



ECONOMIC DEVELOPMENT AUTHORITY AGENDA

City of Brainerd, Minnesota
City Hall, 501 Laurel Street, Council Chambers
Friday, February 14, 2025 @ 7:30 AM

The public is invited to attend these meetings in person

Meetings are broadcast on CTC ch 8, Charter ch 181, YouTube, AppleTV, Roku, and Amazon FireTV

1. **Call To Order**

2. **Roll Call**

___T. Bieser ___J. Grecula ___G. Johnson ___M. Kirsch ___M. O'Day ___P. Sandy ___K.
Yeager

3. **Approval Of Agenda - Voice Vote**

4. **New Business**

A. **Consider Revised Plans and Purchase and Development Agreement for a Data Center at
1911 Thiesse Dr.**

5. **Adjourn**

Visit the City's Website at www.ci.brainerd.mn.us

MISSION

"Provide high quality, cost effective public services and leadership in creating a sustainable city"

MEMO



TO: EDA Board of Commissioners

FROM: James Kramvik, Community Development Director

DATE: February 14th, 2024

RE: Consider Revised Purchase and Development Agreement with Blockmetrix

INTRODUCTION

On March 3, 2022, the EDA conducted a duly noticed public hearing regarding the sale of 1911 Thiesse Drive and 1918 Thiesse Drive to VCV Digital Infrastructure Minnesota LLC for the development of a cryptocurrency mining facility (the “Minimum Improvements”), pursuant to a Purchase and Development Contract, dated March 3, 2022.

The EDA found that the conveyance of the Development Property was in conformance to the City’s comprehensive plan, as approved by the City, and would facilitate the construction of a job-producing facility within the industrial park and increase the tax base of the City. The execution of the Contract and performance of the Authority's obligations thereunder, including the conveyance of the Development Property to the Developer, were in the best interest of the City and its residents. Following the public hearing, on March 3, 2022, the Authority approved the form and the execution and delivery of the Contract. The Contract was recorded on January 10, 2024 in the Office of the County Recorder of Crow Wing County.

The EDA approved an amendment to the PDA at their September 17th special meeting to extend the construction commencement deadline, revise the minimum improvements for 1911 Thiesse Drive, and noted the transfer of the outstanding membership interests of the Developer to Blockmetrix. Blockmetrix, as the Developer, will be bound by all of the terms and provisions of the Contract.

In addition to the construction documents, the revised PDA added a provision to the Contract, as amended hereby, that no former employee or owner of VCV Digital Infrastructure Minnesota LLC, VCV Digital or any affiliate thereof, shall own an interest in the Assignee or Assignor the after execution of this Assignment, Assumption and Amendment.

Blockmetrix is requesting to further amend the PDA by revising the minimum improvements. Any “substantial” changes to the minimum improvements requires approval from the EDA. Blockmetrix is proposing a redesign of the building and an alteration of the parking lot and driveway design. The proposed redesign is part of the final design package by Hy-Tec and changes were made to reduce the amount of impervious surface and provide better access for large trucks. The building footprint/ floor plan was flipped east to west with the entrance now located on the west side of the property.

MINIMUM IMPROVEMENTS

- **Screening:** There is no screening requirement for the property, as the proposed use is no longer outdoor storage. Ground mounted transformers, coolers, and similar equipment shall be screened on all sides except those facing a building. The mechanical coolers will be screened inside a building and the transformers are positioned between the two buildings.
- **Fencing:** There is no proposed fencing at this time.
- **Sound:** Staff have provided an appendix to this document that calculates sound related to the outdoor coolers. Proposed sound levels are well within MPCA guidelines. The miners will be in a building and the facility will be utilizing immersion technology which will not affect exterior noise. The building containing the coolers will have slats on the side of the building for airflow. The roof covering the mechanical cooling structure will help dissipate sound back into the ground which will further reduce the decibels produced by the facility. *Blockmetrix is proposing a space for an additional immersion and cooling unit. Staff have included calculations for the additional unit and have no concerns as the 9th cooler would add .375 dBA.*
- **Setbacks:** All structures, driveways, and off-street parking meet the setback requirements of the GI District.
- **Driveways and Parking:** The proposed plans indicate the driveways and parking lot will be covered with bituminous asphalt. The GI District is exempt from off street parking requirements. *The site plan no longer includes a driveway around the entire facility. Final construction drawings were reviewed by the Fire Department and Engineering Department and the respective departments had no concerns. Fire hydrants are placed according to the Minnesota State Fire Code.*
- **Exterior Building Material:** *Blockmetrix previously proposed 50% eifs on the façade of the building and 50% Square Rib Metal to meet the requirements of the Brainerd Zoning Code. Section 515-4 General Development and Design Standards now allow for a maximum of 85% metal panels on the street side façade in the GI District. The proposed elevations meet this requirement through the application of stucco and stone veneer.*
- **Landscaping Requirements:** Tree planting and parking lot landscape requirements in the GI District are only required along major thoroughfares. This property is exempt from landscaping requirements.
- **Building Official Comments:** The Building Official has no issue with the proposed development at this time. A full set of construction, mechanical, electrical, and plumbing plans will be reviewed prior to issuance of the Building Permit.
- **Fire Department Comments:** The Fire Department is satisfied with both the width and turning radius of the driveway. An additional fire hydrant was added to the north side of the property. The fire department will review the building permit to ensure it meets all Fire Code requirements.
- **City Engineer Comments:** The City Engineer conducted an initial review of the plans and from a stormwater perspective, there should not be any issues with the plans as presented. They are disturbing more than one acre so an MPCA Construction Stormwater permit will be required for development of the site, but they should not need to provide any additional stormwater rate control or treatment.

- **BPU Comments:** BPU has been provided with the plan and has expressed no concerns at this time with the proposed layout of the property.

Video link displaying the difference in open air mining verses immersion mining

<https://www.youtube.com/watch?v=Hd2FqANes0M>

STAFF RECOMMENDATION

1. Approve the Resolution Approving Amendment to the Purchase and Development Agreement Between the EDA and Blockmetrix.

APPENDIX: SOUND CALCULATIONS

Kelvion Coolers

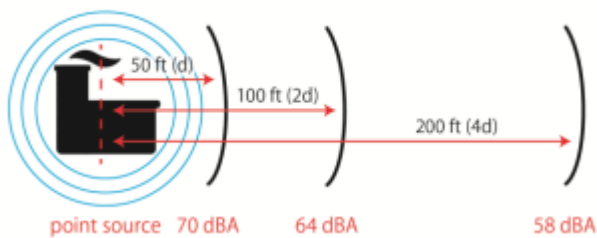
Blockmetrix proposes 8 cooling units for the facility consisting of 22 fans each with enough room to add 1 cooling unit at a later date.

Based on the specifications provided and email confirmation from the manufacturer, the cooling units have a sound pressure output of 68 dBA at 10 meters which is about 33 ft when running a full capacity.

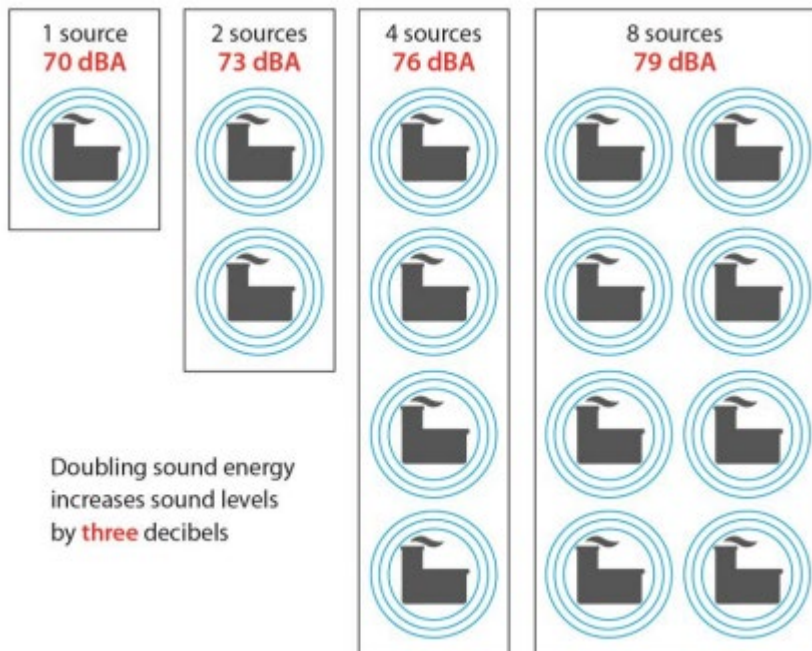
MPCA sound calculation formula

When the distance is doubled from a point source, the sound level decreases six decibels

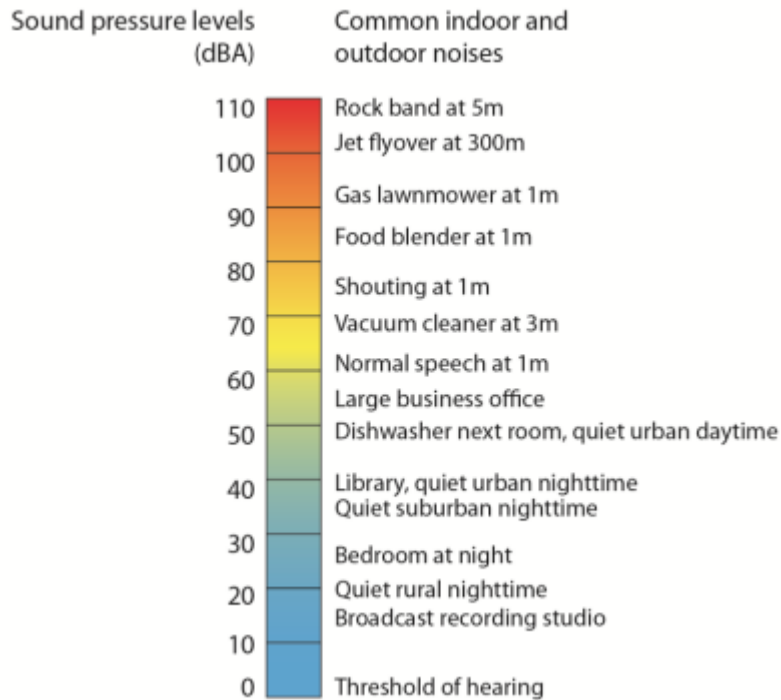
Example: If a sound level is: 70 decibels at 50 feet it will be 64 decibels at 100 feet, and 58 decibels at 200 feet



A doubling of sound energy yields an increase of three decibels. For example, each generator at a factory produces sound that is measured at 70 decibels, so running one generator would create sound measured at 70 dBA, turning on a second generator would increase sound by 3 dBA to 73 dBA, and doubling again to four generators would increase sound levels to 76.



Decibel levels of common noise sources



Blockmetrix facility sound calculation – A potential 9th cooling unit would not substantially add to the decibel calculation for the property.

1 Kelvion Cooler = 68 dBA

2 Kelvion Coolers = 71 dBA

4 Kelvion Coolers = 74 dBA

8 Kelvion Coolers = 77 dBA

9 Kelvion Coolers = 77.375 dBA

16 Kelvion Coolers = 80 dBA (Not proposed or depicted in the design)

Note: This does not take into account that the first cooler is approximately 150 ft from the eighth cooler. Point source sound calculations assume that all coolers would be touching. Thus, the calculation presented above is slightly louder than what is to be expected. This calculation does not account for the roof covering the coolers, which will significantly reduce sound to neighboring properties.

Distance Calculation (8 Units)

77 dBA at 33 ft

66 ft = 71 dBA

132 ft = 65 dBA

264 ft = 59 dBA

528 ft = 53 dBA

1,056 ft = 47 dBA

2,112 ft = 41 dBA

AERIAL MAP

The following calculations are depicted:

264 ft = 59 dBA (first ring)

528 ft = 53 dBA (second ring)

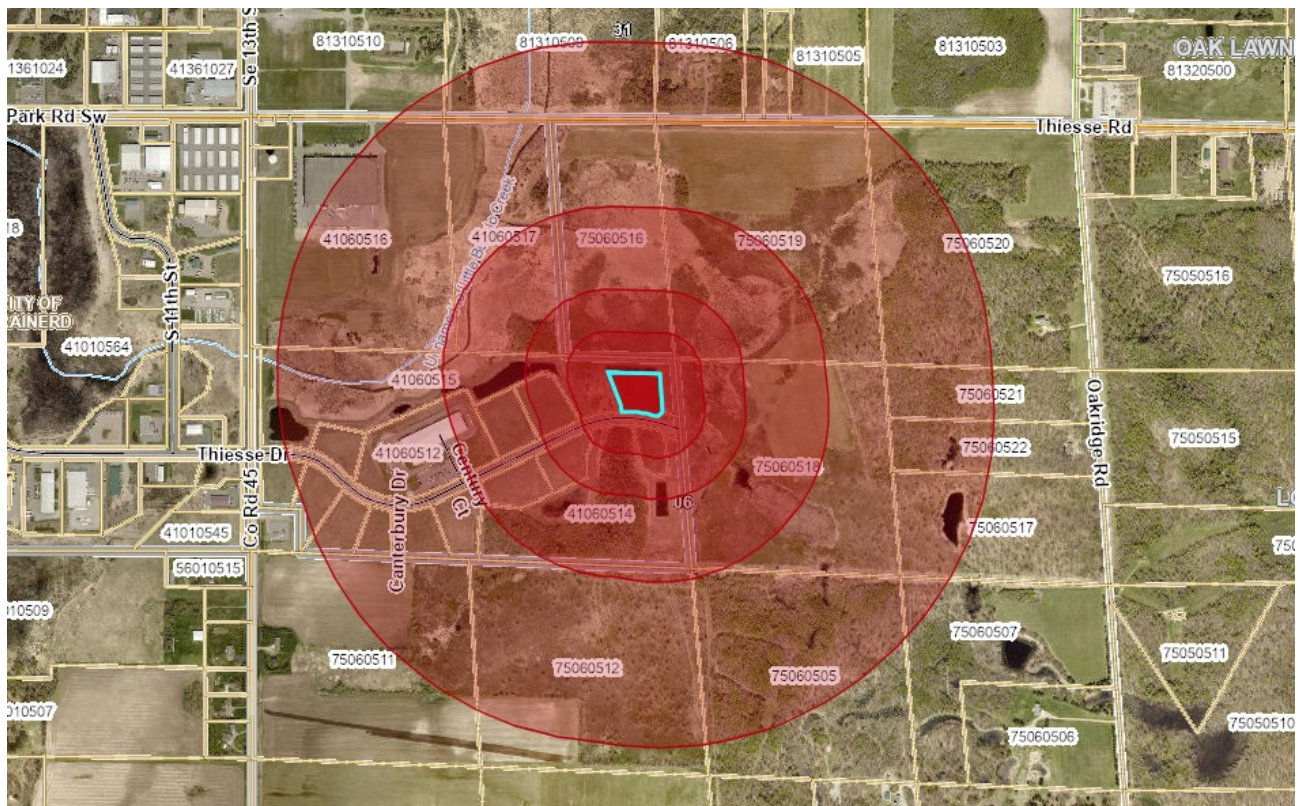
1,056 ft = 47 dBA (third ring)

2,112 ft = 41 dBA (fourth ring)

NAC 1: Residential housing, religious activities, camping and picnicking areas, health services, hotels, educational services

The statutory limits for a residential location are L10 = 65 dBA and L50 = 60 dBA during the daytime (7:00 a.m. – 10:00 p.m.) and L10 = 55 dBA and L50 = 50 dBA during the nighttime (10:00 p.m. – 7:00 a.m.)

The 47 dBA at 1,056 feet does not exceed NAC 1 standards as there are no residential houses with any of the parcels at 1,056 feet.



Note: Map assumes that the coolers are located at the property line which is not the case as depicted in the site plan.

EDA RESOLUTION NO. _____

**RESOLUTION APPROVING MATERIAL CHANGE TO
CONSTRUCTION PLANS (BLOCKMETRIX)**

BE IT RESOLVED BY the Board of Commissioners (“Board”) of the Brainerd Economic Development Authority (the “Authority”) as follows:

Section 1. Recitals.

1.01. Pursuant to a Purchase and Development Contract, dated March 3, 2022 (the “Contract”), between the Authority and VCV Digital Infrastructure Minnesota LLC (the “Developer”), the Developer agreed to construct a cryptocurrency mining facility (the “Minimum Improvements”) on certain real property located at 1911 and 1918 Thiesse Drive in the City of Brainerd, Crow Wing County, State of Minnesota (collectively, the “Development Property”) in accordance with approved Construction Plans, as defined in the Contract.

1.02. Following execution of the Contract by the Authority and the Developer, the Authority approved Construction Plans in accordance with the terms of the Contract.

1.03. On September 17, 2024, the Board of the Authority approved an amendment and assignment of the Contract by the Developer (hereinafter, the “Assignor”) to Blockmetrix, LLC, a Texas limited liability company (the “Assignee”), pursuant to an Assignment, Assumption, and Amendment to Purchase and Development Contract (the “Assignment, Assumption and Amendment”), by and between the Assignor, the Assignee, and the Authority. On the date hereof, the Assignment, Assumption and Amendment has not yet been fully executed by the parties.

1.04. The Developer and/or Assignee have proposed a material change in the previously approved Construction Plans for the Minimum Improvements on the Development Property.

1.05. Pursuant to Section 4.2(b) of the Contract, to be amended by the Assignment, Assumption and Amendment upon execution thereof, if the Developer desires to make any material change in the Construction Plans after their approval by the Authority, the Developer must submit the proposed change to the Authority for its approval.

Section 2. Material Change to Construction Plans Approved.

2.01. The Authority hereby approves the material change in the Construction Plans for the Minimum Improvements on the Development Property, in accordance with the Contract, to be amended by the Assignment, Assumption and Amendment upon execution thereof.

2.02. Authority staff and officials are authorized to take all actions necessary to perform the Authority’s obligations under the Contract, to be amended by the Assignment, Assumption and Amendment upon execution thereof, including without limitation execution of any

documents to which the Authority is a party referenced in or attached to the Contract, to be amended by the Assignment, Assumption and Amendment upon execution thereof, and any other documents necessary to construct the Minimum Improvements pursuant to the Construction Plans approved by the Board on the date hereof.

Approved this 14th day of February, 2025, by the Board of Commissioners of the Brainerd Economic Development Authority.

President

ATTEST:

Executive Director

**ASSIGNMENT, ASSUMPTION AND AMENDMENT
TO PURCHASE AND DEVELOPMENT CONTRACT**

THIS ASSIGNMENT, ASSUMPTION AND AMENDMENT TO PURCHASE AND DEVELOPMENT CONTRACT (this “Assignment, Assumption and Amendment”), made as of this ____ day of _____, 2025, by and between **VCV DIGITAL INFRASTRUCTURE MINNESOTA LLC**, a Delaware limited liability company (the “Assignor”), **BLOCKMETRIX, LLC**, a limited liability company established under the laws of the State of Texas (the “Assignee”), and **BRAINERD ECONOMIC DEVELOPMENT AUTHORITY**, a public body corporate and politic under the laws of the State of Minnesota (the “Authority”).

RECITALS:

A. The Assignor and the Authority entered into that certain Purchase and Development contract, dated March 3, 2022, recorded on January 10, 2024 in the Office of the County Recorder of Crow Wing County as document number 992685 (the “Contract” or “Agreement”), for the purchase, sale and development of certain real property located at 1911 Thiesse Drive and 1918 Thiesse Drive in the City of Brainerd, Crow Wing County, State of Minnesota, as legally described in the Contract (collectively, the “Development Property” or “Property”), on which the Assignor agreed to construct a cryptocurrency mining facility, as more fully described in Schedule D attached to the Contract (the “Minimum Improvements”).

B. The Assignor and the Assignee have represented to the Authority that the Assignee proposes to purchase all of the membership interests in the Assignor in an arm’s-length transaction, and following such purchase the Assignee shall become the successor of the Assignor. In connection such transfer, the Assignor desires to assign all of its rights, interests, and obligations in the Contract to Assignee, and the Assignee has agreed to be bound by all of the terms and provisions of the Contract.

C. Pursuant to the Contract, the Authority (hereinafter, also the “Grantor”) conveyed the Development Property to the Assignor (hereinafter, also the “Grantee”) by Quit Claim Deed, dated October 6, 2022, recorded in the office of the Crow Wing County Recorder on January 1, 2024, as document number 992687 (the “Deed”). Section 2 of the Deed provides that “[t]he Grantee’s rights and interest in the Property are subject to the terms and conditions of the

Agreement relating to the Grantor's right to re-enter and re-vest in Grantor title to the Property under conditions specified therein, including but not limited to termination of such right upon issuance of a Certificate of Completion as defined in the Agreement."

D. The Assignee proposes to further revise the Construction Plans for the Minimum Improvements and acknowledges that before commencement of construction of the Minimum Improvements, the Assignee shall submit to the Authority revised Construction Plans for approval.

E. Pursuant to Section 4.2(b) of the Contract, any proposed change to the Construction Plans shall be deemed approved by the Authority unless rejected, in whole or in part, by written notice by the Authority to the Developer within ten (10) days after receipt of the notice of such change. The Authority proposes to extend the period in which to provide written notice of rejection to any change to the Construction Plans from ten (10) days to thirty (30) days.

F. Pursuant to Section 4.3 of the Contract, construction of the Minimum Improvements must be commenced within the "Construction Commencement Deadline," as defined therein. The Assignee proposes to extend the Construction Commencement Deadline to April 1, 2025.

G. The Assignee proposes to add a provision to the Contract, as amended hereby, that no former employee or owner of VCV Digital Infrastructure Minnesota LLC, VCV Digital or any affiliate thereof, shall own an interest in the Assignee or Assignor the after execution of this Assignment, Assumption and Amendment.

NOW, THEREFORE, IN CONSIDERATION OF One Dollar (\$1.00) and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereto agree as follows:

1. Any capitalized term used herein and not otherwise defined herein shall have the meaning ascribed to such term in the Contract.

2. The Assignor does hereby grant, transfer and assign to the Assignee, all of its rights, interests, and obligations under the Contract, and the Authority hereby consents to such grant, transfer, and assignment to the Assignee.

3. The Assignee hereby accepts this Assignment, Assumption and Amendment and assumes and agrees to faithfully abide by, perform and discharge each and every term, covenant, condition and obligation of the Assignor under the Contract, as amended hereby (the "Assumed Obligations"), and to defend and hold the Assignor harmless from any lawsuits, claims, damages, costs and expenses, including actual attorney fees and disbursements arising in connection with the Contract, except those arising from events occurring or arising prior to the date hereof.

4. Section 4.2(b) of the Contract is hereby amended to provide that any proposed change to the Construction Plans shall be deemed approved by the Authority unless rejected, in whole or in part, by written notice by the Authority to the Developer within thirty (30) days after receipt of the notice of such change.

5. The “Construction Commencement Deadline,” as defined in Section 4.3 of the Contract, is hereby amended and extended to April 1, 2025, and upon approval by the Authority of further revised Construction Plans for the Minimum Improvements to be proposed by the Assignee, the Assignee shall commence construction of the Minimum Improvements within such date.

6. The Contract is hereby further amended to add a new Section 10.15, as follows:

Section 10.15. Restriction on Sale or Transfer of Ownership Interest in Blockmetrix, LLC and VCV Digital Infrastructure Minnesota LLC. No former employee or owner of VCV Digital Infrastructure Minnesota LLC, VCV Digital or any affiliate thereof, shall own an interest in Blockmetrix, LLC or VCV Digital Infrastructure Minnesota LLC after execution of this Agreement, as assigned, assumed and amended pursuant to an Assignment, Assumption and Amendment to Purchase and Development Contract, by and between VCV Digital Infrastructure Minnesota LLC, as assignor, Blockmetrix, LLC, as assignee, and the Authority.

7. The Assignee expressly represents, for the benefit of the Authority, that it is a limited liability company duly organized and in good standing under the laws of the State of Texas, is duly authorized to transact business within the State of Minnesota, is not in violation of any provisions of its organizational documents or the applicable laws of any state, has power to enter into this Assignment, Assumption and Amendment and the capability to perform the obligations of the Assignor under the Contract and has duly authorized the execution, delivery and performance of this Assignment, Assumption and Amendment by proper action of its governing body.

8. If the Authority delivers any notice, demand or other communication to the Developer under the Contract that relates to or may affect the rights and interest of the Assignee under the Contract or the Assumed Obligations, the Authority will deliver a copy of such notice, demand or communication to the Assignee in the manner set forth in the Contract addressed or delivered personally to the Assignee as follows:

Blockmetrix, LLC
2651 North Harwood Street
Suite 400
Dallas, TX 75201

or at such other address as the Assignee may, from time to time, designate by written notice to the Authority given or delivered in the manner set forth in the Contract.

9. Notwithstanding anything to the contrary herein, VCV Digital Infrastructure Minnesota LLC, as Grantee under the Deed and Assignor hereunder, and Blockmetrix, LLC as Assignee hereunder, shall remain obligated to fulfill all obligations of the Developer under the Contract, as amended by this Assignment, Assumption and Amendment.

10. This Assignment, Assumption and Amendment shall be binding upon and inure to the benefit of the successors and assigns of the parties hereto and shall further be for the benefit and reliance of the Authority.

11. Except as hereby amended, all other terms and conditions of the Contract shall remain in full force and effect.

12. This Assignment, Assumption and Amendment shall be governed by and construed in accordance with the laws of the State of Minnesota.

13. This Assignment, Assumption and Amendment may be executed in counterparts, which counterparts when considered together shall constitute a single, binding, valid and enforceable agreement.

IN WITNESS WHEREOF, the parties have executed this Assignment, Assumption and Amendment to Purchase and Development Contract as of the date first indicated above.

**VCV DIGITAL INFRASTRUCTURE
MINNESOTA LLC, as Assignor**

By: _____
Name: _____
Its: _____

STATE OF _____)
) ss.
COUNTY OF _____)

This instrument was acknowledged before me this _____ day of _____, 2025, by _____, the _____ of VCV Digital Infrastructure Minnesota LLC, a Delaware limited liability company on behalf of the company.

Notary Public

BLOCKMETRIX, LLC, as Assignee

By: _____

Its: _____

STATE OF _____)
) ss.
COUNTY OF _____)

This instrument was acknowledged before me this _____ day of _____, 2025, by _____, the _____ of Blockmetrix, LLC, a Texas limited liability company, on behalf of said company.

Notary Public

**BRAINERD ECONOMIC DEVELOPMENT
AUTHORITY**

By _____
Its President

By _____
Its Executive Director

STATE OF MINNESOTA)
) ss.
COUNTY OF CROW WING COUNTY)

The foregoing instrument was acknowledged before me this ____ day of _____, 2025, by Kevin Yeager, the President of the Brainerd Economic Development Authority, a public body politic and corporate, on behalf of the Authority.

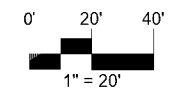
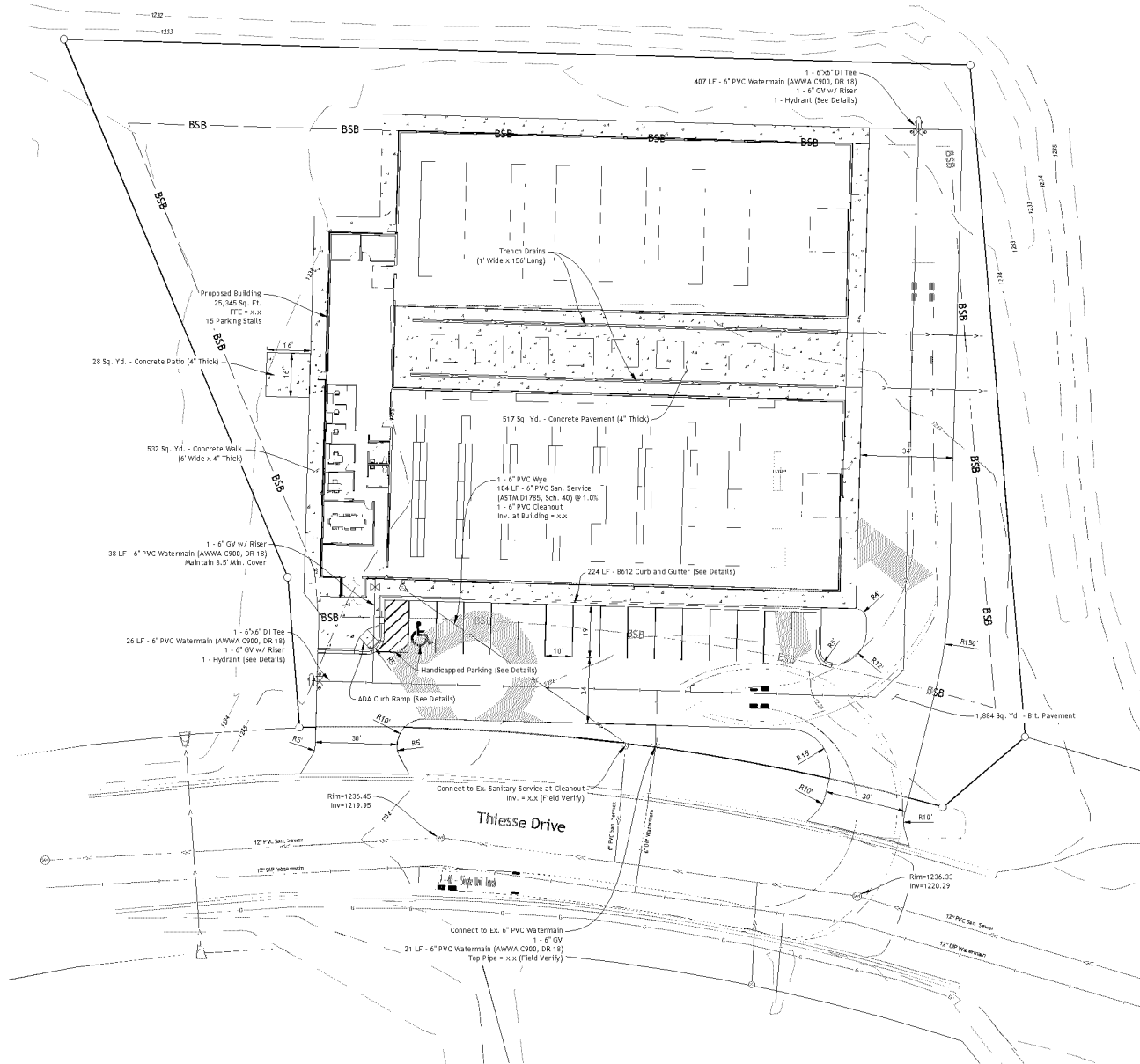
Notary Public

STATE OF MINNESOTA)
) ss.
COUNTY OF CROW WING COUNTY)

The foregoing instrument was acknowledged before me this ____ day of _____, 2025, by _____, the Executive Director of the Brainerd Economic Development Authority, a public body politic and corporate, on behalf of the Authority.

Notary Public

THIS INSTRUMENT WAS DRAFTED BY:
Kutak Rock LLP (SEL)
60 South Sixth Street, Suite 3400
Minneapolis, MN 55402-4018
(612) 334-5000



LEGEND:

- PROJECT BOUNDARY
- ADJOINING BOUNDARY
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING CURB AND GUTTER
- EXISTING GAS LINE - BURIED
- EXISTING SANITARY SEWER PIPE
- EXISTING STORM SEWER PIPE
- EXISTING WATER MAIN PIPE
- EXISTING BITUMINOUS PAVEMENT
- PROPOSED BITUMINOUS PAVEMENT
- PROPOSED CONCRETE PAVEMENT
- PROPOSED CURB AND GUTTER (B612)
- PROPOSED SANITARY SEWER PIPE
- PROPOSED STORM SEWER PIPE
- PROPOSED WATER MAIN PIPE
- BUILDING SETBACK FROM BOUNDARY LINES
- PROPOSED PAINTED PAVEMENT MARKING
- PROPOSED BOLLARD
- PROPOSED HYDRANT
- PROPOSED GATE VALVE
- PROPOSED SANITARY CLEANOUT
- EXISTING SANITARY MANHOLE
- EXISTING FLARED END SECTION
- FOUND IRON MONUMENT

IMPERVIOUS COVERAGE

LOT AREA = 74,127 SQ. FT. (1.70 ACRES)
EXISTING IMPERVIOUS = 0 SQ. FT.
PROPOSED IMPERVIOUS = 51,564 SQ. FT.
TOTAL IMPERVIOUS COVERAGE = 69.6%

DATE	BY	REVISION

HY-TEC CONSTRUCTION OF BRAINERD, INC.
JEFF HANSON
SECTION 6, TOWNSHIP 44, RANGE 30
CITY OF BRAINERD, CROW WING COUNTY, MINNESOTA

KLD
KLEINER LINDSEY DESIGN
10000 15TH AVE S
BURNING WOOD, MN 55305
(763) 255-1100
www.kldinc.com

DATE: 11/17/2025
DESIGNED: JPH/JPH
CHECKED: TAP
SCALE: AS SHOWN

PROJECT NO. HYTEC2402

Signature: _____
TOWN POOL: _____
LIC. NO. 34444
DATE: 11/17/2025

HY-TEC CONSTRUCTION OF BRAINERD, INC.
JEFF HANSON
SECTION 6, TOWNSHIP 44, RANGE 30
CITY OF BRAINERD, CROW WING COUNTY, MINNESOTA

KLD
KLEINER LINDSEY DESIGN
10000 15TH AVE S
BURNING WOOD, MN 55305
(763) 255-1100
www.kldinc.com

DATE: 11/17/2025
DESIGNED: JPH/JPH
CHECKED: TAP
SCALE: AS SHOWN

PROJECT NO. HYTEC2402

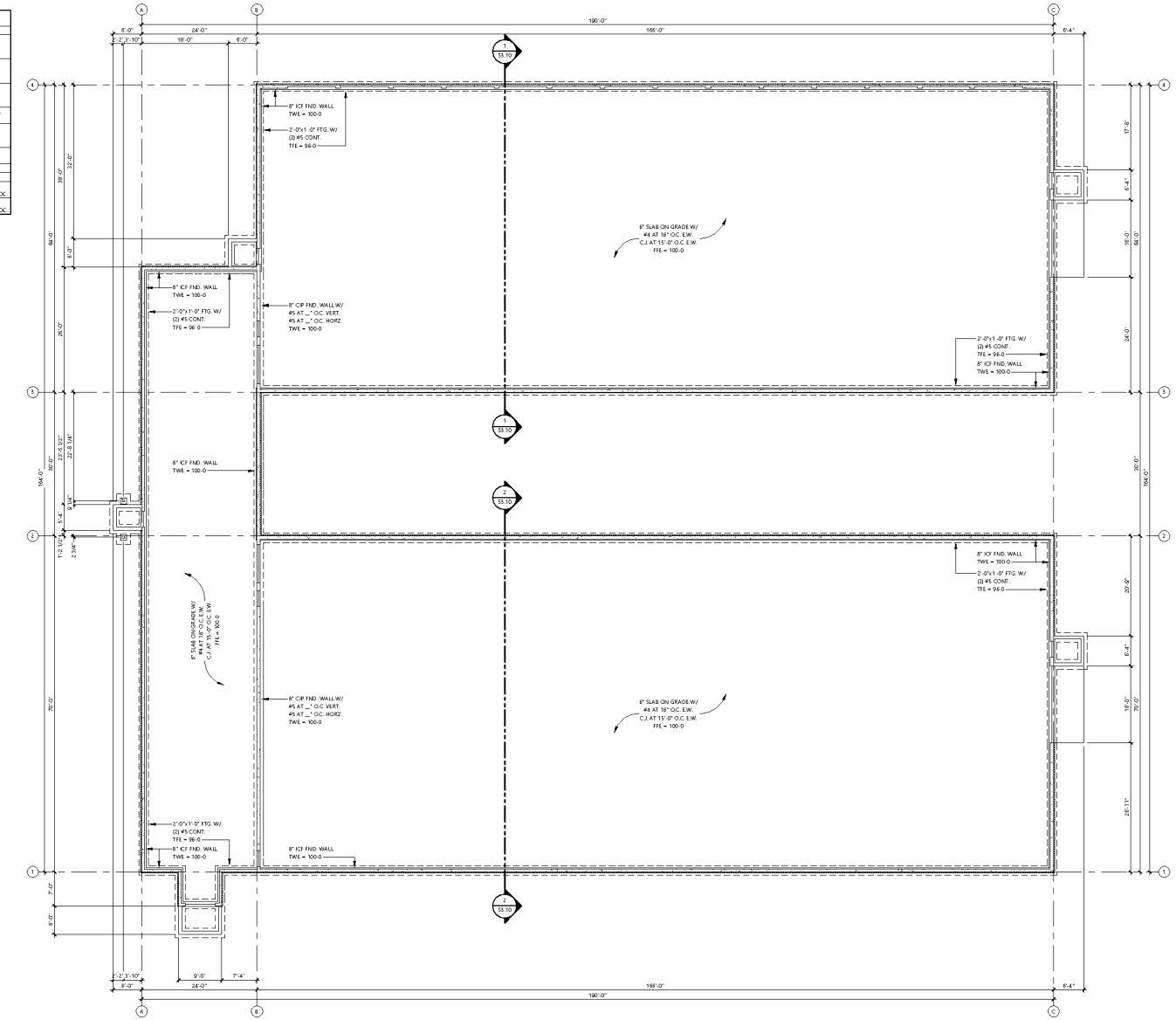
Signature: _____
TOWN POOL: _____
LIC. NO. 34444
DATE: 11/17/2025

© 2024 WIDSETH DATA HOLDINGS & ASSOCIATES, INC. SHEET 14-16 110.03.23.11.24.14 AM

SITE CONCRETE				
PAD / SLAB	SIZE (LxW)	THICKNESS	REINFORCEMENT	NOTES
GENERATOR PAD	COORDINATE WITH SUPPLIER	8" SLAB WITH 1'-0" x 1'-0" THICKENED EDGE	#5 AT 18" O.C. EW. PLUS (2) #4 CONT. AT THICKENED EDGE	SEE SITE EQUIPMENT PAD DETAIL
CONDENSING UNIT PAD	COORDINATE WITH SUPPLIER	8" SLAB WITH 8" x 8" THICKENED EDGE	#5 AT 18" O.C. EW. PLUS (2) #4 CONT. AT THICKENED EDGE	SEE SITE EQUIPMENT PAD DETAIL
TRANSFORMER PAD	COORDINATE WITH SUPPLIER	8" SLAB WITH 8" x 8" THICKENED EDGE	#5 AT 18" O.C. EW. PLUS (2) #4 CONT. AT THICKENED EDGE	DESIGNED BY SUPPLIER
RATIO SLAB	SEE ARCHITECTURAL / CIVIL	4"	NON-REINFORCED	SEE ARCHITECTURAL / CIVIL FOR SIZE AND LOCATION
DUMPSTER SLAB	N/A	8" SLAB WITH 1'-0" x 1'-0" THICKENED EDGE	#5 AT 18" O.C. EW. PLUS (2) #4 CONT. AT THICKENED EDGE	SEE N/A FOR SIZE AND LOCATION
SITE SIDEWALKS, CURBS, RAMPS, SITE DRIVE APRONS & SITE STAIRS	N/A	N/A	N/A	SEE C.M.A.
SITE SEWAGE POST FOUNDATION	N/A	N/A	N/A	SEE C.M.A.
PLUMBING BASE	N/A	N/A	N/A	SEE ARCHITECTURAL
SITE MOUNTING FOUNDATION (IF APPLICABLE)	N/A	N/A	N/A	SEE STRUCTURAL DETAIL
SITE BOLLARDS	N/A	N/A	N/A	SEE ARCHITECTURAL / CIVIL FOR LOC.

FOUNDATION PLAN NOTES

- SEE _____ FOR STEPPED FOOTING DETAIL INDICATED AS 5-_____S ON PLAN.
- SEE _____ FOR SLAB CONTROL JOINT.
- SEE _____ FOR SLAB CONSTRUCTION JOINT.
- PROVIDE _____ SHAPES FOR HOLD-DOWN ANCHORS.
- COORDINATE FINAL SIZE AND LOCATION OF ALL HOUSEKEEPING PADS AND EQUIPMENT PADS WITH MECHANICAL AND ELECTRICAL CONTRACTOR. SEE ARCHITECTURAL AND CIVIL PLANS FOR ADDITIONAL CONCRETE PADS, SIDEWALKS, DRIVES, APRONS AND BOLLARDS, ETC.
- TOP OF SLAB EL. = 100.0 (ACTUAL = SEE CIVIL).
- ALL FOOTINGS CENTERED UNDER COLUMNS OR WALLS UNLESS NOTED OTHERWISE.
- COORDINATE ALL THRU WALL AND THRU SLAB PENETRATIONS WITH MECHANICAL AND ELECTRICAL.
- SEE _____ FOR BOLLARD CONSTRUCTION. SEE ARCHITECTURAL FOR LOCATIONS.



1. FOOTING AND FOUNDATION PLAN
1/32" = 1'-0"



WIDSETH
ARCHITECTS & ENGINEERS
SICKLETSVILLE, VIRGINIA

DRAWN BY:
O. BENG
CHECKED BY:
D. AN

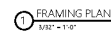
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, AND REPORT WAS PREPARED BY ME OR UNDER MY CLOSE PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
PROJECT ENGINEER: **MM-DD-VV**
DATE: **MM-DD-YYYY**

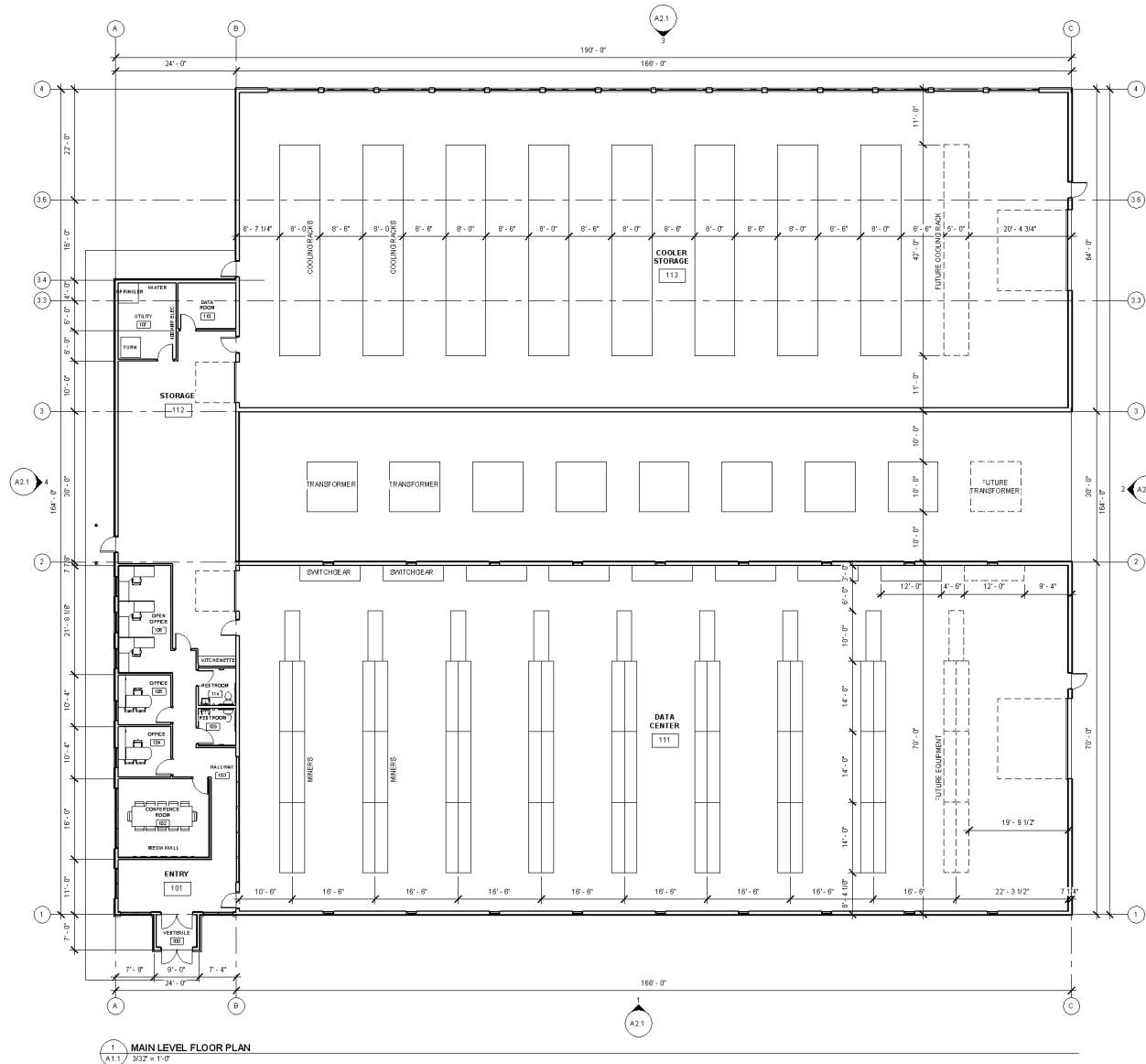
DATE	REV	REVISIONS DESCRIPTION

BLOCKMETRIX DATA CENTER
FOOTING AND FOUNDATION PLAN

S1.10
PROJECT # 2024-12141

LINTEL SCHEDULE		
MARK	SIZE	MIN. BEARING
L ₁	(1) 1 3/4" x 1" LVL	— JACK STUDS — KING STUD
L ₂	(2) 1 3/4" x 1" LVL	N/A
L ₃	(3) 1 3/4" x 1" LVL	— JACK STUDS — KING STUD





NOT FOR CONSTRUCTION

COPYRIGHT 2022 - HYTEC CONSTRUCTION PRINTED: 1/30/2025 11:50:25 AM

BLOCKMETRIX DATA CENTER

MAIN FLOOR PLAN

PROJECT #

DATE

1.30.25

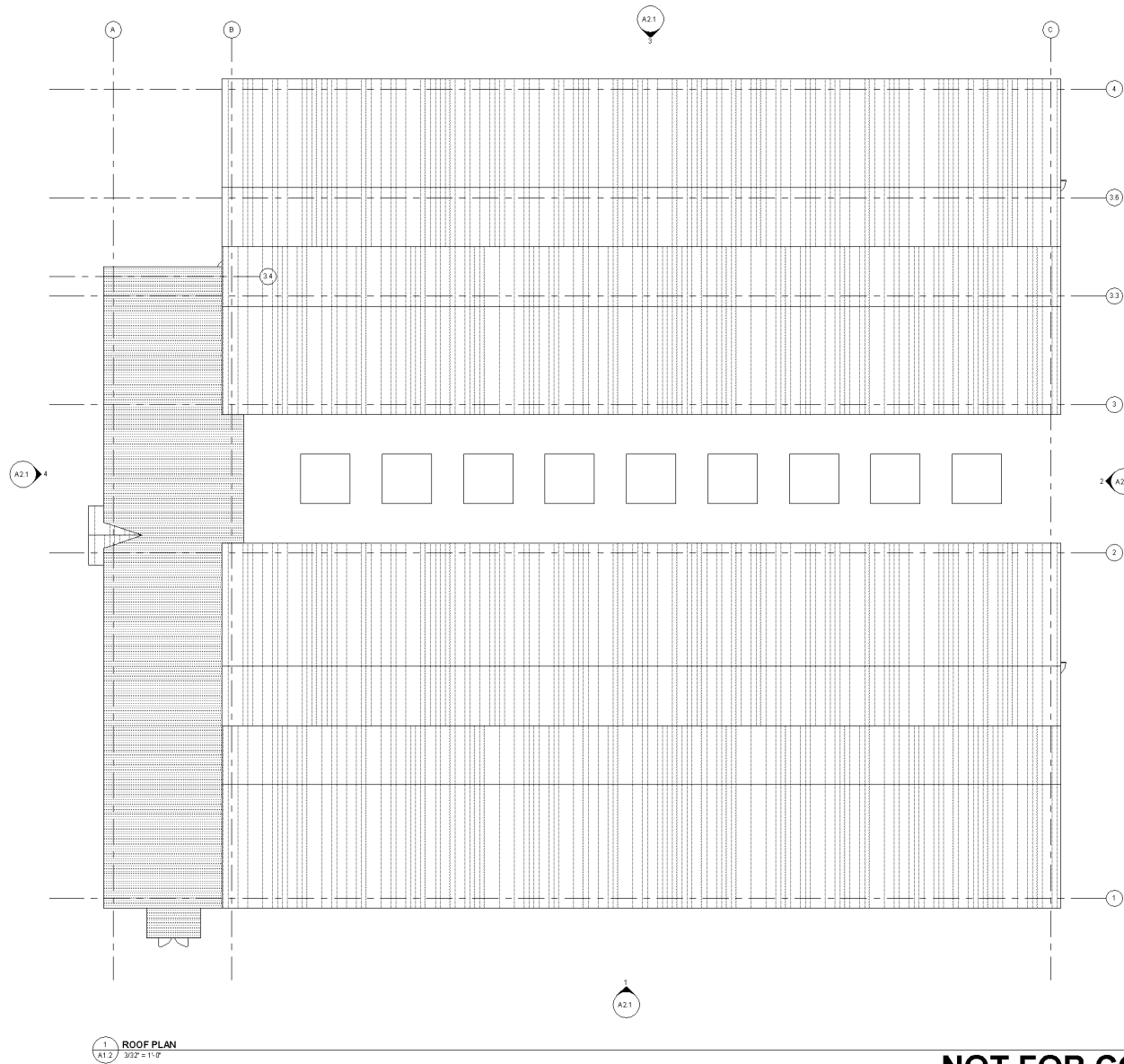
SHEET

A1.1

HYTEC
CONSTRUCTION
ARCHITECTURAL DIVISION

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer in the State of Minnesota.
11000 BLISS AVE. SUITE 311
BRAINERD, MN 56401
PHONE 218-824-8529
FAX 218-824-8583
HYTEC CONSTRUCTION
LIC #EC-20050548

REVISIONS	



NOT FOR CONSTRUCTION

BLOCKMETRIX DATA CENTER

ROOF PLAN

PROJECT #

DATE

1.30.25

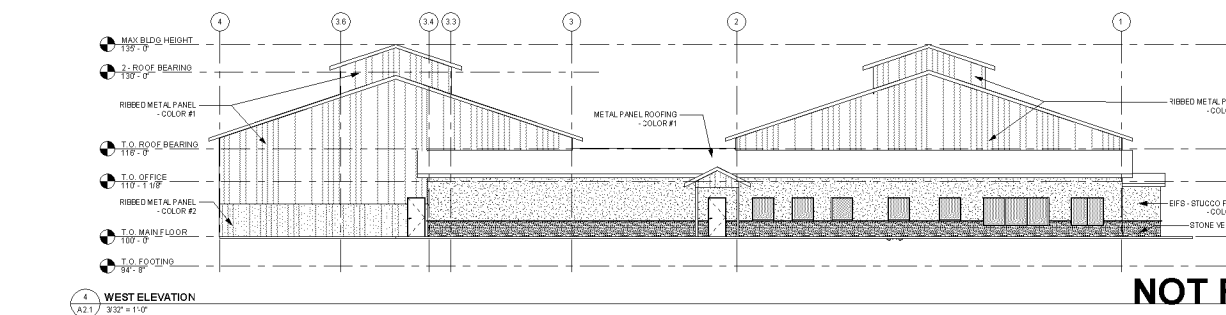
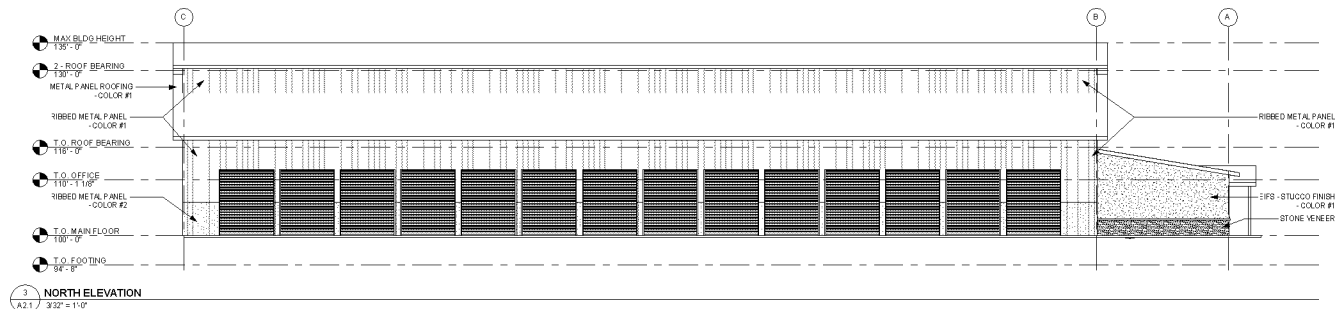
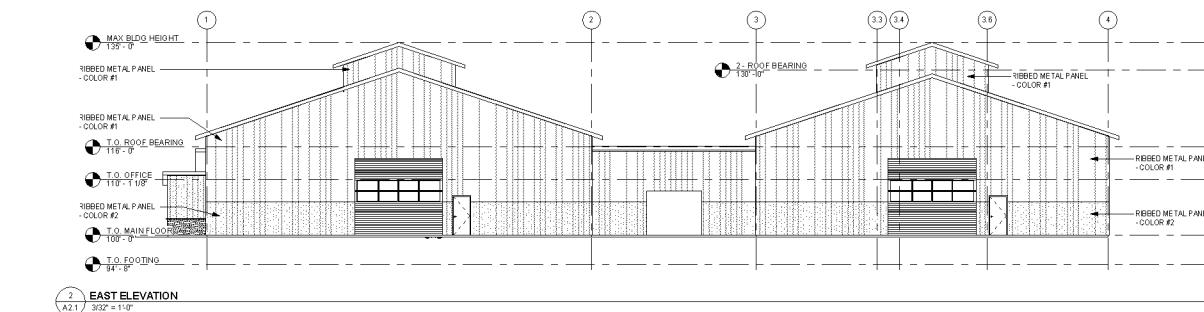
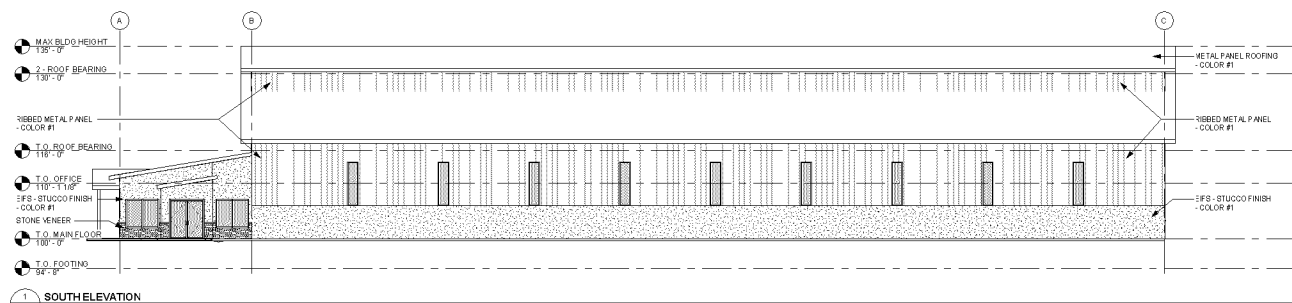
SHEET

A1.2

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ARCHITECTURAL DIVISION

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11000 BLISS RD. SUITE 301
BROOKFIELD, WI 53001
PHONE 262.934.8529
FAX 262.934.8583
HYTEC CONSTRUCTION
LIC #EC-20050548

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11360 BUSINESS 371
BRainerd, MN 56401
PHONE 218/829-8529
FAX 218/829-5383
www.hytecconst.com
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EXTERIOR ELEVATIONS

PROJECT #

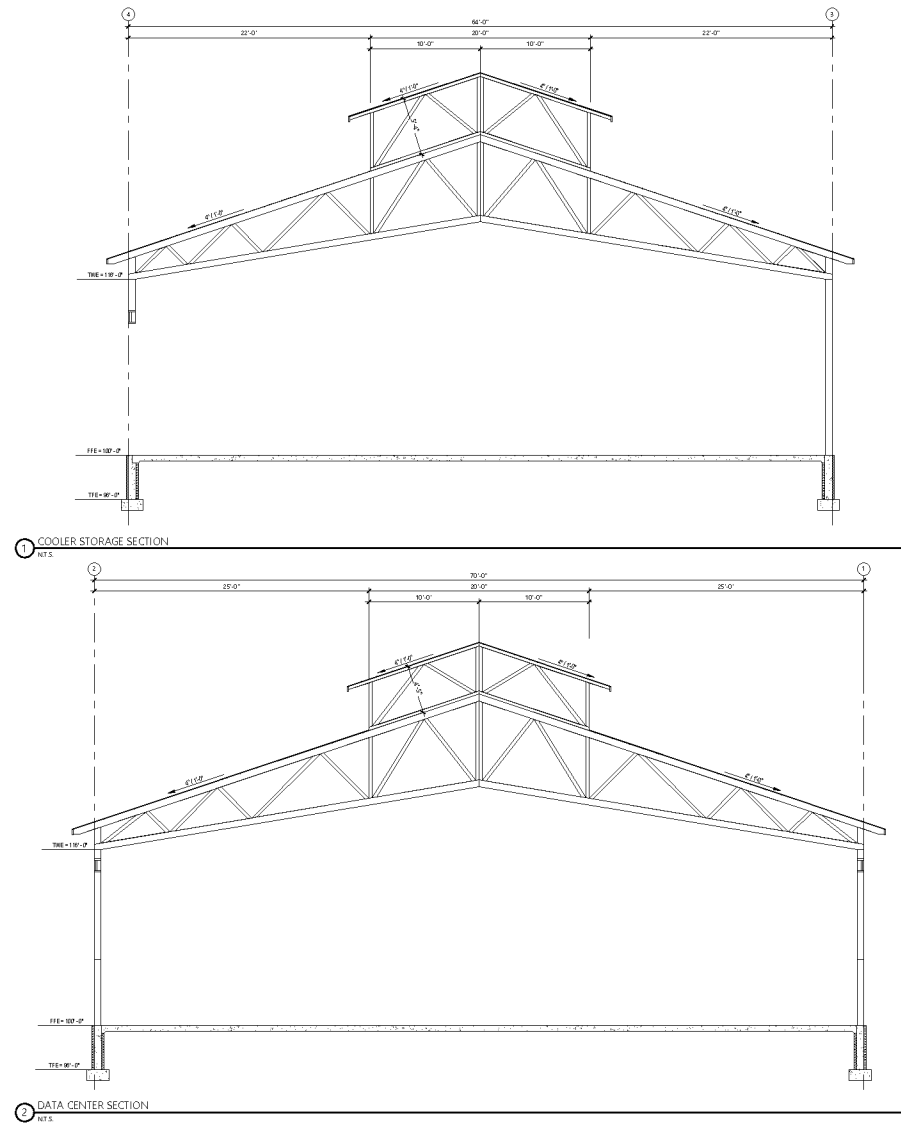
DATE: _____

1.30.25

SHEET:

A2.1

C:\304-WIDSETH\BATH\BATHING\B.A. ASSOCIATES, INC. - SHEET 3.10.10 - 10/03/2011 10:04 AM



WIDSETH

ARCHITECTS - ENGINEERS - SURVEYORS

DRAWN BY:
D.BAG
CHECKED BY:
D.AN

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, AND REPORT WAS PREPARED BY ME OR UNDER MY CLOSE PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
PROJECT ENGINEER: **MM-DD-YY** DATE: **MM-DD-YYYY**

DATE	REV#	REVISIONS DESCRIPTION

BLOCKMETRIX DATA CENTER
BUILDING SECTIONS

S3.10
PROJECT # 2024-12141

STRUCTURAL NOTES

A. DESIGN CODES

1. INTERNATIONAL BUILDING CODE - 2018
2. AMERICAN CONCRETE INSTITUTE 318-11
3. AMERICAN WOOD COUNCIL NDS-2015
4. NDS-2015, SPECIFICATION FOR THE DESIGN AND CONSTRUCTION OF NDS-BEARING CONCRETE MASONRY

B. DESIGN LOADS

1. WIND LOAD:
 - a. EXPOSURE = C
 - b. DESIGN WIND SPEED, ULMATE = 115 MPH
 - c. REE CATEGORY = I
2. ROOF LOADS:
 - a. GROUND SNOW LOAD = 10 PSF
 - b. $C_s = 1.0$
 - c. $C_e = 1.0$
 - d. 1:12 SLOPED ROOF
 - e. ROOF SNOW LOAD = 10 PSF FLAT ROOF
 - f. 40 PSF SLOPED ROOF (UNBALANCED)
3. FLOOR LOAD:
 - a. LIVE LOAD = 100 PSF
 - b. DEAD LOAD (SUPERIMPOSED) = 100 PSF
 - c. STAIR, PUBLIC CORRIDORS, & LOBBIES LIVE LOAD
 - d. SEISMIC ZONE 1

C. SPECIAL INSPECTION

OWNER SHALL EMPLOY A SPECIAL INSPECTION AGENCY TO PROVIDE INSPECTION DURING CONSTRUCTION IN ACCORDANCE WITH SECTION 1704 OF THE IBC. SPECIAL INSPECTION TO PROVIDE FINAL DESIGN REPORT TO OWNER, BUILDING OFFICIAL, AND STRUCTURAL ENGINEER.

THE FOLLOWING ITEMS REQUIRE SPECIAL INSPECTION:

1. SOIL: SOIL COMPRESSION AND VERIFICATION OF BEARING CAPACITY.
2. STEEL: PERIODIC INSPECTION OF HIGH STRENGTH BOLTS AND WELDING.
3. MASONRY: PERIODIC INSPECTION FOR LEVEL 1.
4. CONCRETE: CONCRETE AND REINFORCEMENT PLACEMENT, CONCRETE STRENGTH, SLUMP, AIR TEST.

D. SITE WORK

1. FOUNDATIONAL RETAINING AND BASEMENT WALLS: FOUNDATION DRAINAGE SLABS ON GRADE, AND OTHER ITEMS RELATED TO THE SOILS ARE DESIGNED AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE RECOMMENDATIONS OF _____ REPORT NO. _____, DATED _____.
2. DESIGN NET SOIL BEARING CAPACITY IS AS FOLLOWS:
 - a. SPREAD FOOTINGS = PSF
 - b. STEEP FOOTINGS = PSF
3. CONTRACTOR TO HAVE BOTTOM OF EXCAVATION INSPECTED BY SOILS ENGINEER PRIOR TO CASTING FOOTINGS TO VERIFY SOIL BEARING CAPACITY.
4. MINIMUM EXCAVATION FROM EXISTING GRADE TO BOTTOM OF BUILDING PERIMETER FOUNDATION SHALL BE 5'-0" ALL OPEN AIR FOUNDATIONS SHALL HAVE A MINIMUM OF 5'-0" OF PROTECTIVE PROTECTION.
5. BACKFILL EXCAVATION ON EACH SIDE OF WALLS IN LEFT TO A MINIMUM OF 18" OF THE MAXIMUM STANDARD PROCTOR DENSITY.
6. FOOTINGS TO BEAR ON UNDISTURBED, UNFROZEN SOIL. ALL BELOW FOOTINGS SHALL BE PLACED IN 8" LIFT AND COMPACTED TO A MINIMUM OF 98% OF THE MAXIMUM STANDARD PROCTOR DENSITY.

E. CONCRETE

1. CONCRETE PROPERTIES:

ITEM	FC (PSI) - 28 DAYS	SLUMP	RICHES
a. FOOTINGS/WALLS	3000 PSI	8" - 4"	
b. INTERIOR SLAB ON GRADE	4000 PSI	8" - 4"	
c. EXTERIOR SLAB ON GRADE	4000 PSI	8" - 4"	
2. ALL EXTERIOR CONCRETE SHALL BE AIR ENTRAINMENT TO ONE THE CONCRETE AN AIR CONTENT OF 5% - 8% BY VOLUME.
3. CONCRETE MIX DESIGN AND SUPPORTING DATA MUST BE SUBMITTED FOR APPROVAL ACCORDING TO ACI 318-11, SECTION 5.3. SEE SPECIFICATIONS FOR MORE INFORMATION.

1. REINFORCEMENT MATERIAL PROPERTIES:

ITEM	GRADE	ASTM
a. ALL BARS UNLESS NOTED	60	A615
b. WELDED WIRE FABRIC (SMOOTH)	65	A185
2. WELDED WIRE FABRIC (SMOOTH)

F. CAST-IN-PLACE CONCRETE

1. ALL REINFORCING SHALL BE DETAIL, FABRICATED, AND PLACED ACCORDING TO ONE MANUAL OF STANDARD PRACTICE. PROVIDE CORNER BARS AT ALL WALLS, MATCH SIZE AND SPACING OF HORIZONTAL BARS IN WALL.
2. SLABS AND FOOTINGS TO BEAR ON COMPACTED, UNFROZEN SOIL. PROVIDE SAWCUT CONTROL JOINTS AT 10'-0" O.C. OR AS INDICATED ON PLAN SHEETS CUT TO BE 8" WIDE AND 1 1/2" DEEP. CUT TO BE MADE WITHIN 24 HOURS AFTER POURING SLAB.
3. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT:
 - a. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: MINIMUM COVER = 3 INCHES.
 - b. CONCRETE EXPOSED TO EARTH OR WEATHER: #6 THROUGH #11 BARS: MINIMUM COVER = 2 INCHES. #5 BARS AND SMALLER: MINIMUM COVER = 1 1/2 INCHES.
 - c. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND: SLABS: WALLS: MINIMUM COVER = 3/4 INCHES. BEAMS: COLUMNS: PRIMARY REINFORCEMENT, TIES, STEELERS: MINIMUM COVER = 1 1/2 INCHES.
4. CONSTRUCTION JOINTS TO BE DOWELED OR KEYS. PROVIDE DETAIL TO ENGINEER FOR APPROVAL.

G. TIES

1. MATERIAL STRENGTHS:

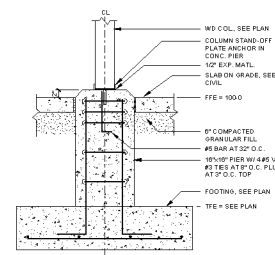
ITEM	FC (PSI)	ASTM
a. STRUCTURAL SHAPES	50,000	A572
b. HIGH STRENGTH BOLTS, UNLESS NOTED	74,000	A325
c. ANCHOR BOLTS/TUBES/TUBES STRENGTH	60,000	A307
d. WELDING ELECTRODES	E70XX	A133
e. THICK WELDING ELECTRODES	E80XX	A133
f. STRUCTURAL TUBES	46,000	A500
g. PLATES, ANGLES, ETC.	36,000	A36
h. HEADED STUDS	50,000	A306
i. CORROSION BOLTS SHALL BE HELIX-TORQ BOLT FOR EQUIVALENT		

V. TIES

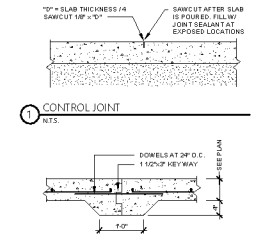
1. STRUCTURAL LUMBER:
 - a. DESIGN AND CONSTRUCTION SHALL CONFORM TO THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION.
 - b. DIMENSION LUMBER SHALL FOLLOWING MIN. VALUES: $F_b = 1000$ PSI, $F_c = 1.6$, $E = 1,600,000$ PSI.
 - c. CRITICAL DURATION OF LOAD FACTOR $C_d = 1.15$.
 - d. ALL MEMBER SIZES GIVEN ON PLAN ARE NOMINAL DIMENSIONS. DRESSED SIZES ESTABLISHED IN AMERICAN WOODWOOD LUMBER STANDARDS #20-25 SHALL BE ACCEPTED AS MINIMUM NET SIZES CONFORMING TO SUCH NOMINAL SIZES.
 - e. WOOD UNLESS NOTED OTHERWISE.
 - f. ALL BEAMS AND JOISTS NOT BEARING ON SUPPORTING MEMBERS SHALL BE FRAMED WITH PREFABRICATED METAL JOIST HANGERS OR REQUIRED CAPACITY.
 - g. WOOD JOISTS SHALL BEAR ON THE FULL WIDTH OF SUPPORTING MEMBERS UNLESS NOTED OTHERWISE.
 - h. NAILING SHALL BE IN ACCORDANCE WITH THE IBC. USE A MINIMUM OF 16D NAILING. SPACE NAILS TO AVOID SPLITTING. NAILS SHALL BE CLINCHED.
 - i. UNRAINED KNEE LUMBER (K) SHALL BE EQUIVALENT TO THIS JOIST CORPORATION $F_b = 1000$ PSI, $E = 1,600,000$ PSI.
 - j. ALL LUMBER IN CONTACT WITH CONCRETE, MASONRY OR EARTH SHALL BE PRESERVE TREATED.
 - k. PLYWOOD SHEATHING SHALL BE MINIMUM 5 PLYS AND RATED FOR LOADS AND SPANS AS INDICATED ON THE PLANS.
 - l. FASTENERS AND CONNECTORS IN CONTACT WITH PRESERVATIVE TREATED WOOD SHALL COMPLY WITH NDS-2015.

W. TRUSSES

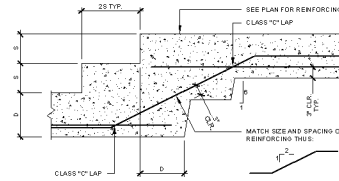
1. THE DESIGN AND FABRICATION OF ALL TRUSSES SHALL CONFORM TO THE NATIONAL DESIGN SPECIFICATION FOR STEEL GRADE LUMBER AND IF FASTENERS BY NATIONAL FOREST PRODUCTS ASSOCIATION, AND DESIGN SPECIFICATIONS FOR LIGHT METAL PLATE CONNECTED WOOD TRUSSES BY THE TRUSS PLATE INSTITUTE.
2. SEE PLANS FOR LOADS APPLIED TO TRUSSES. CRITICAL DURATION OF LOAD FACTOR $C_d = 1.15$. DEAD LOAD LISTED INCLUDES THE WEIGHT OF THE TRUSS.
3. THIS IS SUBJECT TO HANDBOOK ALL BEARING, TRUSS TO BEAM CONNECTIONS, HEADERS AND CHORD EXTENSIONS, ETC. AS NECESSARY TO PROVIDE A COMPLETE INSTALLATION.
4. PLACEMENT OF MECHANICAL UNITS AND HANGERS SUPPORTED BY ROOF TRUSSES IS SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER.
5. THE TRUSS MANUFACTURER IS RESPONSIBLE FOR AND SHALL SUBMIT SHOP DRAWINGS AND CALCULATIONS CERTIFIED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF THE PROJECT FOR ALL ELEMENTS AND MEMBERS DESIGNED BY THE TRUSS MANUFACTURER.
6. THE DESIGN OF TRUSS MEMBERS AND ELEMENTS SHOWN ON THE DRAWINGS ARE FOR THE IN-PLACE COMPLETED BUILDING. ALL LADING CRITERIA AND SPECIFICATION OF DESIGN FOR LADING SUCH AS HANDLING, TRANSPORTATION, AND ERECTION ARE THE SOLE RESPONSIBILITY OF THE TRUSS MANUFACTURER.
7. ALL TRUSSES SHALL BE FASTENED TO ROOF OF WALL WITH SIMPSON HURRICANE TIE OR EQUAL.



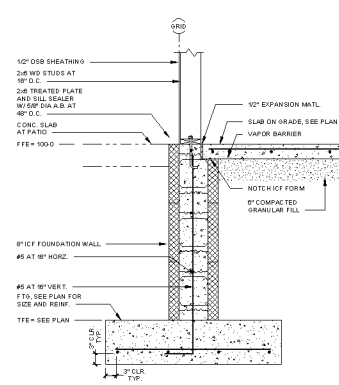
6. CIP PIER AT WOOD COLUMN



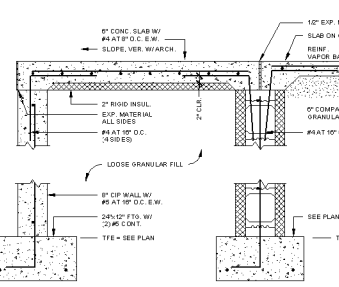
7. CONTROL JOINT



8. CONSTRUCTION JOINT



9. STEP FTG. AT CMU / CIP FOUNDATION



10. ICF FOUNDATION AT STUD WALL



11. CIP STOOP AT ICF FOUNDATION WALL

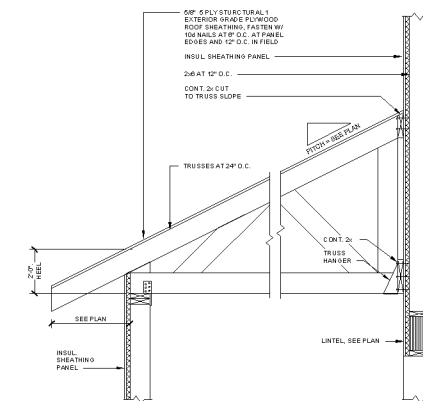
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ARCHITECTS - ENGINEERS - SURVEYORS

DRAWN BY: D. BEAG
CHECKED BY: D. AN
PROJECT ENGINEER: M. DD-VV
DATE: 11-03-2024

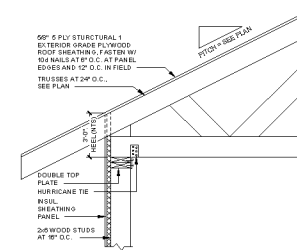
DATE	REV	REVISIONS DESCRIPTION

BLOCKMETRIX DATA CENTER
STRUCTURAL NOTES AND FOUNDATION DETAILS
S4.10
PROJECT # 2024-12141

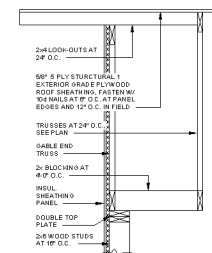
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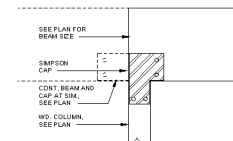
1 MONO-SLOPE TRUSS FRAMING AT ENTRY
3/4" = 1'-0"



2 ROOF TRUSS FRAMING AT BRG. WALL
N.T.S.



3 ROOF TRUSS FRAMING AT GABLE-END
N.T.S.



4 WOOD COLUMN WOOD BEAM SUPPORT
N.T.S.

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ARCHITECTS
ANARCHITECTS • ENGINEERS • DESIGNERS • SURVIVORS

DRAWN BY:
D. BEAG
CHECKED BY:
DAN

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PROJECT ENGINEER: MM-DD-YY
DATE: MM-DD-YY

DATE	REV#	REVISIONS DESCRIPTION

BLOCKMETRIX DATA CENTER
FRAMING DETAILS

S5.10
PROJECT # 2024-12141

As the physical properties have been entered manually, please check the compatibility of the materials in contact with the fluid. The thermodynamical performance of the unit is a theoretical calculation based upon the physical properties entered. The fluid must be Newtonian and 100% liquid. Please make sure the PED fluid group does correspond to the fluid used.

BASIC DATA

Capacity [kW]	2,717.49	Fluid outlet [°C]	25.0	Coils x Sections x Circuits	2 x 2 x 90 (Total circuits X: 360)
Volume flow rate [gpm]	958	Pressure drop [kPa]	200	Passes (per coil)	2 (Same ends)
Fluid	User defined fluid	Ambient [°C]	17.3	Operation mode	EC
	Rosseau_40C	Rel. humidity [%] ⁽⁸⁾	56.0		
Fluid inlet [°C]	50.0				

USER DEFINED FLUID PARAMETERS

Reference temperature	37.5 °C	Density	791.90 kg/m³	Prandtl number	119.84087
Dynamic viscosity	0.007919 Pas	Kinematic viscosity	10.0 mm²/s	Specific heat	2.27 kJ/kgK
Heat conductivity	0.15 W/mK	Solidification temperature ⁽⁹⁾	-13.5 °C	Flash point ⁽¹⁰⁾	154.0 °C

AIR DATA

Air volume flow	598,202 m³/h
Fans in stand-by	-
Ext. static pressure	0 Pa
Altitude	0 m
Air outlet temp.	31.1 °C
Coil direction	V-Bank
Air direction	Vertical

HEAT EXCHANGER

Surface	12,197 m²
Fin spacing	2.1 mm (12 FPI)
Internal volume	1,973.4 dm³
Int. fluid velocity	0.88 m/s
Max. operating pressure ⁽¹⁾	10 bar

MATERIALS

Tubes	Copper
Fins	Alu
Casing	Galvanised steel
Finish	Painted RAL 7032 (Pebble Grey)
Corrosion class	-

FAN(S)

22 PIECE(S) : 480V/3PH/60HZ;IP55

Fan diameter	910 mm
Range of temp.	-40.0 to 60.0 °C
Mean sound power LwA ⁽²⁾	101 dB(A)

SOUND POWER SPECTRUM

Sound power spectrum 125 Hz	- dB
Sound power spectrum 250 Hz	- dB
Sound power spectrum 500 Hz	- dB
Sound power spectrum 1 kHz	- dB

FAN SET SERIAL PLATE DATA (PER FAN) ⁽³⁾

Speed	1050 rpm
Power nominal	3,200 W
Starting current	6.9 A

Mean sound pressure LpA (10m) ⁽²⁾	68 dB(A)	Sound power spectrum 2 kHz	- dB	Full load current	4.9 A
Horizontal sound pressure LpA (10m)	66 dB(A)	Sound power spectrum 4 kHz	- dB	SELECTED SPEED DATA (PER FAN) ⁽³⁾	
		Sound power spectrum 8 kHz	- dB		
				Speed	1050 rpm
				Power input	2,907 W
				Operating current	4.5 A
				Control voltage EC	10 V

CONNECTIONS		WEIGHT ⁽⁴⁾		REGULATION(S)	
Connections in/out	8 x 100 mm	Dry weight	7,659 kg	ErP	2015
Ends	Same ends	Weight incl. fluid	9,222 kg	Energy efficiency class (2015)	
Type	Flange			PED Category	0

DIMENSIONS ⁽⁴⁾	
A 13,200 mm	B 2,503 mm
A3 309 mm	A4 70 mm
	C 3,267 mm
	G 2,180 mm
	A2 13,579 mm
	F 50 mm

OPTIONS AND ACCESSORIES (EXCL. VAT)			
CATEGORY		OPTION GROUP	ITEM
Coil	016.9	Connections	8 x Flanges, 100 mm
Coil	018.1	Tube	Viscous fluid optimized tubes 3.2
Accessories	371.7	Controller	Kelvion-Controls Digital Modbus + BACnet (programmable controller, incl. contactors or motorstarters, second Modbus interface, BACnet license)

Subject to modifications.

Any data or other information in this selection software shall be deemed to be a general description of product properties and shall not be binding upon Kelvion. Binding product specifications may be agreed by Kelvion in bids, proposals, tenders or other offers issued in response to inquiries or calls for tenders or other invitations to bid.

Notes

(1) Classification acc. to EU Pressure Equipment Directive: Category "0" when fluid group "2" at max. allowable pressure of PS = 10 bar.

(2) Figures derived according to EN 13487. Sound pressure level given is mean value free field over reflective plain. Tolerances: ± 2 dB (global) / ± 5 dB (octave band). These values can be affected by the site environment.

(3) The current consumption can vary depending on air density and mains voltage.

(4) Weights and dimensions do not apply to all possible variants.

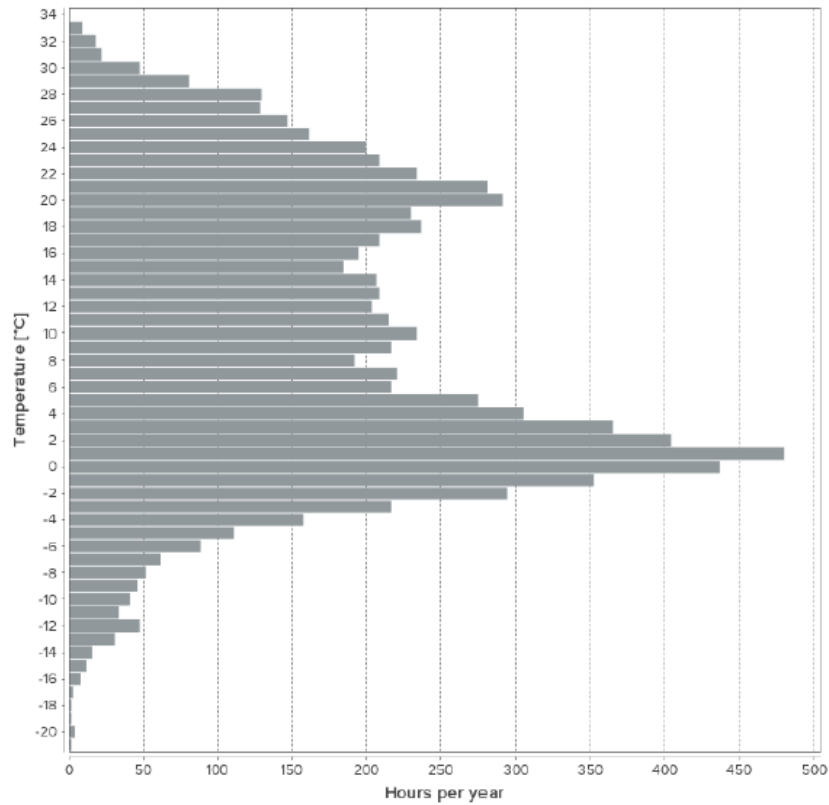
(5) If frequency converters are used for speed control, please take into account the guidelines of the fan-set manufacturer.

(6) The use of low speed fans in combination with phase control can cause humming noise.

(7) Kelvion will define the production site depending e.g. on type series, execution and location.

AVERAGE CONSUMPTIONS WITHIN TEMPERATURE SECTIONS

Frequency of the temperature ranges of the year 2020



INTAKE TEMPERATURE [°C]	TOTAL HEAT REJECTION [KW]	FLUID [°C]		FANS POWER INPUT [KW]	QTY HOURS
TEMP. FROM – TO	AT UNIT	FLUID INLET	FLUID OUTLET		
-21.0 – -20.0	2,720.00	50.0	25.0	0.51	2
-20.0 – -19.0	2,720.00	50.0	25.0	0.54	4
-19.0 – -18.0	2,720.00	50.0	25.0	0.56	2
-18.0 – -17.0	2,720.00	50.0	25.0	0.58	2
-17.0 – -16.0	2,720.00	50.0	25.0	0.64	3
-16.0 – -15.0	2,720.00	50.0	25.0	0.66	8
-15.0 – -14.0	2,720.00	50.0	25.0	0.70	12
-14.0 – -13.0	2,720.00	50.0	25.0	0.74	16
-13.0 – -12.0	2,720.00	50.0	25.0	0.78	31
-12.0 – -11.0	2,720.00	50.0	25.0	0.82	48

INTAKE TEMPERATURE [°C]	TOTAL HEAT REJECTION [KW]	FLUID [°C]		FANS POWER INPUT [KW]	QTY HOURS
TEMP. FROM – TO	AT UNIT	FLUID INLET	FLUID OUTLET		
-11.0 – -10.0	2,720.00	50.0	25.0	0.87	34
-10.0 – -9.0	2,720.00	50.0	25.0	0.93	41
-9.0 – -8.0	2,720.00	50.0	25.0	0.99	46
-8.0 – -7.0	2,720.00	50.0	25.0	1.06	52
-7.0 – -6.0	2,720.00	50.0	25.0	1.13	62
-6.0 – -5.0	2,720.00	50.0	25.0	1.21	89
-5.0 – -4.0	2,720.00	50.0	25.0	1.30	111
-4.0 – -3.0	2,720.00	50.0	25.0	1.40	158
-3.0 – -2.0	2,720.00	50.0	25.0	1.52	217
-2.0 – -1.0	2,720.00	50.0	25.0	1.65	294
-1.0 – 0.0	2,720.00	50.0	25.0	1.79	352
0.0 – 1.0	2,720.00	50.0	25.0	1.96	437
1.0 – 2.0	2,720.00	50.0	25.0	2.15	480
2.0 – 3.0	2,720.00	50.0	25.0	2.38	404
3.0 – 4.0	2,720.00	50.0	25.0	2.64	365
4.0 – 5.0	2,720.00	50.0	25.0	2.95	305
5.0 – 6.0	2,720.00	50.0	25.0	3.31	275
6.0 – 7.0	2,720.00	50.0	25.0	3.77	217
7.0 – 8.0	2,720.00	50.0	25.0	4.33	221
8.0 – 9.0	2,720.00	50.0	25.0	5.00	192
9.0 – 10.0	2,720.00	50.0	25.0	5.91	217
10.0 – 11.0	2,720.00	50.0	25.0	7.04	234
11.0 – 12.0	2,720.00	50.0	25.0	8.63	215
12.0 – 13.0	2,720.00	50.0	25.0	10.94	204
13.0 – 14.0	2,720.00	50.0	25.0	13.92	209
14.0 – 15.0	2,720.00	50.0	25.0	18.91	207

INTAKE TEMPERATURE [°C]	TOTAL HEAT REJECTION [KW]	FLUID [°C]		FANS POWER INPUT [KW]	QTY HOURS
TEMP. FROM – TO	AT UNIT	FLUID INLET	FLUID OUTLET		
15.0 – 16.0	2,720.00	50.0	25.0	26.70	185
16.0 – 17.0	2,720.00	50.0	25.0	45.04	195
17.0 – 18.0	2,720.00	50.3	25.3	63.95	209
18.0 – 19.0	2,720.00	51.3	26.3	63.95	237
19.0 – 20.0	2,720.00	52.3	27.3	63.95	230
20.0 – 21.0	2,720.00	53.3	28.2	63.95	291
21.0 – 22.0	2,720.00	54.3	29.2	63.95	281
22.0 – 23.0	2,720.00	55.3	30.2	63.95	234
23.0 – 24.0	2,720.00	56.3	31.2	63.95	209
24.0 – 25.0	2,720.00	57.3	32.2	63.95	200
25.0 – 26.0	2,720.00	58.2	33.2	63.95	162
26.0 – 27.0	2,720.00	59.3	34.2	63.95	147
27.0 – 28.0	2,720.00	60.3	35.3	63.95	129
28.0 – 29.0	2,720.00	61.2	36.2	63.95	130
29.0 – 30.0	2,720.00	62.2	37.2	63.95	81
30.0 – 31.0	2,720.00	63.3	38.2	63.95	48
31.0 – 32.0	2,720.00	64.2	39.2	63.95	22
32.0 – 33.0	2,500.00	62.6	39.6	63.95	18
33.0 – 34.0	2,500.00	63.5	40.5	63.95	9
34.0 – 35.0	2,500.00	64.2	41.2	63.95	1
Total	-	-	-	206,871.0 kWh	8,784 h

From: [Daniel Koff](#)
To: [James Kramvik](#); [Clark Swanson](#)
Subject: RE: DB specs
Date: Thursday, September 12, 2024 3:48:46 PM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)

*** **Warning:** External sender, use extreme caution with attachments and links ***

Hi James,

Yes, you are correct. This product documentation and these sound metrics belong to the 22-Fan Dry Cooler from Kelvion.

Best Regards,
Dan

From: James Kramvik <jkramvik@ci.brainerd.mn.us>
Sent: Thursday, September 12, 2024 3:32 PM
To: Daniel Koff <Dan@rosseau.io>; Clark Swanson <clark@blockmetrix.com>
Subject: RE: DB specs

Thank you Dan, this is for one entire unit consisting of 22 fans correct?

Regards,

James Kramvik



James Kramvik | Community Development Director
City of Brainerd | 501 Laurel Street Brainerd MN 56401
218-454-3408 | jkramvik@ci.brainerd.mn.us

From: Daniel Koff <Dan@rosseau.io>
Sent: Thursday, September 12, 2024 3:30 PM
To: James Kramvik <jkramvik@ci.brainerd.mn.us>; Clark Swanson <clark@blockmetrix.com>
Subject: RE: DB specs

*** **Warning:** External sender, use extreme caution with attachments and links ***

Hi James,

Nice to connect with you.

Per Kelvion's product documentation: the mean sound pressure is 68dB(A) at 10 meters which is about 33 feet.

Here's a snippet (below) from Kelvion's product documentation for easy review with the sound pressure number underlined in red. The complete product document is also attached.

Mean sound pressure LpA (10m) ⁽²⁾

68 dB(A)

Horizontal sound pressure LpA (10m)

66 dB(A)

Sound power spectrum 2 kHz

- dB

Sound power spectrum 4 kHz

- dB

Sound power spectrum 8 kHz

- dB

Full load current

4.9 A

SELECTED SPEED DATA (PER FAN) ⁽³⁾

Speed

1050 rpm

Power input

2,907 W

Operating current

4.5 A

Control voltage EC

10 V

CONNECTIONS

Connections in/out

8 x 100 mm

Ends

Same ends

Type

Flange

WEIGHT ⁽⁴⁾

Dry weight

7,659 kg

Weight incl. fluid

9,222 kg

REGULATION(S)

ErP

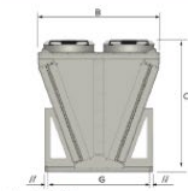
2015

Energy efficiency class (2015)

PED Category

0

DIMENSIONS ⁽⁴⁾

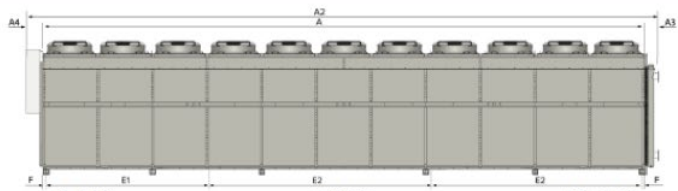


A

13,200 mm

A3

309 mm



A1

A2

13,579 mm

A3

B

2,503 mm

C

3,267 mm

E1

E2

F

50 mm

G

2,180 mm

I

Let me know if you require anything further and I'll be glad to assist. Feel free to give me a call if that's more convenient for you, James.

Best Regards,
Dan

Daniel Koff
Co-Founder & COO
Rosseau Immersion
M: 415-609-0220

From: James Kramvik <jkramvik@ci.brainerd.mn.us>
Sent: Thursday, September 12, 2024 3:22 PM
To: Clark Swanson <clark@blockmetrix.com>
Cc: Daniel Koff <Dan@rosseau.io>
Subject: RE: DB specs

Hi Dan,

Could you please provide me with data that shows dB levels of the outdoor coolers. 8 units are proposed for the project in Brainerd. I am hoping to get something that would provide evidence of what one of the eight cooling units operates at.

Regards,
James Kramvik



James Kramvik | Community Development Director
City of Brainerd | 501 Laurel Street Brainerd MN 56401
218-454-3408 | jkramvik@ci.brainerd.mn.us

From: Clark Swanson <clark@blockmetrix.com>
Sent: Thursday, September 12, 2024 3:17 PM
To: James Kramvik <jkramvik@ci.brainerd.mn.us>
Cc: Daniel Koff <dan@rosseau.io>

Page 62 of 62

Subject: DB specs

*** **Warning:** External sender, use extreme caution with attachments and links ***

Hi James,

I wanted to introduce you to Dan Koff from Rosseau Systems. Dan can provide you with the dB levels of the fans specifications for our project.

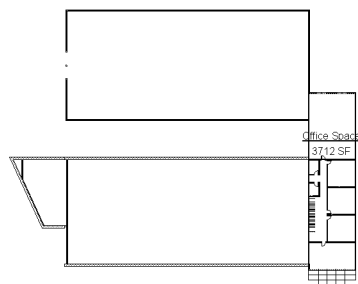
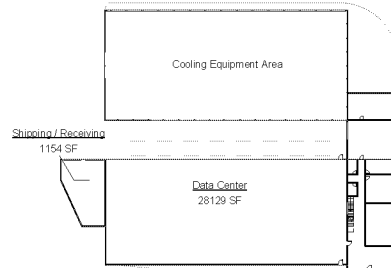
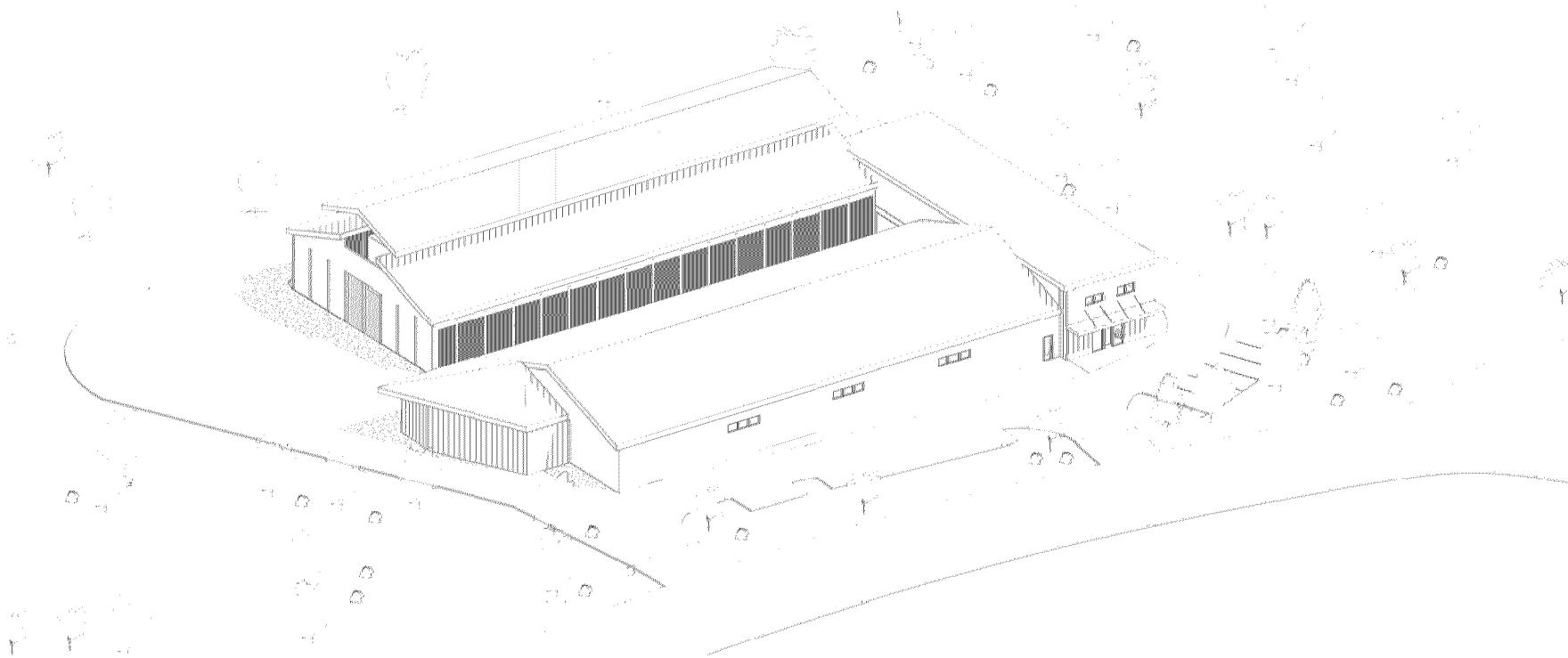
Best regards,
Clark



Clark Swanson
CEO

[3238992518](tel:3238992518)
clark@blockmetrix.com
blockmetrix.com

**Data Center,
1911 Thiesse Drive Brainerd MN**



NOTE:
THIS LAYOUT IS FOR CONCEPTUAL REVIEW
ONLY. NOT INTENDED AS FINAL DESIGN.

square footage		
location	Level	square footage
Data Center	Main Level	28129 SF
Shipping / Receiving	Main Level	1154 SF
Office Space	Office Space	3712 SF
Total		32995 SF



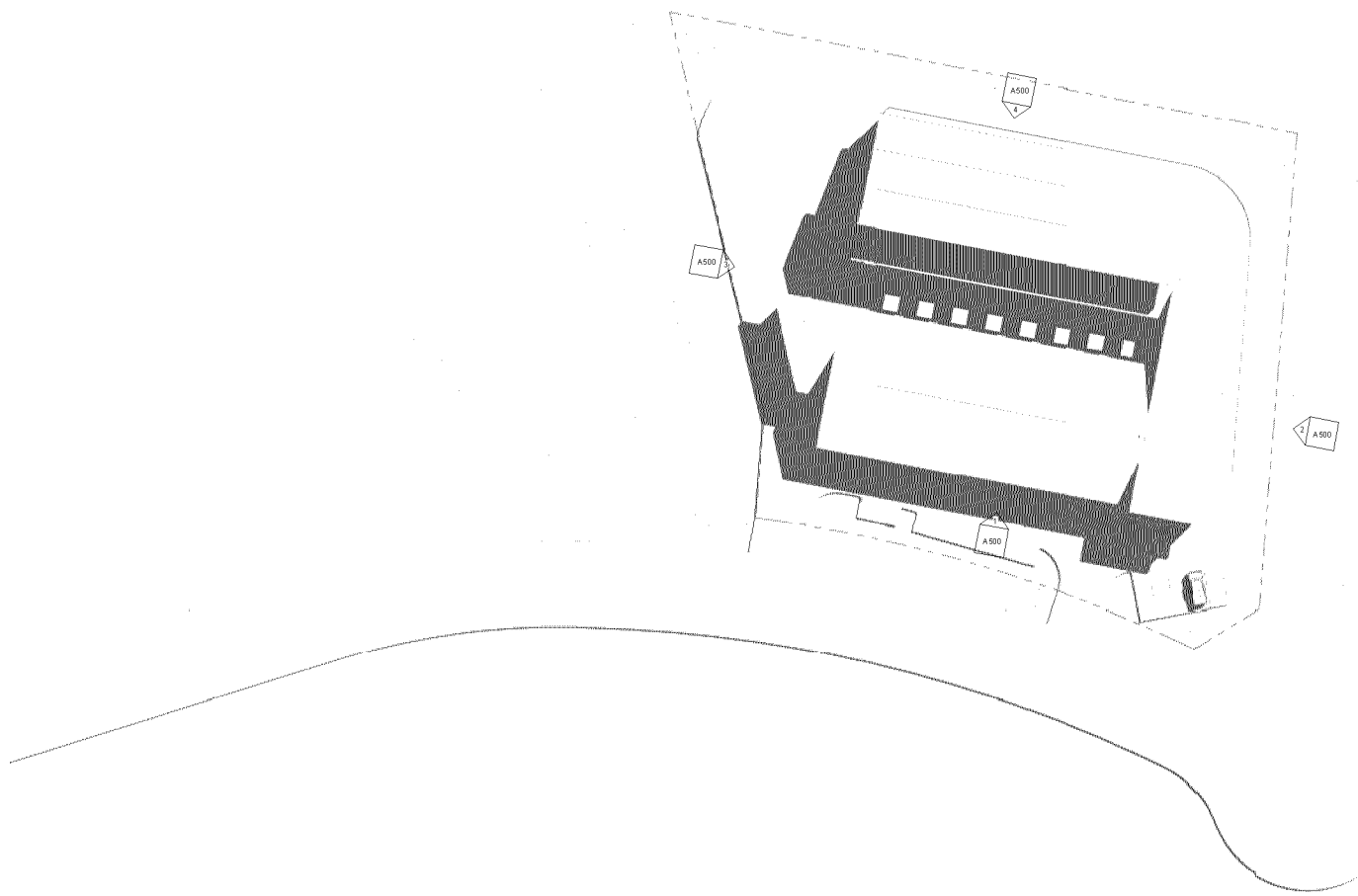
Data Center

1911 Thiesse Drive Brainerd MN

INDEX SHEET

Project number	-
Date	09.16.2024
Drawn by	mg
Checked by	MILVERS
Scale	1" = 40'-0"

A000



① Site
1" = 30'-0"



x0re
LLC

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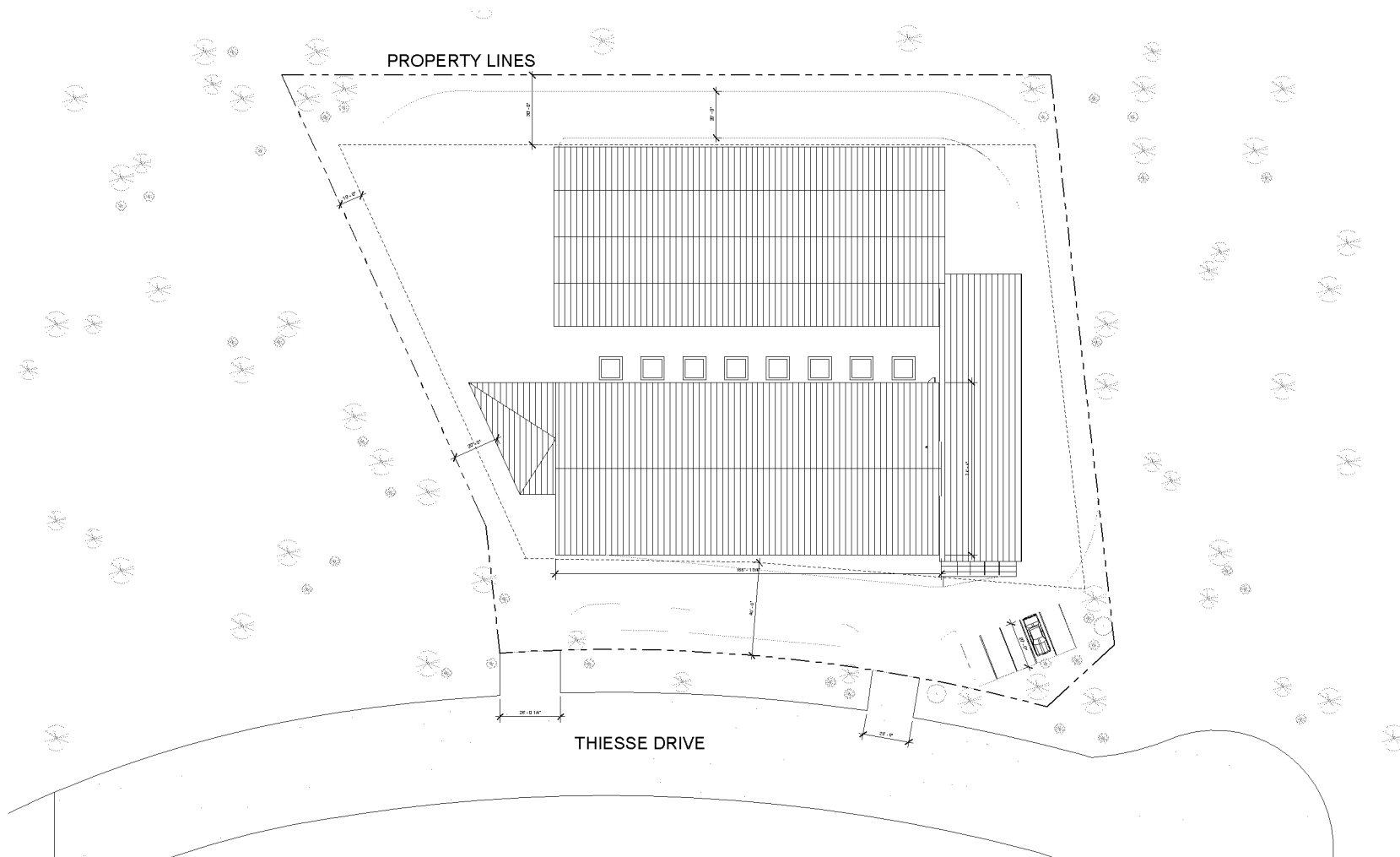
Data Center	
1911 Thiessen Drive Brainerd MN	
SITE PLAN	
Project number	-
Date	09.16.2024
Drawn by	mg
Checked by	Checker
A011	
Scale	1" = 30'-0"



① Site plan -Google Earth
1" = 80'-0"



Data Center	
1911 Thiesse Drive Brainerd MN	
SITE PLAN	
Project number	-
Date	09.16.2024
Drawn by	mg
Checked by	Checker
A012	
Scale	1" = 80'-0"



① SITE
3/64" = 1'-0"

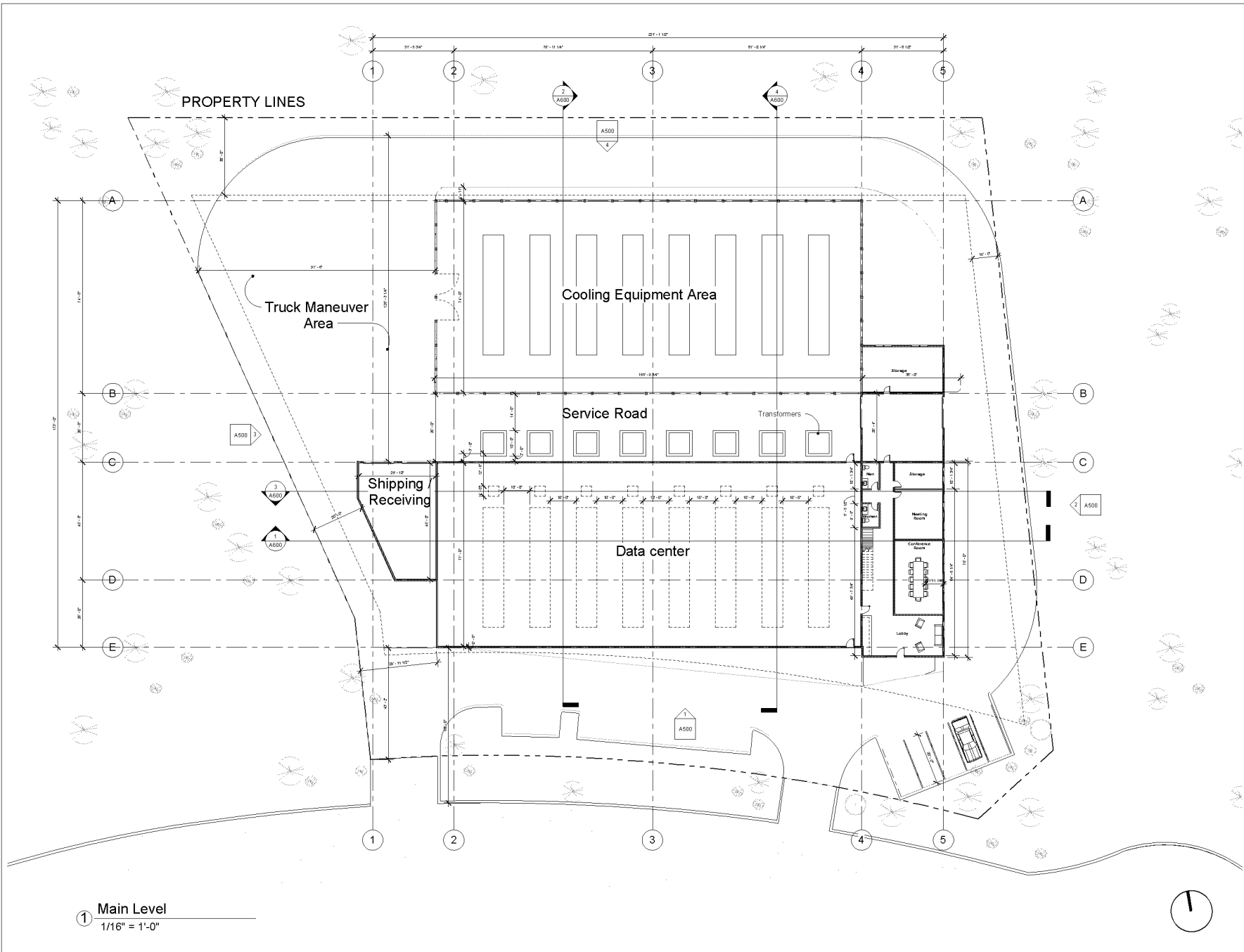


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SITE PLAN

Project number	
Date	09.16.2024
Drawn by	mg
Checked by	Checker
A013	
Scale	3/64" = 1'-0"



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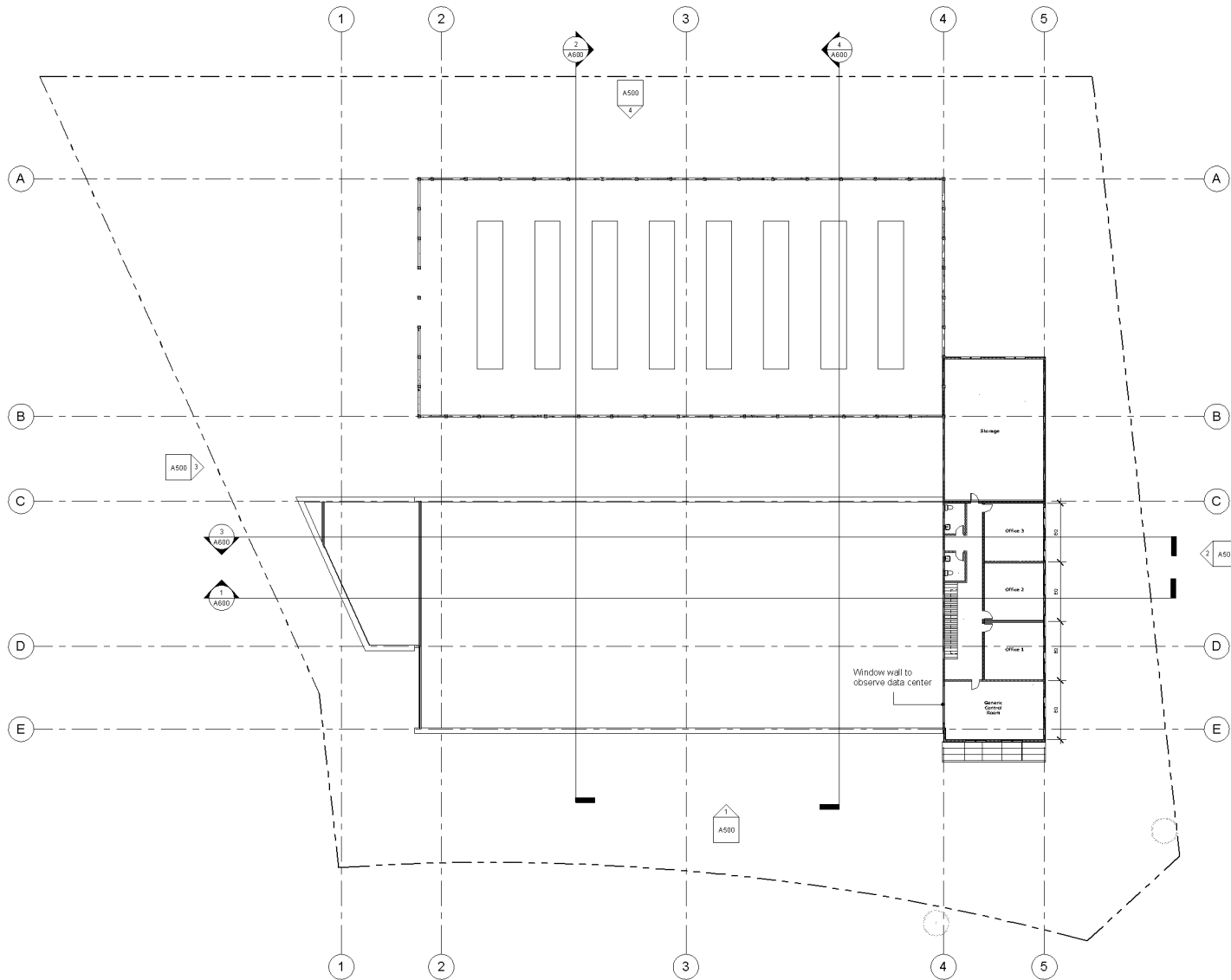
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MAIN LEVEL

Project number	
Date	09.16.2024
Drawn by	mg
Checked by	Checker
Scale	1/16" = 1'-0"

A200



① Office Space
1/16" = 1'-0"





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UPPER LEVEL

Project number	
Date	09.16.2024
Drawn by	mg
Checked by	Checker
A201	
Scale	1/16" = 1'-0"

9/16/2024 4:50:16 PM



Data Center

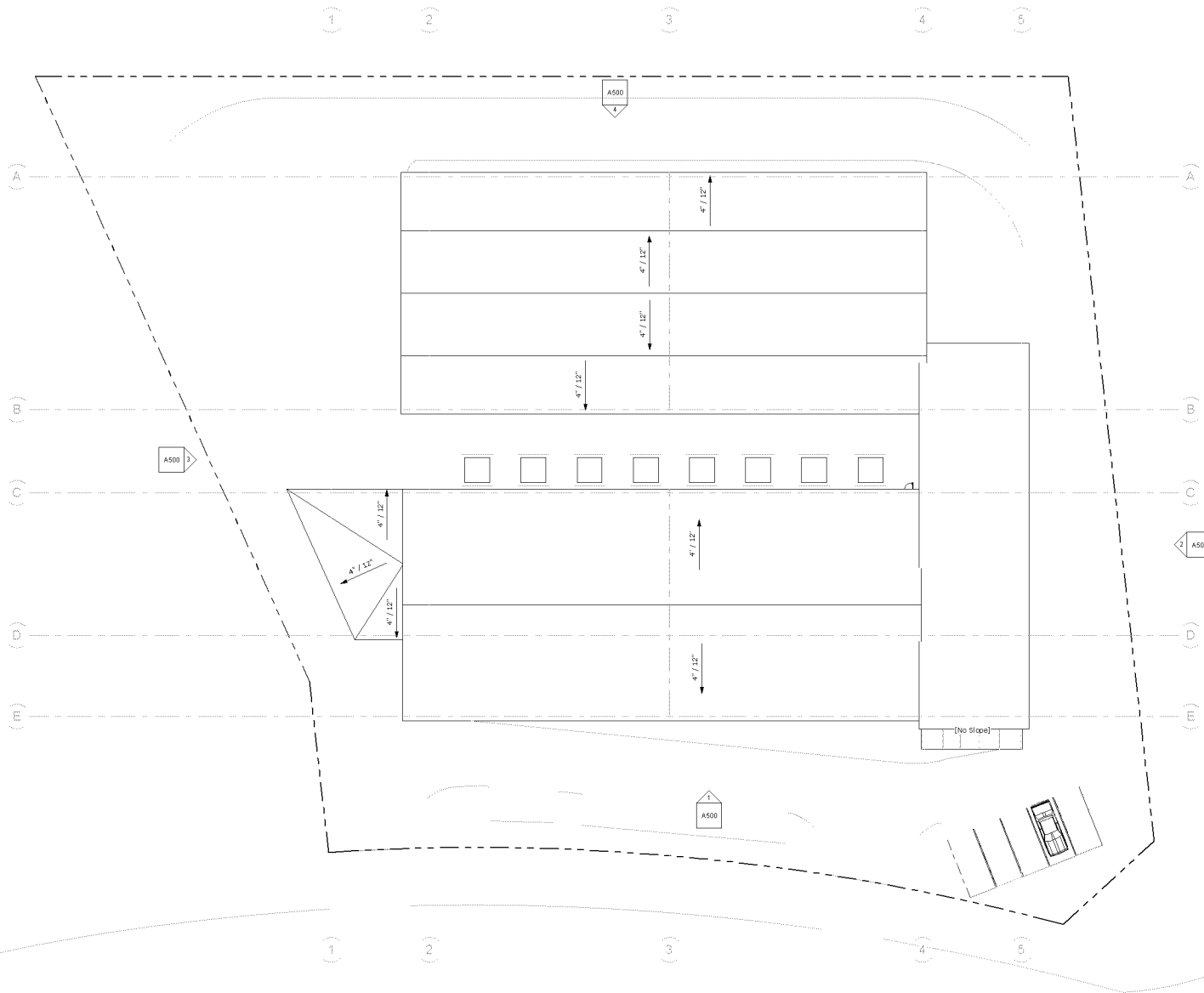
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ROOF LEVEL

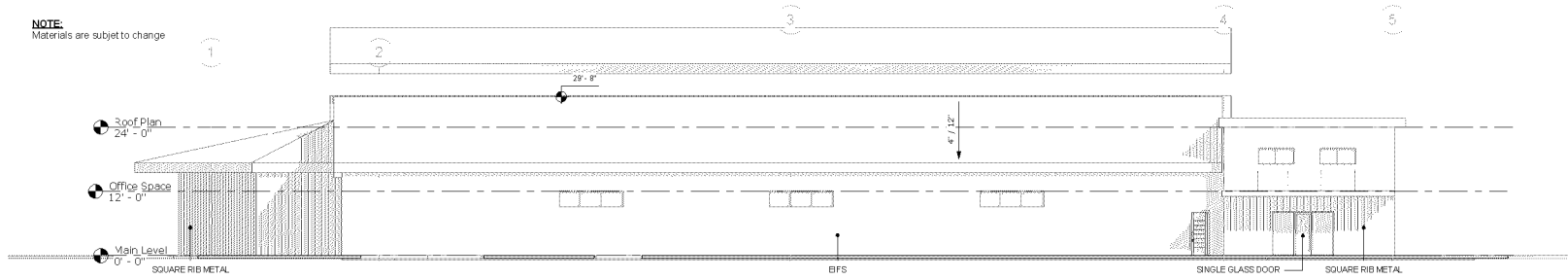
Project number	-
Date	09.16.2024
Drawn by	mg
Checked by	Checker
A400	
Scale	1/16" = 1'-0"

9/16/2024 4:50:16 PM

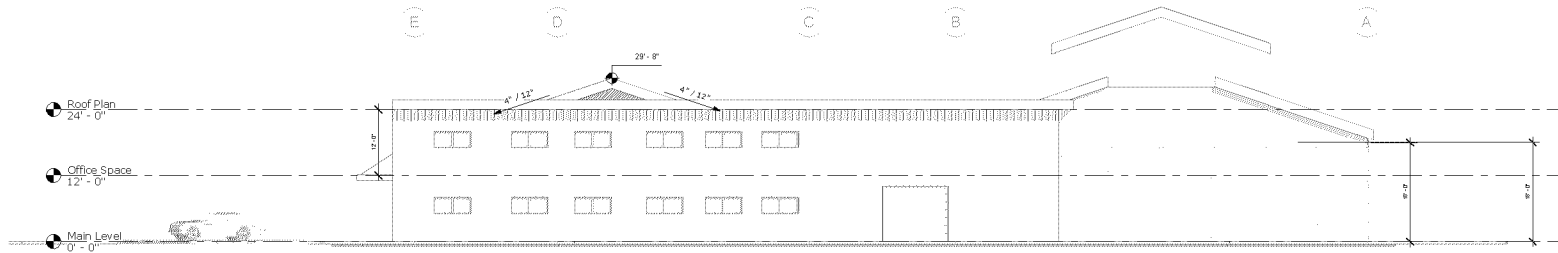
① **Roof Plan**
1/16" = 1'-0"



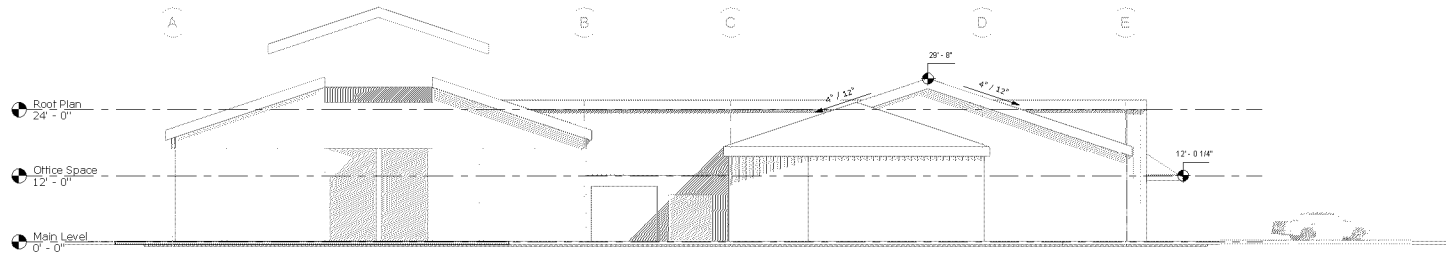
NOTE:
Materials are subject to change



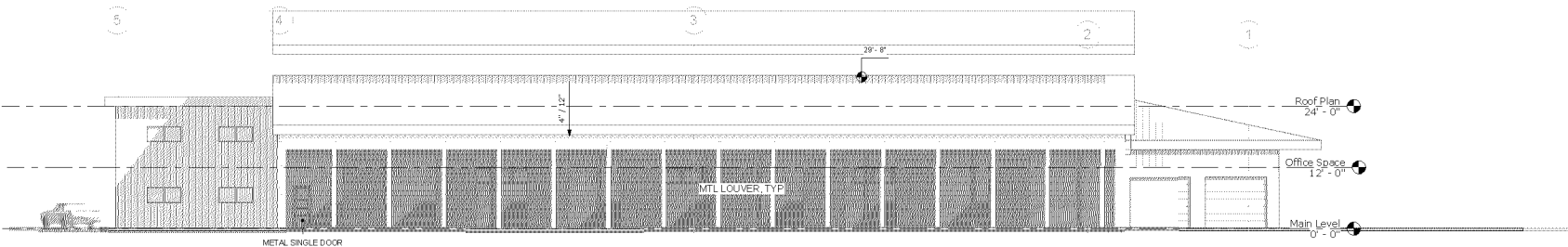
① **Elevation South**
3/32" = 1'-0"



② **Elevation East**
3/32" = 1'-0"



③ **Elevation West**
3/32" = 1'-0"



④ **Elevation North**
3/32" = 1'-0"



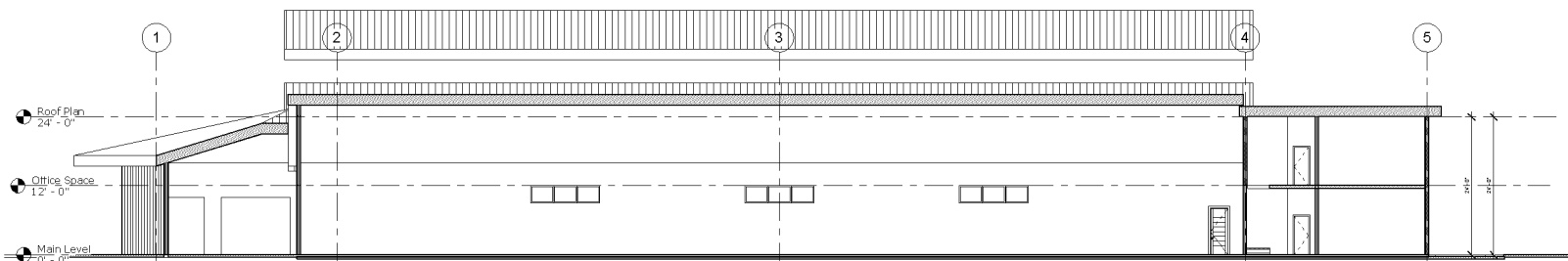
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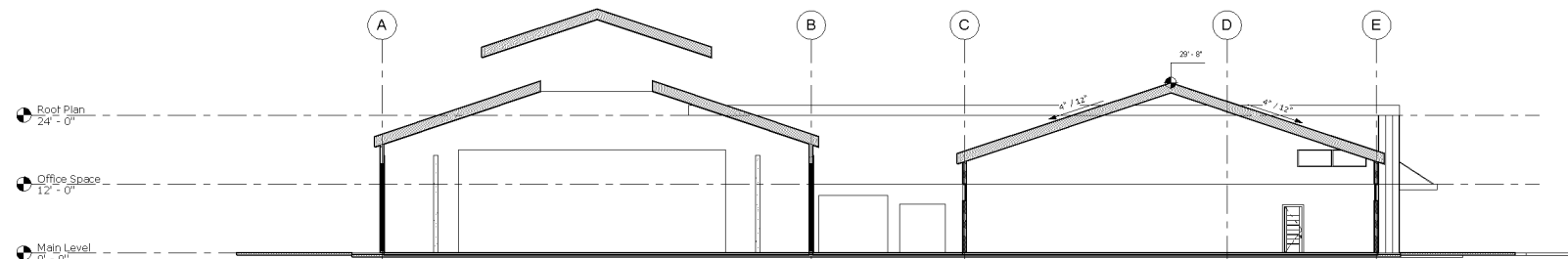
ELEVATIONS

Project number	
Date	09.16.2024
Drawn by	mg
Checked by	Checker
Scale	3/32" = 1'-0"

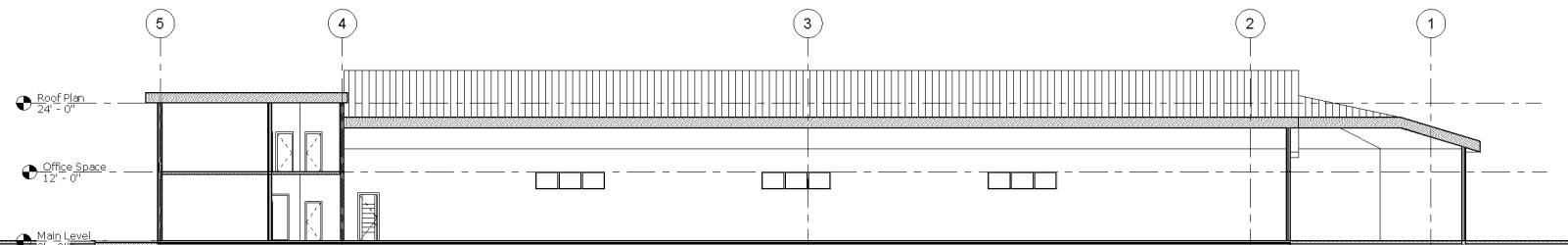
A500



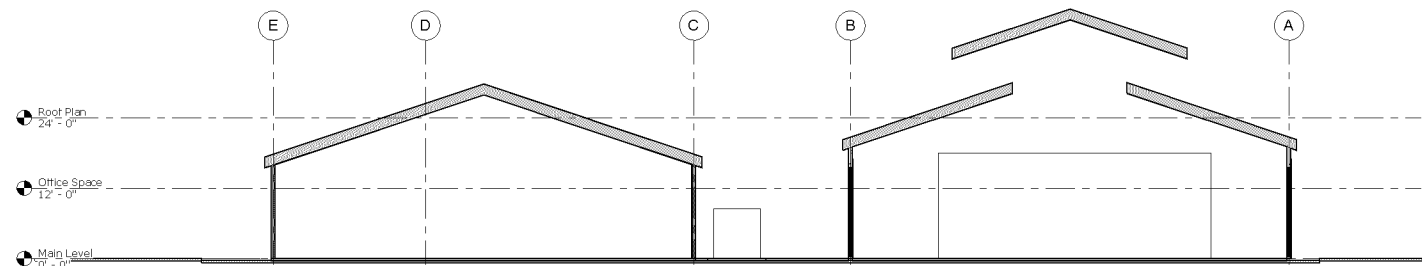
① Section A
1" = 10'-0"



② Section B
1" = 10'-0"



③ Section C
1" = 10'-0"



④ Section D
1" = 10'-0"



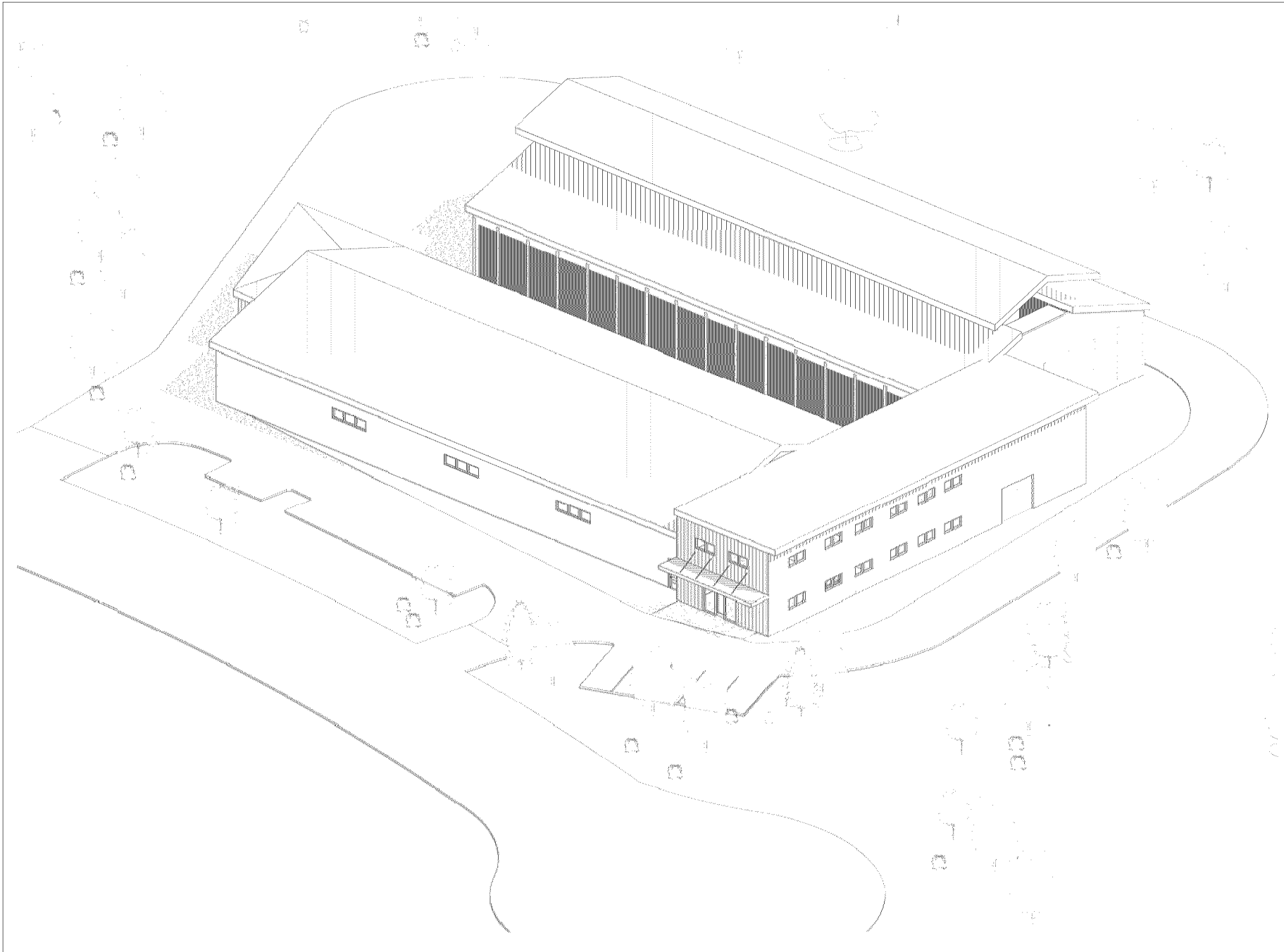
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1911 Thiesse Drive Brainerd MN

SECTIONS

Project number	
Date	09.16.2024
Drawn by	mg
Checked by	Checker
Scale	1" = 10'-0"

A600



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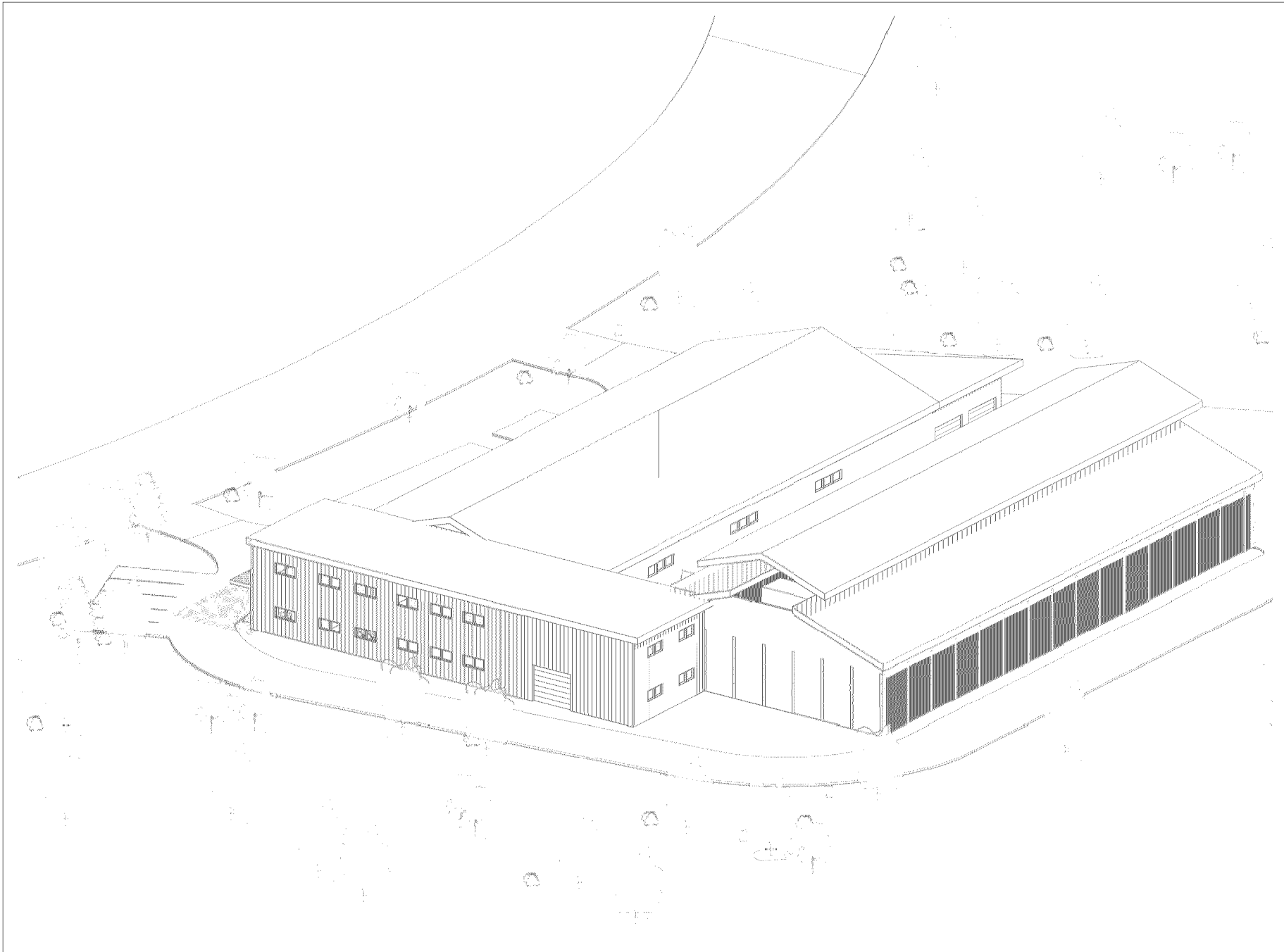
3D VIEW

Project number
Date 09.16.2024
Drawn by mlyers
Checked by Checker

A900

Scale

9/16/2024 4:50:28 PM



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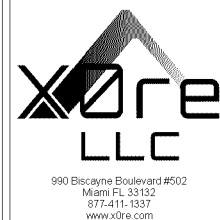
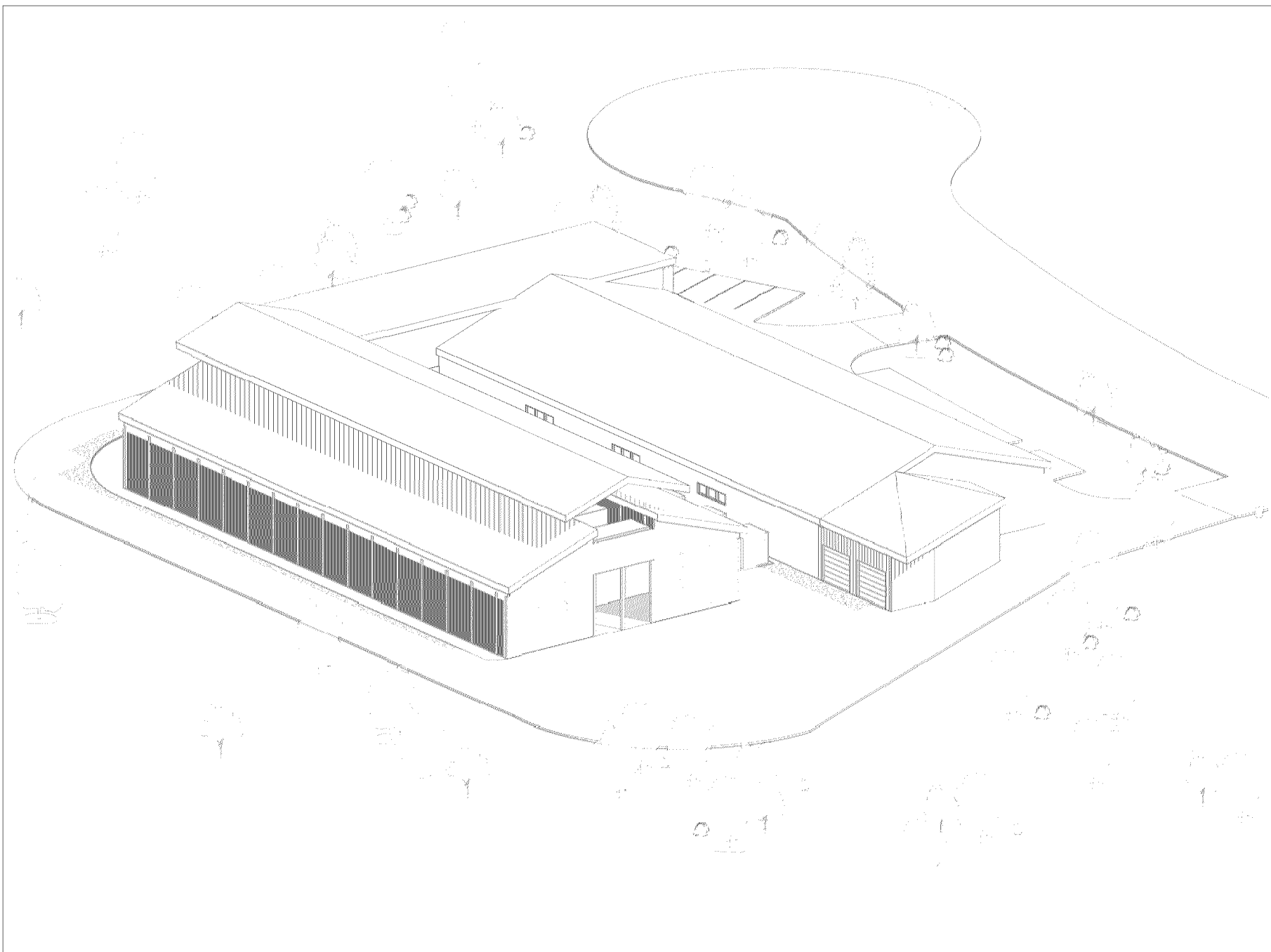
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3D VIEW

Project number	
Date	09.16.2024
Drawn by	mg
Checked by	Checker
A901	
Scale	

9/16/2024 4:50:33 PM



Data Center

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3D VIEW

Project number	
Date	09.16.2024
Drawn by	mg
Checked by	Checker
Scale	

A902