

MEMO

TO: Jeffrey Leatherman, Deputy City Administrator
CC: David Davidson and Joseph Cusack, City Attorneys
FR: Michelle M. Alexander
RE: Summary of Additional Finding and Potential Text Amendment v2, Data Centers
DA: June 9, 2026

Summary of Additional Findings. Through the public hearing process, additional information regarding the impact of data centers emerged. Based on further findings, Staff recommends regulating data centers based on categories of power usage (quantity of megawatts or MW's). The original language categorized data centers by size.

The key noise impact generated by data centers stems from the systems required for cooling and energy redundancy. The literature indicates the sound disturbance for data centers requiring 1 MW is the equivalent of that of a typical grocery store. An average hospital uses between 2 MW and 5 MW. At approximately 15 MW and above, facilities transition to industrialized grade cooling systems, generating more intense noise nuisance.

Further, best practice suggests that the required noise studies include both dBA and dBC¹ measurement (45 for dBA and 65 for a weighted dBC), because of the low-frequency hum that dBA monitoring does not register (typically under 250Hz). Accordingly, operations standards should also include the requirement of specialized lower noise fans or acoustic louvers and back up generators should feature hospital-quality acoustic architectural elements. A densely planted 100 foot buffer can reduce sound by up to 10 decibels (dB).² However trees do not mitigate against low-frequency noise so an acoustic wall should also be required.

Staff was requested to define the differences between a server closet and data centers: A data center aims to support large scale IT infrastructure, whereas a single organization server room provides a smaller localized space for an internal server system. It may house 10-150 servers, while a data center can contain thousands. The determination of "large scale" depends on the need for industrialized cooling systems and the amount of power required to fuel them and the servers. **Anything that requires less than 1 MW should be**

¹ Hessler,G (2004) "Proposed Criteria in Residential Communities for Low-Frequency Noise Emissions from Industrialized Sources.". Noise Control Engineering Journal 52(4).

²Stell, A (2026). "Using Trees and Shrubs to Reduce Noise...". Iowa State University Extension and Outreach.

excluded from the definition of data centers; data centers specifically are regulated for the purpose of mitigating negative externalities. Smaller operations using 1 MW or less in power load will not necessitate the large cooling systems and loud back-up generators.

A data center supports continuous operation with redundant power, cooling networking and backup systems and usually includes backup generators, uninterruptible power supplies and cooling units. A server room – also referred to as an Intermediate Distribution Frame (IDF) - relies on its host building’s existing power, cooling and network infrastructure. They may have limited redundancy. Generating less heat, they rely on HVAC systems to regulate environmental conditions.

Recommended Revised Framework

Proposed new definition.

A facility containing one or more large-scale computer systems dedicated to operating data or for storing and managing data for off-site users. For purposes of these regulations, “large scale” refers to facilities with heavy loads of 1 MW or more of electrical demand. Data center equipment includes back-up batteries and/or power generators, cooling units, fire suppression systems and enhanced security features. For purposes of this code, data server rooms for internal users without a substation and consuming less than 1MW of energy use are **explicitly exempt** from this definition of data centers.

Classification	MegaWatts	Distance from Residential
Exempt	<1 MW and hospitals	N/A
Tier 1	1-4 MW	200
Tier 2	5 – 20 MW	1,000

Proposed additional standards. The prior draft did not require additional buffer dimensions (only additional planting standards). The recommended revised draft proposes additional buffers as follows:

MegaWatts	Total Planted Tree Buffer
Tier 1	100 feet
Tier 2	200 feet Plus an 8 ft acoustic wall at the property limit (may be waived if post construction noise less than 50 dB)