

**PLANNING COMMISSION/
BOARD OF ADJUSTMENT MEETING
CITY COMMISSION ROOM
Tuesday, September 15, 2026
7:00am**

CALL TO ORDER

ROLL CALL

APPROVAL OF MINUTES: August 11, 2026, Planning Commission Minutes

APPROVAL OF MINUTES: August 11, 2026, Board of Adjustment Minutes

APPROVAL OF AGENDA:

OLD BUSINESS (Planning Commission and Board of Adjustment): None

NEW BUSINESS (Board of Adjustment):

1. Hearing on Appeal No. 767 & 768 – Simple Mining LLC for a conditional use application that if granted would allow the applicant to construct a 10 MW hydro-cooled (dry cooler) modular data facility AND for a variance that if approved would permit the applicant to use material defined as sheet siding in the GT-1 District. The properties are legally described as Block One Ash Hill Addition to the City of Madison in the SW1/4 of Section 8, TWP 106-N R52 W of the 5th PM and The South Sixty-six Feet (66') of the East Three Hundred Thirty Feet (330') Lot Thirteen (13) Block Three (3) Shimerda's Addition to the City of Madison, South Dakota.
2. Decision on Variance Appeal No. 768 – Simple Mining LLC
3. Decision on Conditional Use Appeal No. 767 – Simple Mining LLC

NEW BUSINESS (Planning Commission): None

PUBLIC INPUT:

ADJOURNMENT:

Any person with a disability wishing to attend any board meeting who may require special arrangements may contact the Finance Office at 256-7500 and all attempts shall be made to accommodate those requests.

**Join the meeting via Zoom: <https://us06web.zoom.us/j/88197604793>
Meeting ID 881 9760 4793**

**PLANNING COMMISSION PROCEEDINGS
CITY OF MADISON
August 11, 2026
7:00 am**

Chairman John Groce called the meeting to order at 7:02 am. The following members were present for roll call: John Groce, Jim Iverson, Bob Maxwell, Kerry Barlow, Roger Olson, Jacob DeBoer and Travis Olson. Ryan Hegg, Dan Whitlock, Chad Van Den Hemel, Jennifer Hasleton, Jeff Wieman, Michael Wheeler, Jesse Peterson, Roy Lindsay and Brooke Rollag were also in attendance.

Motion by Commissioner DeBoer to approve June 9, 2026, Planning Commission Meeting Minutes. Seconded by Commissioner Maxwell. Motion carried unanimously.

Motion by Commissioner Iverson to approve the August 11, 2026, agenda. Seconded by Commissioner Roger Olson. Motion carried unanimously.

Motion by Commissioner Roger Olson, seconded by Commissioner DeBoer to move into Board of Adjustment at 7:04 am. Motion carried unanimously.

Motion by Commissioner Roger Olson, seconded by Commissioner DeBoer to move out of Board of Adjustment and into Planning Commission at 7:37 am. Motion carried unanimously.

Approve Plat of Lot 11 in Block 8 of Lakeview Industrial Park Addition to the City of Madison, Lake County, South Dakota. Motion to approve plat made by Commissioner Iverson, seconded by Commissioner DeBoer. Motion passed unanimously.

Approve Plat of Tract 1 of Ramar Addition to the City of Madison, Lake County, South Dakota. Motion to approve plat made by Commissioner Maxwell, seconded by Commissioner Iverson. Motion passed unanimously.

Public Input: Discussion on future road vacate processes.

Commissioner Roger Olson motioned to adjourn. Seconded by Commissioner DeBoer. Motion carried unanimously. Meeting adjourned at 7:52 am.

Dan Whitlock
Planning Commission

**BOARD OF ADJUSTMENT PROCEEDINGS
CITY OF MADISON
August 11, 2026**

The Planning Commission motioned to move into the Board of adjustment at 7:04 am.

The following members were present for roll call: John Groce, Jim Iverson, Travis Olson, Jacob DeBoer, Bob Maxwell, Roger Olson and Kerry Barlow. Also present were Administrative Officials Roy Lindsay, Ryan Hegg and Dan Whitlock. The following people were in attendance in addition to the Board, Jennifer Hasleton, Chad Van Den Hemel, Jeff Wieman, Michael Wheeler, Jesse Peterson and Brooke Rollag.

This being the time and place set for the hearing on variance Appeal Request No. 765 Jesse Peterson for a variance that if granted, would permit the applicant to construct a 24'x40' garage with a 4' side setback in lieu of 7.5' in a R-90 zone located at 609 West Avenue N. Addition would match the house. No opposition from neighbors. Discussion regarding ensuring the rain gutter to face the street and to the south neighbor's property.

There were no additional opponents or proponents. Chairman Groce closed the public hearing and proceeded to the decision agenda item for appeal. Motion by Mr. Maxwell second by Mr. Barlow to approve Appeal No. 765. Roll call vote taken. Motion passed unanimously.

This being the time and place set for the hearing on variance Appeal Request No. 766 Michael Wheeler for a variance application that if approved would permit the applicant to construct an 8'x16' shed with a 10'side setback in lieu of 25' in a R-60 zone located at 415 West Avenue N. The building will be stick built with siding and roof to match the house.

There were no additional opponents or proponents. Chairman Groce closed the public hearing and proceeded to the decision agenda item for appeal. Motion by Mr. Iverson second by Mr. Roger Olson to approve Appeal No. 766. Roll call vote taken. Motion passed unanimously.

Motion by Mr. Roger Olson, second by Mr. DeBoer to move out of the Board of Adjustment at 7:37am. Motion carried unanimously.

Dan Whitlock
Board of Adjustment

CITY OF MADISON
CONDITIONAL USE APPLICATION
APPEAL NUMBER 7107

APPLICANT (PRINT): Simple Mining LLC **PHONE:** (319) 420-1415

ADDRESS: 2715 Technology Parkway, Cedar Falls, IA 50613

OWNER (PRINT): City of Madison **PHONE:** _____

IF DIFFERENT THAN APPLICANT

ADDRESS: 503 S Highland Avenue, Madison, SD 57042

I/WE, THE UNDERSIGNED, DO HEREBY PETITION THE BOARD OF ADJUSTMENT OF THE CITY OF MADISON SOUTH DAKOTA, TO ISSUE A CONDITIONAL USE PERMIT FOR THE PROPERTY DESCRIBED AS:

LEGAL DESCRIPTION (Please print or type)

Block One Ash Hill Addition to the City of Madison in the SW1/4 of Section 8, TWP 106-N R52 W of the 5th PM. The South Sixty-six Feet (66') of the East Three Hundred Thirty Feet (330') Lot Thirteen (13) Block Three (3). Shimerda's Addition to the City of Madison, South Dakota.

GENERAL AREA OR STREET ADDRESS: 840 SE 10th Street, Madison, SD 57042 (approx. 43.9939, -97.10045)

EXISTING LAND USE: Ag Land **EXISTING ZONING:** Light Manufacturing

SIZE OF PARCEL: ACRES / SQFT 3.73 ac **LOT DIMENSIONS:** WIDTH 330' LENGTH 513' DEPTH _____

SURROUNDING LAND USE **NORTH:** Ag Dwelling

SOUTH: Commercial

EAST: Ag Land

WEST: Ag Dwelling

PLEASE DESCRIBE WHAT YOU PROPOSE TO DO AND WHY YOU ARE SEEKING A CONDITIONAL USE PERMIT (attach a separate letter of explanation if necessary)

Please refer to accompanying memorandum.

I (we) further state that if this request is granted, I (we) will proceed with the actual construction in accordance with the plans herewith submitted within one year or additional time as extended from the effective date of the appeal.

SIGNATURE OF APPLICANT _____

Signed by:
Adam Haynes
06488AAEF7B1CA

Adam Haynes, CEO — Simple Mining LLC

SIGNATURE OF OWNER (IF DIFFERENT THAN APPLICANT) _____

NOTE: A SKETCH OF PROPOSED PROPERTY SHALL ACCOMPANY THIS APPLICATION, SHOWING THE FOLLOWING:

- | | |
|--|--|
| 1. NORTH DIRECTION LOT | 5. LOCATION OF PROPOSED STRUCTURE ON LOT |
| 2. DIMENSIONS OF PROPOSED STRUCTURE | 6. DIMENSIONS OF FRONT AND SIDE SET BACKS |
| 3. STREET NAMES BUILDINGS | 7. LOCATION OF ADJACENT EXISTING BUILDINGS |
| 4. OTHER INFORMATION AS MAY BE REQUESTED | |

THE BOARD OF ADJUSTMENT MAY REQUIRE THAT SUCH PLANS BE PREPARED BY A REGISTERED ENGINEER OR LAND SURVEYOR.

****PLEASE USE THE ATTACHED SKETCH INSTRUCTION SHEET FOR AN EXAMPLE.**

FOR OFFICIAL USE ONLY

DATE FILED WITH ADMINISTRATIVE OFFICIAL: 8/28/2009

FEE PAID (NON-REFUNDABLE): X YES 9.00 NO

DATE OF HEARING: 9/15/2009

ACTION BY BOARD OF ADJUSTMENT: _____

MEMORANDUM

Date: August 25, 2026

To: City of Madison

From: Adam Haynes, CEO

Subject: Letter of Explanation for Conditional Use Permit

The purpose of this Memorandum is to provide an explanation of the uses and implications of a proposed 10 MW hydro-cooled (dry cooler) modular data center, to be constructed within 3.73 acres under Option to Lease by the applicant from the City of Madison in Lake County, South Dakota.

The proposed facility will be constructed at 840 SE 10th Street, Madison, SD 57042 (approximately 43.9939, -97.10045), on a portion of parcel IDs 215300030013010 and 215290010001010, more specifically described as: Block One Ash Hill Addition to the City of Madison in the SW1/4 of Section 8, TWP 106-N R52 W of the 5th PM. The South Sixty-six Feet (66') of the East Three Hundred Thirty Feet (330') Lot Thirteen (13) Block Three (3) Shimerda's Addition to the City of Madison, South Dakota.

The site area is currently classified as Light Manufacturing, with a mix of Ag Land, Ag Dwelling, and Commercial classifications on adjacent parcels. The nearest house is located approximately 0.25 miles from the proposed site area. Under City Ordinance No. 1481, the proposed use falls under Section 17.116.05. Conditional Uses for a Light Manufacturing District, specifically item 13: "Other industrial or commercial uses determined by the Board of Adjustment to be consistent with the intent of the District that can meet the performance standards listed herein".

The proposed project shall meet the aforementioned performance standards, as detailed below:

Physical Appearance: All equipment used to construct the proposed facility will be new and in operable condition. The site area will be fully enclosed with a 6-8' chain link perimeter fence and will be staffed during the day. A tree line will be established along the southern edge of the property to minimize visual impact of the site along Highway 34. The proposed facility will be constructed using 4 hydro-cooled containerized units with integrated dry coolers, each paired with a three-phase pad-mounted transformer. The units are approximately 20 feet in height. A conceptual site rendering, the project layout and topographic exhibits prepared by DGR Engineering, and the acoustic exhibits are attached for visual reference.

Fire Hazard: The units are cooled by a sealed, closed-loop liquid circuit rejecting heat through integrated dry coolers; the facility requires no water supply and consumes no water. Though the proposed facility poses no specific fire hazards, a 26' fire access lane has been considered in design and the City has confirmed that fire suppression (hydrant) exists adjacent to the site. In addition to this, a pre-construction plan will be shared with the City Fire Chief ahead of site mobilization to ensure compliant fire protection and prevention measures are taken.

Noise: The proposed facility will meet the City ordinance requirement that facility sound not exceed peak road traffic levels at the property line. Sound measurements taken by the City in 2006 in connection with the adjacent generation plant indicate that peak road noise on South Dakota Highway 34 is approximately 70 to 80 decibels at the property (see attached Existing Acoustic Conditions exhibit, included with the approval of the City municipal utility). A predictive model of the sound dispersion from the proposed facility is included and shows sound levels much lower than 70 dB at the property line.

Sewage and Liquid Wastes: The proposed facility does not involve the discharge of any liquid wastes of a radioactive or chemical nature.

Air Contaminants: The proposed facility does not involve the release of any air contaminants.

Odor: The proposed facility does not involve the release of any odors.

Gases: The proposed facility does not involve the release of sulfur dioxide, hydrogen sulfide, or carbon monoxide.

Vibration: The proposed facility shall not produce vibration exceeding a displacement of three thousandths (0.003) of an inch measured at the parcel line.

Glare and Heat: The proposed facility does not use any equipment inducing AU glare.

**CITY OF MADISON
VARIANCE APPLICATION**

APPEAL NUMBER 768

APPLICANT (PRINT): Simple Mining LLC **PHONE:** (319) 420-1415

ADDRESS: 2715 Technology Parkway, Cedar Falls, IA 50613

OWNER (PRINT): City of Madison **PHONE:** _____

IF DIFFERENT THAN APPLICANT

ADDRESS: 503 S Highland Avenue, Madison, SD 57042

I/WE, THE UNDERSIGNED, DO HEREBY PETITION THE BOARD OF ADJUSTMENT OF THE CITY OF MADISON SOUTH DAKOTA, TO ISSUE A VARIANCE FOR THE PROPERTY DESCRIBED AS:

LEGAL DESCRIPTION (Please print or type)

Block One Ash Hill Addition to the City of Madison in the SW1/4 of Section 8, TWP 106-N R52 W of the 5th PM. The South Sixty-six Feet (66') of the East Three Hundred Thirty Feet (330') Lot Thirteen (13) Block Three (3). Shimerda's Addition to the City of Madison, South Dakota.

GENERAL AREA OR STREET ADDRESS: 840 SE 10th Street, Madison, SD 57042 (approx. 43.9939, -97.10045)

EXISTING LAND USE: Ag Land **EXISTING ZONING:** Light Manufacturing

SIZE OF PARCEL: ACRES / SQFT 3.73 ac **LOT DIMENSIONS:** WIDTH 330' LENGTH 513' DEPTH _____

SURROUNDING LAND USE **NORTH:** Ag Dwelling

SOUTH: Commercial

EAST: Ag Land

WEST: Ag Dwelling

PLEASE PROVIDE A BRIEF STATEMENT OF THE VARIANCE DESIRED AND PLEASE STATE THE HARDSHIP REQUIRING RELIEF. (Proof of hardship is on the applicant - Hardship examples are odd size or shape of the lot, unusual topography, etc. attach a letter of explanation to document requirements necessary to approve if necessary)

Please refer to accompanying memorandum.

I (we) further state that if this request is granted, I (we) will proceed with the actual construction in accordance with the plans herewith submitted within one year or additional time as extended from the effective date of the appeal.

SIGNATURE OF APPLICANT _____

Signed by:
Adam Haynes
061838A06FETBACA

Adam Haynes, CEO — Simple Mining LLC

SIGNATURE OF OWNER (IF DIFFERENT THAN APPLICANT) _____

NOTE: A SKETCH OF PROPOSED PROPERTY SHALL ACCOMPANY THIS APPLICATION, SHOWING THE FOLLOWING:

- | | |
|--|---|
| 1. NORTH DIRECTION LOT | 5. LOCATION OF PROPOSED STRUCTURE ON |
| 2. DIMENSIONS OF PROPOSED STRUCTURE | 6. DIMENSIONS OF FRONT AND SIDE SET BACKS |
| 3. STREET NAMES BUILDINGS | 7. LOCATION OF ADJACENT EXISTING |
| 4. OTHER INFORMATION AS MAY BE REQUESTED | |

THE BOARD OF ADJUSTMENT MAY REQUIRE THAT SUCH PLANS BE PREPARED BY A REGISTERED ENGINEER OR LAND SURVEYOR.

****PLEASE USE THE ATTACHED SKETCH INSTRUCTION SHEET FOR AN EXAMPLE.**

FOR OFFICIAL USE ONLY

DATE FILED WITH ADMINISTRATIVE OFFICIAL: 8/28/2009

FEE PAID (NON-REFUNDABLE): X YES _____ NO

DATE OF HEARING: 9/15/2009

ACTION BY BOARD OF ADJUSTMENT: _____

MEMORANDUM

Date: August 25, 2026

From: Adam Haynes, CEO

To: City of Madison

Subject: Letter of Explanation for Variance Request

This letter is submitted in conjunction with the variance request for a proposed 10 MW hydro-cooled (dry cooler) modular data center, to be constructed within 3.73 acres under Option to Lease by the applicant from the City of Madison in Lake County, South Dakota. The project will be situated across parcel IDs 215300030013010 and 215290010001010, located within the GT-1 zoning district. The applicant requests a variance from the prohibition on "sheet siding" in the district, including metal exterior finishes on structures and equipment to be installed onsite.

As detailed below, the unique physical characteristics of the project satisfy the requirements for granting a variance.

Special Conditions are Peculiar to the Planned Facility: The planned facility will be comprised of prefabricated, metal-clad modular enclosures similar in size and structure to shipping containers. Metal siding is the industry-standard material utilized on these structures due to their durability, optimized cooling & efficiency, and electromagnetic shielding. Given these unique circumstances, siding on this type of enclosure is not easily substituted with different materials.

Strict Application of the Ordinance Deprives the Applicant of Rights Enjoyed by Others in the District: Other properties within the GT-1 district are permitted to use exterior materials that are suitable to and compatible with their respective uses. The prohibition on metal sheet siding was presumably designed to address aesthetic concerns related to conventional buildings and structures. However, applying this restriction to prefabricated containerized units, for which metal is the only functionally appropriate exterior, effectively deprives the applicant of the ability to construct a facility utilizing this kind of specialized enclosure in the district.

The Special Conditions Are Not the Result of the Applicant's Actions: The need for this variance does not arise from any self-created hardship. The planned facility's use of metal sheet siding is an inherent characteristic of the planned infrastructure, not a deliberate circumvention of the GT-1 district siding requirements.

Granting the Variance Will Not Confer Any Special Privilege: The requested variance is limited in scope and tailored to the specific circumstances of the planned facility. The applicant does not seek a blanket exception to the exterior material standards of the GT-1 district, but rather recognition that the siding prohibition was not intended to, and should not, apply to prefabricated containerized metal structures. Any other applicant with a site located in the GT-1 district intending to construct a similar type of facility would be entitled to seek the same relief. Granting this variance does not provide the applicant with a benefit that is unavailable to others; it simply acknowledges that the strict application of the ordinance to this unique type of facility produces an inequitable result that the variance process is designed to remedy.

For the foregoing reasons, the applicant respectfully submits that all required findings for a variance have been satisfied. The special conditions of the planned facility are unique, not self-created, and not shared by other projects within the GT-1 district. The strict application of the siding prohibition would deprive the applicant of rights commonly enjoyed by others in the district, and granting the variance will not confer any special privilege.

Kind Regards,
Adam Haynes, CEO
Simple Mining LLC

EXHIBIT — CONCEPTUAL SITE RENDERING

Conceptual rendering of the proposed Simple Mining facility — for illustrative purposes only; final layout per the approved site plan.



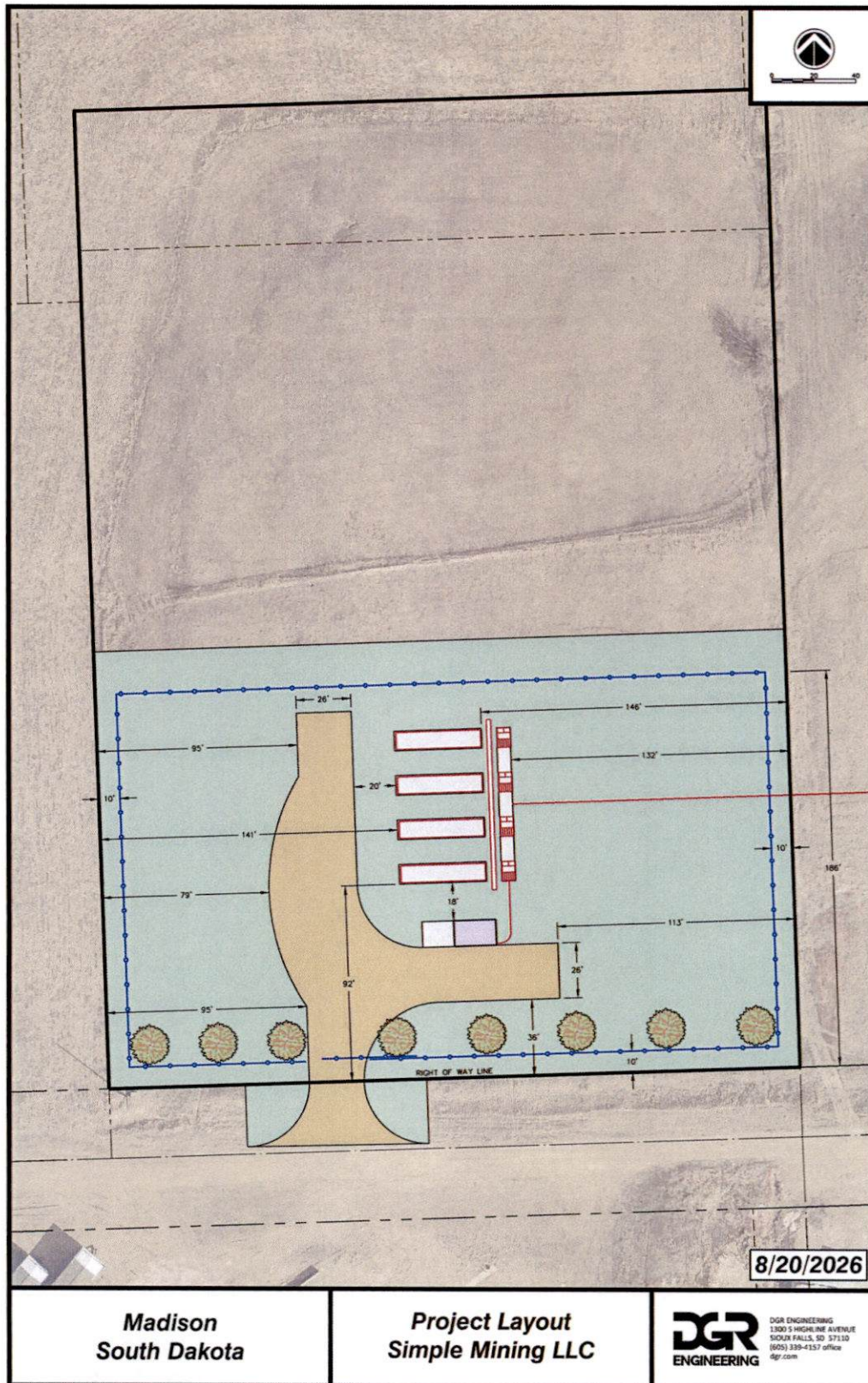
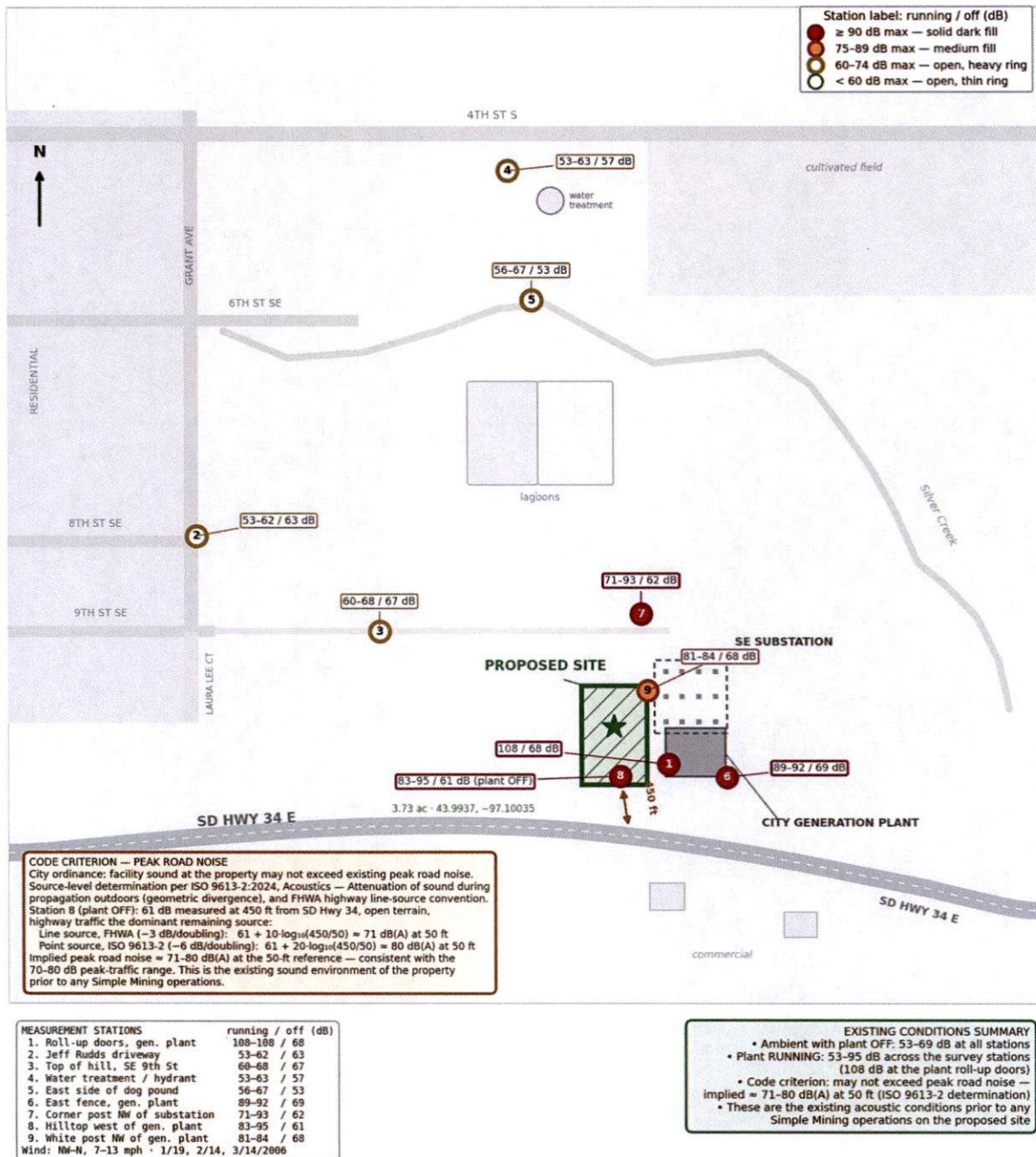


EXHIBIT — EXISTING ACOUSTIC CONDITIONS

City of Madison generation plant sound survey (2006); included with the approval of the City municipal utility.

EXISTING ACOUSTIC CONDITIONS — SOUND SURVEY

City of Madison Generation Plant sound survey (2006) · proposed Simple Mining site · geometry referenced to aerial



Station positions and landmarks scaled from City aerial imagery (approximate). Source: City of Madison generation plant sound survey (2006); levels as recorded.

Madison 10 — Modeled Sound Dispersion, dB(A), 5 dB bands

Dry-cooler line sources at 20 ft · K=20 free-field · receiver 5 ft

PREDICTIVE MODEL



Modeled sound level (5 dBA bands): 40-45 dBA 45-50 dBA 50-55 dBA 55-60 dBA 60-65 dBA 65-70 dBA ≥70 dBA — 55 dBA highlighted

Free-field K=20; no wind, temperature-inversion, barrier, or ground-absorption effects included; berm not modeled.
Madison criterion: facility sound not to exceed peak road noise (70-80 dBA implied at the 50 ft reference).

Basemap: Esri World Imagery

received
9/9/2024
JPK

City of Madison Planning and Zoning Board:

We are opposed to Simple Mining's data center. We are concerned this will have a negative effect on our property value and the enjoyment of our property.

1) We often have cattle grazing on this property and noise and sound frequencies can negatively affect them and wild animals that live on my land. We are concerned about the tonal frequencies produced by data centers; these are low frequency 20hz to 200hz. Standard decibel measurements do not test for these frequencies, so the company may comply with imposed limits, but still have sound that will affect neighbors and animals. These sounds pass through or around fencing, so are not controlled by standard mitigation. (See attachments taken from larsondavis.com) More studies can be provided if needed.

Even allowing the standard decibels at peak road noise is not acceptable. Peak road noise is not constant, this facility would be, and constant noise at that level is very annoying.

2) We also have a mining permit for sand, gravel and rock and during mining there is a legally permissible amount of dust that may arise. We are concerned that this could lead to problems for a data center and thus legal headaches for us if we have to defend ourselves in court.

3) Simple Mining is planning to put in 20-foot-tall buildings. This property is on a hill, so this center will be very distracting. The previous company had plans for a 6-foot berm with a 10-foot fence. Simple Mining is only proposing a 6–8-foot fence without berms.

4) We do not believe this ground is capable of being built on, as it was previously a landfill/dump area. When Orville Johnson did site prep for the standby generator he uncovered glass, metal, cowhides, etc. The junkyard abatement by the state did not necessarily remove this garbage. If this is in dispute, test holes can easily be dug to confirm.

5) Simple Mining has proposed trees on the south side of the property. They should also be required to have 3 rows of trees on the east side, with required replacement of any that die.

6) We do not want light trespass. We do not want video/security cameras to show any of our property. We do not want any runoff from their property onto ours. (The submitted proposal does not show any elevations.)

In closing, there are too many concerns and unanswered questions to vote anything but denial.

Thank you for your consideration in this matter.

Michael and Dawn Johnson

Michael Johnson Properties

Data Center Noise Monitoring

Measure Noise for Compliance and Community Relations

Data centers are an essential part of our economy and infrastructure. As data centers are being built throughout the world, noise complaints related to the facilities are increasing. The need to comply with local noise ordinances and maintain positive community relationships can be challenging for those running these facilities. Noise Monitoring Systems with **simple yet customizable set up** and **automated alert and alarm notifications** make it easier to track noise in real-time. Read on to learn more about the nature of data center noise, why it sometimes seems more bothersome than other types of noise, and what you can do about it.



Types of Data Center Noise

Exterior

Exterior noise at data centers or crypto mining operations are most often caused by exhaust vents in cooling equipment (chiller fans) or on-site power generation.

The noise can be thought of as having two components

1. Mid- and high-frequency broadband noise - The mid-and high-frequency broadband noise generated by cooling fans is often directional. Abatement by traditional acoustic barriers is possible. Traditional measurement techniques and A-frequency weightings adequately describe the problem.
2. Low-frequency tones or hum - Low-frequency tones from data centers (fan hum) are often particularly bothersome because they are not reflected well in A-weighted measurements (a common frequency weighting applied to noise measurements that attenuates low-frequency noise). Low frequency humming doesn't contribute much to A-weighted noise levels but is often the source of complaints

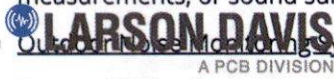
Interior

Employees inside data centers are subject to continuous noise that could be hazardous to hearing health. Personal noise exposure levels for data center workers should be considered. Noise levels can be measured in various places inside a facility and marked on a map to create a plant sound survey. Alternatively, personal noise exposure can be measured with a personal noise dosimeter, which is worn by an employee and measures noise throughout their work shift to ensure that operations do not exceed established workplace noise limits.

The Role of Noise Monitoring at Data Centers

- Assess baseline levels before construction
- Assess data center noise levels before and after noise abatement steps
- Perform a sound survey and create a noise map to locate problem areas for indoor noise levels
- Determine employee personal noise exposure or personal noise dose

- **Handheld Noise Monitor:** Used for walkaround noise measurements, short-term measurements, task-based measurements, or sound surveys
- **Outdoor Noise Monitoring Systems:** Used for longer-term monitoring in outdoor conditions
- **Personal Noise Dosimeter:** Used for noise dosimetry or personal noise exposure monitoring



Larson Davis offers a range of solutions for Data Center Noise Monitoring. Key benefits of our solutions include [Contact](#) [Request a Quote](#)

1. **Real-Time Monitoring:** Continuously track noise levels in real-time, allowing you to identify potential issues promptly. Instant alerts can be set up to notify you of any breaches in pre-defined noise thresholds.
2. **Comprehensive Data Analysis:** Collect and analyze noise data over time to identify patterns, trends, and potential areas of improvement. Our Sound Level Meters and noise dosimeters provide detailed reports and visualizations for better decision-making.
3. **Analysis of the Frequency Content of the Noise:** Using C- or Z- weightings together with Octave Band or FFT Analysis helps you better understand the annoying low-frequency tones associated with cooling fans. We offer Class 1 Sound Level Meters for the most accurate measurements across all audible frequencies.
4. **Compliance Monitoring:** Ensure adherence to local regulations and industry standards. Our Sound Level Meters help you demonstrate compliance with noise level requirements, avoiding potential penalties and legal issues.
5. **Remote Accessibility:** Access noise data and monitoring reports remotely, enabling you to stay connected and informed even when you are away from the data center.
6. **User-Friendly Interface:** Our Sound Level Meters feature intuitive interfaces and easy-to-use controls, making it simple for both technical and non-technical personnel to operate and interpret the data.
7. **Customization:** Tailor the settings and parameters of the Sound Level Meter to meet your specific monitoring needs.
8. **Expert Support and Training:** Benefit from our dedicated customer support team, ready to assist you with any inquiries or technical issues.

Why is Data Center Noise in Communities So Frustrating?

Most community noise regulations offer noise limits in the 50 dB to 60 dB range. However, these regulations were not written with constant, low-frequency noise in mind. Data center noise occurs 24 hours a day, including overnight when ambient noise levels tend to be lower. A 50 dB noise during the daytime may not be annoying, whereas it would be noticeable at nighttime. In addition, many regulations were written to measure with A-weighted noise levels, so the lower frequency noise is not captured as well in the measurement.

Data Center Noise Abatement Methods

Noise from fans can be reduced with traditional acoustic barriers or acoustical shrouds; however, these shrouds can reduce fan efficiency. An alternative is utilizing larger fans or fans with high efficiency so that fan speed can be lowered. Because of the relationship between air speed and noise, decreasing fan speed a small amount can decrease noise significantly.

Getting Started Measuring Data Center Noise

Proactively monitor and manage noise levels around your data center. Enhance operational efficiency, maintain regulatory compliance, and foster a harmonious relationship with your surrounding community.

For short-term use, [Sound Level Meters and systems are available to rent](#). Your local Larson Davis representative will be glad to help determine what products best fit your measurement requirements. To learn more, please fill out the Contact an Expert form, and member of our team will be in touch.

CONTACT AN EXPERT

Share

Board Members,

Tony Wortman from Northfolk Nebraska lives within half mile of a data center in Stanton NE. You can call him to ask questions at Business 402-321-7866 Cell 402-640-4027. Prefers business number during day time hours.

Below are two links to view the Salix Iowa Town Council Meeting You Tube videos:

<https://youtu.be/yJ7ucuU1P3M>

<https://youtu.be/Pbgafi1W-Vo>

Tony speaks at the 56:00 minute mark.

I am offering to finance commission members to visit the facility in Stanton NE to see and hear the data center.

Attached are also some pages of research and references of how data center noise impacts health and environment.

Craig Hoffman
605.480.3804

received
9/9/2020
VKA

Data centers and Bitcoin mining facilities emit **continuous 24/7 noise** characterized by **tonal noise** (steady, single-frequency sounds) and **low-frequency noise (LFN)** or **infrasound** (below 20 Hz), which can reach up to **96 decibels** and penetrate structures more effectively than higher frequencies.

Health Impacts

- **Sleep and Cognitive Disruption:** Chronic exposure leads to **sleep disturbance**, insomnia, and reduced REM/deep sleep stages, resulting in daytime fatigue, **poor cognition**, decreased learning, and lower reading comprehension, particularly in children.
- **Cardiovascular and Stress Risks:** The body’s constant "fight or flight" response to this noise triggers **cortisol release**, increasing the risk of **hypertension**, heart attacks, stroke, and other cardiovascular diseases.
- **Vestibular and Physical Symptoms:** Infrasonic vibrations are often felt rather than heard, causing **dizziness**, vertigo, nausea, migraines, ear pressure, and anxiety. Residents near facilities in Texas and Mississippi have reported symptoms including fluid discharge from ears and high blood pressure.
- **Mental Health:** Persistent noise is linked to increased anxiety, depression, irritability, and reduced quality of life, with vulnerable groups such as children, the elderly, and those with preexisting conditions being most susceptible.

Measurement Gaps

Standard decibel readings often fail to capture the harm because they **systematically downplay low-frequency sound**, meaning facilities may measure within legal limits (e.g., 40–59 dB) while still causing significant community distress and physiological effects.

Peer-Reviewed Studies

#	Reference	Key Finding
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- 1 **Gour, Ortiz, & Maibach (2026)**, *Health Consequences of Large Data Centers: Air Pollution, Noise, Water Use, and Environmental Justice*, **Frontiers in Climate** (also preprint: [OSF](#))
George Mason Univ. study: continuous 24/7 noise from cooling systems is a "direct environmental stressor"; long-term exposure linked to cardiovascular, cognitive, and mental health impacts; children and elderly most susceptible

- 2 **Ascone, L., Kling, C., Wieczorek, J. et al. (2021)**, *A longitudinal, randomized experimental pilot study to investigate the effects of airborne infrasound on human mental health, cognition, and brain structure*, **Scientific Reports** — [nature.com](#)
First RCT showing infrasound (<20 Hz) affects mental health, cognition, and brain structure

- 3 **Applied Sciences, 10(15), 5205 (2020)**, *Health effects from low-frequency noise and infrasound in the general population* — doi.org/10.3390/app10155205
Meta-review of 142 studies: LFN (<200 Hz) causes sleep disorders (12%), cardiovascular changes (10%), hearing effects (8%)

- 4 **Frontiers in Behavioral Neuroscience (2026)**, *Infrasound exposure is linked to aversive responding, negative appraisal, and elevated salivary cortisol in humans* — [frontiersin.org](#)
Controlled experiment: ~18 Hz infrasound elevated cortisol (p=0.022) and irritability, independent of auditory detection

- 5 **Applied Sciences, 16(3), 1553 (2026)**, *Infrasound and Human Health: Mechanisms, Effects, and Applications* — [mdpi.com](#)
Review of cellular/animal/human evidence: infrasound modulates ion channels (PIEZO1, TRPV4), induces oxidative stress.

		mitochondrial injury, neuroinflammation
6	MDPI, 8(4), 126 (2026), <i>Infrasound and Low-Frequency Noise in Data Center Environments: A Narrative Review Toward Health-Protective Acoustic Design Standards</i> — mdpi.com	Identifies gap: no published study has measured the ILFN spectrum of an operational data center; A-weighted metrics systematically undercount infrasound
7	ResearchGate (2026), <i>Infrasonic and Low-Frequency Noise Exposure from Large Data Centers: A Proposed Analytical Framework</i> — researchgate.net	Proposes ILFN_Exposure index; notes data center noise shares tonal, amplitude-modulated character of wind turbine noise
8	WHO (1999), <i>Guidelines for Community Noise</i>	Foundational reference: 20–160 Hz energy content significantly related to sleep disturbance, concentration difficulties, irritability, anxiety, and tiredness (98-subject study)

News & Legal (Bitcoin Mining / Data Centers)

#	Reference	Key Finding
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| 9 | Earthjustice (2024) , <i>Granbury Residents Sue Local Bitcoin Mine Over Health-Threatening Noise Pollution</i> — earthjustice.org | 24+ individuals documented with hearing loss, migraines, tinnitus, vertigo from Marathon Digital facility (300 MW, Granbury TX) |
| 10 | Time (2026) , <i>"We're Living in a Nightmare: Inside the Health Crisis of a Texas Bitcoin Town"</i> — time.com | EN-T doctor Salim Bhaloo sees patients weekly; noise up to 90 dB nightly; references study showing vascular function diminished after single night at 63 dB |
| 11 | US News (2026) , <i>"Living in Hell": Data Center Neighbors Grapple With Noise, Air Pollution</i> — usnews.com | Cites Gour et al. (2026); notes noise linked to poor cognition, decreased learning, lower reading comprehension in children |
| 12 | Tom's Hardware (2026) , <i>AI data centers face increasing infrasound complaints</i> — tomshardware.com | Documents community complaints of "felt" infrasound not registering on standard decibel meters |
| 13 | The Week (2025) , <i>The noise of Bitcoin mining is driving Americans crazy</i> — theweek.com | Residents report fainting, chest pains, migraines, panic attacks, vertigo, nausea |
| 14 | Sierra Club (2026) , <i>Data Centers & Noise Pollution: Ohio Communities Are Organizing for Accountability</i> — sierraclub.org | LFN travels farther, penetrates buildings, difficult to block; weak local noise standards leave communities with few options |