades, and dual-feed or redundant service confirmation.
        ii. Emergency Services and Access. Two ingress/egress points; NFPA-compliant fire lanes; fire suppression systems; static water supplies; hazard signage; Knox Box/digital gate controls.
        iii. Environmental Buffers and Compatibility. Proximity to wetlands, Cold Water Fisheries, floodplains, or conserved lands; vegetative buffers and screening; stormwater summary.
        iv. Telecommunications. Fiber redundancy, and co-location with utility corridors.
        v. Community Impact Summary. Adjacent land uses; impacts on noise, traffic, and viewsheds; proposed mitigation.
    b. Land Use and Compatibility.
        i. Data centers will preferentially be sited on brownfields, energy campuses, or near substations.
        ii. New utility corridors may not bisect preserved or conserved lands unless no alternative exists.
    c. Access and Emergency Circulation
        i. Minimum of two ingress/egress points.

ii. NFPA fire lane standards: 24 ft width, 50 ft turn radii, ladder truck capacity.
iii. No cul-de-sacs, shared residential driveways, or reliance on residential streets.

d. Fire Protection and Suppression.
   i. Dedicated static water (20k–50k gallons).
   ii. Dual suppression: clean agent (server rooms) + pre-action sprinklers (mechanical/structural).
   iii. Fire-separated battery storage with independent ventilation.
   iv. Knox Box/digital gate controls; hazard signage.
   v. Annual fire walkthrough;
   vi. Required equipment inventory: arc-rated PPE, foam tools, electrical isolation gear, thermal imaging.

e. Buffers, Setbacks and Screening
   i. 300ft minimum setback on all sides
   ii. 200ft buffer minimum
   iii. Buffers double as firebreaks and noise screens.
   iv. Components: native evergreens, berms, opaque fencing, gravel firebreak perimeter.
   v. Must demonstrate effective layering for noise and visual impact.
   vi. Long façades must include articulation, step-backs, or landscaping.

f. Noise and Generator Control.
   i. Maximum property line noise levels shall not exceed 55 dBA
   ii. Generator testing only weekdays 9 a.m.–5 p.m. with neighbor notification.
   iii. Acoustic shielding, baffled enclosures, and vibration isolation required.
   iv. Generators shall not be installed or positioned above the roof line of any structure.
   v. Generator operation for load-shifting, peak-shaving, economic dispatch, or any non-emergency purpose is prohibited.
   vi. The operation of standby or backup generators serving a data center shall be permitted only during a complete loss of electrical service to the data center resulting from a failure of the electric utility distribution system, evidenced by either:
      1. Loss of voltage on all utility service phases to the facility below the threshold that triggers the automatic transfer switch; or

2. A utility-issued outage notification affecting the service address; or
3. A directive from the regional transmission operator (RTO/ISO) requiring immediate load-shed due to system instability.

g. Water Use and Protection.
   i. Stamped Water Use Plan required.
   ii. No withdrawals from Cold Water Fisheries, wetlands, bogs, or conserved areas.
   iii. Hydrologic studies required in recharge zones.
   iv. Cooling: closed-loop, hybrid, or reclaimed-water; open-loop prohibited except reclaimed with no thermal discharge.

h. Telecommunications and Fiber.
   i. Two redundant fiber routes with geographic separation.
   ii. Trenching must co-locate with existing corridors;
   iii. Telecom Infrastructure Plan required with service agreements and redundancy mapping.

i. Stormwater and Heat Island Mitigation
   i. Enhanced BMPs: bioretention, infiltration trenches, thermal filtering.
   ii. No unmitigated paved or gravel yards >10,000 sq ft.
   iii. Tree canopy or shade in all loading/staging areas.
   iv. Permeable paving where feasible.

j. Abandoning and Decommissioning Provisions
   i. Any data center ceasing operations shall be deemed abandoned. The owner shall remove all structures, utilities, and appurtenances, and restore the site within 180 days of Township notice unless an alternative use has been approved by the Township. The alternative use and any thereafter shall retain the obligation of bonding as well as 180 day site restoration and to remove all structures, utilities and appurtenances.
   ii. Ceasing of operations occurs when the data center's total monthly kWh consumption remains at or below 20 percent of the facility's peak monthly power usage for at least 180 consecutive days.
   iii. Peak monthly power usage is defined as the highest total kilowatt-hours (kWh) recorded in any single calendar month over the previous 12-month period.
   iv. Decommissioning funds may be in the form of a performance bond, surety bond, letter of credit, corporate guarantee or other form of financial assurance as may be acceptable to North Centre Township.

3. Full Impact Assessment Triggers
    a. Data center applications meeting any of the following criteria shall submit a full impact assessment:
        i. Gross floor area exceeds 5,000 sq ft;
        ii. Electrical load exceeds 1 MW;
        iii. Site is within 500 ft of conservation lands, Cold Water Fisheries, wetlands, or SR, RR or HDR districts;
4. Full Impact Assessment
    a. The full impact assessment shall be prepared by a licensed professional engineer or qualified consultant and shall include the following components, prepared and stamped by a licensed professional engineer or similarly qualified consultant:
        i. Fire Protection and Emergency Operations Plan. The applicant shall submit a comprehensive fire protection and emergency operations plan tailored to the unique hazards of data centers, including but not limited to:

            1. Fire suppression systems incorporating both:

                a. A clean-agent gas system (e.g., FM-200, Novec 1230) for server rooms, electrical rooms, and UPS areas; and

                b. A pre-action sprinkler system for structural, mechanical, and ancillary spaces.

            2. On-site static water storage capacity of not less than twenty thousand (20,000) gallons and not more than fifty thousand (50,000) gallons, depending on the gross floor area and fire risk classification. Storage may be satisfied by cisterns, tanks, or lined fire ponds, provided they are engineered for year-round use.

            3. Hydrant or Storz connections, certified dry hydrants, and all-weather access to static supplies, with clearly signed and GIS-mapped locations.

            4. Fire lanes meeting NFPA 1 and NFPA 1141 standards, with looping circulation, no dead ends, and sufficient turning radii for aerial apparatus.

            5. Knox Box systems or equivalent secure access devices at all entrances and gates, integrated with local dispatch.

6. Site maps posted on-site and provided to emergency services, showing the location of fuel storage, battery systems, suppression equipment, and shutoff controls.

7. Annual facility walkthrough and site-specific training for all responding fire and emergency service departments, with documentation of attendance and updates.

8. An equipment inventory demonstrating the applicant's contribution to ensuring local departments have or will obtain necessary gear, including arc-rated PPE, foam suppression tools, electrical isolation equipment, and thermal imaging devices.

ii. Utility Coordination Plan. The utility coordination plan shall:

1. Document anticipated electrical demand, peak and base load, and method of delivery (dual-feed, underground, or overhead).

2. Demonstrate substation capacity to accommodate both initial and future demand, including redundancy or expansion potential.

3. Provide confirmation of transformer size and site-level distribution design, including safeguards against service disruption.

4. Identify all required utility upgrades and their potential impacts on adjacent properties, rights-of-way, or preserved corridors.

5. Describe water sourcing and redundancy, including daily and peak withdrawal rates, cooling technology, seasonal fluctuations, and backup supply strategies.

6. Evaluate long-term grid resilience, lifecycle costs, and equity of service impacts to surrounding users.

iii. Hydrological or Aquifer Study. Where the site is located within a mapped recharge area, relies on private wells, or is within one thousand (1,000) feet of agricultural or residential wells, the applicant shall provide a hydrogeological study that:

1. Evaluates projected drawdown impacts on private wells, shallow aquifers, and groundwater-dependent ecosystems.

2. Analyzes baseflow reduction impacts to streams and Cold Water Fisheries.
3. Assesses cumulative water demand if other high-use facilities are operating or proposed within the same watershed.
4. Identifies potential adverse impacts to wetlands, riparian corridors, and recharge zones, with proposed mitigation measures.

iv. Noise and Generator Protocol. The noise and generator protocol shall include:

1. Projected daytime and nighttime decibel levels at each property boundary and at the nearest residential receptor.
2. A generator testing schedule limited to weekday daytime hours, with advanced neighbor notification procedures.
3. Noise mitigation measures including baffled enclosures, acoustic shielding, and siting of generators away from noise-sensitive uses.
4. Vibration isolation for HVAC, generator pads, and other mechanical systems to prevent nuisance to adjoining properties.

v. Environmental and Land Use Compatibility Report. The report shall analyze the facility's relationship to surrounding land uses and natural systems, including:

1. Maximum impervious coverage and compliance with local stormwater ordinances.
2. Stormwater management BMPs for quantity, quality, and thermal discharge.
3. Visual impact analysis of massing, façade articulation, and sightlines.
4. Noise and heat island contributions.
5. Proposed buffers and transitions, including setbacks, landscaping, and architectural screening.

6. A compatibility summary demonstrating mitigation of adverse impacts on adjacent residential, agricultural, or conservation zones.

vi. Telecommunications Infrastructure Plan. The plan shall document:

1. At least two redundant fiber pathways with physical and geographic separation.
2. Carrier service agreements and future tenant capacity.
3. Trenching and routing plans demonstrating co-location within existing utility or transportation corridors wherever feasible.
4. Avoidance of environmentally sensitive areas, floodplains, and historic landscapes unless no reasonable alternative exists, with mitigation measures.

vii. Community Impact Mitigation Plan. The plan shall evaluate and mitigate broader community impacts, including:

1. Traffic circulation, trip generation, and roadway capacity.
2. Impacts on fire and emergency service demand, with financial or in-kind contributions to offset equipment, staffing, or facility needs.
3. Open space preservation or dedication offsets where siting impacts rural or environmentally sensitive areas.
4. Contributions to public infrastructure such as stormwater upgrades, broadband/fiber expansion, or utility enhancements.
5. Proposed Community Benefit Agreement (CBA) terms, including contribution amounts, disbursement schedule, oversight, and renegotiation conditions.