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Memorandum

DATE: December 8, 2025

TO: Springfield Township Planning Commission

FROM: Julia Upfal, AICP and Stephanie Osborn, AICP

SUBJECT: Zoning for Data Centers

Introduction

More data centers are needed to meet consumer needs due to the increasing use of artificial intelligence (AI) and online storage and computing/processing. Many are seeking to locate in Michigan due to the tax incentives provided by the state. These uses can pose environmental concerns and create nuisances, which must be regulated at the local level through zoning.

Most Michigan communities, including Springfield Township, are unprepared for the growing economic pressure to construct new data centers and lack zoning standards to ensure they are properly sited and regulated in a manner that reduces impacts to the surrounding community. While Springfield Township does have provisions for data centers, they are treated the same as most professional office uses, which does not account for their unique operational characteristics and need for a more rigorous review process. This underscores the need for new zoning standards that address the scale and intensity of these developments.

Given the expansion of data centers in Michigan and interests in the Township, this memo provides background on data center impacts and potential issues to be aware of. A general overview of data centers, what they are, types of data centers, how they are different from industrial buildings, and options for regulating them are discussed in the newsletter that is attached.

Current Regulations

In Springfield Township, data centers are listed as a principle permitted use in the O-S, C-1, and C-2 Zoning Districts (all uses that are permitted in O-S are also permitted in C-1 and C-2). Specifically, the use is identified as, “Data processing and computer centers including the servicing and maintenance of electronic data processing equipment.”

The ordinance does not include any additional use standards or regulations tied to data centers.

Next Steps

The Planning Commission should review the existing standards and consider how the regulations could be updated. During this time, the Township Board may consider whether it is appropriate to issue a moratorium on data centers, giving staff and planning commission the opportunity to thoroughly study these uses and develop regulations.

As the Planning Commission deliberates how to regulate data centers, the following items should be studied. The Planning Commission may wish to discuss a strategy for proceeding with this type of study over the course of several meetings. At the next meeting, we can provide draft language to provide a foundation for further discussion.

- **Accessory vs. Principal Use.** Communities should have different standards for data centers as accessory or principal uses. Accessory use data centers are typically constructed to serve the principal use on the property, whereas principal uses typically provide data processing and

storage to service users that are offsite. Principal use data centers are typically much larger in scale, impact, and infrastructure needs than accessory use data centers. The Planning Commission should draft regulations that address both accessory and principal data centers; we recommend that accessory use data centers be defined as uses that are located within the principal building and should only be permitted to serve the uses that are on-site.

- **Area.** Data centers are often built as campuses with multiple buildings. This allows for greater efficiency in infrastructure, such as cooling and back-up energy, but requires more land than a standalone building. In addition, data centers require significant buffers to protect adjacent properties from adverse impacts, further expanding their footprint. The Planning Commission may consider a minimum lot size to ensure that data centers are concentrated in suitable areas rather than scattered throughout the community.
- **Placement.** The Planning Commission will determine which districts may be appropriate for data center uses. Right now, they are listed as permitted uses in the O-S, C-1 and C-2 Districts, which are generally intended for office or commercial uses. Data centers are fundamentally different from typical office or commercial establishments; beyond their intensive operational characteristics, the absence of employees and traffic may impact the vibrancy of a commercial corridor. Instead, the Planning Commission may consider whether data centers are better located in the M-1 or M-2 industrial districts or if a new zoning district or overlay district is needed to ensure they are placed appropriately. While data centers are typically compatible neighbors in industrial districts, additional standards will be important to ensure that noise, energy consumption, and site layout are carefully designed to reduce the possibility for unintended offsite impacts.
- **Phasing.** Data centers are often constructed in phases over the course of several years, especially larger campuses. The Planning Commission should consider the appropriate process for reviewing phased developments. We recommend that applications include an area plan that includes the roads, infrastructure, and open spaces within the development. Once the area plan is approved, each building would then require its own subsequent site plan which must be approved within a certain time before permit issuance. By using an area plan, the Planning Commission and Township Board will not feel committed to later project phases without understanding the surrounding context.
- **Water use.** Data centers use water to cool the buildings and equipment used for data processing. Non-potable and recycled wastewater can be used for this purpose, reducing the impact on the local drinking water supply. Access to water is often a consideration when siting data centers. If runoff is created from the cooling system, a wastewater discharge holding and treatment area is needed unless connection to a municipal sewer system is available. Municipalities can prohibit water-wasteful evaporative cooling technologies and require data centers to use a closed-loop cooling system to reduce the water needs of the operation. However, closed-loop systems tend to require more energy than evaporative cooling. In addition to the system itself, communities may require all applicants submit data on expected water use and water sources, with water use effectiveness measurements shared at least quarterly. An environmental impact statement may be required that includes details on potential impacts to water resources (both surface and groundwater), as well as air quality and surrounding wildlife. Beyond local regulations, any data center with the capacity to withdraw 100,000 gallons a day must be registered under EGLE's water usage program; larger withdrawals in excess of 2,000,000 gallons per day require a full water withdrawal permit
- **Energy use.** Data centers use a lot of energy to process and store user information, respond to user tasks, and cool the site. It is estimated that almost half of the energy used by data centers is for cooling. Current federal regulations limit the energy demand of new customers to an amount that does not impact the reliability or availability of energy to an existing customer. Therefore, data center operators often seek to produce their own energy on-site to offset the need from the local utility provider. Locating data centers near high-capacity substations is an important consideration. Municipalities should encourage the use of renewable energy or battery storage when new data centers are constructed.

- **Noise.** The cooling equipment can produce ongoing background noise. This is generally mitigated through screens and barriers that reduce the noise. Additionally, backup energy sources (typically generators) that are needed to ensure that the data center can keep operating even if the local energy source is not available can be noisy when in use and during regular testing. Testing hours can be limited to daytime hours to reduce the impact of noise on neighbors. Some communities require noticing for any generator testing. A noise study and post-construction noise study may be required to ensure that noise levels are compliant with local regulations.
- **Proximity to sensitive uses.** Similar to other industrial uses, there are some uses such as residences, schools, and hospitals that would not be compatible with a data center nearby because of the potential for noise, truck traffic, visual impacts, and security related to the low level of human activity. Requiring buffer distances between data centers and residences, schools, hospitals, and other incompatible uses can mitigate the impacts on these uses. Landscaping and screening are other tools to reduce impacts of these uses on neighbors. Setbacks for data centers typically include 100-200 feet of distance; when larger setbacks are used, it may be desirable to include a mechanism for the Planning Commission to grant relief if offsite impacts are mitigated.
- **Security and lighting needs.** Similar to other utilities, data centers must be highly secured spaces. Often this includes strict protocols to allow entry to employees and visitors such as checking in with a guard at the entrance to the site and the building. Security systems may include infrared surveillance cameras and tall security fences around the property. The height, style, and other details about the fence, as well as lighting requirements, can be included as standards associated with the use. Any lighting standards should recognize the need for lighting for safety and security, while ensuring that excess lighting does not impact Dark Skies or surrounding properties.
- **Parking needs.** The construction of data centers often requires quite a few workers, but once completed, few people are typically employed there. Therefore, the parking needs for the site are limited. For this reason, it is important that the parking requirements do not result in excess or unnecessary parking spaces that hamper site development and create excess stormwater runoff. The parking needs at different phases of the construction and operation will need to be considered, as construction of the site frequently requires more employees compared to those needed for operations once built.
- **Decommissioning requirements/Preparing for adaptive reuse.** Data centers are an evolving technology, with innovation happening as more and more computing power and storage space is needed to support an ever-increasingly connected world. Construction that is in-demand today may quickly become obsolete due to how quickly technology changes and updates. With that, these types buildings are constructed in a manner that is not easily adaptable. Without the bathrooms, windows, or flexible interior layouts, repurposing these structures may be difficult. Requiring a plan for decommissioning data centers that are no longer operational may be desired to ensure the site will be usable beyond the life of the data center.
- **Building materials.** Hidden behind tall fences and landscaping, and maintained by just a handful of employees, it would be tempting for data center operators to build buildings that are not very aesthetically pleasing or aligned with the character of the area. However, many communities choose to hold data centers to quality building and design standards to make the buildings easier to repurpose and more compatible with surrounding areas. Architectural design and building material requirements can require developers to create buildings that meet the aesthetic desires and characteristics of the area.
- **Building height.** Buildings housing data centers often need to be tall to allow for efficient cooling systems. Communities may choose to limit the height of data centers, but permitting taller buildings may enable greater efficiency in land use/consumption. This can make the buildings seem out of place if they are not located in an area that allows for other taller buildings. While setbacks and landscaping are strategies to help mitigate the impact of tall massing, building height should be a consideration when determining a contextually appropriate location to permit these uses.

- **Natural Resources.** Since data centers require such extensive land area, it is important to review potential ecological impacts. With that, Springfield has stringent regulations overseeing any development within an area identified on the Michigan Natural Features Inventory as a resource protection area.
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Other Resources

Washtenaw County Board of Directors Preliminary Toolkit for Municipal Data center Planning in Washtenaw County

This 5-page document outlines tools municipalities can use to plan for data centers, manage their development, and deliver community benefits. It also has several model ordinances and a list of recommended requirements for municipalities to require of data centers prior to approval.

Example Zoning Standards

Communities throughout the country have worked to regulate data centers in various ways. Below are some examples of communities who have zoning regulations for data centers and a list of key highlights from their ordinances. See the Preliminary Toolkit above for more examples of model ordinances.

- New Albany, OH – Data centers permitted in GE General Employment district and conditionally permitted in the LI Limited Industrial district (Data centers are lumped with general office activities in the GE and LI district); No separate use standards specific to data centers
- Loudoun County, VA (Known as Data Center Alley) – Data centers allowed within an overlay district; Defines “data center”; Requires building standards including differentiated surfaces, consistent design, fenestration, green wall treatment, screening of mechanical equipment, main entrance features; Utility and transportation requirements; Setbacks and building massing requirements when adjacent to residential; Generator noise limits when adjacent to residential; Light and glare standards; Noise studies and soundproofing requirements