

McPherson County
Application for Conditional Use Permit (CUP)

Application #: _____
Application Fee -
\$2,000.00 minimum with
the commission reserving
the right to increase the
fee for any project.

Applicant/Owner Name/Address: Leola Data Center, LLC; Attention: Bill Connors
11641 358th Avenue, Leola, South Dakota 57456

Phone#: 206-607-7444 **Current Zoning:** Ag

Legal Description for Requested CUP (attach additional sheets if necessary):
20 acres adjacent to the Leola Substation.

Quarter _____ **Section** 28 - Part E1/2 **Township** 126N **Range** 68W

General Area or Street Address 11641 358th Avenue, Leola, South Dakota 57456

Reason for Requesting CUP: _____

Construction and operation of a 50 MW data center.

1. **Describe the special circumstances or conditions that exist that requires a CUP:** _____
Please see attached supplement to the CUP application.

2. **Describe how this variance, if approved, would affect neighboring property owners:** _____
Please see Section 10 of the attached supplement to the CUP application.

3. **What is the purpose/intended use of the proposed project:** _____
Please see attached supplement to the CUP application.

4. **Additional information:** Please see attached supplement to the CUP application.

Attach plans and/or drawings for review by the board. The board may request additional documentation as necessary.

Applicant/Owner Signature:  **Date:** 11/7/2024

Application #: _____

The McPherson County Board of Adjustment takes the following action on the above application number:

_____ Approved as applied

_____ Approved with following the special conditions: _____

_____ Denied for the following reasons: _____

Chairperson, McPherson County Board of Adjustment

Date

Attest by McPherson County ZONING ADMINISTRATOR

Date

The permit/application shall automatically expire if the use permitted has not been started with one (1) year of approval or if the use permitted ceases for a period of one (1) year. This permit applies to the use of the property and remains valid for any future owners or operators as long as the use of the property does not change.

Office Use Only

Data Application Filed: _____

Application Fee Receipt # (non-refundable): _____

Dates Published: _____

Hearing Date & Time: _____

Notice of Board Action sent to Landowner: _____

Zoning Administrator: _____

Further Action Required: _____

Leola Data Center

11641 358th Avenue

Leola, South Dakota 57456

McPherson County Conditional Use Permit Application

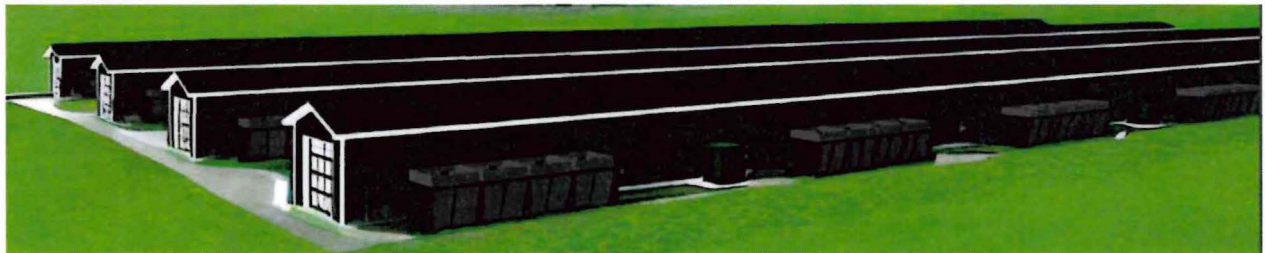
Supplemental Information¹

November 7, 2024

1) Project Summary.

Leola Data Center will be a 50 MW data center to be constructed on approximately 2 acres of a 20-acre site adjacent to Montana-Dakota Utilities Co.'s ("MDU") Leola Substation. The site is located at the southwest corner of 358th Avenue (Highway 17) and 116th Street about 5 miles southwest of Leola.

The preliminary Data Center design includes four 12' x 340' (4,080 sq ft) steel sided buildings that will house 12,288 servers cooled through a closed-loop, 30:70 glycol:water immersion process. The glycol:water solution will be air-cooled using 5' low-noise fans.



2) Equipment and Facilities (See Sections 12 – 14 for renderings).

- a) 4 single-story, steel sided buildings 12' x 340' (4,080 sq ft).
- b) 1 small, single-story office/guard shack.
- c) 32 transformers (2,400 kVA; 8 transformers per building).
- d) 256 low noise fans (5'; 16 sets of 4 fans per building).
- e) 512 immersion tanks, double stacked (16 tanks per transformer; 128 tanks per building).
- f) 12,288 servers (4,050 W, 24 servers per tank; 3,072 servers per building).

¹ The supplemental information provided herein is based on preliminary designs, which may change during the final design to be submitted with the building permit application.

3) **Project Site.**

- a) Approximately 2 acres on a 20-acre site adjacent to MDU's Leola Substation.
- b) 11641 358th Avenue, Leola, South Dakota
- c) Leased from Derek and Laura DeRaad.
- d) 10-year lease with three 5-year extension options.
- e) Project removal/reclamation requirements at the end of the lease.



4) **Employment.** Leola Data Center is expected to create 3 – 5 full time equivalent positions post-construction.

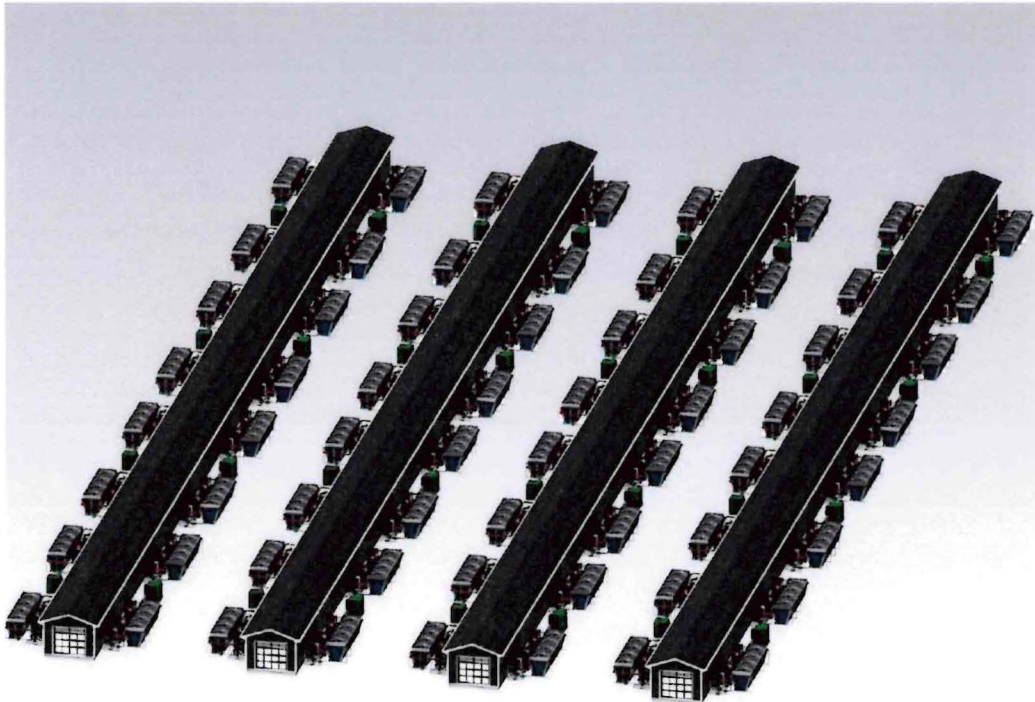
5) **Property Taxes.** Leola Data Center is obtaining more information on estimated costs of real property improvements, which will be subject to McPherson County property tax. MDU's substation upgrades will be centrally assessed and benefit McPherson County.

6) **Energy Supply.**

- a) Under an electric service agreement ("ESA"), MDU will supply Leola Data Center's full electric requirements up to 50 MW, subject to approval by the South Dakota Public Utilities Commission ("PUC").
- b) The ESA requires Leola Data Center to pay for all related substation upgrades. MDU's customers will not pay for those costs.
- c) The ESA provides MDU and Midcontinent Independent System Operator ("MISO") emergency curtailment rights. Leola Data Center will not receive electricity to the detriment of local businesses and residences during emergency conditions.
- d) Under the ESA, Leola Data Center does not have the right to sell electricity to third parties for off-site use.

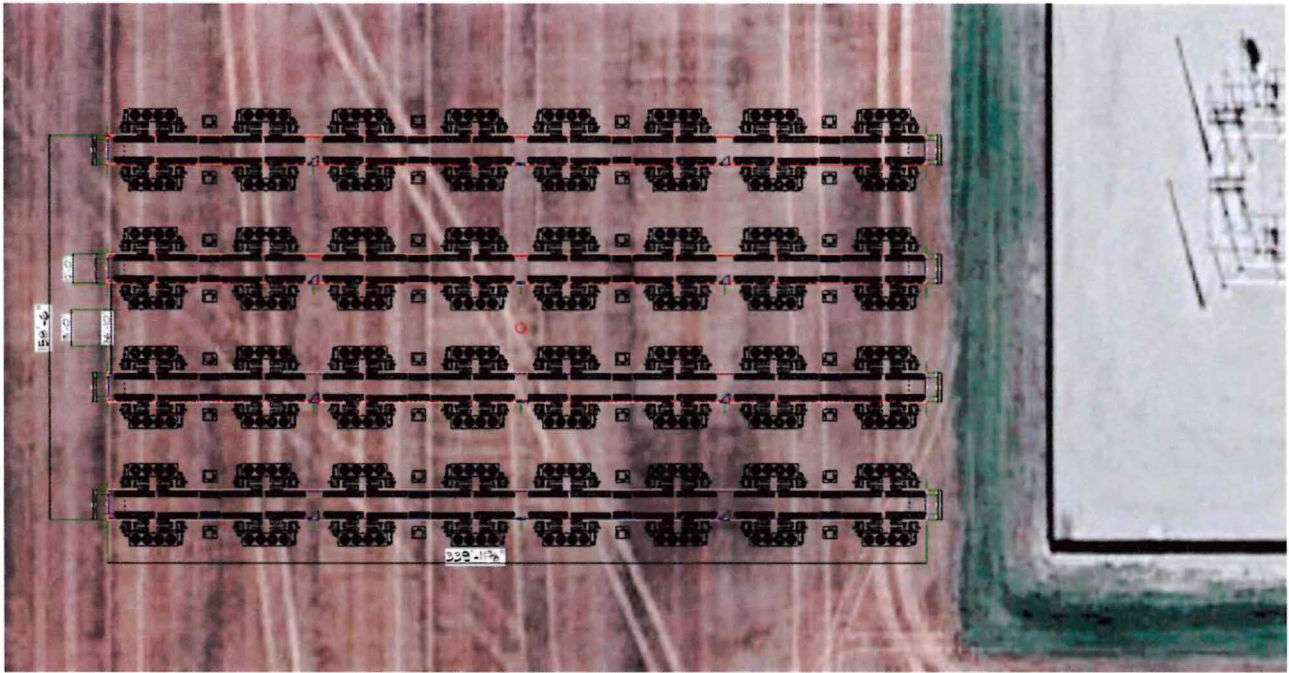
- 7) **Water Usage.** Leola Data Center will use a 30:70 glycol:water, closed-loop immersion cooling process. Water usage is estimated to be .314 gallons per server per month or approximately 4,000 gallons total per month plus office water use. The initial data center water fill will be about 200,000 gallons.
- 8) **Permits and Approvals.**
- a) McPherson County conditional use permit.
 - b) McPherson County building permit.
 - c) South Dakota PUC approval to permit MDU to provide electric service to Leola Data Center. Docket No. EL24-027.
 - d) South Dakota PUC approval of MDU's large load ESA with Leola Data Center. Docket No. EL24-028.
 - e) DeRaad approval of Leola Data Center design and building plans.
- 9) **Construction Schedule.** Subject to obtaining all permits and approvals, substation interconnection construction and data center civil work are expected to start in the spring of 2025. Leola Data Center should be operational by the fall of 2025.
- 10) **Potential Impact to Neighbors.** The potential impact to neighbors should be minimal.
- a) Other than during a relative short construction period, there will not be any increase in local traffic.
 - b) Views should not be significantly impacted. The data center will use local area contractors to construct single-story steel buildings similar to smaller and larger steel buildings located throughout McPherson County.
 - c) Leola Data Center is implementing project noise mitigation measures noted in **Section 11.**
 - d) Leola Data Center will not be a source of major air quality emissions.
- 11) **Noise Levels and Mitigation (See Section 15 for estimated noise level diagram).** Leola Data Center is using immersion technology and 5' low noise fans to mitigate project noise. The data center would also consider other sound mitigation efforts as warranted. The estimated noise levels to the nearest dwellings within 4,000' of the data center are:
- a) ~31 dB at the mobile home on Jerome Mack's property approximately 800' northwest of the data center.
 - b) ~28 dB at the DeRaad house approximately 1,355' southwest of the data center.

12) **Exterior Renderings.**



13) Overhead Renderings.





14) **Interior Rendering.**



15) Estimated Noise Levels.

