

CHAPTER 49: ZONING

49-103.3 Definitions

3305 Data Center Facility: This 3300 Use Category is comprised of facilities, whether a single building, or a series of buildings rehabilitated or constructed, which house working servers that primarily provide the storage, management, distribution, and processing of digital data. These facilities include essential infrastructure like networked computers, data storage systems, environmental controls, and security systems. These uses include but are not limited to electronic storage data center facilities and cryptocurrency center facilities.

49-104.3 Conditional Uses And Structures

(a) In General.

(1) In the exercise of its home rule authority and the powers conferred by the Illinois Municipal Code and this ordinance, the city council may, from time-to-time permit by specific ordinance the following conditional uses of land or structures in accordance with the procedures set forth in chapter 34 of this code.

(2) The term "conditional use" as used throughout this ordinance shall be construed as having the same meaning

1 and construction as the term "special use" as used in
2 Illinois law and provisions of this code enacted prior
3 to the effective date of this amendatory ordinance of
4 2020.

5 (3) Whenever the city council has previously approved
6 a special use upon any real property or as part of any
7 planned development, such special use shall be regarded
8 as a conditional use for the purposes of this code.

9 ~~(3)~~(4) Development Agreement. A conditional use for a data
10 center facility is conditioned on the owner entering into
11 an agreement with the City concerning the above required
12 regulations and performance standards, their applicability
13 to the facility, and other germane matters. City staff is
14 authorized to prepare, negotiate, and have the City execute
15 such agreements, the terms of which cannot be inconsistent
16 with the Zoning Ordinance.

17 (b) *Conditional Uses.* The Conditional Uses as identified in
18 Table One: Use Categories shall apply.

19 (c) *Specific Regulations.*

20 * * *

21 (25) Data center facility (3305) as shown in Table One:
22 Use Categories and PDD Planned Development Districts
23 within general industrial areas under the following
24 conditions:

1 a. Applicants must submit, in addition to the
2 application materials otherwise required by the
3 Zoning Administrator, the following reports and
4 studies as part of a conditional use request for a
5 data center facility:

6 i. A baseline pre-development sound study with
7 minimum and maximum dB (A) levels measured for
8 a continuous weeklong period be submitted with
9 the first petitions filed for the development.

10 ii. A Noise Modeling Study completed by a third-
11 party acoustical engineer and submitted
12 demonstrating compliance with the applicable
13 standards to the underlying zoning district
14 and this Section (25).

15 iii. A Water Consumption and Quality Modeling
16 Report completed by a third-party engineer and
17 submitted demonstrating compliance with
18 Illinois Environmental Protection Agency
19 requirements, the applicable standards to the
20 underlying zoning district, and to this
21 Section (25). The study should include the
22 following: proposed water source
23 identification, including but not limited to
24 Municipal potable water supply, surface water

withdrawals, reclaimed or recycled water, and
any supplement or emergency water sources;
estimated average daily water demand (gallons
per day); estimated peak daily water demand;
estimated annual water consumption; seasonal
variability in water use; and projected Water
Use Effectiveness as defined in this Section
(25). This study must also describe water
efficiency strategies, including but not
limited to, cooling system type (e.g., closed-
loop, hybrid, air-cooled, liquid cooling);
water reuse and recycling systems; stormwater
capture and reuse, where feasible; and leak
detection, monitoring, and automated controls.
When closed-loop or hybrid cooling systems are
proposed, the Study shall specify the source
of make-up water; blowdown volumes and
frequency; chemical additives used in cooling
water; temperature and quality
characteristics of any discharged water; and
the method and location of discharge (e.g.,
sanitary sewer, on-site treatment, reuse, or
permitted surface discharge). The Study shall
evaluate potential impacts to water quality,

1 including risks of chemical contamination from
2 cooling system additives, biocides, corrosion
3 inhibitors, and other treatment chemicals;
4 risk of accidental releases or leaks; spill
5 prevention and response measures; and on-site
6 storage and handling practices for water
7 treatment chemicals. The Study shall include
8 a Water Quality Protection Plan outlining
9 secondary containment for chemical storage;
10 monitoring protocols for discharge quality;
11 and emergency response procedures for releases
12 or system failures. The study shall
13 specifically address measures to prevent
14 thermal pollution; measures to prevent
15 discharge of contaminants that may degrade
16 receiving waters; and whether any wastewater
17 pretreatment or cooling is required prior to
18 discharge.

19 i.iv. Energy Consumption Modeling Report
20 completed by a third-party engineer and
21 submitted demonstrating compliance with the
22 applicable standards to the underlying zoning
23 district.

1 b. Chillers must be designed to meet the following
2 requirements:

3 i. Evaporative chillers utilizing potable water
4 are prohibited.

5 ii. Roof-mounted chillers cannot be located
6 within one thousand five hundred (1,500') feet
7 of any residential, hospital or educational
8 use, measured from the nearest part of the
9 sound attenuation screen or parapet of the
10 building to the property line of the
11 residential, hospital or educational use. The
12 authorization of a conditional use for this
13 purpose will not be affected by subsequent
14 establishment of a residential, hospital or
15 educational use within the restricted area
16 established herein.

17 iii. Any ground-mounted chillers cannot be
18 located within one thousand (1,000') feet of
19 any residential, hospital or educational use,
20 measured from the nearest part of the
21 equipment yard to the property line of the
22 residential, hospital or educational use. The
23 authorization of a conditional use for this
24 purpose will not be affected by subsequent

1 establishment of a residential, hospital or
2 educational use within the restricted area
3 established herein.

4 iv. Upon data center decommissioning and use
5 change, obsolete roof-mounted or ground-
6 mounted chillers and associated equipment must
7 be removed.

8 c. Generators must be designed to meet with the
9 following requirements.

10 i. Roof-mounted generators are prohibited.

11 ii. All generators must, at a minimum, comply
12 with the state standards set forth in the
13 Municipal and Cooptative Electric Utility
14 Transparent Planning Act (Public Act 104-0458),
15 or as subsequently amended, including but not
16 limited to Tier 4 emission standards in 415
17 ILCS 5/39(a).

18 iii. All generators must be equipped with
19 vibration isolation systems.

20 iv. Generators cannot be located within one
21 thousand (1,000') feet of any residential,
22 hospital or educational use, measured from the
23 nearest part of the equipment yard to the
24 property line of the residential, hospital or

1 educational use. The authorization of a
2 conditional use for this purpose will not be
3 affected by subsequent establishment of a
4 residential, hospital or educational use
5 within the restricted area established herein.

6 v. Upon data center decommissioning and use
7 change, obsolete generators and associated
8 equipment must be removed.

9 d. Data Center Facilities must be designed to meet the
10 following performance standards:

11 i. Noise Standards.

12 1. Data center facilities must comply with
13 all federal and state regulations related
14 to noise thresholds. In additional noise
15 levels must not exceed the following
16 constant-minimum noise thresholds as
17 measured at the facility property line:

18 i. Daytime hours 59 dB (A)weighted 7am-
19 7pm; and

20 ii. Nighttime hours 49 dB (A)weighted
21 7pm-7am.

22 ii. Vibrations Standards. Data center facilities
23 must have continuous vibration monitoring at
24 spacing of no less than 500 feet along all

property lines within 1,000 feet of residential, hospital or educational uses.

iii. Energy Usage Standards.

1. Data center facilities must be designed to maintain a Power Usage Effectiveness of no more than one and two-tenths (1.2).

As used in this Chapter "Power Usage Effectiveness" or "PUE" is defined as the ratio of total building energy consumption divided by the total Information Technology equipment (servers, switches, storage devices, etc.).

2. Data centers must be designed to comply with the energy code requirements specified in whichever of the following is most stringent:

i. The latest adopted International Energy Conservation Code (IECC);

ii. The latest published ASHRAE Standard 90.4 (Sections 6 & 8); or

iii. Illinois-specific data center energy code requirements adopted by rule, which may include more

1 detailed criteria such as
2 Mechanical Load Component (MLC) and
3 Electrical Load Component (ELC)
4 measures.

5 3. Modular nuclear reactors, small modular
6 reactors or any other nuclear-based
7 energy are prohibited.

8 iv. Water Usage Standards. Data center facilities
9 must maintain a Water Usage Effectiveness of
10 no more than two tenths (0.2). As used in this
11 Chapter, "Water Usage Effectiveness" or "WUE"
12 is defined as the ratio of total potable
13 building water consumption (liters) to
14 Information Technology equipment (kilowatt-
15 hour).

16 e. Screening. Except as expressly modified below,
17 data center facilities must be designed to comply
18 with the following requirements:

19 i. Roof-mounted mechanical equipment must be
20 fully enclosed on all sides by a sound-
21 attenuating screen or parapet equal in height
22 to, or taller than, the tallest roof-mounted
23 chiller or associated mechanical equipment,
24 and must be designed to blend with the

1 architectural style, materials, and color of
2 the building.

3 ii. Ground Mounted Mechanical Equipment must be
4 fully enclosed on all sides by a sound
5 attenuating wall extension or other sound
6 attenuating enclosure, subject to approval by
7 the zoning administrator, equal in height to,
8 or taller than, the tallest ground-mounted
9 chiller and generator or associated mechanical
10 equipment and must blend with the
11 architectural style, materials, and color of
12 the building.

13 f. On-Site Renewable Energy and Resilience Requirement.

14 i. All new or expanded data centers shall install
15 and operate, at a minimum, one of the
16 following:

- 17 1. On-Site Clean Energy: On-site renewable
18 energy generation with a nameplate
19 capacity sufficient to supply not less
20 than twenty-five percent (25%) of the
21 facility's peak electrical demand, as
22 demonstrated in the approved electrical
23 load study; or

1 2. On-Site Resilience Storage: On-site
2 energy storage capable of supplying not
3 less than fifty percent (50%) of the
4 facility's peak electrical demand for a
5 minimum duration of fifteen (15) minutes,
6 for purposes including grid
7 stabilization, brownout mitigation, and
8 peak-load support. Energy storage
9 systems shall be configured to prioritize
10 discharge during utility-declared peak
11 events and grid emergencies to reduce
12 localized voltage sag, transformer
13 overload, and outage risk in surrounding
14 neighborhoods.

15 ii. Feasibility Alternative Compliance. Where the
16 applicant demonstrates, through a third-party
17 feasibility analysis approved by the City,
18 that on-site installation is infeasible due to
19 site constraints, safety limitations, or grid
20 interconnection restrictions, the applicant
21 shall comply through one or more of the
22 following off-site measures, subject to
23 approval by the City:

- 1 1. Procurement of new renewable energy
 2 generation located within the regional
 3 grid serving the municipality, under
 4 long-term contract, in an amount equal to
 5 the on-site requirement;
 6 2. Investment in distributed energy
 7 resources or community-scale battery
 8 storage projects located within the
 9 municipality or its utility service area.

10 * * *

11 3305 Data Center Facility

E	R-1	R-2	R-3	R-4	R-4A	R-5	R-5A	B-1	B-2	B-3	O	DC	ORI	M-1	M-2	Additional Regulations
																<u>Section 49-104-3(c)(25)</u>

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