

PLANNING AND ZONING COMMISSION AGENDA ITEM

ACTION REQUESTED:

Reconvene the public hearing, begin petitioner and public testimony, and continue the public hearing for 1960 Lucent Lane to October 15, 2025 (Karis Critical Data Centers) – DEV-0057-2025

DEPARTMENT: Transportation, Engineering and Development

SUBMITTED BY: Sara Kopinski, AICP

ENTITLEMENTS REQUESTED:

1. A conditional use pursuant to Section 6-8B-3 of the Code to allow the operation of 2 data centers;
2. A variance from Section 6-9-3 of the Code to reduce the required parking for a data center from 211 spaces per building to 60 spaces per building;
3. A variance from Section 6-2-12:3 of the Code to permit an increase in the height of the proposed equipment yard screen walls from 15 feet to a maximum of 22 feet; and
4. A variance from Section 6-2-12:4 of the Code to permit an increase in the height of the security fence for the Phase 2 private electrical substation to a maximum of 8 feet.

BOARD/COMMISSION REVIEW:

Official notice for the public hearing for DEV-0057-2025 was published in the Naperville Sun on Sunday, August 3, 2025.

On Wednesday, August 20, 2025, the PZC opened and continued the public hearing for DEV-0057-2025 to the September 3, 2025, Planning and Zoning Commission.

BACKGROUND:

The subject property consists of approximately 40.87 acres of vacant land located at 1960 Lucent Lane. It is currently zoned ORI (Office, Research and Light Industry District) and is located along the City's I-88/Diehl Road corridor. The I-88/Diehl Road corridor is largely developed with buildings used for office or institutional purposes.

Karis Critical Member, LLC proposes development of a data center campus on the subject property. The data center campus will be comprised of one or more buildings used for the warehouse of computer systems and associated components that process and distribute large amounts of data and a utility substation (to the extent required for the support of the data center). The project is anticipated to be constructed in phases, with the west data center being constructed first, and the east data center and utility substation being constructed in the future, depending on the availability of necessary utility infrastructure.

The City's Land Use Master Plan (LUMP) designates the subject property as Medium Density Residential; however, this designation does not override the property's current zoning designation of ORI. No zoning changes are being requested with the petitioner's proposal; data centers are listed as a conditional use in the ORI district as further discussed below.

DISCUSSION:

Prior ORI Amendments

In 2023, the City Council passed Ordinance No. 23-091 amending the ORI District's zoning regulations in the Naperville Municipal Code ("Code"). Amongst other changes, the 2023 ORI Amendment classified data centers as a conditional use in the ORI district and established "Required Conditions" for conditional and permitted uses in the ORI district. Classifying data centers as a conditional use subjects them to review by the Planning and Zoning Commission (PZC) and City Council to determine if the use is appropriate for the proposed location based on the specifics of the case presented. The PZC and City Council may approve a conditional use subject to conditions imposed to would mitigate any adverse impacts related to the proposed use.

The Required Conditions provided in Section 6-8B-4 (ORI/Required Conditions) of the Naperville Municipal Code promote review of the following components: property location; anticipated truck and customer traffic and parking generation; current and proposed roadway capacities; site access; visibility of the property from major thoroughfares; proposed building design; and other criteria determined to be necessary. Conditions that could be imposed to mitigate potential adverse impacts of proposed conditional uses may include: additional landscaping; improved building elevations and/or materials; access restrictions or additional access; directional signage; increased setbacks; improved lighting; and/or change in building orientation.

Conditional Use

The intent of the ORI Zoning District is to provide for a mix of uses directed toward research and development activities, engineering and testing activities, and office uses. The proposed development is found to be consistent with this intent as data centers have been identified as a critical component in the evolution of technology. The petitioner indicates that data centers are the backbone to the operation of cloud computing, e-commerce, and global connectivity.

The subject property was previously developed with Lucent Technologies, a telecommunications company, but has been vacant in recent years. The proposed data center campus is intended to reestablish the property as a technologically advanced site that serves businesses in the surrounding region while driving tax revenue for the City.

Pursuant to Section 6-8B-3 (ORI/Conditional Uses) of the amended Naperville Municipal Code, the petitioner requests approval of a conditional use for two data centers in the ORI zoning district. The proposed site improvements comply with the required setbacks and bulk regulations set forth in the ORI district. During staff's review of the proposed data center campus, consideration was given to ensure the proposed development can be adequately served by public facilities and services (including streets, public utilities, stormwater and drainage facilities, etc.) and to the following design components:

Site Design

- **Building elevations:** The petitioner proposes two data center buildings that are mirror images of each other. Each building will consist of approximately 211,000 square feet, including a 30,000 square foot office component. Following discussions with staff, the petitioner incorporated additional elevation

enhancements to ensure the data center buildings were consistent with the established character of the I-88/Diehl Road corridor. Office components have been strategically oriented towards the intersection of Warrenville Road and Naperville Road, a gateway to the City of Naperville. The office components include a glass curtain wall with metal panel accenting that wraps two corners of each building to create an appearance that is consistent with the traditional office operations in the corridor.

To better articulate the primary facades and add visual interest, the front elevations include ground floor and upper story windows, and vertical aluminum drain covers. The massing of the primary facades will be further broken up with foundation plantings and installation of ornamental trees adjacent to the building.

Staff recommendations: *Staff is appreciative of the building enhancements proposed. Due to the property's gateway location on the City's I-88/Diehl Road corridor, staff recommends the petitioner work with staff to determine if any additional building enhancements can be incorporated to better reflect the technologically advanced nature of the data center campus such as accent lighting or decorative building elements. Staff also recommends the Petitioner coordinate with staff and the Naperville Development Partnership (NDP) to install gateway signage at the intersection of Naperville Road and Warrenville Road to meet recommendations of NDP's I-88 Corridor Study and welcome residents and visitors to Naperville. Both the building and signage enhancements will be required to be addressed prior to issuance of any building permits for the subject property.*

Lastly, as a condition of approval, staff recommends that the petitioner be required to increase the height of the building's parapet walls to the full height of the rooftop mechanical units and incorporate any recommended sound dampening features within the parapet walls as further discussed below.

- **Setbacks and Landscaping:** The 2023 ORI Amendment identified increased setback requirements as a potential condition that could be considered when evaluating a conditional use in the ORI zoning district. The proposed data center buildings measure approximately 46 feet in height to lowest part of the roof deck. The ORI zoning district requires buildings of this height to maintain a setback of approximately 35 feet from adjacent roadways, and approximately 25 feet from interior and rear property lines.

The proposed data center buildings maintain setbacks ranging from 267 feet to approximately 320 feet from Naperville Road and Warrenville Road, and nearly 160 feet from Weatherbee Lane, far exceeding the ORI zoning district's requirements. The buildings and equipment yards also maintain more than a 100-foot setback from the rear property lines on the north side of the subject property.

Each of these setback areas are landscaped with a mixture of shade trees, evergreen trees, ornamental plantings and other features including a rain garden, wet meadows and stormwater management areas to provide additional buffering and screening.

Adjacent to Weatherbee Lane, which is across the street from recently constructed townhomes in Naper Commons, the petitioner proposes a 100-foot wide,

landscaped berm. The top of the berm along Weatherbee Lane is a consistent elevation, but the road itself is sloped for drainage. As such, the height of the proposed berm relative to the roadway is between 6.5 feet and 8.5 feet. The berm is intended to create a buffer between the proposed data center Campus and the townhomes. The berm will be planted with evergreen and ornamental trees facing the adjacent residential homes. Shade trees will be planted on the data center side of the berm and will grow to more substantial heights, providing a second layer of screening.

The proposed site plan also preserves the stormwater management basins along both Warrenville Road and Naperville Road.

Staff recommendations: *Staff finds the proposed setbacks and landscaping to exceed code requirements. Compliance with the site and landscaping plans will be a conditional of approval. Any future changes proposed to these plans will be subject to review in accordance with Section 6-3-8:5 (Changes to Approved Conditional Uses) of the Naperville Municipal Code. As additionally noted above, staff recommends the Petitioner coordinate with staff and the Naperville Development Partnership (NDP) to install gateway signage at the intersection of Naperville Road and Warrenville Road. Landscaping with four season interest should be planted around the sign for further beautification.*

- **Stormwater:** The proposed development is required to, and complies with, the DuPage County Stormwater Ordinance. The County ordinance is structured to require additional detention and water quality improvements (PCBMPs) only when the development increases the impervious surface area on the property. Per the approved plans for Phase 1 of the development, there will be a reduction in the impervious area of over 300,000 square feet, therefore no additional stormwater facilities are required. The existing stormwater basin in the southeast corner of the site will remain intact and function as it currently does. Stormwater will be reevaluated when construction of the second phase of the development begins.

Staff recommendations: *Staff finds the proposed stormwater management plan to be sufficient for Phase 1 of the data center campus and recommends that stormwater be reevaluated when the petitioner proceeds with Phase 2 of the development proposal.*

- **Noise:** To ensure noise associated with operation of the data center campus does not impact nearby residents, the petitioner submitted a Noise Impact Assessment. Based on staff review, the study appears to confirm that the total noise contributions from the proposed data center development remain below the City's required performance standards outlined in Section 6-14-4:1 (Standards/Noise) of the Code. It finds the noise levels produced by the facility for daily, nighttime, and most intense hour, are below the preexisting background noise measured surrounding the subject property. As a result, the data center is not anticipated to cause nuisance noise levels, and receptors near the proposed data center are unlikely to perceive any significant increase in baseline noise levels under standard data center operations.

To mitigate sound emitted from equipment yards, a twenty-two-foot screen wall will be constructed around the equipment yards, in the rear of the data center buildings. The screen walls will mitigate potential visual or audible issues surrounding the operation of generators. The petitioner has specified that generators are used solely in the event of a power outage or for periodic testing to ensure their operation. Furthermore, it should be noted that the existing Nokia Campus includes both enclosed and unenclosed equipment yards proximate to Lucent Lane and Weatherbee Lane.

Staff recommendations: *While the submitted Noise Impact Assessment appears to confirm that the total noise contributions will comply with code requirements, the City has received many public comments expressing concerns about noise associated with data center development. In response to these concerns, staff is in the process of securing a third-party sound engineer to review the petitioner's Noise Impact Assessment, verify the data center campus will operate in compliance with City regulations identified in Section 6-14-4:1 of the Municipal Code, and determine if any additional improvements are recommended to mitigate potential noise impacts.*

Staff recommends the public hearing for DEV-0057-2025 be continued to October 15, 2025, to allow enough time for the sound engineer to be selected and provide them with adequate time to complete their analysis of the Noise Impact Assessment.

- **Truck traffic:** One of the goals of the 2023 ORI Amendments was to limit uses that significantly increase truck traffic, large off-street loading areas and truck docks on properties zoned ORI, as truck-oriented spaces are designed in manner distinctly different from existing office and institutional uses in the City's I-88/Diehl Road corridor. The proposed data center campus will generate minimal truck traffic, and each building is served by only two loading docks, minimizing any negative impacts truck traffic has on surrounding properties. Staff finds the proposed data center's truck traffic to be minimal and therefore consistent with the character of ORI-zoned properties.

Staff recommendations: *Staff finds the amount of truck traffic to be generated by the development to be acceptable; staff will include a condition noting that any additional loading docks proposed will be subject to review and approval in accordance with Section 6-3-8:5 (Changes to Approved Conditional Uses) of the Naperville Municipal Code.*

- **Access:** The subject property is located within an established office corridor, adjacent to two major arterial roadways, Naperville Road and Warrenville Road. To ensure adequate access and circulation will be maintained following development of a data center campus, the petitioner provided a Traffic Impact Study. The Traffic Impact Study examined background traffic conditions, assessed the impact that the proposed development will have on traffic conditions in the area, and determined if any roadway or access improvements would be necessary. The proposed development is projected to generate a low volume of traffic, especially when compared to the previous use of the site as a multi-story office

building. As a result, the proposed access system is found to adequately accommodate any traffic generated by the data center campus.

Staff recommendations: *Staff finds site access to be adequate to accommodate the proposed data center campus.*

Utility Impacts

- **Water:** The proposed data centers will use a closed loop cooling system which is considered a highly efficient method that uses a contained liquid to absorb and remove heat directly from IT equipment. Unlike traditional air-cooling, which moves heated air out of the building, a closed-loop system recirculates the same liquid within a sealed environment. This approach is more effective, energy-efficient, and reduces water consumption because it doesn't rely on evaporation to dissipate heat.

How it works:

In a closed-loop system, a fluid - often a specially formulated dielectric fluid or treated water - is circulated through a sealed network of pipes. This system consists of several key components:

- **Coolant:** The liquid that absorbs heat. It's chosen for its thermal conductivity and non-corrosive properties.
- **Cold Plates:** These are small heat exchangers that are attached directly to the hottest components of a server, such as CPUs and GPUs. The coolant flows through these plates, absorbing heat directly from the chip.
- **Heat Exchangers:** The heated coolant is pumped to a heat exchanger, which transfers the thermal energy to another medium, like air or a separate, larger water loop. This is where the heat is eventually rejected, often to the outside environment.
- **Pumps:** These circulate the coolant continuously through the system, ensuring a constant flow of cool liquid to the components.
- **Cooling Distribution Unit (CDU):** A CDU is a crucial part of the system that manages the flow, temperature, and pressure of the coolant, acting as a central control point.

The primary advantage of this system is that the liquid never comes into contact with outside air, minimizing evaporation and contamination. The same fluid is used over and over, requiring only a small amount of "makeup" water to account for minor leaks.

This type of system should not create a large water consumption demand nor will it place undue pressure on the existing water supply and distribution systems. Furthermore, the City's Department of Public Utilities – Water confirmed that the proposed data center will utilize approximately 5000 gallons of water per day, which is substantially less than prior buildings on the property that had a historical average of 94,131 gallons per day.

Staff recommendations: *Staff does not have concerns with the development's anticipated water consumption.*

- **Electric:** Data center development often requires significant upgrades to electric utility infrastructure. To ensure the City's electric utility has adequate capacity to serve the Phase 1 data center building, the City has commissioned an interconnection study. The interconnection study was fully funded by the petitioner/proposed customer to analyze the existing infrastructure of the electric utility and concluded that there is sufficient capacity available on the Naperville system to accommodate the proposed Phase 1 data center building.

The City ensures residential, commercial and other rate payers do not assume the construction costs of adding new facilities by requiring all new customers pay their own connection fees. The Developer will be responsible for all interconnection costs, including any costs to improve the system as a whole so that they can be reliably served without jeopardizing any other customers. All fees are required to be paid prior to construction beginning.

One concept discussed at the August 19, 2025, Naperville City Council meeting was the inclusion, in negotiations with the Illinois Municipal Electric Agency (IMEA), of an option for the City to increase its permissible member-directed resources in proportion to any increased energy load resulting from the addition of significant energy-usage customers, such as data centers. The logistics of implementing this option are currently under review from rate and legal perspectives.

Staff recommendations: *Staff does not have electric concerns applicable to Phase 1 of the proposed data center campus. However, given the lack of available electric capacity and the required infrastructure improvements required for a second data center, staff does have concerns with the requested approval of Phase 2 of the proposed data center campus at this time.*

FPDDC - Forest Preserve District

The development plans for the proposed data center campus have been shared with the Forest Preserve District of DuPage County (FPDDC) for their review and comment. The FPDDC has provided a written response to the petitioner's proposal, outlining recommendations for the photometric plan to adopt recommendations as set forth by the International Dark Sky Association and Dark Sky Society, as well as refrain from using asphalt sealants that contain coal tar products to minimize threats to plants and wildlife.

Staff recommendations: *The petitioner's proposed photometric plan complies with the requirements identified in Section 6-14-4:3 of the Naperville Municipal Code. Staff believes the petitioner's current photometric plan is dark sky compliant but recommends that the petitioner be required to provide written verification of dark sky compliance to ensure minimal lighting impacts on nearby Forest Preserves. Staff will additionally include a condition of approval requiring the property owner to refrain from using asphalt sealants that contain coal tar products on the subject property.*

Phasing

The petitioner proposes developing the data center campus in two phases. Phase 1 will include construction of the building located in the southwest portion of the site, accessible

from Freedom Drive (West Lucent Lane). Phase 2 will consist of the second building on the east portion of the site, and an electrical substation (to the extent required for the support of the data center). The construction of Phase 2 is dependent on the availability of electric capacity in the future.

Staff Recommendations: Staff understands that Phase 2 of the proposed project cannot be constructed at this time due to the additional electrical capacity required, the need for additional studies to be completed, and construction time. As a result, staff finds the second data center building cannot be adequately served by public facilities at this time and recommends approval of only one data center (Phase I) at this time. Staff recommends that the petitioner be required to submit a new conditional use application for Phase 2 at a future date, once adequate electrical power is available and any unforeseen issues that may arise with Phase 1 have been addressed.

Requiring the petitioner to seek approval of a second conditional use in the future, when construction for Phase 2 is feasible, will require them to return to the Planning and Zoning Commission for another public hearing prior to City Council review and approval. This approach provides the City with an opportunity to re-evaluate the proposal and address any potential impacts that result from operation of the first data center that the City may be unaware of at this time.

Findings of Fact

The petitioner's responses to the Standards for Granting a Conditional Use can be found in the attachments. Upon review, staff agrees with the petitioner's Findings as they relate to the Phase 1 building and recommends their adoption by the Planning and Zoning Commission.

Staff recommends that the petitioner be required to submit a new conditional use application for Phase 2 at a future date, once adequate electrical power is available and any unforeseen issues that may arise with Phase 1 have been addressed.

Variances

Parking

The petitioner requests approval of a parking variance from Section 6-9-3 of the Code to reduce the required parking for a data center from 211 spaces per building to 60 spaces per building. To support the requested variance, the petitioner has submitted a parking evaluation that outlines employment shifts and employee counts. Each building will have approximately 40 to 45 employees working the first shift, 6 to 10 employees working the second shift, and 6 to 10 employees working the third shift. The maximum number of employees to be working at each of the data center buildings is estimated to be 40 to 45 people and will occur during the first shift.

Providing 60 parking spaces per building is expected to be sufficient for data center operations. However, in the unexpected event that the parking provided is not sufficient, the petitioner proposes a land banked area reserved for any necessary future parking expansions.

Staff recommendations: Staff finds the requested parking variance to be appropriate due to the anticipated employee counts and availability of land banked parking.

Fencing

- **Equipment Yard Screen Wall:** The petitioner requests approval of a variance from Section 6-2-12.3 of the Code to increase the height of the equipment yard screen walls from 15 feet to a maximum of 22 feet to mitigate sound emitted from the equipment yards and screen the equipment within the yards from surrounding properties and rights-of-way. The Code limits walls enclosing outdoor storage areas to a maximum of fifteen feet in height to help ensure compatibility with adjacent land uses and to maintain massing that is appropriate for neighboring properties.

The petitioner's proposed site plan includes an equipment yard in the rear of each data center building. The proposed screen walls were designed to be an integrated component of the overall building design, using building materials, colors, and a height that fully screens mechanical equipment to its full height.

Staff finds the screen walls to be consistent with the building design and to provide necessary visual and noise mitigation measures for the benefit of surrounding properties.

Staff recommendations: Staff recommends re-reviewing the proposed design of the screen walls following the third-party sound engineer's analysis of the Noise Impact Assessment to verify that they provide adequate acoustic treatments and that the site complies with Section 6-14-4:1 of the Municipal Code.

- **Security Fencing:** The petitioner proposes 8-foot fencing around the data center buildings and parking areas to maintain a secure perimeter, consistent with the industrial district allowances specified in Section 6-2-12:3 of the Code. An 8-foot-tall fence is also proposed around the utility substation planned in Phase 2 of the data center campus buildout.

Contradictory to Section 6-2-12:3 of the Code, Section 6-2-12:4 restricts fencing associated with public or private utility facilities to a height of six feet. Upon review, staff and the petitioner agree that maintaining a consistent 8-foot-tall fence on the subject property, including around that part of the property utilized for private utility facilities, creates a uniform appearance and is consistent with the intent of the underlying Code provisions. The proposed fencing is an attractive black steel and is set back from the adjacent roadways and buffered by landscaping.

Staff recommendations: Staff is supportive of the requested variance if the conditional use for Phase 2 of the petitioner's proposal is approved.

Findings of Fact

The petitioner's responses to the Standards for Granting a Variance can be found in the attachments for each variance requested. Upon review, staff agrees with the petitioner's Findings and recommends their adoption by the Planning and Zoning Commission.

Conclusions and Key Takeaways

The petitioner requests approval of a conditional use for two data centers to be constructed in phases on the subject property. Phase 1 will include construction of one building located in the southwest portion of the site, and Phase 2 will consist of a second building and an electrical substation (to the extent required for the support of the data center) on the eastern portion of the site. The construction of Phase 2 is dependent on the availability of electric capacity.

Subject to the conditions provided below (note: additional conditions may be added/refined following 3rd party review, public input, and/or further plan modifications), staff recommends approval of only one data center (Phase I) at this time. Approval of Phase 2 will require submittal of a new conditional use application at a future date, once adequate electrical power is available and any unforeseen issues that may arise with Phase 1 have been addressed.

- 1. Prior to any building permit issuance for the Subject Property, the petitioner shall work with staff to determine if any additional building enhancements can be incorporated to better reflect the technologically advanced nature of the data center campus.*
- 2. Prior to any building permit issuance for the Subject Property, the Petitioner shall coordinate with staff and the Naperville Development Partnership (NDP) to submit a plan for gateway signage and landscaping to be installed at the intersection of Naperville Road and Warrenville Road. Said gateway signage and landscaping shall be installed prior to issuance of any occupancy permits for the Subject Property.*
- 3. The height of each building's parapet walls shall be increased to the full height of the rooftop mechanical units. Sound dampening features shall be incorporated within the parapet walls if recommended by the 3rd party reviewer of the Noise Impact Assessment.*
- 4. Any additional loading docks proposed shall be subject to review and approval in accordance with Section 6-3-8:5 (Changes to Approved Conditional Uses) of the Naperville Municipal Code.*
- 5. Any future modifications proposed to the approved site and landscaping plans shall be subject to review and approval in accordance with Section 6-8-3:5 (Changes to Approved Conditional Uses) of the Naperville Municipal Code.*
- 6. Stormwater management for Phase 1 and Phase 2 shall comply with the DuPage County Stormwater Ordinance.*
- 7. A third-party sound engineer shall review the petitioner's Noise Impact Assessment and verify the data center campus will operate in compliance with City regulations identified in Section 6-14-4:1 of the Municipal Code. The petitioner shall modify their plans to incorporate additional mitigation measures recommended by the third-party sound engineer (and agreed upon by City staff) as needed to ensure continued compliance with Section 6-14-4:1 of the Municipal Code.*
- 8. The petitioner shall provide written confirmation that the photometric plan complies with the requirements identified in Section 6-14-4:3 of the Naperville Municipal*

Code and is dark sky compliant. Ongoing dark sky compliance shall be a condition of approval.

9. *Asphalt sealants that contain coal tar products shall not be used on the subject property.*

On September 3rd, staff recommends that the PZC reconvene the public hearing for DEV-0057-2025 and begin petitioner and public testimony. Staff recommends the PZC continue the public hearing for DEV-0057-2025 to October 15, 2025. Prior to continuance, the PZC should identify any additional items that they would like the Petitioner to address when they return in October.

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