

Section 138-4.4xxx Data Centers

A. Minimum Acreage and Location –

1. Data centers, such as those commonly referred to as Colocation, Telecom, ~~or~~ Hyperscale Data centers ~~and along with other similarly sized~~ data centers ~~and other similar~~ uses ~~which are a~~ primary use or ~~any~~ data centers, ~~either primary or ancillary~~, that have a capacity of 2 megawatts or more shall be located on a minimum of ten (10) acres within the City's I - Industrial District and shall require conditional use approval.
2. Data centers and other similar uses that are ~~as an~~ ancillary ~~use~~ to and on the same property(s) as an existing use in the City, such as Micro, Corporate or Enterprise Data Centers ~~or data centers and other similar uses and~~ that have a capacity less than 2 megawatts shall be permitted in the City's I - Industrial and EC – Employment Center Districts and shall not be subject to the ten (10) acre minimum lot size and may be allowed as a permissible use in the Industrial and Employment Center Districts.
3. Due to the severity and type of noise generated by a data center, data centers shall be set back 500 feet from any residentially zoned or utilized properties, unless the applicant can prove via an independent 3D acoustic model that their specific technology ~~and method of building construction and site development~~ can meet the required noise limits for each designated timeframe, during maximum load conditions, at the property line, in a shorter setback distance. ~~If the model is found to be acceptable by the City, the shorter setback distance may be utilized, but in no case to a shorter setback distance than the applicable required setback in the applicable zoning district.~~

B. **Screening** - Each property line, adjacent to a residential use or district shall be landscaped consistent with the City's Buffer "E" requirement. The buffer shall include a continuous obscuring earth berm at least 6 feet in height, topped with year-round evergreen screening. Unless otherwise required by the City, the buffer requirement shall be satisfied without the use of a wall, however, the City reserves the right to require an acoustical sound wall ~~or other acceptable sound acoustical barrier~~, in addition to the landscape screening requirements, if the 3D ~~acoustical model~~ indicates a potential for noise exceedance at residential boundaries."

C. **Rooftop or ground mounted HVAC screening standards** - All rooftop ~~and ground mounted~~ HVAC units, chillers, and backup generators shall be housed within fully enclosed screening structures. The screening structure shall include noising dampening materials that have a Sound Transmission Class (STC) of 35 or higher. The screening structure shall be architecturally compatible with the remainder of the building architecture. In addition, any air intake or exhaust fans from the units or the building itself shall be fitted with acoustic louvers or silencers to prevent sound leakage from the fans. ~~All ground mounted units shall also be screened with landscaping, in an amount sufficient to create a "green wall" around each unit or group of units.~~

D. **Noise Standards**

1. Noise generation from the facility shall be limited to a maximum 60 dBA at the property line. However, depending on the ambient noise level throughout the site and at the project perimeter property lines, the continuous noise levels shall not increase the ambient noise level to more than five (5) decibels above the predevelopment ambient noise levels along the project perimeter against the most sensitive receiver. If the ambient noise level fluctuates throughout the day, night, or from day to day, the lowest recorded ambient noise level as depicted in the baseline noise level study shall be utilized, unless it can be shown that the noise generated from the data center can also fluctuate to match those levels, plus five (5) decibels. ~~during the hours of 7:00 a.m. and 10:00 p.m.; from 10:00 p.m. to 7:00 a.m. the noise measured at the property line shall not exceed 40 dBA. The dBC levels shall not exceed 5 dBCs above the noted dBA levels for daytime and nighttime.~~
2. For Colocation, Telecom or Hyperscale Data center sites, the site shall be fitted with sound sensors at the project perimeter property line and at a spacing approved by the City and shall provide real-time data to a web portal accessible to the City.
3. A baseline noise level study, from an independent acoustic engineer shall be provided as a part of the site plan submittal showing the ambient noise and frequency levels of the site prior to construction. This shall include continuous noise and frequency levels, taken along all project perimeter property lines ~~both daytime and nighttime ambient noise levels~~ and shall collect data over a minimum of a consecutive 72-hour period.
4. For Colocation, Telecom or Hyperscale Data center sites, the applicant shall submit a 3D acoustical model ~~sound map~~ showing anticipated noise levels throughout the site and along the project perimeter property lines showing anticipated ~~how~~ noise travels and compliance with required noise and frequency levels.
5. The applicant shall submit an as-built sound test six (6) months after the use is granted the initial certificate of occupancy to show compliance with all applicable regulations and sound standards. If the sound test shows the site is not compliant, the owners/operators of the site shall submit, within six (6) months, a plan as to how site will be brought into compliance with applicable noise regulations.
6. Noncompliance with the City's noise regulations shall be grounds for revocation of the certificate of occupancy if not brought into compliance within an accepted time period as agreed upon by the City and the applicant.

**E. Water Usage (For Colocation, Telecom or Hyperscale Data center sites)**

1. The applicant shall provide modeling that shows the anticipated water usage for the facility on a daily basis. The modeling shall include current water availability rates and pressures for the area of the City the use is proposed. A data center shall not be permitted to utilize well water or be permitted to draw water from a creek or river.
2. The proposed use shall be designed to integrate a closed loop water cooling system, without the need for regular "blowdown" of the system (or other acceptable technology) that limits the daily water usage of the site. The use of evaporative cooling systems or open loop cooling towers are specifically

prohibited. Should there be a need to discharge cooling system water or the remnants of such (i.e. system flush), the discharge shall be tested for total dissolved solids, biocides, and other similar materials. The discharge shall receive the appropriate level of treatment prior to being discharged into the sewer system or stormwater system. This process shall be detailed in a Discharge plan to be submitted for review and approval by the City.

3. The site shall include secondary containment for any piping containing non-potable coolants. The secondary containment system shall be designed to hold 100% of the system's total volume. **The applicant shall also provide a plan acceptable to the city for the discharge or removal of fluids/solids that have been collected in the secondary containment system.**

**F. Electrical Consumption** (For Colocation, Telecom or Hyperscale Data center sites)

1. The applicant shall provide modeling that shows the anticipated electricity usage for the facility on a daily basis. The modeling shall include current electricity available for the area of the City the use is proposed. The submitted modeling information shall be reviewed by the City and DTE.
2. The applicant must provide a Ratepayer Protection Agreement or proof from DTE that the facility's load will not require infrastructure upgrades funded by residential rate classes.
3. If improvements to the electrical grid are necessary, the applicant shall provide a plan as to what improvements are proposed, where those improvements will be located, the timeframe for completion, and how those improvements will be paid for. Unless otherwise approved, any such improvements shall be fully constructed and operational prior to the Certificate of Occupancy being granted for the proposed use.
4. The applicant shall show how alternative, sustainable energy sources are being utilized or have been considered for the proposed project, even if designed to provide partial energy to the project.
5. If an onsite substation is proposed, it must be fully enclosed or screened to the same architectural and landscape standards as the main building unless specifically prohibited by DTE safety or clearance regulations, in which case heavy evergreen landscaping shall be substituted.

**G. Energy Efficiency** (For Colocation, Telecom or Hyperscale Data center sites)

1. To be considered as a conditional land use, the Data Center shall be LEED Certified, BREEAM (Building Research Establishment Environmental Assessment Method) compliant or Energy Star compliant and shall maintain such certification or compliance for the entirety of its operation. **The City may consider alternatives to this requirement provided the intent of providing an energy efficient site is maintained.**
2. A data center shall include a clean energy component, in an attempt to offset, in part, energy consumption for the use.

**H. BESS Storage**

1. If the proposed use proposes to implement the use of Battery Energy Storage System (or similar), the applicant shall provide plans for the type of BESS storage system being proposed, the location, method of screening and provide an emergency response plan to address a partial or complete failure of the system, unless such requirement is specifically waived by the City's Fire

Department. Further, the plans must also show the containment method, in a method approvable by the City, should the BESS storage system fail, leak or otherwise cause the potential for contamination.

2. The emergency response plan must include a **Thermal Runaway Management Plan** and **provide training or funding for training** for specialized training and 'special hazard' fire suppression equipment for the Rochester Hills Fire Department.
- I. **Decommissioning Fund** (For Colocation, Telecom or Hyperscale Data center sites)
1. As a part of any approvals, the applicant shall establish a decommissioning fund for the site. This **may shall** range from the retrofitting/removal of equipment necessary to allow the building to be utilized for more traditional industrial/technological uses to the complete demolition and removal of the building and restoration of the site as agreed upon by the applicant and the City **during the conditional use review process.**
- J. **Indoor/Outdoor Operations**
1. The use of any "containerized" data centers (modified shipping containers or similar) as a permanent use shall be prohibited. All servers and cooling infrastructure must be located within a permanent, fully enclosed building, or roof **or ground** mounted and fully screened in compliance with Section C.
  2. The design of data center sites shall be that ancillary outdoor equipment to support the operation of the data that cannot be located in a permanent building shall be located in a manner that it is naturally screened by the building(s) itself **or through the use of landscaping that creates the effect of a green wall sufficient to fully screen such equipment.**
- K. **Security**
1. Security type fencing may be approved by the City. If the fencing is located in front of the building, the fencing shall be incorporated into the required right of way landscaping. Further, the fencing shall be a decorative nature (i.e. simulated wrought iron) and shall not include barb wire or similar physical deterrents. **Upon review, the Planning Department may approve alternative styles of security fencing that meet the intent of this section.**
- L. **Building Height** (For Colocation, Telecom or Hyperscale Data center sites)
1. The City may allow a building to be taller if applicant can show the additional height is necessary to accommodate additional cooling efforts and therefore will be less energy and/or water consumptive. **Two (2) ~~One (1)~~** additional feet of setback shall be required for each additional foot of height requested. In utilizing this provision, the maximum height shall not exceed fifty five (55) feet.
- M. **Parking:** **Parking requirements for a data center, regardless of type or size, may be reduced by the Planning Commission as a part of the review process and supportive information being provided by the applicant depicting typical daily employees and visitors onsite.**

## Definitions

**Data Center:** A facility used primarily for the storage, management, processing, and transmission of digital data, which houses computer and/or network equipment, servers, data storage devices, and other associated components. This use includes the mechanical and

electrical infrastructure necessary to support the facility's operation, and may also include, but is not limited to cooling systems, uninterruptible power supplies (UPS) or battery energy storage systems (BESS), backup generators, electrical substations, and fuel storage. A Data Center is distinct from a professional office or warehouse use.

**Hyperscale data center:** A data center facility, usually exceeding 50 megawatts of power to support cloud and internet services.

**Colocation Data Centers:** Third-party data center facilities that rent space, servers, and bandwidth to multiple different businesses.

**Telecom Data Center:** A facility focused on networking, routing, and peering, typically providing service to internet and cellular networks and prioritizing the rapid transmission of data and the physical interconnection of different service providers.

**Enterprise or Corporate Data Centers:** Facilities owned and operated by a single business to solely support its own internal IT and data needs and that has a power requirement of less than two (2) MW.

**Micro Data Centers:** Small, localized computing facilities, typically less than 5,000 square feet, that are owned and operated by a single business that occupies the site and is designed to solely support its own internal IT and data needs.

**Sensitive Receiver:** A use or group of uses that are the most sensitive to noise or otherwise require a quieter environment for living, rest, education, worship, healthcare or in some cases recreation.